UNIVERSITY of York

This is a repository copy of *Including a pen and/or cover letter, containing social incentive text, had no effect on questionnaire response rate:a factorial randomised controlled Study within a Trial [version 1; peer review: awaiting peer review]*.

White Rose Research Online URL for this paper:
https://eprints.whiterose.ac.uk/163089/

Version: Published Version

Article:
James, Sophie Jane orcid.org/0000-0003-1878-2779, Parker, Adwoa orcid.org/0000-0002-2880-3935, Cockayne, Sarah orcid.org/0000-0002-1288-5497 et al. (5 more authors) (2020) Including a pen and/or cover letter, containing social incentive text, had no effect on questionnaire response rate:a factorial randomised controlled Study within a Trial [version 1; peer review: awaiting peer review]. F1000research. 623. ISSN 2046-1402

https://doi.org/10.12688/f1000research.23767.1

Reuse
This article is distributed under the terms of the Creative Commons Attribution (CC BY) licence. This licence allows you to distribute, remix, tweak, and build upon the work, even commercially, as long as you credit the authors for the original work. More information and the full terms of the licence here: https://creativecommons.org/licenses/

Takedown
If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

White Rose university consortium
Universities of Leeds, Sheffield & York

eprints@whiterose.ac.uk
https://eprints.whiterose.ac.uk/

Check for updates

RESEARCH ARTICLE

Including a pen and/or cover letter, containing social incentive text, had no effect on questionnaire response rate: a factorial randomised controlled Study within a Trial [version 1; peer review: awaiting peer review]

Sophie James [1], Adwoa Parker[1], Sarah Cockayne [1], Sara Rodgers [1], Caroline Fairhurst[1], David Torgerson [1], Sarah Rhodes [2], Sarah Cotterill [2]

[1]York Trials Unit, University of York, UK, York, Y010 5DD, UK
[2]Centre for Biostatistics, University of Manchester, Manchester, M13 9PL, UK

v1 **First published:** 17 Jun 2020, **9**:623
https://doi.org/10.12688/f1000research.23767.1
Latest published: 17 Jun 2020, **9**:623
https://doi.org/10.12688/f1000research.23767.1

Abstract

Background: Postal questionnaires are frequently used in randomised controlled trials to collect outcome data on participants; however, poor response can introduce bias, affect generalisability and validity, and reduce statistical power. The objective of this study was to assess whether a pen and/or social incentive text cover letter sent with a postal follow-up questionnaire increased response rates in a trial.

Method: A two-by-two factorial randomised controlled trial was embedded within the OTIS host trial. Participants due their 12-month (final) follow-up questionnaire were randomised to be sent: a pen; a social incentive text cover letter; both; or neither. The primary outcome measure was the proportion of participants in each group who returned the questionnaire. Secondary outcomes were: time to return, completeness of the questionnaire, necessity of a reminder letter, and the cost effectiveness.

Results: The overall 12-month questionnaire response rate was 721 out of 755 (95.5%). Neither the pen nor social incentive cover letter had a statistically significant effect on response rate: pen 95.2% vs. no pen 95.8%, adjusted OR 0.90 (95% CI 0.45 to 1.80; p=0.77); social incentive cover letter 95.2% vs. no social incentive cover letter 95.8%, adjusted OR 0.84 (95% CI 0.42 to 1.69, p=0.63). No statistically significant differences were observed between either of the intervention groups on time to response, need for a reminder or completeness. Therefore, neither intervention was cost-effective.

Conclusions: We found no evidence of a difference in response rates associated with the inclusion of a pen and/or social incentive cover letter with the final follow-up postal questionnaire of the host trial. However, when these results are combined with previous SWATs, the meta-analysis evidence remains that including a pen increases response rates. The social incentive cover letter warrants further investigation to determine

Open Peer Review

Reviewer Status *AWAITING PEER REVIEW*

Any reports and responses or comments on the article can be found at the end of the article.

effectiveness.

Trial registration: ISRCTN22202133 (21st June 2020).

