

NHS STAFF SURVEY 2015

Response rate pilot analysis – report for NHS England

NHS Staff Survey Co-ordination Centre

Introduction

A pilot study was conducted during the 2015 NHS Staff Survey to test a variety of interventions designed to increase response rates for the online arm of the survey. Ensuring the NHS Staff Survey achieves a good response rate is very important for maintaining both the quality of the data and its usefulness to stakeholders, including participating organisations, NHS England, CQC and all the other organisations and researchers who use the data.

Method

Based on evidence from the literature and discussions with stakeholders, three interventions were trialled. These comprised changes made to the number and content of emails sent to the online sample along with the link to the questionnaire. In 2015, 55% of the total NHS Staff Survey sample were sent the online version of the survey, a proportion that is expected to increase in future. Improvements to online response rates, which are currently slightly lower than paper response rates, could therefore have a substantial impact on the overall survey response rate.

The following interventions were tested:

- **Intervention A:** Increasing the number of email reminders from the standard three, to six. Depending on initial mailing date, reminders were sent approximately every 1.5 weeks. As usual, reminders were sent only to those staff who had not already completed or opted out of the survey.
- **Intervention B:** Changing the signatory of the email. The signatory of the emails in the main survey is Chris Graham, Director of Research and Policy for the Staff Survey Co-ordination Centre. In the pilot we tested instead using the signature of Jane Cummings, Chief Nursing Officer for England, with the aim of drawing on people's commitment to the NHS and showing that the survey is not just an administrative exercise, while avoiding the risks of having a member of staff too close to respondents (e.g. a clinician in the staff member's own trust), which could cause confidentiality concerns.
- **Intervention C:** Using more concise messages including socio-normative messaging (eg 'Lots of your colleagues have already responded...'). The last email also noted that this was the final reminder. Examples of the concise email used are contained in Appendix A.

Five NHS trusts, including a variety of trust types, with approximately 13,000 staff members receiving the online survey were selected to take part in the pilot:

- RYX Central London Community Healthcare NHS Trust (Community trusts)
- RJ2 Lewisham and Greenwich NHS Trust (Combined acute and community trusts)
- RYC East Of England Ambulance Service NHS Trust (Ambulance trusts)
- RJZ King's College Hospital NHS Foundation Trust (Acute trusts)
- RJX Calderstones Partnership NHS Foundation Trust (Mental health/learning disability trusts)

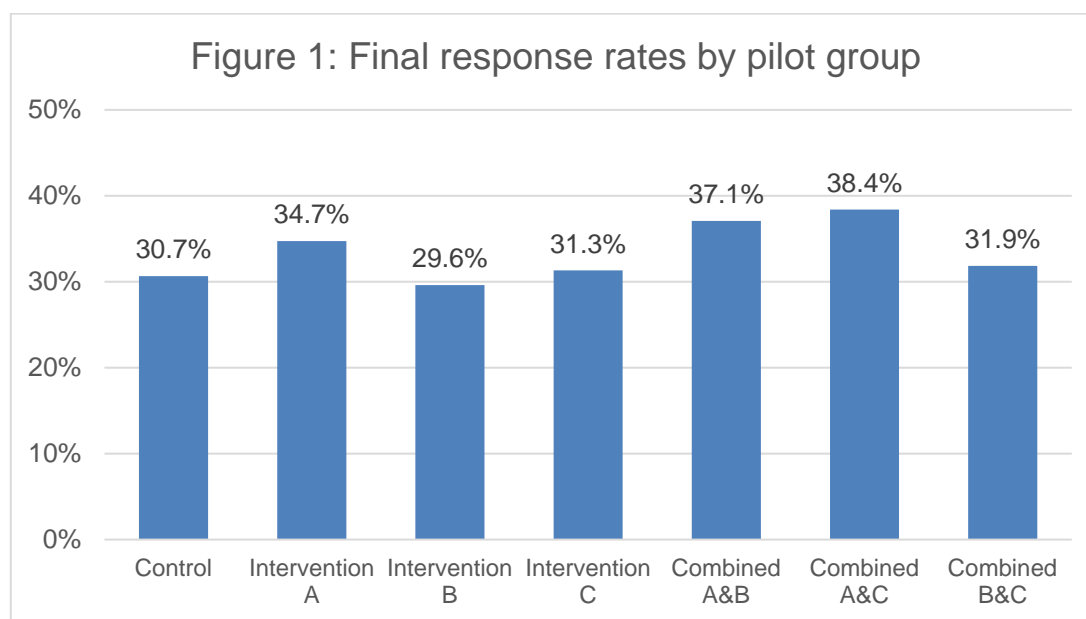
Each of these trusts' online samples (selected in line with the main staff survey sampling approach as described in the 2015 NHS Staff Survey guidance manual) was split into 7 groups by the Co-ordination Centre¹, and their survey contractor sent the emails to groups as follows:

