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# Why undertake a pilot in a qualitative PhD study? Lessons learned to promote success

[Jane Wray](#) PhD student, Faculty of Health Studies, University of Bradford, UK

[Uduak Archibong](#) Professor of diversity and director of the Centre for Inclusion and Diversity, University of Bradford, UK

[Sean Walton](#) Academic developer, Quality and Enhancement Office, University of Salford, UK

**Background** Pilot studies can play an important role in qualitative studies. Methodological and practical issues can be shaped and refined by undertaking pilots. Personal development and researchers' competence are enhanced and lessons learned can inform the development and quality of the main study. However, pilot studies are rarely published, despite their potential to improve knowledge and understanding of the research.

**Aim** To present the main lessons learned from undertaking a pilot in a qualitative PhD study.

**Discussion** This paper draws together lessons learned when undertaking a pilot as part of a qualitative research project. Important methodological and practical issues identified during the pilot study are discussed including access, recruitment, data collection and the personal development of the researcher. The resulting changes to the final study are also highlighted.

**Conclusion** Sharing experiences of and lessons learned in a pilot study enhances personal development, improves researchers' confidence and competence, and contributes to the understanding of research.

**Implications for practice** Pilots can be used effectively in qualitative studies to refine the final design, and provide the researcher with practical experience to enhance confidence and competence.

Correspondence [jwray@student.bradford.ac.uk](mailto:jwray@student.bradford.ac.uk)

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**Conflict Of Interest**

None declared

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## Introduction

Pilot or feasibility studies serve an important function before a main study ([Halberg 2008](#)). Research methods and protocols can be tested, pre-empting future difficulties and enabling adjustments ([Kim 2011](#)). However, pilot studies are not always published ([Arain et al 2010](#)), despite their potential to contribute to the understanding of research ([Secomb and Smith 2011](#)). References to pilot studies are often limited to cursory, one-line mentions in published papers, and the lessons learned and experiences gained remain unavailable to the wider research community. Publishing pilot studies can provide important information to other researchers ([Van Teijlingen and Hundley 2001](#)) and prevent further resources being spent on studies that are impracticable ([Thabane et al 2010](#)). Publishing information about pilot studies is essential for shared learning and might not necessarily relate to the findings, as the results ‘may not be meaningful and have not been reported, (but) the outcomes and experiences are’ ([Secomb and Smith 2011](#)).

The terms ‘pilot’ and ‘feasibility’ have been used interchangeably ([Van Teijlingen and Hundley 2001](#)) and sometimes erroneously ([Thabane et al 2010](#)) to varying definitions ([Arain et al 2010](#)). According to the NIHR Evaluation, Trials and Studies Coordinating Centre (NETSCC), a pilot study is a smaller version of the main study used to test whether the mechanisms of the main study would work as planned ([NETSCC 2013](#)). By contrast, feasibility studies focus on study parameters, such as clinicians’ willingness to recruit, the time required to collect data and analyse them, the design of outcome measures, compliance, and adherence ([NETSCC 2013](#)). Arnold et al ([2009](#)) preferred not to use the term ‘feasibility’, differentiating between ‘pilot work’ (background work that informs future research); a ‘pilot study’ (which has specified objectives and methodology) and a ‘pilot trial’ (a stand-alone study including randomisation). With this variability in the usage of terms, publishing details about what work was actually

undertaken becomes important, to inform others in the research community – ‘Every attempt should be made to publish’ ([Thabane et al 2010](#)).

Pilot or feasibility studies are common in quantitative research ([Arnold et al 2009](#)), and are increasing being reported in studies using qualitative approaches ([Sampson 2004](#), [Kim 2011](#), [Secomb and Smith 2011](#)). They can provide a clearer understanding of the topic being investigated and explore procedural elements of a study ([Jessiman 2013](#)). For novice researchers, they can provide engagement in the practicalities of research, as a way to develop understanding and experience ([Kezar 2000](#)). Thabane et al ([2010](#)) argued that there is an ethical as well as scientific obligation to publish pilot work; although they were referring to phase III trials, this obligation should also apply to qualitative studies.

