

# Prioritised recruitment and retention strategies for testing using a randomised Study Within A Trial (SWAT) design

Adwoa Parker, Rosalind Way, Adenike Okanlawon, Gloria Mongelli, Elizabeth Coleman, Catherine Arundel, Athanasios Gkekas, Frances Shiely, Eleftheria Patetsini, Chris Sutton, Cherish Boxall, Sharon Love, Garry Meakin, David Torgerson, Camila Piccolo-Lawrance & Shaun Treweek, on behalf of the Prioritisation Working Group of Trial Forge SWAT Network and Implement SWATs.



[trial-forge-swat-centre@york.ac.uk](mailto:trial-forge-swat-centre@york.ac.uk)



---

## Abstract

The [Trial Forge SWAT Network](#) and the NIHR-funded [Implement SWATs](#) programme established a working group in 2022 to identify and prioritise recruitment and retention strategies for future evaluation using randomised SWAT designs. We searched the NIHR HTA Journals Library to identify published randomised trials. The recruitment and retention strategies used for each trial were extracted by two independent reviewers and categorised, using the Online Resource for Research in Clinical triAls (ORRCA) recruitment and retention domains. Strategies were then ranked according to their frequency of use. We mapped the identified strategies to the Cochrane systematic reviews of recruitment strategies and retention strategies; a systematic review of economic evaluations alongside SWATs; the Prioritising Recruitment in Randomised Trials (PRioRiT<sub>y</sub> I) and Prioritising Retention in Randomised Trials (PRioRiT<sub>y</sub> II); the MRC-funded Systematic Techniques for Assisting Recruitment to Trials (MRC START); and PROMoting the use of studies within a trial (PROMETHEUS).

A long list of the most frequently used and promising strategies, along with any evidence on their effectiveness or cost-effectiveness was circulated to members of the working group, who independently ranked their top five strategies, along with their justification for choice of each strategy and its ranking. This ranking was discussed iteratively, with input from PPI partners and the wider Trial Forge SWAT Network members, to develop the final priority list.

A full list of references can be found on page 26.

**Table 1: Prioritised recruitment strategies, specific questions, and rationale**

<b>Priority recruitment question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority recruitment questions (specific)</b> SWATs evaluating specific questions are highly encouraged	<b>Rationale</b>
What is the most effective way of involving patients and the public in trials to improve participant recruitment?	<p><a href="#">24/RC01</a> What is the effectiveness of involving patients and the public in planning targeted recruitment activities on recruitment rates, compared to usual patient and public involvement practice?</p> <p><a href="#">24/RC02</a> Does involving patients and the public to co-develop patient-facing materials increase recruitment rates, compared to usual practice?</p> <p><a href="#">24/RC03</a> Does patient and public involvement in training trial recruiters using simulated recruitment sessions improve recruitment rates, compared to usual practice?</p>	<ul style="list-style-type: none"> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY 1 Q 3</a>.</li> <li>• Patient and public involvement (PPI) has been defined as “research being carried out ‘with’ or ‘by’ members of the public (including patients and carers) rather than ‘to’, ‘about’ or ‘for’ them” (<a href="#">Health Research Authority</a>).</li> <li>• PPI is a frequently used strategy to support recruitment in trials.</li> <li>• PPI is an established expectation for many funders (including NIHR). However, it is unclear how best to collaborate with PPI contributors, and what is the most effective and cost-effective way of engaging with PPI to support trial recruitment.</li> <li>• <a href="#">A systematic review</a> found PPI modestly increased recruitment compared to no PPI. However, non-PPI components of interventions may have led to this effect, and the review itself included both randomised and observational studies, so the quality of the underlying studies were low quality. This review also identified a wide range of PPI activities, and lack of clarity about which of these activities are most effective.</li> <li>• High-quality evidence is needed to identify the most effective ways of working with PPI members to support recruitment.</li> </ul>

<b>Priority recruitment question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority recruitment questions (specific)</b> SWATs evaluating specific questions are highly encouraged	<b>Rationale</b>
		<b>More information</b> <ul style="list-style-type: none"> <li>• <a href="#">24/RC01</a></li> <li>• <a href="#">24/RC02</a></li> <li>• <a href="#">24/RC03</a></li> </ul>

<b>Priority recruitment question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority recruitment questions (specific)</b> SWATs evaluating specific questions are highly encouraged	<b>Rationale</b>
What is the most effective way to use video(s) to support trial recruitment?	<p><a href="#">24/RC04</a> Do video(s) providing information about a trial together with written information increase recruitment compared to written information only?</p> <p><a href="#">24/RC05</a> Do video(s) providing information about a trial together with written information increase recruitment of under-represented groups important for the trial compared to written information only?</p>	<ul style="list-style-type: none"> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY 1 Q3 and Q5</a></li> <li>• Videos are frequently used by UK trialists but existing evaluations of videos as a recruitment tool have not provided high-certainty evidence of benefit (<a href="#">3 studies; GRADE: Very low</a>).</li> <li>• Heterogeneity in how videos are used have made it difficult to combine evaluations in a meta-analysis.</li> <li>• Provision of verbal and visual information, rather than or as well as, written information may help to make trials more inclusive but remains untested.</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li>• <a href="#">24/RC04</a></li> <li>• <a href="#">24/RC05</a></li> </ul>

