

NHS Patient Survey Programme

2019 community mental health survey

Identifying outliers in trust-level results

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Summary

The 2019 community mental health survey received responses from 12,551 people who were receiving treatment for a mental health condition, between 1 September and 30 November 2018. National results can be found on our [website](#).

This separate analysis identifies trusts where respondents reported experiences of care that were either better or worse than expected when compared with the survey results across trusts. The analysis methodology used in this report allows for an overall picture of performance across the survey, considering results for all evaluative (scored) questions simultaneously. It supplements the approach used in the trust level benchmark reporting, which provides results for individual questions.

[Appendix C](#) provides further information on the different approaches used to explore variation in service user experience between trusts.

Each trust is categorised into one of five bands: 'much worse than expected', 'worse than expected', 'about the same', 'better than expected' or 'much better than expected'.

In 2019 no trusts were categorised within the highest band of 'much better than expected' or the lowest band of 'much worse than expected'.

For the third consecutive year 2gether NHS Foundation Trust has been categorised as 'better than expected'. NAVIGO Health and Social Care CIC is also in the 'better than expected' category for the second year in a row.

Isle of Wight NHS Trust has been categorised as 'worse than expected' category for 2019, having been 'much worse than expected' in 2017 and 2018. Kent and Medway NHS and Social Care Partnership Trust and Coventry and Warwickshire Partnership NHS Trust are also both in the 'worse than expected' category in 2019.

CQC's Deputy Chief Inspector of Hospitals and lead for mental health, Dr Kevin Cleary has written to all trusts identified as better or worse than expected. The trusts identified as being worse will be asked to review their results and to outline what actions they will take to address the areas of concern. CQC will review their progress on their next planned inspections.

Interpreting the results

To provide a comprehensive picture of people's experience within each NHS trust, we have calculated the overall proportion of responses that each trust received for the 'most negative', 'middle' and 'most positive' answer option(s) across all scored questions in the survey.^a

The following question from the 2019 community mental health survey demonstrates how responses are categorised as either 'most negative', 'middle' and 'most positive'.

Q4. Were you given **enough time** to discuss your needs and treatment?

- Yes, definitely – **most positive**
- Yes, to some extent – **middle**
- No – **most negative**
- Don't know/can't remember – excluded from the analysis

Where people's experience of using a trust's services are either better or worse than other trusts, there will be a significant difference between that trust's result and the average result across all trusts. Each trust is then assigned a banding of either 'much worse than expected', 'worse than expected', 'about the same', 'better than expected' or 'much better than expected' depending on how significant that variation is.

For example, a trust's proportion of responses breaks down as: 'most negative' 28%, 'middle' 25% and 'most positive' 47%. This is then compared with the trust average of 'most negative' 23%, 'middle' 24% and 'most positive' 53%. The adjusted z-score for the difference between the example trust's 'most negative' proportion (28%) and the trust's average 'most negative' proportion (23%) is -2.10. This means this trust has a higher proportion of 'negative' responses than average, this is considered significant with a p-value of less than 0.25 but not less than 0.01. As a result, the trust is classed as 'worse than expected'.

Finally, each table in the report includes the most recent trust-wide CQC rating. See [Appendix B](#) for details of the analytical method used to calculate these results.

a. Filter questions were not included in this analysis.

Results

Trusts achieving 'better than expected' results

Two trusts were classed as 'better than expected' in 2019. The banding for 2gether NHS Foundation Trust is unchanged from 2017, while the banding for NAVIGO Health and Social Care CIC is unchanged from 2018.

	Historic results		Overall results			Overall CQC rating	
	2017	2018	2019	Most Negative (0/10)	Middle		Most Positive (10/10)
Trust average				23	24	53	
2gether NHS Foundation Trust ^b	B	B	B	18	23	60	G
NAVIGO Health and Social Care CIC	S	B	B	16	23	61	G

Key:	Trust performance	About the same (S)	Better (B)	Much better (MB)	
	CQC rating	Inadequate (I)	Requires Improvement (RI)	Good (G)	Outstanding (O)

^b In October 2019, 2gether NHS Foundation Trust and Gloucestershire Care Service Trust merged to form Gloucestershire Health and Care NHS Foundation Trust. However, at the time this survey was conducted, mental health services operated as part of 2gether NHS Foundation Trust. Therefore, the new trust name has not been adopted in reporting.

Trusts achieving 'worse than expected' results

Three trusts were identified as 'worse than expected' this year across the entire survey. Isle of Wight NHS Trust was rated 'much worse than expected' in 2017 and 2018.

