Unit Introduction

Unit 2

Designing your Study

*“Research design provides the glue that holds the research project together. A design is used to structure the research, to show how all of the major parts of the research project - the samples or groups, measures, treatments or programs, and methods of assignment - work together to try to address the central research questions”* (Trochim, 2006).

In this Unit, we invite you to review your work from *Public Health Research* and over the first three sessions, to take forward your own flexible research study. In the process you will be introduced to a range of qualitative research techniques and their application. In each instance, you need to be able to answer the question – *Why did you choose to do it that way?* In other words, this is where a rationale is critical for every move you make. All of the work you do during this Unit go towards the development of the third chapter on Methods, and this is probably where those who read your study will focus most critically, scrutinizing your choices to see whether your findings may be justified.

In fixed design, you will remember that the key concepts which drive design are validity, generalisability and reliability (Robson, 2011: 85). In flexible design, because its philosophical basis is so different, a very different set of quality criteria are used to ensure the rigour of your study. Session 4 concentrates on these, and the results of your work here will constitute a draft for your methods chapter.

And finally, we introduce you to a range of other flexible research traditions which you may engage with if you were to carry on to doctoral studies, but which you will certainly encounter in the literature and in methodological reading. Although we cannot go into much detail in this module, we hope you will grasp the traditions and their methodological purposes, since they have each and every one arisen because of a need identified by researchers from a particular discipline, or facing a specific design problem. We introduce you to three traditions which have particular relevance for Public Health problems, and several papers describing studies which made use of these traditions – Ethnography, Grounded Theory and Phenomenology. We will also point out the purposes and unique methodological aspects of these traditions in the course of the session. By the end of Unit 2, you should be in a position to:

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| * Describe a research problem and its Public Health context.
* Develop a study aim and objectives.
* Identify the information and the data sources which will be required to address this problem.
* Identify and justify your study population and sample.
* Plan a strategy to ensure the rigour of your study.
 |

There are four Study Sessions:

SESSION 1 - Embarking on design

SESSION 2 - From aim and objectives to methods

SESSION 3 - Sampling

SESSION 4 - Quality in qualitative research

**References**

Trochim, W. M. K. Introduction to Design. *Research Methods Knowledge Base.*   [Online], Available: <http://www.socialresearchmethods.net/kb/desintro.htm> [Downloaded: 6.11.13].

Session 1 - Embarking on design

Unit 2

## Introduction

Design is as Robson (2011: 70) puts it, turning “research questions into projects.” It is a very practical process, but one which is also very thoughtful, during which you will benefit from discussion with those who are more expert than you, your peers, and those who have insider knowledge about the field you have chosen to study. This is what makes it especially helpful to conduct research as part of a team, where choices can be debated, problematized and argued for.

Once again, it is important to be aware that your design flows directly from your research question (or problem). But what is also important is that in flexible design, as you may remember from your *Public Health Research* module, flexible design is just that - flexible - and can be modified in the course of implementation, if there is a good reason for doing so. For example, you may modify your sample size in the course of the study, because you have not elicited the breadth of data you expected to gather; or, if the same issues keep emerging, you could argue that data collection has reached saturation point, and there is no need for further data gathering.

In this session, we will clarify the design process, explore the key characteristics of flexible design, and outline a process for continuing with the design your own study.

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2 Readings

3 What is involved in design?

4 Reviewing your purpose and formulating research questions

5 Sketching your conceptual framework

6 What is flexible about flexible design?

7 Session summary

8 References and further readings

Timing of this Session

This session has five tasks and extracts from three chapters of your prescribed text. In that three of the tasks are design tasks, they will require some concentrated time. Allow four hours for this session.

1 Learning Outcomes of this Session

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| **By the end of this session, you should have:** |
| * Embarked on the design your own study including purpose, research questions and conceptual framework.
* Become conscious of the importance of internal coherence in your study design.
* Developed a conceptual framework for your own study.
* Explored the concept of flexible design.
 |

2 Readings

You are referred to the readings below in the course of this session. You will find them in your prescribed text.

|  |
| --- |
| **READINGS**Robson, C. (2011). Ch 3 - Developing Your Ideas. *Real World Research.* Chichester: Wiley: 67-68.Robson, C. (2011). Ch 4 - General Design Issues. *Real World Research.* Chichester: Wiley: 70-80.Robson, C. (2011). Ch 6 - Flexible Designs. *Real World Research.* Chichester: Wiley: 130-160. |

3 What is involved in design?

Look again at the diagram presented in Unit 1 of the process of designing a research study. This set of questions represents the process of design, and every one of them involves sound decision-making.