Keywords
Retention, pen, social incentive, cover letter, randomised controlled trial, embedded trial, SWAT, postal questionnaire, response rate

Corresponding author: Sophie James (sophie.j.james@york.ac.uk)

Author roles: James S: Formal Analysis, Investigation, Methodology, Project Administration, Resources, Writing – Original Draft Preparation, Writing – Review & Editing; **Parker A**: Conceptualization, Methodology, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing; **Cockayne S**: Methodology, Project Administration, Writing – Original Draft Preparation, Writing – Review & Editing; **Rodgers S**: Project Administration, Writing – Review & Editing; **Fairhurst C**: Data Curation, Formal Analysis, Methodology, Writing – Original Draft Preparation, Writing – Review & Editing; **Torgerson D**: Conceptualization, Methodology, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing; **Rhodes S**: Conceptualization, Methodology, Resources, Writing – Review & Editing; **Cotterill S**: Conceptualization, Methodology, Resources, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: The OTIS study was funded by the National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme (Programme grant number: 14/49/149). The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care. This SWAT was funded by PROMETHEUS and the results from this project will contribute to the evidence towards trial methodology for improving retention of participants. This will study will be linked with a national research programme PROMETHEUS led by York Trials Unit (https://www.york.ac.uk/healthsciences/research/trials/research/swats/prometheus/) and findings will be combined with other studies in meta-analyses to detect small but cost effective differences. This will help future trials to be designed with effective interventions in place to maximise retention and avoid introduction of bias and reduced study power. The University of York is the study sponsor and has legal responsibility for the initiation and management of the trial (sponsor representative: Dr Michael Barber, Research and Enterprise Directorate, University of York, Ron Cooke Hub, Heslington, York, UK, YO10 5GE).
The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Copyright: © 2020 James S *et al*. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite this article: James S, Parker A, Cockayne S *et al.* **Including a pen and/or cover letter, containing social incentive text, had no effect on questionnaire response rate: a factorial randomised controlled Study within a Trial [version 1; peer review: awaiting peer review]** F1000Research 2020, **9**:623 https://doi.org/10.12688/f1000research.23767.1

First published: 17 Jun 2020, **9**:623 https://doi.org/10.12688/f1000research.23767.1

Introduction

Randomised controlled trials (RCTs) are the gold standard to assess effectiveness of treatment options and to inform care decisions[1], yet only a few hundred studies exist to assess the effectiveness of different methods to improve retention or recruitment into RCTs[2].

Trial methodologists and funders have highlighted the need to evaluate participant recruitment and retention strategies in order to provide evidence on which to base decisions around the design and conduct of RCTs[3].

Several systematic reviews report on the topic of retention strategies, including improving response rates to questionnaires[4–7]. However, there remains a lack of definitive evidence regarding some commonly adopted practices such as sending a pen or using a cover letter with a questionnaire to encourage the participant to return it[8–10]. The results of a study within a trial (SWAT) evaluating these two strategies are reported here.

Methods

Design

A two-by-two factorial RCT was embedded within the OTIS trial of occupational therapist-led home assessment and modification for the prevention of falls (ISRCTN22202133)[11]. OTIS recruited participants over the age of 65 years who were at risk of falling. Participants were randomised to receive an occupational therapist delivered visit or usual care. They were followed up for 12 months for falls data and were sent postal questionnaires at four, eight and 12 months. This SWAT was embedded at the 12-month time point. Ethical approval for this SWAT was received from the NHS West of Scotland Research Ethics Committee 3 (16/WS/0154) and Health Research Authority and Research Ethics approval in July 2018. Approvals were obtained from the University of York, Department of Health Sciences Research Governance Committee. Participants provided informed consent to be enrolled into the OTIS trial and to be sent study related information by post. Consent for the SWAT was therefore waived by the above-named ethics committee.

Participants

A total of 779 participants due to receive their 12-month questionnaire between 16th October 2018 and 2nd August 2019 were randomised into the SWAT in a single tranche in September 2018. Participants who had withdrawn from the OTIS study prior to this were excluded from randomisation.

The participants were randomised in a single block in a 1:1:1:1 ratio. The allocation sequence was generated by the OTIS statistician, who was not involved with the sending of the questionnaires, using STATA v15[12].