	Historic results		Overall results			Overall CQC rating	
	2017	2018	2019	Most Negative (0/10)	Middle		Most Positive (10/10)
Trust average				23	24	53	
Isle of Wight NHS Trust	MW	MW	W	30	27	43	RI
Kent and Medway NHS and Social Care Partnership Trust	S	S	W	28	24	48	G
Coventry and Warwickshire Partnership NHS Trust	S	S	W	28	26	46	G

Key:	Trust performance	About the same (S)	Worse (W)	Much worse (MW)
	CQC rating	Inadequate (I)	Requires Improvement (RI)	Good (G)

Appendix A: Analysis methodology

Identifying worse than expected experience

The analytical approach to identifying those trusts where people's experiences of services was 'much/worse than expected' uses responses for all scored questions (except the overall experience question).^c

For each trust, we calculate the number of responses scored as '0' (the most negative option). This is then divided by the total number of responses scored as 0-10 to calculate the trust-level proportion of poor experience. A higher percentage of negative responses indicates poorer experience.

The analysis uses z-scores, which indicate how different a trust's poor experience proportion is from the average.

There are two thresholds for flagging trusts with concerning levels of poor experience:

- **Worse than expected:** z-score lower than -1.96
- **Much worse than expected:** z-score lower than -3.09

[Appendix B](#) provides full technical detail of the analytical process used.

Identifying better than expected experience

To identify 'much/better than expected' experience, we calculate a count of the number of responses scored as '10' (the most positive option) for each trust.

This is then divided by the total number of responses scored as 0 to 10 to calculate the trust-level proportion of positive experience. A higher percentage of positive responses indicates better experience.

Our analysis has found that those trusts with the highest proportion of positive responses also tend to have the lowest proportion of negative responses.

There are two thresholds for identifying trusts with high levels of good experience reported by people using services:

- **Better than expected:** z-score lower than -1.96
- **Much better than expected:** z-score lower than -3.09

c. Overall experience is excluded from the analysis due to the ambiguity around what should be classed as the 'most negative' (and 'most positive') option(s).

Weighting

Results have been standardised by the age and gender of respondents to ensure that no trust will appear better or worse than another because of its respondent profile.

Standardisation enables a more accurate comparison of results from trusts with different population profiles. In most cases this will not have a large impact on trust results, but it does make comparisons between trusts as fair as possible.

Scoring

For each question in the survey, the individual (standardised) responses are converted into scores on a scale from 0 to 10. A score of 10 represents the best possible response and a score of 0 the worst. The higher the score for each question, the better the trust is performing.

It is not appropriate to score all questions in the questionnaire as not all questions assess trusts' performance. For example, they may be descriptive questions such as Q1 which asks a respondent 'when was the last time you saw someone from NHS mental health services?'.

Appendix B: Analytical stages of the outlier model

The analytical approach to identifying outliers is based on all evaluative items in the survey. These are the questions that are scored for benchmarking purposes. The scored variables are the source data and are required at respondent level. These variables take values between 0 (representing the worst rating of experience) and 10 (representing the best rating of experience). The approach also makes use of the standardisation weight for the survey.

1. Count the poor-care ratings made by each respondent^d

Count of the '0' responses across the scored questions answered by each respondent (excluding the 'Overall...' question).

2. Count the questions given specific (scored) answers by each respondent

Count of all '0 to 10' responses across the scored questions answered by each respondent (excluding the 'Overall...' question).

3. Weight the data

Apply the standardisation weight for respondents. The weight adjusts the population of respondents in each trust to the national average proportions for age and gender.

4. Aggregate to trust-level and compute proportion of poor ratings

Obtain a weighted numerator and denominator for each trust. Divide the numerator by the denominator to obtain the trust-level proportion of poor care ratings, for example the overall percentage of responses which were scored as 0.

5. Compute the mean of the trust-level proportions

Sum all proportions and divide by the number of trusts to obtain the average trust-level proportion of poor care ratings.

d. The analytical approach used to identify positive experience of people using services uses a numerator count of the '10' responses across all scored questions (excluding the 'overall...' question) to calculate the 'good-care ratings'. There are no other differences between the analytical approaches for identifying poor and good experience.

6. Compute the z-score for the proportion

The Z-score formula used is:

$$z_i = -2\sqrt{n_i} \{ \sin^{-1}(\sqrt{p_i}) - \sin^{-1}(\sqrt{p_0}) \} \quad (1)$$

where: n_i is the denominator for the trust.

p_i is the trust proportion of poor care ratings.

p_0 is the mean proportion for all trusts.

