Optimising response rates in a national postal survey evaluating community mental health care

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Optimising response rates in a national postal survey evaluating community mental health care: four interventions trialled

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Background: The Community Mental Health Survey (CMHS) is a valuable resource of information on experiences of mental health care in England; though, response rates are declining.

Aims: To increase overall response rate and response rate of younger service users.

Methods: Four interventions were trialled in a randomised controlled study design alongside the 2017 CMHS. The questionnaire and information letters were modified based on an established framework for influencing behaviour. The modified materials plus a pre-notification card were tested to increase overall response rate, identified by one-sided z-tests between intervention groups and the control. An information flyer was modified to target service users age 18 to 35 and tested using a multilevel logistic regression.

Results: Overall response rate significantly increased with the modified information letters compared to the control group (29.1% vs 25.1%; p=0.007). The targeted information flyer did not increase responses from younger service users; though the combination of modified information letters and questionnaire did (24.6% vs 15.8%; p=0.01).

Conclusions: Modifying information letters to make them easy, attractive, social and timely can increase response rate in postal surveys evaluating community mental health care. Combined with a modified questionnaire, responses from younger service users can also increase.

Keywords: community mental health, patient centred care, service user feedback, experiences of care, evaluating mental health care, response rates, national surveys

Introduction

Patient-centred care is an established approach for achieving high quality integrated healthcare (World Health Organisation, 2015). Patient-centred care has been linked with better clinical outcomes, patient adherence to clinical advice, patient safety, patient satisfaction, fewer hospital readmissions, and reduction in healthcare costs (Anhang Price et al., 2014; Bertakis & Azari, 2011; Doyle et al., 2013; McMillan et al., 2013). One way the National Health Service (NHS) in England measures and monitors patient-centred care is through the NHS Patient Survey Programme (NPSP) which commenced in 2002 and consists of patient surveys on various healthcare services (Patient Feedback and the NHS Constitution, n.d.).

The Community Mental Health Survey (CMHS) is one of the surveys within the NPSP and was first implemented in 2004. Questionnaires are mailed to service users who received care between September and November from a participating NHS community mental health trust. In 2017, 56 NHS trusts took part and 47,600 service users were sent a questionnaire. Questions covered components of quality and patient-centred care such as access to care, involvement in decisions, communication with staff, personal wellbeing, information and signposting. Service users are asked to complete the questionnaire on paper and send it back using the freepost envelope included in the mailing packet.

Fieldwork runs from February to June each year and publication of results is typically in October. The Care Quality Commission (CQC), established to regulate and inspect health and adult social care services in England funds the survey whilst the Survey Coordination Centre at Picker (Picker, n.d.) coordinates the whole of the project. Results are intended to aid in the development of local improvement plans, monitor adherence to policy, identify any inequalities in care, and for CQC regulators to determine any issues in quality and safety

(NHS England, n.d.). As an annual survey, the CMHS provides vital trend data to identify how care is changing over time.

There is often a lack of systematic measurement of quality improvement in community health care settings; though community mental health services in England and elsewhere are well established with expectations to provide patient-centred care (Thornicroft et al., 2016). Mental health illness is an increasingly major cause of global morbidity (Kyu et al., 2018), affecting one in six adults in the UK (McManus et al., 2016). It is therefore vital to ensure patient surveys such as the CMHS are reliable and valuable sources of patient feedback. As with most surveys, maximising the response rate is a priority for the CMHS, albeit it is challenging. With one of the lowest response rates within the NPSP, the CMHS has experienced a consistent decline from 41% in 2004 to 28% in 2016, a trend seen in other national surveys (Atrostic et al., 2001; Groves, 2011; Meyer et al., 2015).

The CMHS is a postal survey based on the Tailored Design Method (Dillman et al., 2014). Postal surveys are a common survey method used for surveys of this scale and have been found to be easy, cheap, and effective (Bech & Kristensen, 2009; Sinclair et al., 2012). Whilst online surveys are becoming more common, response rates from patients are found to be significantly lower compared to postal surveys and can create new biases with regard to certain sociodemographic characteristics such as age, education and deprivation (Bech & Kristensen, 2009; Pham et al., 2019). A mixed-mode survey, providing an online and paper option, would require access to email addresses, mobile numbers or home addresses for sending a letter with the URL. The former two are not readily available for the CMHS and postal and online mixed-mode methodology has been found to negatively impact response rate (Medway & Fulton, 2012). An online survey was therefore not tested in this current study.