This paper is concerned with reporting the benefits for qualitative researchers of undertaking a pilot study, detailing the experiences gained, the lessons learned and resulting changes to the main study as the result of a pilot study undertaken as part of a PhD that sought to explore newly qualified nurses’ perceptions of culturally competent practice.

There are numerous potential reasons for undertaking a pilot ([van Teijlingen and Hundley 2001](#), [Arain et al 2010](#)), and this study had four stated objectives ([Thabane et al 2010](#)): to determine whether the planned approach to recruitment would generate volunteers ([Secomb and Smith 2011](#)); to test the tools for collecting data to ensure they elicited the type and range of responses required ([van Teijlingen and Hundley 2001](#)); to explore procedural elements, primarily to see whether email and telephone were more effective than face-to-face contact for communication and collecting data ([Jessiman 2013](#)); and to reflect on personal skills and abilities as a researcher, and explore self in a study that used an interpretative phenomenological methodology ([Kim 2011](#)). For each objective, decisions were made about to whether to proceed as planned, modify or change the approach in the final study ([Arain et al 2010](#), [Thabane et al 2010](#)). Data were collected between May and August 2014.

## **Main lessons learned**

### **Sample, recruitment and access**

The pilot study sought to determine whether the planned approach to recruitment would result in volunteers, as recruitment can be challenging, especially with a volunteer sample ([Berry and Bass 2012](#)). Recruitment often requires a substantial amount of time and effort for little return ([Kaba and Beran 2014](#)); failure to recruit also has implications for study timelines ([McCance and Mcilpatrick 2008](#)), reliability and validity ([Jessiman 2013](#)).

Before beginning recruitment, it was necessary to secure ethical approval. It is essential to seek approval specifically for a pilot, as its purpose, risks and benefits to participants are different to those of the main study ([Thabane et al 2010](#)). The implications of taking part must be explained in the pilot study's information sheet and consent forms so that potential participants can make an informed decision as to whether to participate.

Approval for the pilot was secured to recruit final year, pre-registration nursing students from a higher education institution not involved in the main study. Although approval had been obtained and contact was made with the relevant programme lead by the researcher, communication was also required with a number of other faculty staff to ensure information was sent to eligible participants. Identifying the 'right' person to achieve this proved to be the most important lesson learned at this stage, as this person might not be the programme or department lead. The researcher had to negotiate with potential gatekeepers and navigate bureaucratic systems ([Kaba and Beran 2014](#)), to create an open and ongoing communication chain involving all the relevant people. As a result, additional time was built into the recruitment timeline of the main study to allow for this process.

Information was sent to potential participants by email and the university's virtual learning environment (VLE). This and a reminder email sent two weeks later generated only three expressions of interest. Generating enthusiasm and interest in a study is necessary to engage potential participants ([Kaba and Beran 2014](#)), and so with the agreement of the programme director, the researcher gave a brief presentation to the cohort. This introduced the main study, and outlined the purpose and implications of participation in the pilot study. Personalising the information in this way provided an additional impetus to recruitment, securing five more expressions of interest. Timing may also have been a pertinent factor, as the information was initially circulated just before the cohort's submission date for an assignment.

To clarify any issues, all those who had expressed interest were contacted by email and/or SMS message before they completed their consent forms. Five people participated in the pilot; one did not complete the interview, although it is not known why – SMS and email reminders were sent to the participant providing additional opportunities on alternative times and dates, but as no response was received, further contact was deemed potentially intrusive and the participant was considered to have withdrawn.

The key lesson learned about recruitment was that a more personalised and comprehensive strategy was needed ([Secomb and Smith 2011](#)). The main study's recruitment strategy was modified to include a formal presentation to be delivered at a time sensitive to participants' demands ([Harris et al 2008](#)). Successful recruitment in a pilot study does not guarantee success in the main study but

testing an approach reduces the likelihood of time and resources being invested in unsuccessful methods ([Kaba and Beran 2014](#)).