7. Winsorize the z-scores

Winsorizing consists of shrinking in the extreme Z-scores to some selected percentile, using the following method:

1. Rank cases according to their naive Z-scores.
2. Identify Z_q and $Z_{(1-q)}$, the 100q% most extreme top and bottom naive Z-scores. For this work, we used a value of $q=0.1$.
3. Set the lowest 10% of Z-scores to Z_q , and the highest 10% of Z-scores to $Z_{(1-q)}$. These are the Winsorized statistics.

This retains the same number of Z-scores but discounts the influence of outliers.

8. Calculate dispersion using Winsorized z-scores

An over dispersion factor $\hat{\phi}$ is estimated which allows us to say if the data are over dispersed or not:

$$\hat{\phi} = \frac{1}{I} \sum_{i=1}^I z_i^2 \quad (2)$$

Where I is the sample size (number of trusts) and z_i is the Z score for the i th trust given by (1). The Winsorized Z scores are used in estimating $\hat{\phi}$.

9. Adjust for overdispersion

If $\hat{\phi}$ is greater than $(I - 1)$ then we need to estimate the expected variance between trusts. We take this as the standard deviation of the distribution of p_i (trust proportions) for trusts, which are on target, we give this value the symbol $\hat{\tau}$, which is estimated using the following formula:

$$\hat{\tau}^2 = \frac{I\hat{\phi} - (I-1)}{\sum_i w_i - \sum_i w_i^2 / \sum_i w_i} \quad (3)$$

where $s_i = (p_i - p_0)/z_i$, $w_i = 1/s_i^2$ and $\hat{\phi}$ is from (2). Once $\hat{\tau}$ has been estimated, the Z_D score is calculated as:

$$Z_i^D = \frac{p_0 - p_i}{\sqrt{s_i^2 + \hat{\tau}^2}} \quad (4)$$

Appendix C: Difference between outlier analysis and trust-level benchmark reports

The approach used to analyse trust variation in this report is focused on identifying significantly higher levels of better or worse experience **across the entire survey**.

This holistic approach is different to the technique used to analyse results in trust benchmarking reports. In these reports, trust results for each scored question are assigned bands of either 'better', 'worse' or 'about the same' when compared with the findings for all other trusts. However, trust benchmark reports do not attempt to look across all questions concurrently and therefore do not provide an overall assessment of the proportion of positive or negative experiences reported across the entire survey.

Furthermore, being assigned a band of 'better' for an overall experience question is not the same as being 'better than expected' across the entire survey. For comparison, [appendix D](#) details all trusts that were assigned a band of 'worse' or 'better' for the overall experience question asked for all parents and carers.

Appendix D: Overall experience question – ‘better’ and ‘worse’ trusts

Three trusts were identified as being ‘**better than expected**’ for the overall experience question:

- 2gether NHS Foundation Trust
- Dorset Healthcare University NHS Foundation Trust
- NAVIGO Health and Social Care CIC

Two trusts were identified as being ‘**worse than expected**’ for the overall experience question:

- Isle of Wight NHS Trust
- East London NHS Foundation Trust

Appendix E: Date of published CQC ratings

The following table provides the date the CQC Inspection ratings, provided within [results section](#) of this report, were most recently published.

Provider name	Overall trust rating	Date
2gether NHS Foundation Trust	G	01/06/2018
NAVIGO Health and Social Care CIC	G	15/02/2018
Isle of Wight NHS Trust	RI	04/09/2019
Kent and Medway NHS and Social Care Partnership Trust	G	01/03/2019
Coventry and Warwickshire Partnership NHS Trust	G	21/12/2018

Appendix F: Further information

The results for England and trust level benchmark results are available on CQC's website. You can also find a technical document here, which describes the methodology for analysing the trust level benchmark results:

www.cqc.org.uk/cmhsurvey

Full details of the methodology for the survey, including questionnaires, scored questionnaire, letters sent to service users, instructions on how to carry out the survey and the survey development report, are available at:

<https://nhssurveys.org/surveys/survey/05-community-mental-health/year/2019/>

More information on the patient survey programme, including results from other surveys and a programme of current and forthcoming surveys are at:

www.cqc.org.uk/surveys

More information about how CQC monitors hospitals is available at:

www.cqc.org.uk/what-we-do/how-we-use-information/using-data-monitor-services

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