Various methods known to increase response rate, as evidenced in a systematic review, are already in use for the CMHS such as follow up contacts, personalised letters, including a freepost envelope, stating the confidential nature of the survey and including the questionnaire in a follow up mailing (P. J. Edwards et al., 2009). Some effective elements identified in this review would not be feasible for the CMHS such as avoiding sensitive questions, hand-written addresses (due to the scale of the survey), first class stamps (due to funding) or incentives (due to funding, but also implications on trend data) (P. J. Edwards et al., 2009). Some effective methods are feasible but have not yet been trialled for the CMHS such as pre-notification and including a teaser on the envelope. As a result, the current study trials a pre-notification card with a teaser on the outside of the card.

The established EAST framework is based from extensive evidence on what influences behaviour was developed by the Behavioural Insights Team for policy makers and practitioners (Behavioural Insights Team, 2014). The framework was developed in 2012 and has been successful with encouraging people to respond or act in a particular way, such as donating to charity or paying vehicle taxes on time (Behavioural Insights Team, 2014). The framework asserts that if the desired behaviour (completing the survey) is made easy, attractive, social and timely, it is likely to influence the behaviour. Evidence suggests that appeal such as coloured ink does have an impact on response rates (P. Edwards et al., 2002); however applying the framework would require more than adding colour. Whilst these elements may seem rudimentary, the CMHS materials have historically not met these criteria and instead have comprised black Arial font and with little consideration to simplicity, attractiveness and easiness to read. Particularly for this group of service users, stakeholders for the survey from various government and non-governmental organisations have suggested that having formal-appearing mailings from the government could be potentially counterproductive. For the current study, it was decided to test a modified questionnaire and

modified information letters based on the EAST framework for improving overall response rate.

Younger service users have historically been under-represented in the CMHS results due to non-response. In 2016, 18% of 18 to 35 year olds responded in comparison to 31% of those 36 or older. Weights on age are applied to the data for analysis; however, it is uncertain whether weighting completely eradicates potential bias (Groves, 2006). Numerous studies have concluded that people of a younger age report more negative health care experiences when compared to older patients (Bone et al., 2014; El Turabi et al., 2013; Hargreaves et al., 2012; Lyratzopoulos et al., 2012; Sizmur et al., 2015), and perhaps this is due to differing expectations (Jaworski et al., 2017) or to actual inequalities. To ensure minimal bias and representative results, increasing response from younger service users is key. Whilst the reasons for non-response may be more nuanced for younger service users, research on this is limited. It was decided to modify the CQC flyer based on the EAST framework but also to specifically target younger service users by the use of a photo. The use of a photo was decided by consultation with stakeholders where it was thought to add a personalised, targeted aspect to the flyer that younger service users may be more attracted to.

The primary aim of this study was to increase the overall response rate by trialling a modified questionnaire, modified information letters, and a pre-notification card. The secondary aim was to increase response rate from younger service users (age 18 to 35) by a targeted CQC flyer.

Methods and methods

Research design and sample selection

The current study ran alongside the 2017 CMHS, which used each participating NHS trust's sample of 850 service users as the control. Only trusts participating in the 2017 CMHS were

eligible to take part in the survey (n=56). Trusts were excluded if they had sampled incorrectly for any previous iterations of the survey (to reduce risk of sampling error). The first 10 trusts to volunteer that represented a geographical spread and a wide range in previous response rates were included.

A factorial design for single and pairwise interventions was used to calculate power needed for each intervention group. To achieve a 95% confidence interval with a ±5% accuracy, a minimum total sample size of 4890 was required for testing an increase in overall response rate of two percentage points in any of the intervention groups. Based on previous data from the CMHS, it was estimated that 20% of the sample would be aged 18 to 35 and therefore an additional 1310 service users in this age group were needed to test the targeted CQC flyer.

Randomisation was completed using Excel. Each trust randomly selected 1339 from a list of eligible service users. From the remaining list, 131 aged 18 to 35 were randomly selected. Researchers from the Survey Coordination Centre randomly allocated the final list of 1470 service users from each trust to the trial arms accordingly: 850 randomly allocated to the control group; 489 randomly allocated across the ten single and pairwise intervention groups; and the additional 131 18 to 35 year olds were randomly allocated across the four interventions that contained the targeted CQC flyer.

Eligibility criteria were the same as per the CMHS for comparability purposes and to obtain trend data changes to the criteria for the CMHS were not permitted. Trusts drew a sample of service users aged 18 or older who had visited mental health services at least once between 1st September and 30th November 2016. They must have had at least one other visit before, during or after this sampling period. Service users were excluded if they were only seen for assessments, had received care primarily through certain services or were inpatients at the time of sampling (Table 1). Service users were also excluded if they opted out of being

contacted for anything other than their clinical care or if the safeguarding team believed that sending mailings regarding their mental health care could cause harm to the individual. Explicit consent was not required for any data collected for the Community Mental Health Survey because it is considered as a service evaluation under the NHS. To provide service users the opportunity to opt out, NHS trusts were required to display posters about the upcoming survey with a number, email and address they could contact to opt out.