<b>Priority recruitment question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority recruitment questions (specific)</b> SWATs evaluating specific questions are highly encouraged	<b>Rationale</b>
What is the most effective way of sending potential trial participants invitation letters by post to optimise recruitment rates?	<p><a href="#">24/RC06</a> Do posted trial invitation letters with a follow-up postal reminder letter increase recruitment rates, compared to usual practice?</p> <p><a href="#">24/RC07</a> Does a posted trial invitation letter with a follow-up electronic reminder (text message or email) increase recruitment, compared to usual practice?</p> <p><a href="#">24/RC08</a> Does a behavioural theory-informed trial invitation letter increase recruitment rates, compared to a standard letter?</p> <p><a href="#">24/RC09</a> Is sending a full trial-invitation pack containing all relevant information (including an invitation letter, the participant information sheet, reply slip and pre-paid envelope) as a first postal approach more cost-effective for recruiting participants, compared to sending a single-page invitation letter?</p>	<ul style="list-style-type: none"> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY I Q2, Q4</a>.</li> <li>• Postal invitations are a frequently used strategy to recruit trial participants.</li> <li>• There is significant uncertainty in the evidence, and more evaluations are needed. A <a href="#">Cochrane review</a> found that email invitation packs compared to postal invitations had little or no difference on recruitment (1 study; GRADE: moderate). However, an <a href="#">economic evaluation review</a> found invitation packs from a GP were more effective and cost-effective compared to text message invitations (1 study; GRADE: very low).</li> <li>• If found to be effective, reminders would be cheap to implement.</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li>• <a href="#">24/RC06</a></li> <li>• <a href="#">24/RC07</a></li> <li>• <a href="#">24/RC08</a></li> <li>• <a href="#">24/RC09</a></li> </ul>

<b>Priority recruitment question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority recruitment questions (specific)</b> SWATs evaluating specific questions are highly encouraged	<b>Rationale</b>
What is the most effective way of using qualitative research to optimise recruitment rates?	<p><a href="#">24/RC10</a> Does undertaking embedded qualitative research in feasibility studies to identify potential barriers and facilitators to recruitment in the main trial increase recruitment rates, compared to not undertaking qualitative work to identify potential barriers and facilitators to recruitment?</p> <p><a href="#">24/RC11</a> Does pre-trial qualitative research to identify and address potential recruitment issues increase recruitment rates, compared to no pre-trial qualitative research?</p> <p><a href="#">24/RC12</a> Does undertaking qualitative research using the QuinteT Recruitment Intervention (QRI) improve recruitment rates, compared with not using the QRI?</p>	<ul style="list-style-type: none"> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY I, Q5, Q12</a>.</li> <li>• Qualitative studies are frequently undertaken in trials.</li> <li>• It remains unclear how qualitative work, especially in feasibility studies, influences the recruitment strategies used in full-scale trials. There is little available evidence to support particular qualitative approaches as a way of improving recruitment, or whether qualitative work in feasibility studies lead to full-scale trial recruitment strategies that are effective.</li> <li>• It is important to not only identify barriers to recruitment using qualitative research, but also how these barriers might be addressed effectively, to optimise recruitment.</li> <li>• There is some observational evidence that the <a href="#">Quintet Recruitment Intervention</a> can support recruitment to difficult trials; however, randomised evidence is needed.</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li>• <a href="#">24/RC10</a></li> <li>• <a href="#">24/RC11</a></li> <li>• <a href="#">24/RC12</a></li> </ul>

<b>Priority recruitment question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority recruitment questions (specific)</b> SWATs evaluating specific questions are highly encouraged	<b>Rationale</b>
What are the most effective strategies to recruit underserved groups?	<p><a href="#">24/RC05</a> Do video(s) providing information about a trial increase recruitment of particular under-represented groups important for the trial compared to written information only?</p> <p><a href="#">24/RC13</a> Does asking for verbal consent improve the recruitment of particular under-represented groups, compared to asking for written consent?</p> <p><a href="#">24/RC14</a> Does providing 'easy access' study information materials increase recruitment rates, compared to standard study materials?</p> <p><a href="#">24/RC15</a> Does translating trial materials and providing interpreters improve the recruitment of non-English speakers, compared to standard practice?</p>	<ul style="list-style-type: none"> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY I, Q2, Q4, Q7</a></li> <li>• The inclusion of under-served groups is vital for ensuring the generalisability of findings from trials, and is an <a href="#">NIHR priority, with associated guidance provided through the INCLUDE project</a>. Evidence-based strategies will support implementation of this guidance by trial teams.</li> <li>• There is no high-certainty evidence to support decisions around the effective recruitment of under-served groups.</li> <li>• Any well-designed SWAT targeting recruitment of under-served groups is welcome, provided presents a clear rationale.</li> <li>• The types of recruitment strategies that may be appropriate will vary significantly, depending on the specific under-served population(s) being targeted (e.g., children, individuals lacking capacity, people from minority ethnic groups, socioeconomic disadvantaged groups).</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li>• <a href="#">24/RC05</a></li> <li>• <a href="#">24/RC13</a></li> <li>• <a href="#">24/RC14</a></li> <li>• <a href="#">24/RC15</a></li> </ul>