## **Data collection tools**

A directed reflection and the topic guide for semi-structured interviews were also tested in the pilot to establish whether they were user-friendly and if rephrasing or additional questions or prompts were needed. Participants were asked to complete their reflections in the form of a structured diary sheet and were then asked specific questions regarding its completion during the subsequent interview.

In directed or solicited reflection, participants record their actions, thoughts and/or feelings, at the request of a researcher ([Clayton and Thorne 2000](#)). Such reflections are used in conjunction with interviews, as they provide researchers with initial data on a topic or issue that can be explored through further discussion ([Jackson et al 2008](#), [Smith 2008](#)). They can also provide participants with greater control over how their experiences are represented ([Woll 2013](#)).

In this pilot, the directed reflection was developed from existing literature and with the support of a patient and carer reference group. Participants were asked to describe a recent interaction with a patient from a diverse background and detail their thoughts, feelings, actions and behaviour. The reflection was divided into sections, each section starting with a question to direct or prompt the participant – for example, ‘How would you describe your feelings during this event?’

During the interviews, participants were asked about the readability and their comprehension of the directed reflection. All responded positively, confirming that completion of it was not especially problematic. Participants were familiar with the approach as it is commonly used in pre-registration nurse education to capture reflections on practice ([Bulman et al 2012](#)).

Descriptions of practice and nurses’ thoughts and reflections on that practice were generated however, the amount of information provided varied considerably. Some sections were detailed while others contained only two or three words.

Only minor amendments to the directed reflection were considered necessary for the main study and additional information was added in the introduction to guide participants. The directed reflection would not be used in isolation ([Jacelon and Imperio 2005](#)) and the subsequent interview would provide an opportunity to address information deficits and clarify any ambiguities.

After they had completed the directed reflection, participants were contacted to set up a suitable time and date for the interview. Telephone interviews were used, as they make it easier to access busy professionals and geographically diverse populations ([Harris et al 2008](#), [Mealer and Jones 2014](#)). They are a versatile,

resource-efficient approach ([Novick 2008](#)) and can produce data that are comparable to interviews conducted face-to-face ([Sturges and Hanrahan 2004](#)). It had been estimated that the telephone interviews would take between 30 and 40 minutes, and the pilot confirmed this.

By undertaking the interviews, it was possible to reflect on the topic guide. Although the main areas did not require amendment, changes to the order and additional prompts were added. The topic guide had initially begun with general questions about participants' experience to ease them into the interview, with discussion of the directed reflection in the latter part of the interview. This was changed, as participants started talking about the directed reflection at the start of the interview, which proved to be a simple and natural interview opener ([Smith 2008](#)), leading easily into further questions to encourage clarification and elaboration. A possible limitation to this was that in the subsequent discussion of cultural competence, the participants appeared to understand and interpret further questions within the same broad theme of diversity set by the reflection.

It is important that participants' feel comfortable during an interview and conversation and dialogue are encouraged rather than imposed ([Arthur et al 2014](#)). Therefore, additional prompts were added to the topic guide so that if a participant remained focused on one diversity characteristic in the main study, they could be encouraged to give examples from other diversity groups.

Undertaking the interviews also provided important experiential learning about a research method, as well as an opportunity to consider the benefits and challenges of the approach. Scrutiny of the transcripts and re-listening to recordings of the interviews confirmed that participants' pauses and silences had not always been responded to successfully. One of the main lessons learned was how to manage silences when conducting a telephone interview, when non-verbal encouragement to elaborate is not available ([Trier-Bieniek 2012](#)). The researchers' ability to communicate rapport with the participant can be limited by the lack of face-to-face contact ([Novick 2008](#)). This is a potential problem with telephone interviews, particularly for researchers with little experience in this approach ([Mealer and Jones 2014](#)). Rapport can be improved when using telephone interviewing by ensuring that verbal contact has already been made before the interview ([Carr and Worth 2001](#), [Sturges and Hanrahan 2004](#), [Harris et al 2008](#)), and so this was added to the main study's protocol.