Interventions

Table 1 details the combination of interventions sent in the post with the 12-month questionnaire. We included an unconditional £5 note with the questionnaire for all participants.

The non-standard cover letter offered a mild level of social incentive, in the form of a personalised table that indicated whether or not a questionnaire had been received from the participant at the earlier (4 and 8-month) time points. This was intended to highlight to the participant that their questionnaire responses are noted and valued[10].

Blinding and quality assurance

Participants were blind to their participation. Research administrators and research team members posting the questionnaire packs were not blind to the intervention; however, administrators who recorded the outcome data were blind to allocation.

Primary objective

To assess whether a pen and/or social incentive text cover letter sent with the 12-month questionnaire increased postal questionnaire response rates for participants in the OTIS trial.

Primary outcome

The primary outcome was response rate, defined as the proportion of participants in each group who returned the 12-month questionnaire.

Secondary outcomes

- Time to return 12-month questionnaire
- The completeness of the 12-month questionnaire
- The requirement for a reminder letter to be sent
- Cost effectiveness

Statistical analysis

The data were analysed in SPSS v25[13] using two-sided tests at the 5% significance level on an intention-to-treat basis. Participants who withdrew or died before the 12-month questionnaire was sent were excluded from the analysis. The primary outcome was compared using a logistic regression model adjusting for age (retention is generally higher in participants

Table 1. Intervention groups.

Pen York Trials Unit branded pen, standard cover letter *(Supplementary File 1)**	Control Group No pen, standard cover letter *(Supplementary File 4).*
Pen and Social Incentive Cover Letter York Trials Unit branded pen, social incentive cover letter *(Supplementary File 3).*	Social Incentive cover letter Social incentive cover letter *(Supplementary File 2),* no pen.

*Supplementary Files are available as Extended data[14].

<75 years and older adults may respond differently to incentives[15]), gender (to control for potential differences in anticipation of social rewards between males and females[16]) and host trial treatment allocation. The presence of an interaction between the two interventions was tested by introducing the interaction term into the logisit model. Time to questionnaire return (calculated as days from questionnaire sent to return) was analysed using Cox Proportional Hazards regression, adjusting for the same covariates as in the primary analysis. The proportional hazards assumption was assessed using Schoenfeld residuals[17]. Completeness of response (defined as number of items completed) was analysed by linear regression model and adjusted as for the primary analysis.

Cost effectiveness was calculated for each group using the total cost of the pen/letter/postage/stationary and staff time.

A fixed effect meta-analysis using the Mantel-Haenszel method was conducted using review manager v5.3[18] to pool the results of this study for enclosing a pen with the 12-month questionnaire with other RCT evidence. These were located utilising the Cochrane systematic review[8] search strategy in MEDLINE and EMBASE, along with hand searching of previous systematic reviews references, published retention research reference lists, conference papers and co-author personal knowledge of studies. Pooled odds ratios and corresponding 95% CIs were calculated. Heterogeneity between trials was assessed using the Chi-squared and I^2 statistics.

A meta-analysis of the results of the social incentive intervention was not undertaken as the only previous study using this was conducted within a cohort study rather than an RCT[10].

Results

Figure 1 depicts the recruitment and retention of participants in the embedded trial. Table 2 presents summary statistics for the baseline characteristics of the SWAT participants.

Primary outcome

Between randomisation into the SWAT and being sent their 12-month questionnaire, 24 randomised participants either died or withdrew from the host trial and so were not sent the questionnaire. A total of 721/755 (95.5%) returned the 12-month questionnaire. The response rate was identical in the pen only group (184/192, 95.8%), social incentive cover letter only group (181/189, 95.8%) and control group (182/190, 95.8%). However, it was marginally lower in the pen and social incentive cover letter group (174/184, 94.6%).

No evidence of a difference in response rates was found between participants with or without pens (pen: 358/376 [95.2%]; no pen: 363/379 [95.8%]; adjusted OR 0.90, 95% CI 0.45 to 1.80, p=0.77) nor with or without the social incentive cover letter (cover letter: 355/373 [95.2%]; no cover letter: 366/382 [95.8%]; adjusted OR 0.84, 95% CI 0.42 to 1.69, p=0.63) (Table 3).

