SWAT 69: Evaluation of offering an incentive before or after completion of a 2-year follow-up postal questionnaire on the response rate in parents of preterm babies.

Objective of this SWAT
To establish whether offering an unconditional incentive in advance (with the first mailing of a questionnaire) or promising an incentive (in the first mailing) on completion of a questionnaire (conditional) to the parents of preterm babies improves the response rate.

Study area: Follow-up, Outcomes, Retention
Sample type: Carer/Parent
Estimated funding level needed: Low

Background
Maximising response rates for postal questionnaires for randomised trials is an important aspect of a well-designed and conducted study. Loss to follow-up can lead to under-ascertainment of outcomes and impose added assumptions on analysis, potentially resulting in bias and compromising the internal and external validity of the results.

Use of incentives to promote questionnaire return in clinical trials has been researched. Existing systematic reviews suggest they are effective.[1.2] For example, Brueton et al reported strategies that improved trial retention included the addition of monetary incentives compared with no incentive for return of trial-related postal questionnaires (relative risk [RR] 1.18; 95% confidence interval [CI] 1.09 to 1.28, $p<0.0001$).[1] They also reported evidence of improved response to an offer of a higher value monetary incentive (£20 voucher) compared to a lower amount (£10) for the return of a questionnaire plus biomedical testing kits (RR 1.12; 95% CI 1.04 to 1.22, $p<0.005$).[1] In an online trial setting, follow-up response rates were reported to be 9% higher in a group offered an incentive compared to a group not offered an incentive.[3]

However, there is conflicting evidence as to whether a conditional incentive (i.e. promised on receipt of a completed questionnaire) or an unconditional incentive (given in advance of completion as a goodwill gesture) is more effective. Edwards et al showed evidence of improved response when unconditional incentives were given with questionnaires rather than only given after participants had returned their questionnaires (odds ratio 1.61; 95% CI 1.36 to 1.89), but with highly significant heterogeneity among the trial results ($p<0.00001$).[2] The influence of incentives sent at the outset as a token of goodwill, rather than upon receipt of questionnaires, was also demonstrated by Dillman.[4]

The reality is that not all research studies have sufficient funds to use unconditional incentives. Promising an incentive following completion of a questionnaire (i.e. when it is returned) can reduce the resource burden and this approach could be more cost effective than offering an unconditional incentive prior to completion. However, given the highly significant heterogeneity of the studies synthesised to date,[2] this question remains unresolved. It is also important to note that the two Cochrane Reviews[1,2] and the article by Khadjesari et al[3] differed significantly in terms of the study population and the circumstances of follow-up from those of perinatal randomised trials. In perinatal trials, there is often considerable sensitivity around the population being sampled (parents of vulnerable preterm infants), and the requirement to look at long term neurodevelopmental outcomes can lead to a substantial time period between initial recruitment and collection of subsequent follow-up data. This is two years in the case of SIFT,[5] which is the host trial for this SWAT, and which provides an ideal opportunity to resolve this remaining uncertainty and contribute to the evidence base. The importance of maximising the response rate in perinatal trials cannot be understated. Often the primary outcome is collected in this way (partly based on financial reasons due to the high cost of organising clinical assessments) and the whole premise therefore hinges on this aspect. This SWAT will be powered to detect small but important differences in the response rate, addressing an important question and providing up-to-date robust evidence to inform the design of future perinatal trials. For instance, following this SWAT, we plan to emulate the incentive method found to be superior in the PHOENIX (ISRCTN 1879376) and Baby-OSCAR (ISRCTN84264977) trials. Failing that, if the overall response rate is improved

without a significant difference between the two incentive groups, we will consider the cost effectiveness of the overall strategy.