Samples were drawn in January 2017 and eighteen weeks were allocated for fieldwork from February to June 2017; however trusts went into field on different dates depending on the readiness of their sample. Trusts only received anonymised data from the survey and were unaware of who responded. Ethical approval was received from the East of England Cambridge East Research Ethics Committee (Reference 15/EE/0064) and the use of patient data was approved by the Confidentiality Advisory Group of the NHS Health Research Authority (Reference 16/CAG/0157).

[Table 1 near here]

Intervention and control groups

The questions within the questionnaire remained the same across all intervention groups as did the size and length of the booklet (A4; 8 pages; 47 questions). There were no changes made to the postage (second class), freepost envelope or the multi-language sheet (instructions on calling the helpline in 19 different languages) for any of the interventions. Non-responders in all intervention groups received up to two reminder packets as per the control. All materials for the control and intervention groups are in the Supplemental Materials.

Differences between the questionnaire, information letters and CQC flyer in the control group and intervention groups are summarised in Figure 1 with indication of which

part of the EAST framework the changes represent. For the control group, the first mailing included the questionnaire, an information letter, CQC flyer, a multi-language sheet and a freepost envelope; the second mailing consisted of a reminder letter only and went to non-responders; the third mailing matched the first mailing exactly and went to non-responders only. The mailings and materials for the ten intervention groups were exactly as the control group aside from the items being tested: the modified questionnaire, modified letters, targeted CQC flyer, pre-notification card and six combinations of the interventions.

[Table 2 near here]

The pre-notification card was unique in that nothing of the kind existed in the control group. The card was a purple folded A4 card with edges gently glued. It was sent a week before the first mailing packet in the intervention groups receiving this intervention. The card was purple with white boxes for the address and stamp on the front and white text on the back stating 'Your experience matters'. The inside of the card was similar to the targeted CQC flyers in that the text was white, inside a purple box and it included information on CQC and the upcoming questionnaire they were going to receive. The same two images used in the targeted CQC flyers were on the inside of the card.

Statistical methods

Data was analysed using SPSS version 25.0 (IBM, Armonk, NY, USA). Response rates were calculated by dividing the number of respondents by the number of service users able to complete the questionnaire. Those that had deceased during fieldwork or did not receive the questionnaire (i.e. questionnaire returned undelivered) were excluded from the denominator. One-sided z-tests were performed to identify any statistically significant increase in overall response rate ($p<0.05$). The additional sample of 18 to 35 year olds were excluded from these calculations to maintain comparability with the control group. To test the impact of the

targeted CQC flyer (on its own or in combination with other interventions) on the younger age group, a multilevel logistic regression was conducted. This incorporated dummy variables representing the interventions and a random effect representing variation between trusts. The additional sample of 18 to 35 year olds was included in this analysis. One regression was used for the overall sample and a separate regression for the sample of 18 to 35 year olds only. Given the randomised control design of the study, no correlation between the allocated trial groups and confounders are expected; therefore, no covariates were added in the regression. One-tailed tests were performed on the model coefficients to identify any statistically significant increase in response associated with the interventions.

Results

Survey materials were mailed to 14700 service users. Excluding the additional sample of young service users, the baseline demographics (gender, age and ethnicity) and clinical characteristics (Care Programme Approach status) were similar across all groups (Table 3).

The overall response rate from the control group was consistent with previous iterations of the CMHS, at 25.1% (n=2062). The combined intervention group comprising the targeted CQC flyer and modified questionnaire received the lowest overall response rate (21.6%; n=56) whereas the modified information letters received the highest (29.1%; n=228) (Table 4). The modified information letters had the only statistically significant difference in overall response when compared to the control (p=0.007).

The targeted CQC flyers did not result in a significant increase in response rate for 18 to 35 year olds when compared to the same age group in the control group (14.9% vs 16.0%; p=0.737).

[Table 3 near here]

[Table 4 near here]

Ad hoc analysis

Only the targeted CQC flyers were hypothesized to have an impact on response from younger service users due to the targeted photo used. However, z-tests for a logistic regression were carried out for all interventions. For those 18 to 35, a statistically significant difference resulted between the control group and the combined intervention of the modified questionnaire and modified information letters. Service users aged 18 to 35 had a response rate of 24.6% in this group versus 15.8% in the control ($p=0.01$) (data not shown).