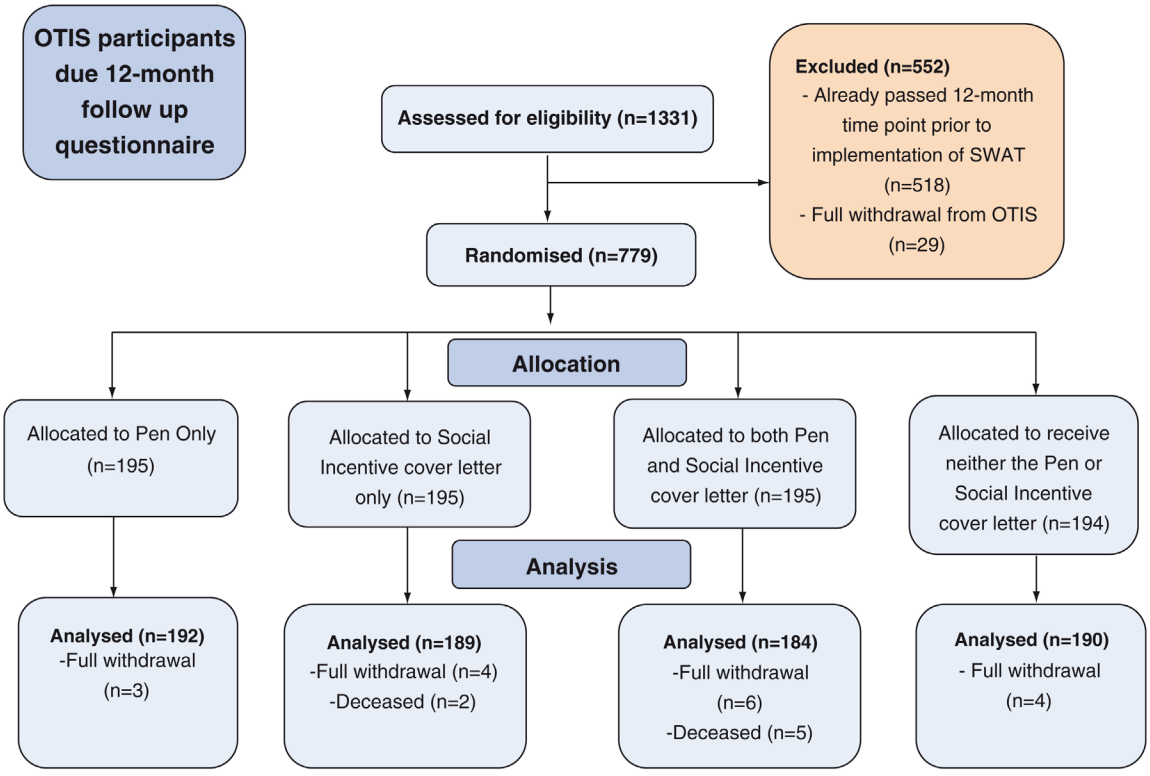

Figure 1. Flow diagram depicting the recruitment and retention of participants in this embedded trial.

Table 2. Baseline characteristics of the SWAT participants.

	Pen only (n=192)	Pen and social incentive cover letter (n=184)	Social incentive cover letter only (n=189)	Standard 12-month cover letter (control) (n=190)
Age				
n	192	184	189	190
Mean (SD)	80 (6.3)	80 (6.1)	79 (6.2)	80 (6.2)
Min, Max	67, 98	66, 98	65, 98	69, 94
Gender				
n	192	184	189	190
Male	73 (38.0%)	56 (30.4%)	59 (31.2%)	69 (36.3%)
Female	119 (62.0%)	128 (69.6%)	130 (68.8)	121 (63.7%)
BMI				
n	190	178	185	186
Mean, SD	26.6 (4.9)	26.9 (5.5)	27.0 (4.8)	27.2 (5.7)
Min, Max	17.2, 49.7	17.2, 53.0	16.0, 42.1	11.5, 52.5
EQ-55D-5L score #				
n	192	183	189	190
Mean	73.5 (18.2)	75.4 (17.1)	76.3 (15.0)	72.8 (17.7)
Min, Max	0, 100	20, 100	5, 100	25, 100
Host trial randomisation				
n	192	184	189	190
OT visit (intervention)	61 (31.8%)	49 (26.6%)	59 (31.2%)	65 (34.2%)
GP standard care	131 (68.2%)	135 (73.4%)	130 (68.8%)	125 (65.8%)
Number of falls in 12 montds prior to randomisation				
n	145	139	149	135
Mean	2.2 (3.0)	1.8 (1.4)	2.0 (1.7)	2.2 (2.1)
Min, Max	1, 21	1, 11	1, 10	1, 15