- Group 1: Control (receiving just the normal emails) (sample size: 2392)
- Group 2: Intervention A (sample size: 1195)
- Group 3: Intervention B (sample size: 1195)
- Group 4: Intervention C (sample size: 1195)
- Group 5: Interventions A+B combined (sample size: 2391)
- Group 6: Interventions A+C combined (sample size: 2391)
- Group 7: Interventions B+C combined (sample size: 2391)

Aside from these changes to the covering and reminder emails, all other aspects of the survey method were identical for the pilot and control groups, and matched those used in the NHS organisations not taking part in the pilot.

Analysis and Results

Final response rates



As can be seen in the figure 1, above, and table 1 (in the 'Data Tables' section, below), the highest response rates were obtained in the three pilot groups where intervention A (increased number of reminders) was tested. Compared to a response rate of 30.7% in the control group, the pilot groups receiving additional reminders achieved response rates of 34.7%, 37.1% and 38.4% respectively. The results of the z test of column proportions displayed in table 2 suggest the response rates for groups 5 and 6 (combined interventions A&B and A&C) are significantly higher than the control group.

¹ The single-intervention groups were each created as half the size of the control and combined-intervention groups, as this design gives good power for detecting the interaction effects while also allowing the single interventions to be assessed separately.

Logistic regression analysis was conducted to examine the effects of the interventions in more detail. As displayed in tables 3 and 4, intervention A appears to have the greatest positive impact of all the interventions, and is the only intervention that had a statistically significant impact overall. When considering main effects, the odds ratio for intervention A is 1.328.

This analysis found that interventions B (changed signatory) and C (concise message text) did not have a significant impact on response rates overall. The increased response rates found in the combined interventions A&B and A&C appear to be due only to their incorporation of intervention A. Intervention B was particularly ineffective, and we would not recommend this be taken forward into the main survey, as it is possible that it may even have a negative effect.

An error was made by the survey contractor in the text of the final mailing for intervention C (concise message text), whereby the closing date written in the email was a month after the correct closing date (the date given was 27th December rather than 27th November). It is possible that this incorrect date may have impacted negatively on response rates, and therefore the same analysis as described above has also been conducted on response rates prior to the final mailing.

Table 5 shows the response rates in the different pilot groups prior to the final mailing. These follow a very similar pattern to those examined in the analysis of the final response rates. Logistic regression analysis of the response rates prior to final mailing also provided similar results to those of the original analysis and, when considering the sample as a whole, corroborate the conclusion above that intervention A (increased number of reminders) was the only intervention to have a significant impact on response rates.

Ethnicity

Only a small number of demographic variables are collected with the NHS Staff Survey sample, and of these, only ethnicity is coded by organisations in a consistent way allowing its examination in the present analysis. It has been established that people who identify as white are more likely to respond to surveys, including the NHS Staff Survey, than those who identify as being from a Black and minority ethnic (BME) group. This impacts on the representativeness of survey findings, and therefore it is important to assess any differential impact of the pilot by ethnicity, particularly to ensure this does not have a negative impact on the representativeness (ie by widening the gap in response rates between white and BME groups), but also to take into account any ways in which representativeness may be increased by particular pilot interventions.