## **Procedural issues**

The benefits and challenges of using email and/or text communication were also considered in the pilot study. Email was the preferred approach of the university and the usual means of communicating with the target group ([Berry and Bass 2012](#), [Kaba and Beran 2014](#), Mason and Ide 2014). However, text messages appeared to be participants' preferred contact method, as they responded more

quickly to them, and other research had shown them to be effective ([Berry and Bass 2012](#), Mason and Ide 2014). Emails and texts were used throughout the pilot to encourage continued engagement in the study, although email was more effective when supplemented by a text.

Email proved useful in collecting data, as all participants had access to a computer and email. The directed reflection was emailed to them and they completed it electronically. Four were then returned within seven days, one within 14 days following a text-message prompt. Only one of these was handwritten – it was written up by the researcher and the original scanned and kept. The electronic responses were provided in a format that did not require transcription and had no additional resource implications for participants ([Novick 2008](#)).

In the latter two interviews, text-message reminders were sent one day before and 10 minutes before the interview started, which proved invaluable in ensuring that interviews went ahead as scheduled.

As a result of these experiences, some minor changes were made to the main study. These included using email primarily for sending and receiving information and documents, and using text messages mainly to engage and retain participants, since although recruitment and data collection were the same for all participants, the time lapse between expression of interest, consent, completion of reflection and interview did vary.

Another benefit of experiential learning was the ability to understand and acknowledge that participants had other, more pressing demands on their time and that engagement would vary and depend on participants' circumstances.

## **Self**

A journal and field notes – written and audio – were used for personal reflection throughout the pilot to explore personal assumptions and the influence of previous experiences ([Rapport 2004](#), [Hill 2006](#)). Recording reflections provided a valuable source of data ([Dickson-Swift et al 2007](#)), as well as a useful reference point when re-examining the interviews. Reflexivity is an important tool in qualitative approaches but requires practice to develop effectively ([Jootun et al 2009](#)) – the pilot was indispensable in this development. To aid reflection, the researcher added questions and prompts to the journal to structure and guide reflections after interviews. Examples include: 'How well did I listen to what was said?'; 'Was I able to establish a good level of trust and rapport?'; 'Did the interview flow or was it stilted?'; 'Did I agree with them too readily or prompt too quickly curtailing elaboration?'; and 'Did I clarify any ambiguity?' Considering these questions encouraged personal consideration of how well each interview was conducted and aided reflection on how the interviews might be improved in the main study ([Dickson-Swift et al 2007](#)).

Listening to the recordings of the two interviews and examining the notes indicated that there were some challenges to address in subsequent interviews. It appeared that attention was divided between the interviewee, the interview topic guide and the recording equipment. The recording devices had caused considerable anxiety and two devices were used in case one failed.

Participants were texted before the interview started to ensure that they were prepared. On reflection, this notification was also important for the researcher as it acted as a sign to be mindful of ‘the space and place’ ([Gagnon et al 2015](#)). The interview schedule and directed reflection were re-read, equipment tested, and the physical area of the researcher prepared to minimise potential distractions and intensify focus.

## Conclusion

Undertaking a pilot study to experience research and develop personal skills and abilities can make a significant contribution to the main study ([Sampson 2004](#)). In the pilot study described in this paper, the researchers’ competence and confidence – particularly in relation to telephone interviewing – improved with each subsequent interview. In addition, the breadth and scope of personal reflection contained in the audio and written journal notes improved exponentially.

Undertaking a pilot study as part of a qualitative PhD enhances the understanding of important research processes, including access, recruitment and data collection. Personal development is enhanced, and researchers’ confidence and competence improves. Establishing the main objectives of a pilot study then enables the researcher to decide whether these objectives were met and refine and re-shape the main study as a consequence.

Pilot studies remain poorly described in the literature despite the potential benefit of sharing insights into methodological and practical issues in qualitative research. By reporting on these insights and experiences, this paper adds to the small but growing body of work being shared about the value of pilot studies.

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