#= How good or bad your healtd is today rated from 0 worst, 100 best.

Table 3. Primary outcome results.

Primary outcome	Group	Hazard ratio (HR)/ Odds ratio (OR)/Mean difference (MD)	95% Confidence Interval	p-value	Other
Response rate	Pen received vs. not received	OR = 0.90	0.45, 1.80	0.77	Total of 721/755 (95.5%) returned tde 12-month questionnaire
	Social incentive cover letter received vs. not received	OR = 0.84	0.42, 1.69	0.29	
	Host trial allocation (intervention vs. control)	OR = 1.40	0.64, 3.23	0.38	
	Age (per year)	OR = 0.96	0.91, 1.01	0.11	
	Gender (male vs. female)	OR = 0.71	0.35, 1.44	0.35	

The interaction between the interventions was found to be non-significant (interaction effect size estimate OR = 0.79 with corresponding 95% CI 0.2, 3.15 and p value = 0.74).

Secondary outcomes

Time to return. Median time to return the questionnaire was nine days, with a mean of 12.2 days. No statistically significant difference between the groups was found (Table 4).

Reminders sent. In total, 83/755 (11.0%) participants required a reminder letter. The pen and social incentive cover letter group required the least reminders (19/184 (10.3%)) and the control group required the most reminders (24/190 (12.6%)). No statistically significant evidence was found of a difference of participants requiring a reminder between the groups (Table 4).

Completeness of response. Overall average completeness of the questionnaires was 27.8/31 questions (89.6% complete) with no evidence of a difference in completeness of the questionnaire between pen received or not (Table 4).

Cost effectiveness. Due to the non-statistically significant effect of the interventions on response rates calculating overall associated costs provides evidence of potential cost savings not to send the social incentive cover letter and/or pen (*Extended data:* Supplementary File 9[14]).

Meta-analysis

A fixed effect meta-analysis of enclosing a pen with the 12-month questionnaire on response rate was conducted (Figure 2). We pooled these results with four previous SWATs[8,9,19,20] investigating the same intervention, with the same dichotomous outcome of response to the questionnaire or not. This included a total of 13012 participants and gave a statistically significant pooled OR favouring the intervention (1.21, 95% CI 1.09, 1.34 p = 0.0004). Negligible heterogeneity was observed (chi-squared = 2.88 I^2= 0%). The risk of bias was low, as indicated by the Cochrane's risk of bias tool assessment undertaken[21] (*Extended data:* Supplementary File 10[14]).

Discussion

This SWAT found no evidence that sending a pen and/or a social incentive cover letter with a postal, trial follow-up questionnaire

Table 4. Secondary outcome results.