<b>Priority recruitment question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority recruitment questions (specific)</b> SWATs evaluating specific questions are highly encouraged	<b>Rationale</b>
What is the most effective way to use financial incentives to support recruitment?	<p><a href="#">24/RC16</a> Do financial incentives increase recruitment compared to no financial incentive?</p> <p><a href="#">24/RC17</a> Do cash-based financial incentives increase recruitment rates compared to vouchers with the same face value?</p> <p><a href="#">24/RC18</a> Do higher-value financial incentives increase recruitment rates compared to lower-value incentives?</p> <p><a href="#">24/RC19</a> Do cash-based financial incentives increase recruitment of people experiencing socioeconomic disadvantage compared to vouchers with the same face value?</p>	<ul style="list-style-type: none"> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY 1 Q17</a>.</li> <li>• Evaluation of financial incentives were prioritised in the <a href="#">2018 Cochrane review</a>.</li> <li>• Financial incentives <a href="#">probably increase recruitment</a> but the evidence certainty is currently GRADE Moderate because of inconsistency (6 studies). Further evaluation is likely to remove inconsistency and perhaps increase GRADE certainty to High.</li> <li>• There is little evidence regarding the amounts that should be paid, apart from a general sense that paying more will lead to a greater improvement in recruitment.</li> <li>• Some trialists believe that providing cash, either as actual cash or on electronic payment cards, will support recruitment of people experiencing socioeconomic disadvantage compared to vouchers (any sort) with the same face value. This is untested. Greater awareness of the need for wider trial inclusion makes testing this assumption a priority.</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li>• <a href="#">24/RC16</a></li> <li>• <a href="#">24/RC17</a></li> <li>• <a href="#">24/RC18</a></li> <li>• <a href="#">24/RC19</a></li> </ul>

**Table 2: Prioritised retention strategies, specific questions, and rationale**

<b>Priority retention question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority retention questions (specific)</b> SWATs evaluating specific questions are highly encouraged		<b>Rationale</b>
What is the most effective way of offering flexibility to support participant retention?	<a href="#">24/RT01</a>	Does offering trial participants flexibility in follow-up visit location increase retention rates, compared to not offering flexibility?	<ul style="list-style-type: none"> <li>This strategy has been identified as high priority for testing in <a href="#">PRIORITY II, Q4, Q7, Q15</a>.</li> <li>Offering flexibility to capture follow-up data is the most frequently used strategy to collect outcome data in NIHR-funded trial. However, there is no evidence on the most effective ways to offer flexibility.</li> <li>Offering flexibility is of particular interest and relevance given changes to data collection practices following COVID-19.</li> <li>There is some evidence that asking participants to complete a diary as part of the trial process probably reduces retention rates (<a href="#">2 studies; GRADE: moderate</a>). Further replications are needed.</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li><a href="#">24/RT01</a></li> <li><a href="#">24/RT02</a></li> <li><a href="#">24/RT03</a></li> <li><a href="#">24/RT04</a></li> </ul>
	<a href="#">24/RT02</a>	Does offering trial participants flexibility in follow-up visit location increase retention of people experiencing socio-economic disadvantage compared to not offering flexibility?	
	<a href="#">24/RT03</a>	Does offering trial participants flexibility for method of follow up (e.g., postal, telephone or email) compared to not offering flexibility increase retention rates?	
	<a href="#">24/RT04</a>	What is the effectiveness of asking participants to complete a diary on retention rates, compared to not asking participants to complete a diary?	

<b>Priority retention question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority retention questions (specific)</b> SWATs evaluating specific questions are highly encouraged		<b>Rationale</b>
<p>What is the most effective way of involving patients and the public in trials to improve participant retention?</p>	<p><a href="#">24/RT05</a></p> <p><a href="#">24/RT06</a></p>	<p>What is the effectiveness of involving patients and the public in planning targeted retention activities on retention rates, compared to usual PPI practice?</p> <p>Do PPI-led follow-up strategies increase retention rates of under-represented groups, compared to usual PPI practice?</p>	<ul style="list-style-type: none"> <li>This strategy has been identified as high priority for testing in <a href="#">PRIORITY II, Q5</a>.</li> <li>PPI in trials is an NIHR strategic priority, with associated <a href="#">guidance on how patients can be involved in NHS, health and social care research</a>.</li> <li>PPI is also a frequently used strategy to support retention in trials.</li> <li>A limited number of studies exist, and more evidence is required to determine the most effective ways of working with PPI members to improve retention.</li> <li>There some evidence that a peer led follow-up strategy may result in a large increase in retention, compared to usual follow up (<a href="#">1 study; GRADE: low</a>). There is also evidence that nudge interventions including a multimedia information resource developed with PPI contributors and researchers may be cost-effective compared to usual practice (<a href="#">3 studies; GRADE moderate</a>).</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li><a href="#">24/RT05</a></li> <li><a href="#">24/RT06</a></li> </ul>