You have already made some of these decisions during *Public Health Research*, but we ask you now to review them now, working towards presenting them to peers and your Supervisor since so much hinges on these decisions.

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| --- |
| THE PROCESS OF DESIGNStatement of the Research Problem * What is your research problem or question?

Formulation of Study Aims and Objectives* Why do you want to carry out the research?
* What do you hope to achieve?
* What are your aim and objectives?

 Development of Research Methodology* From where or whom can you obtain the data which will help to answer your question?
* How are you going to collect this data?
* What study design and approach will you use?
* What data collection methods and tools will you use?
	+ Document or record reviews
	+ Questionnaires and sampling
	+ Observations
	+ Interviews
	+ Focus group discussions
* What additional data will you need to reach your research objectives?
* What is your plan for data collection?
* What is your plan for data processing and analysis?

Ethical Considerations* What are the ethical risks to your participants of disclosing the information you need?
 |

One of the golden rules of qualitative research is that there should be a logical linkage, an internal consistency or alignment between all the elements of the design beginning with the problem statement or research question. This could be termed design coherence, and although it may seem self-evident, it can get forgotten when you are faces with a menu of intriguing sounding approaches and are confused as to which to choose and why. At that point, the best strategy is to return to your problem statement and your study aim, and follow on logically.

To illustrate this principle, scrutinize the diagram of a study design on the next page; you will be asked to construct something like it for your own design process, using different coloured sticky notes, or a coloured paper shapes and some Prestik. Developing your design on a large sheet of paper over a few days or weeks can be very helpful: each time you see it, check its logical coherence again.

We will return to this diagram later, but be aware that since you have chosen a flexible design approach, there is room for adjustment as the research proceeds, although this hardly seems the case when you have to present your proposal to the Higher Degrees Committee. Be assured though that it is rather less serious to change your flexible design because some necessity dictates it during data collection or analysis, than it is in a fixed design, where it would compromise the validity and reliability of your study.

Everything you do in this session and the next is preparation for your protocol which will be submitted to the Higher Degrees Committee hopefully before the end of this year, and which will guide your research study.

On completion of this module, refine it further with YOUR supervisor for submission to HDC

Complete the remainder of the components for your proposal as part of Assignment 2

Refine your design and prepare Assignment 1 alone

Develop elements of your research proposal during this module

**PROBLEM STATEMENT AND RESEARCH QUESTIONS**

**AIM**

**SAMPLE**

**POPULATION**

**DATA COLLECTION METHODS & QUESTIONS**

DIAGRAM ILLUSTRATING A COHERENT STUDY DESIGN

This is on your USB flash drive and iKamva called “Coherent Study Design Diagram”, if you wish to use it electronically or print it out. All elements follow logically from one another making the design logical and coherent.

3.1 A framework for research design

Over the forthcoming sessions, you will be developing your study design. We realise that you have worked on this already, but now is your chance to check it, refine it, making sure it is researchable and do-able. But before you start, it would be wise to reread sections of Robson’s Chapter 4 concentrating on the sections we draw attention to below. He provides a framework for design on page 71, and describes it on page 72.

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| --- |
| **READING**Robson, C. (2011). Ch 4 - General Design Issues. *Real World Research.* Chichester: Wiley: 70-80.Focus on: page 70-mid 73, Robson’s framework for research design Figure 4.1 and its explanation on page 72.  |

In the design framework, Robson (2011) includes, in addition to purpose, research question/s, methods and sampling procedures, and ethical considerations, the development of a *conceptual framework*. This is not strongly emphasised in the course of a minithesis, but it can be very helpful in order to push your literature review and analysis to a deeper level. In the course of this session, you will add this to your design if you do not already have one.

**3.2 Case study of qualitative design**

At this stage, we need to introduce a study example which will be used to illustrate several concepts in this session, and provide data for analysis further on in the module. We have intentionally chosen a straightforward study and a topic that will be familiar to your own experience. This abstract, which you are now asked to read, relates to the motivations of MPH students and graduates to take the MPH programme and their professional expectations and needs from the programme. This is a real study, but necessarily names and places as well as markers of identity have been removed.