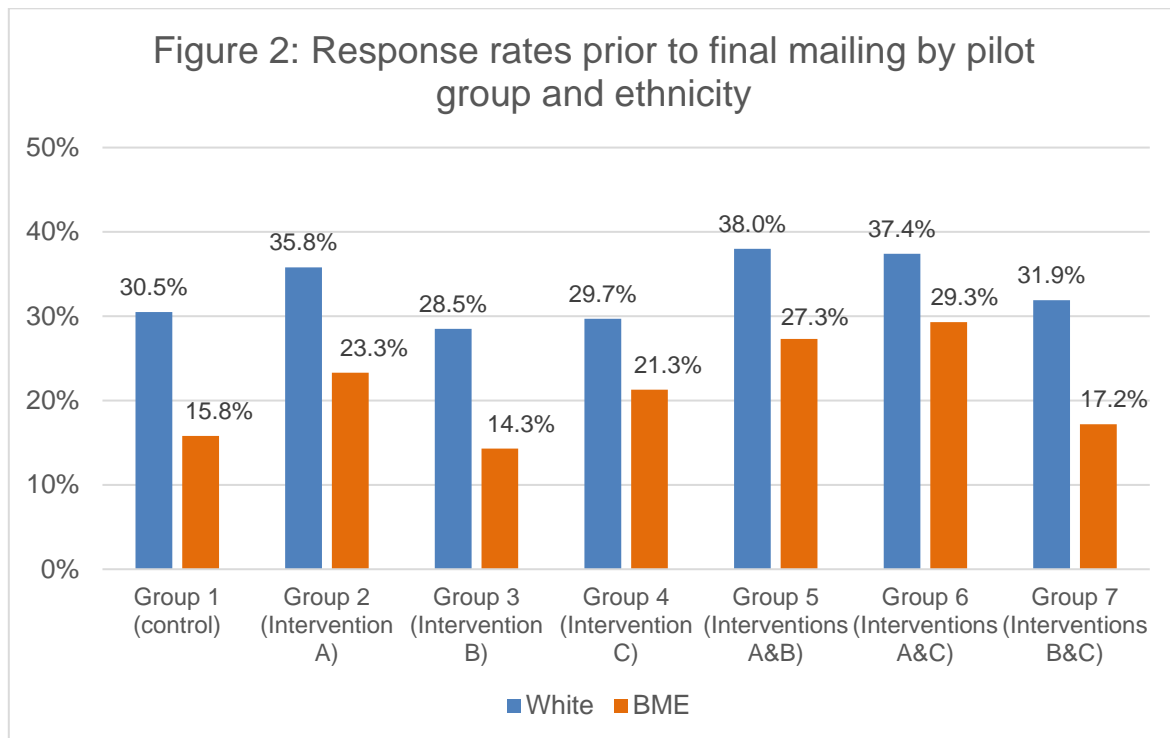
The ethnicity sample variable is known to be of variable quality and where only response data is being analysed in the Staff Survey analysis, response ethnicity is always used. However the correlation between sample and response ethnicity is very high, and is considered sufficient for the purposes of this analysis.

Similar analysis to that discussed above was therefore undertaken with the addition of a comparison between white and BME staff. As can be seen in table 6, when looking at the final response rates, it was found that only intervention A had a significant impact on response rates, and only for the white sample population, not BME groups.

However, when response rates prior to final mailing were considered, to remove the possible negative impact of the error made in the final mailing for intervention C, we found that while intervention A remained the only significant predictor of higher response rates for white respondents, both interventions A and C were now significant for the BME population, as shown in table 7. This suggests that the error in the final mailing of intervention C did have an adverse

impact on response rates, but that this was masked when considering the data overall as intervention C does not have a significant impact on White respondents, who comprise the majority of the sample.

The findings from this analysis indicate that the introduction of intervention C should be beneficial in increasing the representativeness of the online survey’s response population. This impact is illustrated in figure 2, below, where for the BME population intervention C on its own is related to an increase from a control group response rate of 15.8% to 21.30%. The equivalent change for the white population is from 30.5% to 29.7%, which is not a significant change.



The lack of significance in the interactions between interventions shown in table 7 means that the interventions do not interfere with one another – their effects are independent. This means that the introduction of either or both of interventions A and C can be expected to increase response rates (for intervention C, only for BME participants).

However, based on this analysis, it appears that introducing *both* interventions A and C would be very beneficial as this would increase overall response rates and would also give an extra boost to the BME response rate, thereby improving representativeness. This is illustrated in figure 2. Response rates for group 6 (interventions A&C) exceed those of the control group by 23% for white staff members (37.4% vs 30.5%) and by 85% for staff from BME groups (29.3% vs 15.8%).

Recommendations

Based on the findings of the pilot, we recommend that the increased number of online reminders (intervention A) and concise re-wording of the cover letters (intervention C) should both be introduced for the 2016 NHS Staff Survey. We do not recommend a change of signatory for the covering letters.