<p><b>Priority retention question (general)</b> SWATs evaluating general questions are encouraged</p>	<p><b>Priority retention questions (specific)</b> SWATs evaluating specific questions are highly encouraged</p>		<p><b>Rationale</b></p>
<p>What is the most effective way of using participant reminders to support retention?</p>	<p><a href="#">24/RT07</a></p> <p><a href="#">24/RT08</a></p> <p><a href="#">24/RT09</a></p>	<p>Do electronic (text message or email) reminders increase retention rates, compared to usual follow-up?</p> <p>Is sending an electronic (text message or email) reminder more cost-effective than sending a postal reminder?</p> <p>Do telephone-call reminders increase retention of digitally excluded participants, compared to usual follow-up?</p>	<ul style="list-style-type: none"> <li>• Use of reminders is frequently used to support retention in trials.</li> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY II, Q4</a>.</li> <li>• There is significant uncertainty in the evidence base, so more evaluations are needed. There is some evidence that telephone reminders may result in a large increase in retention, compared to postal reminders (<a href="#">1 study; GRADE: low</a>). There is also some evidence that telephone reminders may result in little or no difference in retention, compared to usual follow-up (<a href="#">1 study; GRADE: low</a>).</li> <li>• If found to be effective, reminders may be cheap and easy strategies to implement. There is <a href="#">low-quality GRADE evidence from one study</a> that electronic prompts are more cost-effective than not sending electronic prompts to participants to complete questionnaires.</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li>• <a href="#">24/RT07</a></li> <li>• <a href="#">24/R08</a></li> <li>• <a href="#">24/R09</a></li> </ul>

<b>Priority retention question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority retention questions (specific)</b> SWATs evaluating specific questions are highly encouraged		<b>Rationale</b>
<p>What is the most effective way to use financial incentives to support retention?</p>	<p><a href="#">24/RT10</a></p> <p><a href="#">24/RT11</a></p> <p><a href="#">24/RT12</a></p> <p><a href="#">24/RT13</a></p>	<p>Do financial incentives increase retention compared to no financial incentive?</p> <p>Do higher-value financial incentives increase retention compared to lower-value incentives?</p> <p>Do cash-based incentives increase retention rates compared to vouchers with the same face value?</p> <p>Do cash-based financial incentives increase retention of people experiencing socioeconomic disadvantage compared to vouchers with the same face value?</p>	<ul style="list-style-type: none"> <li>• Use of financial incentives is a frequently used strategy to support retention in trials.</li> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY II, Q4, Q19</a>.</li> <li>• Evaluation of financial incentives were prioritised in the <a href="#">2021 Cochrane retention review</a>.</li> <li>• Financial incentives <a href="#">may increase retention</a> but the evidence certainty is currently GRADE Low because of inconsistency (13 studies). Further evaluation is likely to remove inconsistency and perhaps increase GRADE certainty to High.</li> <li>• There is also <a href="#">moderate-certainty evidence</a> that financial incentives may be cost-effective, based on three SWATs.</li> <li>• Some trialists believe that providing cash, either as actual cash or on electronic payment cards, will support retention of people experiencing socioeconomic disadvantage compared to vouchers (any sort) with the same face value. This is untested. Greater awareness of the need for wider trial inclusion makes testing this assumption a priority.</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li>• <a href="#">24/RT10</a></li> <li>• <a href="#">24/RT11</a></li> <li>• <a href="#">24/RT12</a></li> <li>• <a href="#">24/RT13</a></li> </ul>

<b>Priority retention question (general)</b> SWATs evaluating general questions are encouraged	<b>Priority retention questions (specific)</b> SWATs evaluating specific questions are highly encouraged		<b>Rationale</b>
<p>What is the most effective way of using routine data collection to support retention?</p>	<p><a href="#">24/RT14</a></p> <p><a href="#">24/RT15</a></p>	<p>Does using routinely-collected data (e.g., ONS/HES/GP/Hospital data) improve retention rates, compared to using participant-reported data?</p> <p>Does using routinely-collected data (e.g., ONS/HES/GP/Hospital data) increase the retention of under-served groups, compared to using participant reported data?</p>	<ul style="list-style-type: none"> <li>• This strategy has been identified as high priority for testing in <a href="#">PRIORITY II, Q2, Q17</a>.</li> <li>• Use of routine data has the potential to improve data collection from under-served groups, which is an area of importance and an <a href="#">NIHR priority</a>.</li> <li>• Whilst not as frequently used as some of the other prioritised strategies, the use of routine data has the potential to significantly increase the efficiency of trial conduct if found to be effective.</li> <li>• There is a need for evidence on the effectiveness of using routine data as there is currently no data.</li> </ul> <p><b>More information</b></p> <ul style="list-style-type: none"> <li>• <a href="#">24/RT14</a></li> <li>• <a href="#">24/RT15</a></li> </ul>