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| ANd9GcREEHPTKP1wnxe_GKOgxNyQLereoEf-qkWmYfAJdPQ1g8-vU7C1 | **USB FLASH DRIVE AND IKAMVA RESOURCE**Alexander, L Professional Needs of … 2009 [File name]Alexander, L., Matshanda, N, and Stern, R., SOPH-UWC (2009*). Abstract:* ***Professional Needs From the Masters in Public Health (School of Public Health, University of the Western Cape) Amongst Registered and Graduated Students in Namibia and Zambia, 2009***. Cape Town: SOPH-UWC: 1- 40. |

The abstract is presented here:

***Professional Needs From the Masters in Public Health (School of Public Health, University of the Western Cape) Amongst Registered and Graduated Students in Namibia and Zambia, 2009***

*Lucy Alexander, Nandipha Matshanda and Ruth Stern (2011)*

***Background and Aim***

*The School of Public Health, University of the Western Cape (SOPH-UWC) has offered a Masters in Public Health (MPH) by distance learning since 1994. In this time, there have been three major re-curriculation processes (2001, 2007 and 2010-2011) based on changing needs in the Public Health context. The study aimed to understand the professional needs of Namibia and Zambia-based health professionals studying the Masters in Public Health (MPH) at a distance. This understanding was intended to inform the selection of competencies for the revised MPH core curriculum aimed at mid-level health professionals working in health services and non-governmental health projects in these two countries.*

*Students from these two countries were selected because of the relatively large intake from both countries in the period 2004-2009 and their relative proximity to South Africa for research purposes. SOPH’s distance course had in the period 2004-2009 served 61 students studying from Namibia.*

***Method***

*This was an exploratory qualitative study which aimed to elicit a deeper understanding of the expectations, competencies and understandings health professionals who had graduated from or were engaged in the course need in the course of their work. The study sought answers to two research questions: What are the key competencies which should be developed for effective functioning of Public Health professionals through a Public Health curriculum in sub-Saharan Africa c2008-2011 and Do different cadres of Public Health personnel in Namibia and Zambia require different competencies?*

*These data derived from indepth interviews and focus group discussions was also triangulated with motivation statements from the same period required when students applied to study the programme. The findings were to be compared with the current curriculum and proposed modifications. The population included registered students and recent graduates with a sample of 37 participants 7 of whom were graduates; 32 were registered students beyond their first year. All had embarked on the programme between 2004-2009. The majority (89%) were resident in the main cities, while 11% resided in smaller towns. The sample was 54% male, and 46% male, with slightly more participants from Namibia, i.e. 54%. Maximum diversity in the sample as regards professional roles; however difficulties of availability for interviews resulted a convenience sample, although there was still a fair spread of professional roles, including frontline medical doctors and nurses, managers with responsibility for planning and supervision of health services including as family health programmes, special programmes (e.g. TB, HIV/ AIDS, Malaria), environmental health, social services, nursing services, administration, nutritionists, environmental health practitioners, laboratory technicians, community based workers, working with NGOs and civil society organisations. In addition, three key informants (two of whom played high level national roles, one from Namibia and two from Zambia were interviewed on their perceptions for health professionals working in the Public Health services at the time.*

*Data collection included indepth interviews with eight participants (seven of whom were graduates), two focus groups and seven group interviews. Key informants were interviewed individually in indepth interviews.*

*A limitation of the study is that participants have with two exceptions, only been exposed to this Public Health programme; they were unlikely to be able to evaluate a Public Health curriculum outside their own experience, and therefore the needs in their workplace were focused upon. Furthermore, motivational statements by students were considered to be potentially biased, as students were presenting themselves as potential candidates for a course and may therefore exaggerated certain commitments. In addition, because of resource and time limitations, participants from only two sub-Saharan countries were included; contextual differences in every health system are acknowledged. Finally although students and graduates interviewed expressed some but limited criticism of the SOPH curriculum, suggesting that they were reluctant to express negative views.*

*All recorded data was transcribed and analysed using Atlas ti. Thematic coding analysis will be used to extract key themes regarding competencies and understandings regarded as important to health professionals in their present roles. These findings will be analysed comparatively, identifying similarities and gaps in relation to the current and proposed MPH core curriculum.*