Secondary outcome	Group	Hazard ratio (HR)/ Odds ratio (OR)/Mean difference (MD)	95% Confidence Interval	p-value	Other
Time to return	Pen received vs. not received	HR = 1.08	0.93, 1.25	0.30	Mean time for all participants to return questionnaire = 12.2 days. Median time for all participants to return questionnaire = 9 days.
	Social incentive cover letter received vs. not received	HR =1.101	0.87, 1.17	0.92	
	Host trial allocation (intervention vs. control)	HR = 0.85	0.73, 1.00	0.05	
	Age (per year)	HR = 0.99	0.97, 1.00	0.02	
	Gender (male vs. female)	HR = 1.80	0.92, 1.26	0.35	
Reminders sent	Pen received vs. not received	OR = 0.89	0.56, 1.42	0.63	83/755 (11.0%) required a reminder p value associated with the Kruskal-Wallis test statistic p=0.190
	Social incentive cover letter received vs. not received	OR = 0.92	0.58, 1.47	0.74	
	Host trial allocation (intervention vs. control)	OR = 1.611	1.00, 2.59	0.05	
	Age (per year)	OR = 1.04	1.00, 1.08	0.03	
	Gender (male vs. female)	OR = 0.87	0.53, 1.42	0.57	
Completeness of response	Pen received vs. not received	MD = 0.14	-0.46, 0.74	0.65	Overall average completeness of the questionnaires was 27.8/31 questions (89.6% complete)
	Social incentive cover letter received vs. not received	MD = 0.09	-0.69, 0.51	0.78	
	Host trial allocation (intervention vs. control)	MD = -0.10	-0.55, 0.75	0.77	
	Age (per year)	MD = -0.10	-0.46, 0.74	0.65	
	Gender (male vs. female)	MD = -1.06	-1.69, -0.42	<0.001	

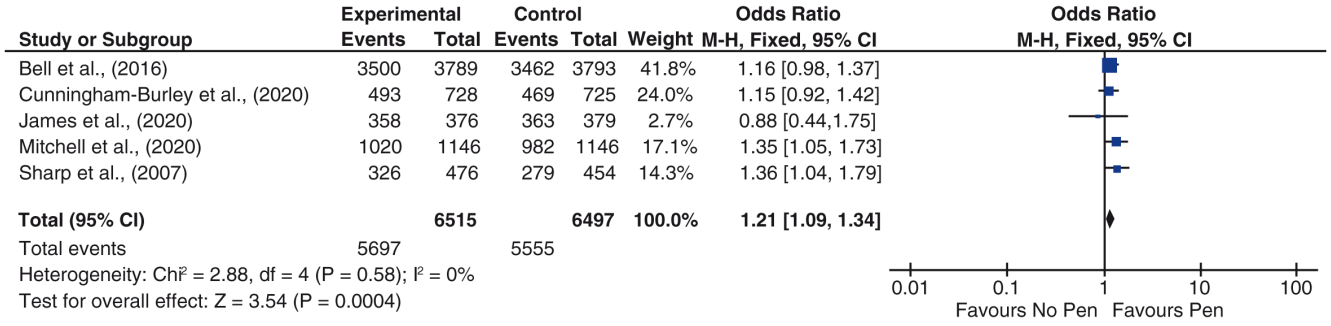

Figure 2. Meta-analysis of enclosing a pen with a questionnaire to increase response rate to a postal questionnaire.

improved response rate, time to return, requirement for a reminder, or questionnaire completeness.

A limitation was the average age of the participants (79.9 years) giving a narrow age demographic thus restricting generalisability of results. Further investigation of the pen and social incentive cover letter in RCTs are required across more diverse populations.

The OTIS trial hosted three other methodological SWATs; therefore, there was a potential for contamination or interaction. It is preferable to plan all SWATs that will be undertaken in the early design stages[22], to ensure they are planned accordingly to reduce the potential of this.

The overall response rate of the 12-month postal questionnaire for all SWAT participants was 95.7%. This high response rate is therefore difficult to improve upon, furthermore the incentives may not have been as effective with participants who are very committed to the behaviour[10]. The incentive required for committed participants may be different[10,23]. A learning point being that future SWATS testing these interventions should avoid doing so in trials with already high response rates.

Conclusion

Whilst neither the pen nor the social incentive cover letter showed an effect on response rate, the meta-analysis evidence remains that including a pen increases response rates. This reinforces that for interventions where small effects are likely, it is important to undertake a number of trials and combine these to be confident of an intervention's effectiveness. Further investigation of the social incentive cover letter in RCTs is required to determine effectiveness.

Data availability

Underlying data

Open Science Framework: Pen and Social Incentive Cover Letter Retention SWAT, https://doi.org/10.17605/OSF.IO/TYJDP[14].

Extended data

Open Science Framework: Pen and Social Incentive Cover Letter Retention SWAT, https://doi.org/10.17605/OSF.IO/TYJDP[14].