---

# More information on prioritised recruitment and retention questions

## General notes

For all the prioritised SWATs presented below, we welcome evaluations of their *effectiveness* as well as their *cost-effectiveness*. We also welcome evaluations of all the prioritised SWATs in any under-served groups relevant to your trial. Groups that may be under-served within a specific trial context might vary by age, sex, ethnicity, education, socio-economic, health or disease specific status.

### What is the most effective way of involving patients and the public in trials to improve participant recruitment?

24/RC01: What is the effectiveness of involving patients and the public in planning targeted recruitment activities on recruitment rates, compared to usual PPI practice?

‘Usual PPI practice’ in this instance means any PPI activities typically undertaken by the trial team or study organisation.

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

24/RC02: Does involving patients and the public to co-develop patient-facing materials increase recruitment rates, compared to usual practice?

Patient facing materials can include but are not limited to the following: recruitment advertisement; participant invitation letters, emails, or texts; participant information sheets and consent forms; and participant questionnaires.

Usual practice may include participant information materials developed primarily by members of the trial team, which may or may not involve some PPI review.

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 100: Patient and family co-developed participant information to improve recruitment rates, retention, and patient understanding of a randomised trial](#)
- [SWAT 105: Effects of a patient-designed-and-informed participant information sheet versus a standard, researcher-designed information sheet on recruitment to a randomised trial](#)
- [SWAT 203: The effect of patient testimony videos on recruitment to a clinical trial](#)

---

24/RC03: Does patient and public involvement in training trial recruiters using simulated recruitment sessions improve recruitment rates, compared to usual practice?

‘Simulated recruitment’ sessions are used as a training activity for research and clinical staff to practice approaching and consenting future trial participants.

This priority question links with the following SWAT registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 132: Patient Support Group for Research \(PURPOSE\)](#)

## What is the most effective way to use video(s) to support trial recruitment?

24/RC04: Do video(s) providing information about a trial together with written information increase recruitment compared to written information only?

By ‘video’, we include all types of videos, such as animations (which are created from a storyboard and include voiceovers) and live action videos (which depict people - including patients or PPI members - describing aspects of the trial).

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 15: Video presentation of trial information to potential patient participants in a randomized trial](#)
- [SWAT 106; Effects of a video clip on recruitment into a randomised trial](#)
- [SWAT 107: Effects of a multi-trial programmable animation platform on the efficiency and success of pre-screening and subsequent recruitment to a randomised trial](#)
- [SWAT 171: Use of an additional video link of an informed consent conversation to improve recruitment into perioperative cancer trials](#)

24/RC05: Do video(s) providing information about a trial together with written information increase recruitment of under-represented groups important for the trial compared to written information only?

This question is similar to 24/RC04 but focuses on groups currently under-represented in trials.



---

By 'video', we include all types of videos including animations (which are created from a storyboard produced by the trial team and PPI members and include voiceovers) and live action videos (which depict people - including patients or PPI members - describing aspects of the trial).

For this SWAT, researchers are encouraged to describe how the videos were designed to appeal to the relevant under-represented group(s) in the protocol and reporting.

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 156: Impact of an animated video translated into four commonly spoken languages on recruitment into the TICH-3 trial](#)
- [SWAT 205: Impact of an animated video translated into four commonly spoken languages and enhanced pictorial information on recruitment into the RELIEF trial](#)

## What is the most effective way of sending potential trial participants invitation letters by post to optimise recruitment rates?

24/RC06: Do posted trial invitation letters with a follow-up postal reminder letter increase recruitment rates, compared to usual practice?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

24/RC07: Does a posted trial invitation letter with a follow-up electronic reminder (text message or email) increase recruitment, compared to usual practice?

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 61: Telephone reminders to people who do not respond to a postal invitation to join a trial](#)
- [SWAT 88: Telephone versus SMS reminders to participants about attending a screening assessment for randomised trials](#)

24/RC08: Does a behavioural theory-informed trial invitation letter increase recruitment rates, compared to a standard letter?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

---

24/RC09: Is sending a full trial-invitation pack containing all relevant information (including an invitation letter, the participant information sheet, reply slip and pre-paid envelope) as a first postal approach more cost-effective for recruiting participants, compared to sending a single-page invitation letter?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

## What is the most effective way of using qualitative research to optimise recruitment rates?

24/RC10: Does undertaking embedded qualitative research in feasibility studies to identify potential barriers and facilitators to recruitment in the main trial increase recruitment rates, compared to not undertaking qualitative work to identify potential barriers and facilitators to recruitment?