Data tables

Table 1 Final response rates by pilot group

	Final response rates by pilot group													
	Group 1 (control)		Group 2 (Intervention A)		Group 3 (Intervention B)		Group 4 (Intervention C)		Group 5 (Interventions A&B)		Group 6 (Interventions A&C)		Group 7 (Interventions B&C)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Did not respond	1601	69.3%	757	65.3%	818	70.4%	794	68.7%	1453	62.9%	1423	61.6%	1579	68.1%
Responded	708	30.7%	403	34.7%	344	29.6%	362	31.3%	856	37.1%	887	38.4%	738	31.9%

Table 2 Final response rates by pilot group – comparison of column proportions

Final response rates by pilot group - comparisons of column proportions ^a							
	Group 1 (control)	Group 2 (Intervention A)	Group 3 (Intervention B)	Group 4 (Intervention C)	Group 5 (Interventions A&B)	Group 6 (Interventions A&C)	Group 7 (Interventions B&C)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Did not respond	E F		E F	E F			E F
Responded					A C D G	A C D G	

Results are based on two-sided tests with significance level .05. For each significant pair, the key of the category with the smaller column proportion appears under the category with the larger column proportion.^a

a. Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Table 3 Final response rates – parameter estimates – main effects

Final response rates - parameter estimates - main effects										
Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B) [odds ratio]	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
(Intercept)	-.847	.0391	-.923	-.770	469.911	1	0.000	.429	.397	.463
Intervention A	.284	.0381	.209	.358	55.345	1	.000	1.328	1.232	1.431
Intervention B	.014	.0383	-.061	.089	.130	1	.718	1.014	.941	1.093
Intervention C	.078	.0383	.003	.153	4.145	1	.042	1.081	1.003	1.165

Note: p values are unadjusted. Sidak adjusted p value: 0.017

Table 4 Final response rates – parameter estimates – main effects + interactions

Final response rates - parameter estimates - main effects + interactions										
Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B) [odds ratio]	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
(Intercept)	-.816	.0451	-.904	-.727	326.826	1	0.000	.442	.405	.483
Intervention A	.186	.0764	.036	.335	5.894	1	.015	1.204	1.036	1.398
Intervention B	-.050	.0785	-.204	.104	.410	1	.522	.951	.815	1.109
Intervention C	.031	.0778	-.122	.183	.154	1	.695	1.031	.885	1.201
Combined A&B	.152	.1087	-.062	.365	1.943	1	.163	1.164	.940	1.440
Combined A&C	.127	.1081	-.085	.339	1.385	1	.239	1.136	.919	1.404
Combined B&C	.075	.1103	-.141	.291	.463	1	.496	1.078	.868	1.338

Note: p values are unadjusted. Sidak adjusted p value: 0.0085

Table 5 Response rates prior to final mailing

	Response rates prior to final mailing by pilot group													
	Group 1 (control)		Group 2 (Intervention A)		Group 3 (Intervention B)		Group 4 (Intervention C)		Group 5 (Interventions A&B)		Group 6 (Interventions A&C)		Group 7 (Interventions B&C)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Did not respond prior to final mailing	1706	73.9%	788	67.9%	876	75.4%	841	72.8%	1513	65.5%	1502	65.0%	1676	72.3%
Responded prior to final mailing	603	26.1%	372	32.1%	286	24.6%	315	27.2%	796	34.5%	808	35.0%	641	27.7%

Table 6 Final response rates – regression analysis

Final response rates				
	Coeff	S.E.	p-value	
Fixed Part				predicted RR
White	-0.645	0.053	0.000	0.344
intA_1.White	0.190	0.091	0.036	0.388
intB_1.White	-0.070	0.093	0.454	0.329
intC_1.White	-0.017	0.093	0.853	0.340
intA_1.intB_1.White	0.141	0.130	0.278	0.405
intA_1.intC_1.White	0.108	0.130	0.404	0.410
intB_1.intC_1.White	0.138	0.132	0.296	0.356
BME	-1.215	0.095	0.000	0.229
intA_1.BME	0.137	0.158	0.388	0.254
intB_1.BME	-0.080	0.166	0.629	0.215
intC_1.BME	0.149	0.158	0.347	0.256
intA_1.intB_1.BME	0.298	0.225	0.185	0.297
intA_1.intC_1.BME	0.213	0.219	0.330	0.328
intB_1.intC_1.BME	-0.094	0.229	0.680	0.224