An additional ad hoc analysis was conducted to identify any impact of the modified information letters on response time. Results showed that 50.0% of all responses were received after the first mailing in the intervention group compared with 45.5% in the control group (significant tests were not carried out).

Discussion

This study found that modifying the information letters can increase response rate in a national survey on experiences of care from community mental health service users. More specifically:

- Word count was reduced and bullet points were used to highlight how to complete the survey;
- Colours were added, the font was changed to be more informal and the wording of each letter was different;
- Descriptive norms were included in the second and third information letter to emphasise that many other people had already responded, and motivational text was included in all letters to encourage them to help, be heard and be a part of change;
- The time estimated to complete the survey was added and highlighted in a bullet point along with instructions on to complete and send back the questionnaire.

Mental health service users are likely to receive formal, government letters more often than the general population in England. The informal appearance of the modified information letters may have had an impact on this population in particular, encouraging more service users to respond and respond more quickly. The modifications of the information letters can therefore result in more useful data on patient-centred care in a community mental health setting, and have the potential to reduce costs, although a cost analysis was not completed for the current study. In combination with the modified questionnaire, the modified information letters also had an impact on responses from younger service users. For younger respondents, it may be a combination of the two modified materials that attains and keeps their interest enough to complete and return a paper questionnaire about their experience of mental health care.

The systematic review by Edward et al reported the effectiveness of pre-notification (P. J. Edwards et al., 2009). However, the pre-notification card did not have an impact in this current study. This could be due to posters that NHS trusts are required to display during the sampling frame to inform service users about the upcoming survey and give them a chance to opt out. Thus, service users (from all intervention groups) may have already been informed about the survey, making the pre-notification card redundant. However, a study conducted after the aforementioned systematic review found similar findings after trialling the pre-notification for a survey on maternity care (Todd et al., 2015); therefore it is likely that the ineffectiveness of the pre-notification card is unrelated to the design of the current study. An updated systematic review or further testing of pre-notification may be warranted.

The targeted CQC flyers were not effective in improving responses from younger service users. This could be due to the photo used, the flyer itself or because service users do not consider CQC as important or relevant. The overall response rate from this intervention group was the lowest compared to the control and the other intervention groups, indicating

that the flyers may have a negative impact on response. It is therefore possible that using other survey materials to target an under-represented group may have an impact and thus should not be ruled out of future research. Though, to fully understand what may motivate younger service users to take part, further research such as a non-response study or a qualitative study is recommended.

This study did not have the funding to allow for granularity to be sought on the modified materials (i.e. a larger sample size). It is therefore unclear exactly which element of the modified information letters was most effective: the direct title, added colour, reduction of information, simplicity in instructions, informal font, added timings, motivational statements or descriptive norms. This study only provides evidence for a combination of these elements for increasing overall response rate, as per the EAST framework.

Only certain groups of mental health service users were included in this study. Therefore the results of this study may not apply to other populations, including service users excluded from the study which may represent more vulnerable or hard to engage groups of service users. Further research is needed to understand how to optimise feedback and survey response from service users excluded from this study and from service users from Black and other minority ethnic groups which this study did not report on. Additionally, the questionnaire used is from a national programme to measure service user experiences and consequently asks questions related to patient-centred care. Results of this study may not be generalizable to questionnaires of other topics.

In conclusion, modifying information letters based on the EAST framework can improve response rate in national patient surveys on experiences of community mental health care. The results of this study will provide useful evidence for collecting feedback from mental health service users in the UK and elsewhere. This is particularly important as patient-centred care is increasingly added to the healthcare agenda of other countries.

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Declaration of interest

The authors have no conflict of interest to declare.

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Table 1. Eligibility criteria

Who to include:
Anyone who used the trust's community based treatment and care services during the sample period of 1st September and 30th November 2016
Who to exclude:

• Anyone seen only once ever for an assessment
• Anyone primarily receiving care from:
  ○ Drug and alcohol services
  ○ Learning disability services
  ○ Specialised forensic services
  ○ Psychological treatments from Improving Access to Psychological Therapies (IAPT) services
  ○ Chronic Fatigue/ME services
  ○ Psychosexual medicine services
  ○ Gender identity services
• Anyone under the age of 18 at the time of drawing the sample
• Current inpatients

Table 2. Differences in the control group materials and the modified materials trialled, and how each change aligns with the EAST framework.