This SWAT may be more amenable to being tested in a coordinated way across multiple host trials.

This priority question links with the following qualitative SWAT registered on the [SWAT repository store](#). Given that this priority list focuses on randomised SWATs, the SWAT below might be adapted to introduce randomisation, e.g., some recruiting sites might be randomised to the qualitative investigation while other sites might be randomised to control (i.e., no qualitative investigation):

- [SWAT 152: A qualitative investigation of patient recruitment to a perioperative feasibility randomised trial](#)

24/RC11: Does pre-trial qualitative research to identify and address potential recruitment issues increase recruitment rates, compared to no pre-trial qualitative research?

This SWAT may be more amenable to being tested in a coordinated way across multiple host trials.

This priority question links with the following qualitative SWATs registered on the [SWAT repository store](#). Given that this priority list focuses on randomised SWATs, the SWATs below may be adapted to introduce randomisation, e.g., some recruiting sites might be randomised to prioritise key motivators and challenges, while other sites might be randomised to control (i.e., no prioritisation of key motivators and challenges):

- [SWAT 55: Prioritising key motivators and challenges influencing informal caregivers to participate in randomised trials](#)
- [SWAT 127: Qualitative exploration of occupational therapists' perspectives on barriers and enablers to helping conduct research](#)

- [SWAT 139: A qualitative investigation of reasoning behind decisions to decline participation in a clinical trial](#)

24/RC12: Does undertaking qualitative research using the QuinteT Recruitment Intervention (QRI) improve recruitment rates, compared with not using the QRI?

This SWAT may be more amenable to being tested in a coordinated way across multiple host trials.

We are interested in testing any version of the QRI, which is described as follows: ‘Developed by QuinteT team lead Professor Jenny Donovan, the aim of the QRI is to understand RCT recruitment processes and difficulties, suggest improvements and then work with RCT Chief Investigators to implement these. Additionally, we have now developed a version of the intervention (QRI-Two) for RCTs already underway with enrolment shortfalls. We also deliver a range of QRI-Informed recruiter training’ ([QuinteT website, Jan 2024](#)).

This priority question links with the following SWAT registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 111: Staff training to improve participant recruitment into surgical trials](#)

## What are the most effective strategies to recruit underserved groups?

Here we keep the term ‘under-served groups’ deliberately broad as this will vary by trial. Groups that may be under-served within a specific trial context might vary by age, sex, ethnicity, education, socio-economic, health or disease specific status.

24/RC13: Does asking for verbal consent improve the recruitment of particular under-represented groups, compared to asking for written consent?

This SWAT is particularly relevant for pragmatic trials. The nature of this SWAT means is likely to require input from members of research ethics committees.

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

References relating to this type of SWAT:

- Feldman WB, Kim AS, Josephson SA, Lowenstein DH, Chiong W. Effect of waivers of consent on recruitment in acute stroke trials: A systematic review. *Neurology*. 2016 Apr 19;86(16):1543-51. doi: 10.1212/WNL.0000000000002587. Epub 2016 Mar 23. PMID: 27009262; PMCID: PMC4836887.
- Goldstein, C.E., Weijer, C., Brehaut, J.C. et al. Ethical issues in pragmatic randomized controlled trials: a review of the recent literature identifies gaps in ethical argumentation. *BMC Med Ethics* 19, 14 (2018). <https://doi.org/10.1186/s12910-018-0253-x>
- Lawton, J., Hallowell, N., Snowdon, C., Norman, J. E., Carruthers, K., & Denison, F. C. (2017). Written versus verbal consent: a qualitative study of stakeholder views of consent

---

procedures used at the time of recruitment into a peripartum trial conducted in an emergency setting. BMC Medical Ethics, 18(1), 1-13.

24/RC14: Does providing 'easy access' study information materials increase recruitment rates, compared to standard study materials?

By 'easy access', we mean participant facing trial information material that have been designed with the aim of improving understanding and accessibility for potential participants.

Reference relating to this type of SWAT:

- [NIHR: Improving inclusion of under-served groups in clinical research: Guidance from INCLUDE project](#)

24/RC15: Does translating trial materials and providing interpreters improve the recruitment of non-English speakers, compared to standard practice?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

References relating to this type of SWAT:

- Dawson, S., Banister, K., Biggs, K. et al. Trial Forge Guidance 3: randomised trials and how to recruit and retain individuals from ethnic minority groups—practical guidance to support better practice. Trials 23, 672 (2022). <https://doi.org/10.1186/s13063-022-06553-w>
- [NIHR: Improving inclusion of under-served groups in clinical research: Guidance from INCLUDE project](#)

## What is the most effective way to use financial incentives to support recruitment?

24/RC16: Do financial incentives increase recruitment compared to no financial incentive?