This project contains the following extended data:

- Full study protocol
- Supplementary File 1- Cover letter for the Pen only group.
- Supplementary File 2 - Cover letter for the Social incentive cover letter only group.
- Supplementary File 3 - Cover letter for the Pen and social incentive cover letter group.
- Supplementary File 4 - Cover letter for the control group.
- Supplementary File 5 - Results table by intervention group
- Supplementary File 6 - Graph Survival curve of pen vs no pen and time taken to return 12-month questionnaire.
- Supplementary File 7 - Graph Survival curve of Social incentive cover letter vs no social incentive cover letter and time taken to return 12-month questionnaire.
- Supplementary File 8- Survival curve of host trial allocation and time taken to return 12-month questionnaire.
- Supplementary File 9 – Costings table
- Supplementary File 10 – Cochrane Risk of bias tool assessments for Bell *et al*., (2016), Sharp *et al.,* (2006), Cunningham-Burley *et al*., (2020), Mitchell *et al.*, (2020) and James *et al*., (2020).

Reporting guidelines

Open Science Framework: CONSORT checklist for 'Including a pen and/or cover letter, containing social incentive text, had no effect on questionnaire response rate: a factorial randomised controlled Study within a Trial', https://doi.org/10.17605/OSF.IO/TYJDP[14].

Data are available under the terms of the Creative Commons Zero "No rights reserved" data waiver (CC0 1.0 Public domain dedication).

Acknowledgements

The authors would like to thank the embedded trial participants who returned 12-month questionnaires.

This manuscript has been written by the authors on behalf of the OTIS Study Team. Sophie Boyes (York Teaching Hospital NHS Foundation Trust); Belen Corbacho (University of York); Shelley Crossland (Leicestershire Partnership NHS Trust); Avril Drummond (University of Nottingham); Simon Gilbody (University of York); Catherine Hewitt (University of York); Sarah E Lamb (University of Oxford); Katie Whiteside (University of York); Jennifer McCaffery (University of York); Alison Pighills (Mackay Base Hospital; Mackay Australia and James Cook University); Clare Relton (University of Sheffield).

The results from this project will contribute to the evidence towards trial methodology for improving retention of participants. This will study will be linked with a national research programme PROMETHEUS led by York Trials Unit (https://www.york.ac.uk/healthsciences/research/trials/research/swats/prometheus/) and findings will be combined with other studies in meta-analyses to detect small but cost effective differences. This will help future trials to be designed with effective interventions in place to maximise retention and avoid introduction of bias and reduced study power.