Table 7 Response rate prior to final mailing – regression analysis

Response rates prior to final mailing				
	Coeff	S.E.	p-value	
Fixed Part				predicted RR
White	-0.822	0.055	0.000	0.305
intA_1.White	0.240	0.093	0.010	0.358
intB_1.White	-0.099	0.097	0.306	0.285
intC_1.White	-0.038	0.096	0.690	0.297
intA_1.intB_1.White	0.190	0.133	0.153	0.380
intA_1.intC_1.White	0.107	0.133	0.420	0.374
intB_1.intC_1.White	0.199	0.136	0.145	0.319
BME	-1.670	0.110	0.000	0.158
intA_1.BME	0.477	0.170	0.005	0.233
intB_1.BME	-0.118	0.193	0.542	0.143
intC_1.BME	0.366	0.174	0.035	0.213
intA_1.intB_1.BME	0.331	0.249	0.183	0.273
intA_1.intC_1.BME	-0.055	0.234	0.813	0.293
intB_1.intC_1.BME	-0.149	0.258	0.563	0.172

Table 8 Response rate prior to final mailing by pilot group and ethnicity

		Response rates by pilot group and ethnicity						
		Group 1 (control)	Group 2 (Intervention A)	Group 3 (Intervention B)	Group 4 (Intervention C)	Group 5 (Interventions A&B)	Group 6 (Interventions A&C)	Group 7 (Interventions B&C)
White	Did not respond prior to final mailing	69.50%	64.20%	71.50%	70.30%	62.00%	62.60%	68.10%
	Responded prior to final mailing	30.50%	35.80%	28.50%	29.70%	38.00%	37.40%	31.90%
BME	Did not respond prior to final mailing	84.20%	76.70%	85.70%	78.70%	72.70%	70.70%	82.80%
	Responded prior to final mailing	15.80%	23.30%	14.30%	21.30%	27.30%	29.30%	17.20%

Appendix A

Pilot intervention C: First reminder email template

[Sections in blue are to be altered according to each organisation's/contractor's needs]



[Organisation name/logo]

Dear colleague,

NHS Staff Survey: reminder to respond

[I/We] recently wrote to invite you to take part in this year's survey.

If you haven't yet responded, this email is to remind you not to miss out on your opportunity to help improve [the NHS / organisation name].

What you need to do:

- Complete the survey by clicking here: [\[insert weblink\]](#)
- Your login is: [\[login details \(if applicable\)\]](#)

Lots of your colleagues have already responded, but we don't want to miss hearing the views of NHS staff like you. The NHS Staff Survey is one of the best ways for you to share your views about your job and the NHS.

Responses to this survey are strictly confidential. No one from where you work will see your completed survey or be able to identify individual responses.

For more information or help completing the survey go to www.nhsstaffsurveys.com or call [contractor number].

[I'll/We'll] send another reminder in a couple of weeks, but hope you will have responded by then.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Chris Graham'.

Chris Graham
Director of Survey Development
NHS Staff Survey Co-ordination Centre

[ORGANISATION CHIEF EXECUTIVE'S SIGNATURE MAY ALSO BE ADDED]

Pilot intervention C: Final reminder template

[Sections in blue are to be altered according to each organisation's/contractor's needs]



[Organisation name/logo]

Dear colleague,

NHS Staff Survey: last chance to share your views

This is a final reminder for anyone who has still to respond. Please set aside a few minutes today or tomorrow.

The NHS Staff Survey is one of the best ways for you to share your views about your job and the NHS.

Thousands of NHS Staff have already taken up this opportunity to help improve our NHS.

What you need to do:

- Complete the survey by clicking here: [\[insert weblink\]](#)
- Your login is: [\[login details \(if applicable\)\]](#)
- We need to hear from you by: [\[insert closing date dd month yyyy\]](#)

Responses to this survey are strictly confidential. No one from where you work will see your completed survey or be able to identify individual responses.

For more information or help completing the survey go to www.nhsstaffsurveys.com or call [\[contractor number\]](#).

[\[I/We\]](#) appreciate this is an additional demand on your already busy day, but your feedback is really important for the future of our NHS.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Chris Graham', with a horizontal line extending to the right.

Chris Graham
Director of Survey Development
NHS Staff Survey Co-ordination Centre

[\[ORGANISATION CHIEF EXECUTIVE'S SIGNATURE MAY ALSO BE ADDED\]](#)