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 59: Offering financial incentives to potential trial participants to improve recruitment](#)
- [SWAT 94: Incentive \(financial and pen\) to enhance recruitment to a randomised trial](#)

24/RC17: Do cash-based financial incentives increase recruitment rates compared to vouchers with the same face value?

---

This priority question links with the following SWAT registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 59: Offering financial incentives to potential trial participants to improve recruitment](#)

24/RC18: Do higher-value financial incentives increase recruitment rates compared to lower-value incentives?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

24/RC19: Do cash-based financial incentives increase recruitment of people experiencing socioeconomic disadvantage compared to vouchers with the same face value?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

---

## What is the most effective way of offering flexibility to support participant retention?

24/RT01: Does offering trial participants flexibility in follow-up visit location increase retention rates, compared to not offering flexibility?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

24/RT02: Does offering trial participants flexibility in follow-up visit location increase retention of people experiencing socio-economic disadvantage compared to not offering flexibility?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

24/RT03: Does offering trial participants flexibility for method of follow up (e.g., postal, telephone or email) compared to not offering flexibility increase retention rates?

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 2: Timing and mode of delivery of a self-completion questionnaire](#)
- [SWAT 83: Postal vs telephone follow up](#)
- [SWAT 131: Modes of data collection for subjective outcomes at followup: comparing a choice and a failure-based approach](#)
- [SWAT 169 Electronic versus paper based Patient Reported oUtcomes CollEction \(SPRUICE\)](#)
- [SWAT215: Effects of remote, web- based data collection on completion of patient-reported outcomes.](#)

24/RT04: What is the effectiveness of asking participants to complete a diary on retention rates, compared to not asking participants to complete a diary?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

---

## What is the most effective way of involving patients and the public in trials to improve participant retention?

24/RT05: What is the effectiveness of involving patients and the public in planning targeted retention activities on retention rates, compared to usual PPI practice?

'Usual PPI practice' in this instance means any PPI activities typically undertaken by the trial team.

This priority question links with the following SWAT registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 133: Branded gift and letter from PPI group to enhance questionnaire response rate in a randomised trial](#)

24/RT06: Do patient and public involvement-led follow-up strategies increase retention rates of under-represented groups, compared to usual practice?

This question can include PPI members inputting into the development of the strategy, as well as PPI members undertaking of the strategy.

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

## What is the most effective way of using participant reminders to support retention?

24/RT07: Do electronic (text message or email) reminders increase retention rates, compared to usual follow-up?

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 178: Effects of SMS pre-notification and reminders on electronic questionnaire return using a sequential multiple assignment randomised trial \(SMART\)](#)
- [SWAT 181: What is the impact on participant retention when an electronic reminder is integrated into the design of a randomised trial](#)

24/RT08: Is sending an electronic (text message or email) reminder more cost-effective than sending a postal reminder?

---

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

24/RT09: Do telephone-call reminders increase retention of digitally excluded participants, compared to usual follow-up?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

## What is the most effective way to use financial incentives to support retention?

24/RT10: Do financial incentives increase retention compared to no financial incentive?

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 13: Financial incentives to complete follow-up questionnaires in a randomised trial](#)
- [SWAT 21: Provision of incentives to improve participant response to data collection in a randomised trial of a public health intervention](#)
- [SWAT 180: The effectiveness and cost effectiveness of financial incentives for increasing participant retention rates in randomised trials](#)

24/RT11: Do higher-value financial incentives increase retention compared to lower-value incentives?

This priority question links with the following SWATs registered on the [SWAT repository store](#), which may be adopted or adapted by others:

- [SWAT 47: Incentives and reminders to complete an online survey](#)
- [SWAT 164: Effects of increasing incentives on participant response to data collection at 6 months follow up](#)

24/RT12: Do cash-based incentives increase retention rates compared to vouchers with the same face value?

This priority question links with the following SWAT registered on the [SWAT repository store](#), which may be adopted or adapted by others:



- 
- [SWAT 180: The effectiveness and cost effectiveness of financial incentives for increasing participant retention rates in randomised trials](#)

24/RT13: Do cash-based financial incentives increase retention of people experiencing socioeconomic disadvantage compared to vouchers with the same face value?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

**What is the most effective way of using routine data collection to support retention?**

24/RT14: Does using routinely collected data (*e.g., ONS/HES/GP/Hospital data*) improve retention rates, compared to using participant-reported data?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

24/RT15: Does using routinely collected data (*e.g., ONS/HES/GP/Hospital data*) increase the retention of under-served groups<sup>1</sup>, compared to using participant reported data?

There are no SWATs currently registered on the [SWAT repository store](#) matching this question. Evaluations of this priority question are strongly encouraged.