We propose to evaluate the effect of enclosing a monetary incentive with the first mailing of a questionnaire compared to promising (in the first mailing) a monetary incentive on receipt of the fully (or partially) completed questionnaire at the trial office. This randomised trial will be nested within SIFT (a study assessing two speeds of daily increment of milk feeding in very preterm or very low birth weight infants) and will be integrated into the mailing of the SIFT two year follow-up questionnaire.[5] To assess the effects on the return rate of the 2-year follow up postal questionnaires, infants (or sets of multiple births) will be randomly allocated to two groups, where the incentive is either promised after receipt of the completed questionnaire, or included in the initial mail contact.

Interventions and comparators
Intervention 1: First letter to parents to include a promise that they will be given an incentive (£15 gift voucher redeemable at high street shops) after receipt of a completed form. The promise of incentive will also feature in the reminder letters.
Intervention 2: First letter to parents will enclose the incentive (£15 gift voucher redeemable at high street shops) before receipt of completed form. The reminder letters will mention the incentive.

Each set of parents will also be contacted by email and/or text messaging if those contact details have been collected. The content of correspondence will reflect the allocated group to which the infant was randomised. All parents will also be provided with an option of completing the questionnaire online or as a last resort, via telephone. Vouchers will be allocated per questionnaire completed so that a voucher will be provided for each baby in the case of multiple births. Infants in the same family will be allocated to the same group, as per the original trial randomisation.

Index Type: Incentive

Method for allocating to intervention or comparator
Randomisation

Outcome measures
Primary: The primary outcome will be questionnaire return, defined as receipt of a completed or partially completed questionnaire at the SIFT office (note that the denominator is the number of eligible infants which takes into account multiple births).
Secondary: Method of completion (e.g. paper, online or telephone); total cost of the vouchers; number (and proportion) of reminders per incentive strategy.

Analysis plans
Minimal baseline demographic information will be summarised by randomised group using frequency counts and percentages for categorical data and means and standard deviations for normally distributed continuous data or medians with interquartile ranges for other continuous data. Comparative analysis will entail calculating the absolute difference in the proportion responding with corresponding 95% CI, and the difference in mean cost (plus 95% CI). The cost for each 1% increase in response rate will be calculated factoring in administration costs such as the number of reminder letters, as well as the monetary value of the incentive). A similar strategy will be used for other outcomes (relating to method of completion and reminder letters) based on the distributions/type of data collected.

Pre-specified subgroup analysis
The consistency of the effect of the timing of the incentive will be assessed for the SIFT original allocation (slower versus faster) and singleton versus multiple births using a statistical test of interaction.

Pre-specified exploratory analysis
We will report the response rate in the period in SIFT before the incentives study started, overall with a 95% CI. We will also perform an analysis exploring regional variation.

Multiple testing
No adjustment is planned for multiple testing because this study involves so few focused hypothesis tests.

Possible problems in implementing this SWAT
Time taken to gain ethics approval for the SWAT means that sample size is reduced and therefore power and precision is affected.

References
1. Brueton VC, Tierney J, Stenning S, et al. Strategies to improve retention in randomised trials. Cochrane Database of Systematic Reviews 2013; (12): MR000032. (doi: 10.1002/14651858.MR000032.pub2)

2. Edwards PJ, Roberts I, Clarke MJ, et al. Methods to increase response to postal and electronic questionnaires. Cochrane Database of Systematic Reviews 2009; (3): MR000008. (doi: 10.1002/14651858.MR000008.pub4)

3. Khadjesari Z, Murray E, Kalaitzaki E, et al. Impact and costs of incentives to reduce attrition in online trials: two randomized controlled trials. Journal of Medical Internet Research 2011; 13(1): e26. (doi: 10.2196/jmir.1523)

4. Dillman DA. Mail and internet surveys - the tailored design method, 2nd ed. New York.Wiley, 2007.

5. Abbott J, Berrington J, Bowler U, et al. The Speed of Increasing milk Feeds: a randomised controlled trial. BMC Pediatrics 2017; 17: 39. (doi: 10.1186/s12887-017-0794-z)

Publications or presentations of this SWAT design

Examples of the implementation of this SWAT

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