References

1. Eble A, Boone P, Elbourne D: **On minimizing the risk of bias in randomized controlled trials in economics.** The World Bank. 2016.
Reference Source
2. Clark L, Ronaldson S, Dyson L, *et al.*: **Electronic prompts significantly increase response rates to postal questionnaires: a randomized trial within a randomized trial and meta-analysis.** *J Clin Epidemiol.* 2015; **68**(12): 1446–50.
PubMed Abstract | Publisher Full Text
3. Edwards P, Roberts I, Clarke M, *et al.*: **Increasing response rates to postal questionnaires: systematic review.** *BMJ.* 2002; **324**(7347): 1183.
PubMed Abstract | Publisher Full Text | Free Full Text
4. Nakash RA, Hutton JL, JØrstad-Stein EC, *et al.*: **Maximising response to postal questionnaires - A systematic review of randomised trials in health research.** *BMC Med Res Methodol.* 2006; **6**: 5.
PubMed Abstract | Publisher Full Text | Free Full Text
5. Edwards PJ, Roberts IG, Clarke MJ, *et al.*: **Methods to increase response rates to postal questionnaires.** *Cochrane Database Syst Rev.* 2007; (2): MR000008.
PubMed Abstract | Publisher Full Text
6. Edwards PJ, Roberts I, Clarke MJ, *et al.*: **Methods to increase response to postal and electronic questionnaires.** *Cochrane Database Syst Rev.* 2009; (3): MR000008.
PubMed Abstract | Publisher Full Text
7. Brueton VC, Tierney JF, Stenning S, *et al.*: **Strategies to improve retention in randomised trials: a Cochrane systematic review and meta-analysis.** *BMJ Open.* 2014; **4**(2): e003821.
PubMed Abstract | Publisher Full Text | Free Full Text
8. Bell K, Clark L, Fairhurst C, *et al.*: **Enclosing a pen reduced time to response to questionnaire mailings.** *J Clin Epidemiol.* 2016; **74**: 144–150.
PubMed Abstract | Publisher Full Text
9. Sharp L, Cochran C, Cotton SC, *et al.*: **Enclosing a pen with a postal questionnaire can significantly increase the response rate.** *J Clin Epidemiol.* 2006; **59**(7): 747–54.
PubMed Abstract | Publisher Full Text
10. Cotterill S, Howells K, Rhodes S, *et al.*: **The effect of using social pressure in cover letters to improve retention in a longitudinal health study: an embedded randomised controlled retention trial.** *Trials.* 2017; **18**(1): 341.
PubMed Abstract | Publisher Full Text | Free Full Text
11. Cockayne S, Pighills A, Adamson J: **Can occupational therapist-led home environmental assessment prevent falls in older people? A modified cohort randomised controlled trial protocol.** *BMJ Open.* 2018; **8**(9): e022488.
PubMed Abstract | Publisher Full Text | Free Full Text
12. StataCorp: **Stata Statistical Software: Release 15.** College Station, T.S.L. 2017.
Reference Source
13. Corp I: **IBM SPSS Statistics for Windows, Version 25.0**. Armonk, NY: IBM Corp. Released (2017).
Reference Source
14. James S: **Pen and Social Incentive Cover Letter Retention SWAT.** 2020.
http://www.doi.org/10.17605/OSF.IO/TYJDP
15. Chhatre S, Jefferson A, Cook R, *et al.*: **Patient-centered recruitment and retention for a randomized controlled study.** *Trials.* 2018; **19**(1): 205.
PubMed Abstract | Publisher Full Text | Free Full Text
16. Spreckelmeyer KN, Krach S, Kohls G, *et al.*: **Anticipation of monetary and social reward differently activates mesolimbic brain structures in men and women.** *Soc Cogn Affect Neurosci.* 2009; **4**(2): 158–65.
PubMed Abstract | Publisher Full Text | Free Full Text
17. Schoenfeld D: **Partial residuals for the proportional hazards regression model.** *Biometrika.* 1982; **69**(1): 239–241.
Publisher Full Text
18. **Review Manager (RevMan) [Computer program]. Version 5.3.** Copenhagen: The Nordic Cochrane Centre, T.C.C, 2014.
19. Cunningham-Burley R, Roche J, Fairhurst C, *et al.*: **Enclosing a pen to improve response rate to postal questionnaire: an embedded randomised controlled trial [version 1; peer review: awaiting peer review].** *F1000Res.* 2020; **9**: 577.
Publisher Full Text
20. Mitchell A, Cook L, Dean A, *et al.*: **An embedded randomised controlled retention trial of personalised text messages compared to non-personalised text messages in an orthopaedic setting [Version1; peer review: awaiting peer review].** *F1000Res.* 2020; In Press.
21. Higgins JPT, Altman DG, Gøtzsche PC, *et al.*: **The Cochrane Collaboration's tool for assessing risk of bias in randomised trials.** *BMJ.* 2011; **343**: d5928.
PubMed Abstract | Publisher Full Text | Free Full Text
22. Bower P, Brueton V, Gamble C, *et al.*: **Interventions to improve recruitment and retention in clinical trials: a survey and workshop to assess current practice and future priorities.** *Trials.* 2014; **15**: 399.
PubMed Abstract | Publisher Full Text | Free Full Text
23. O'Keefe DJ: **Persuasion: Theory and Research.** SAGE publishers, 2002.
Reference Source

The benefits of publishing with F1000Research:

- Your article is published within days, with no editorial bias
- You can publish traditional articles, null/negative results, case reports, data notes and more
- The peer review process is transparent and collaborative
- Your article is indexed in PubMed after passing peer review
- Dedicated customer support at every stage

For pre-submission enquiries, contact research@f1000.com

F1000Research