---

## Funding acknowledgement

Implement SWATs is Sponsored by the University of York (UK) and funded by the National Institute for Health and Care Research (Advanced Fellowship, reference: NIHR302256). The Trila Forge SWAT Network received funding from an NIHR CTU Efficient/Innovative Designs award for the following project: ‘Supporting, developing and coordinating the Trial Forge SWAT Network’.

The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.

## References

- Brunsdon D, Biesty L, Brocklehurst P, Brueton V, Devane D, Elliott J, et al. What are the most important unanswered research questions in trial retention? A James Lind Alliance Priority Setting Partnership: the PRioRiTy II (Prioritising Retention in Randomised Trials) study. *Trials*. 2019;20(1):1-12.
- Crocker J C, Ricci-Cabello I, Parker A, Hirst J A, Chant A, Petit-Zeman S et al. Impact of patient and public involvement on enrolment and retention in clinical trials: systematic review and meta-analysis *BMJ* 2018; 363 :k4738 doi:10.1136/bmj.k4738
- Dawson, S., Banister, K., Biggs, K. et al. Trial Forge Guidance 3: randomised trials and how to recruit and retain individuals from ethnic minority groups—practical guidance to support better practice. *Trials* 23, 672 (2022). <https://doi.org/10.1186/s13063-022-06553-w>
- Feldman WB, Kim AS, Josephson SA, Lowenstein DH, Chiong W. Effect of waivers of consent on recruitment in acute stroke trials: A systematic review. *Neurology*. 2016 Apr 19;86(16):1543-51. doi: 10.1212/WNL.0000000000002587. Epub 2016 Mar 23. PMID: 27009262; PMCID: PMC4836887.
- Gillies K, Kearney A, Keenan C, Treweek S, Hudson J, Brueton VC, Conway T, Hunter A, Murphy L, Carr PJ, Rait G, Manson P, Aceves-Martins M. Strategies to improve retention in randomised trials. *Cochrane Database of Systematic Reviews* 2021, Issue 3. Art. No.: MR000032. DOI: 10.1002/14651858.MR000032.pub3
- Gkekas A, Evans A, Parker A, Ronaldson SJ, Torgerson DJ. A systematic review of economic evaluations alongside studies within a trial (SWATs) for improving recruitment and retention in randomised controlled trials. *Research Methods in Medicine & Health Sciences*. 2023;4(3):94-112. doi:[10.1177/26320843221147838](https://doi.org/10.1177/26320843221147838)
- Goldstein, C.E., Weijer, C., Brehaut, J.C. et al. Ethical issues in pragmatic randomized controlled trials: a review of the recent literature identifies gaps in ethical argumentation. *BMC Med Ethics* 19, 14 (2018). <https://doi.org/10.1186/s12910-018-0253-x>
- Healy P, Galvin S, Williamson PR, Treweek S, Whiting C, Maeso B, et al. Identifying trial recruitment uncertainties using a James Lind Alliance priority setting partnership—the PRioRiTy (Prioritising recruitment in randomised trials) study. *Trials*. 2018;19(1):1-12.
- Kearney A, Ashford PA, Butlin L, Conway T, Cragg WJ, Devane D, et al. Developing an online, searchable database to systematically map and organise current literature on retention research (ORRCA2). *Clin Trials*. 2022;19(1):71-80.

---

Lawton, J., Hallowell, N., Snowdon, C., Norman, J. E., Carruthers, K., & Denison, F. C. (2017). Written versus verbal consent: a qualitative study of stakeholder views of consent procedures used at the time of recruitment into a peripartum trial conducted in an emergency setting. *BMC Medical Ethics*, 18(1), 1-13.

Madurasinghe VW, Bower P, Eldridge S, Collier D, Graffy J, Treweek S, et al. Can we achieve better recruitment by providing better information? Meta-analysis of 'studies within a trial'(SWATs) of optimised participant information sheets. *BMC medicine*. 2021;19(1):1-8.

National Institute for Health Research (2024): [Improving inclusion of under-served groups in clinical research: Guidance from INCLUDE project](#)

Parker, A., Arundel, C., Clark, L., Coleman, E., Doherty, L., Hewitt, C.E., Beard, D., Bower, P., Cooper, C., Culliford, L. and Devane, D., 2024. Undertaking Studies Within A Trial to evaluate recruitment and retention strategies for randomised controlled trials: lessons learnt from the PROMETHEUS research programme. *Health Technology Assessment*.

Parker A, Arundel C, Mills N, et al. Staff training to improve participant recruitment into surgical randomised controlled trials: A feasibility study within a trial (SWAT) across four host trials simultaneously. *Research Methods in Medicine & Health Sciences*. 2023;4(1):2-15.  
doi:10.1177/26320843221106950

Treweek S, Pitkethly M, Cook J, Fraser C, Mitchell E, Sullivan F, Jackson C, Taskila TK, Gardner H. Strategies to improve recruitment to randomised trials. *Cochrane Database of Systematic Reviews* 2018, Issue 2. Art. No.: MR000013. DOI: 10.1002/14651858.MR000013.pub6.