Easy	Attractive	Social	Timely	Survey materials	Control group materials	Modified materials
				Questionnaire		
		✓		Title displayed	*Service user questionnaire*	*Community mental health services questionnaire*
	✓			Font	Arial	Myriad Pro
	✓			Colour on front cover	Black text	Purple[a] text in light shaded purple boxes White text in dark purple boxes
	✓			Colour of section titles	Black	White text in dark purple boxes
	✓			Colour of question text	Black	Grey in light grey boxes
	✓			Colour of instructions	Black text with a blue box around the text	Purple
✓	✓		✓	Front cover word count	299	198
✓	✓			Style	Some sentences and words in bold text	Some sentences and words in bold text
				Information letters		
	✓			Font	Arial	Trebuchet MS font
	✓			Colour of text	Black	Grey with key sentences and words in purple and blue
✓	✓		✓	Front cover word count	1st letter: 365 2nd letter: 236 3rd letter: 371	1st letter: 185 2nd letter: 167 3rd letter: 187
✓	✓		✓	Style	Some sentences and words in bold black text 1st and 3rd letters were similarly worded	Some sentences and words in bold coloured text Instructions in bullet points Each letter worded differently
		✓		Motivational text	None included	Included in all three letters
		✓		Descriptive norms	None included	Included in the 2nd and 3rd letter
				CQC flyer		
	✓	✓		Content	Text only with colour	Text with colour plus a photo[b]
✓	✓		✓	Word count	117	77

[a] The colour purple was chosen because it is less associated with a particular emotion (Gilbert et al., 2016).

[b] Two CQC flyers were used; one for service users age 18 to 35 and one for the service users older than 35. Different photos were used for each.

Table 3. Baseline demographics and clinical characteristics for all groups[a]

Trial arm	Gender (% female)	Age (mean)	Ethnicity (% White)	CPA (% on CPA)[b]
Control group	54.8	53.8	79.3	27.9
Redesigned CQC Flyer	58.5	55.2	80.5	27.7
Pre-approach Mailing	54.5	53.1	75.2	28.8
Redesigned Questionnaire	52.9	54.3	79.6	26.5
Redesigned Covering Letters	55.2	54.3	80.3	29.4
Redesigned CQC Flyer + Pre-approach Mailing	57.4	54.4	73.4	29.0
Redesigned CQC Flyer + Redesigned Questionnaire	57.4	52.9	77.8	30.1
Redesigned CQC Flyer + Redesigned Covering Letters	58.7	53.8	77.5	25.8
Pre-approach Mailing + Redesigned Questionnaire	59.9	53.8	77.8	25.7
Pre-approach Mailing + Covering Letters	56.6	54.2	80.0	29.4
Redesigned Questionnaire + Redesigned Covering Letters	53.9	52.6	76.1	28.4

[a] The additional sample of 18 to 35 year olds are not included in the baseline data presented.

[b] Service users on the Care Programme Approach (CPA) typically have more severe or complex mental health conditions and receive a care-coordinator and a care plan.

Table 4. Response rates and logistic regression results

Trial arm	Sample size[a]	Response rate N (%)	Coefficient	95% Confidence Interval (lower, upper)	P-value[b]
Control group	8204	2062 (25.1)	-1.093	-1.161, -1.025	1[d]
18-35 year olds	1881	301 (16.0)	-1.670	-1.794, -1.546	1[d]
Targeted Information Flyers	789	203 (25.7)	0.032	-0.136, 0.199	0.356
18-35 year olds[c]	800	119 (14.9)	-0.074	-0.305, 0.156	0.737
Pre-notification Card	782	207 (26.5)	0.070	-0.096, 0.365	0.204
Modified Questionnaire	785	209 (26.6)	0.078	-0.088, 0.244	0.180
Modified Information Letters	783	228 (29.1)	0.203	0.040, 0.365	0.007[e]
Targeted Information Flyers + Pre-notification Card	260	67 (25.8)	-0.068	-0.429, 0.293	0.356
Targeted Information Flyers + Modified Questionnaire	259	56 (21.6)	-0.306	-0.681, 0.069	0.945
Targeted Information Flyers + Modified Information Letters	259	70 (27.0)	-0.136	-0.492, 0.221	0.228
Pre-notification Card + Modified Questionnaire	261	67 (25.7)	-0.119	-0.479, 0.242	0.260
Pre-notification Card + Modified Information Letters	255	65 (25.5)	-0.254	-0.616, 0.108	0.085
Modified Questionnaire + Modified Information Letters	263	75 (28.5)	-0.107	-0.458, 0.244	0.275

[a] The sample size does not include those that have deceased or where mailing packets were returned undelivered.

[b] A P-value of 0.05 or smaller was considered significant.

[c] The figures for this group includes the additional sample of 18 to 35 year olds and therefore will be more than the overall figures for this intervention group.

[d] denotes the reference category

[e] denotes a significant difference