***Ethical Considerations***

*Participants were assured that all data would be anonymised, and their identities kept confidential. However, the study, being a needs analysis, was not likely to elicit any sensitive information which could harm or upset participants. Written informed consent was obtained and ethical clearance was granted by the UWC Ethics Committee.*

***Findings***

*Findings suggested that the diversity of roles played by health professionals in the field of Public Health require a broad range of competencies, ranging from the adoption of a different way of looking at health, and consequently a different knowledge base, to the acquisition of specific skills. As many participants noted, these are rarely, if ever, included in their professional training.*

*Understanding what is meant by a Public Health approach was strongly argued for as a necessary outcome of an MPH: the clinical focus of health professional education had meant that participants felt they had been insufficiently aware of Public Health concerns, at a population level, or of the significance of the determinants of health. They also felt limited in their capacity to address public health concerns. Management and human resource development formed the major set of competencies identified. Examples included strategic planning, financial management, supervising staff, training, workload planning, developing relationships within and across the sectors, for example, with local government. Leadership and organisational development, and importantly, an understanding of health information systems were also highlighted as crucial competencies.*

*The importance of understanding epidemiological data was also noted, as was the need to be both competent to do research and, perhaps more frequently, to understand and interpret the research done by others. The absence of adequate research skills included their limited capacity to monitor and evaluate programmes, noted by several respondents as a major disadvantage.*

*Communication was also regarded as an important competency needed by public health professionals in the field. Many participants described their need for competency in handling people, that is, human relationships. This applied to their relationships with staff, as well as patients. Even tasks as routine as report writing were noted to be a challenge.*

*Finally working with communities featured prominently in the needs of health professionals; some noted that their early experience with communities was through their role as health providers. In their current roles, they had to explore ways of working with communities, not on them.*

***Conclusions***

*When these findings were compared with the 2009 curriculum, management and monitoring and evaluation skills were identified as the most significant gaps in the MPH’s core curriculum. In addition, the soft skills of communication and handling people were noted as areas of potential importance to students, though difficult to achieve in a distance learning course. Greater emphasis on the review and understanding of research done by others was also noted as an area for further emphasis. The research study has therefore provided a level of confirmation of some broad areas which have been incorporated into the core curriculum, i.e. management skills, but also suggested some additional competencies for inclusion such as monitoring and evaluation, and community engagement within the core curriculum. Furthermore it was concluded that although public health professionals work in a diverse range of roles, there is a common set of understandings and competencies which they need and valued, in particular the conceptual shift from a clinical to a social determinants perspective, which has been most valued by health professionals from both Namibia and Zambia.*

***Acknowledgements***

*This research study was part of a project funded by the British Council Delphe programme called Capacity Building of Practicing Health Professionals Through Distance Learning Programmes. The co-operation of the health professionals and key informants who participated in the interviews is gratefully acknowledged, and has assisted in revising the core modules of the MPH curriculum.*

We will use this study and its related data collection tools and transcripts to demonstrate certain processes from here on. It will be referred to as *Professional Needs From the MPH, 2009* for convenience.

4 Reviewing your purpose and formulating research questions

For your assignment in *Public Health Research*, you probably formulated a research problem. A research question focuses on the same issue, but turns a statement into a question or set of questions, a process which can be helpful in defining the project, setting its boundaries and remembering that you, as a researcher, are in a state of enquiry.

In the study, *Professional Needs From the SOPH-UWC MPH* (2009), underline the aim, and then the research questions. Do you see a linkage? Is the second research question central to the aim? Why or why not? Before reviewing your own research questions, try this task.

Task 1 – Practise formulating research questions

Refer to Robson’s guidance on developing research questions, and then develop two or three for each of the abridged abstracts below. In each case, underline the question which the study aim seems mainly to focus on.

|  |
| --- |
| **READING**Robson, C. (2002). Ch 3 – Developing Your Ideas. *Real World Research.* Chichester: Wiley: 58 - 65.  |

**Abstract 1: *Perceptions on the factors influencing oral health seeking behaviour of communities in Randfontein, Gauteng, South Africa (2012)***

Mlungisi Patrick Makubalo

*The negative effect of poor oral health on quality of life and financial implication of work days lost as a result of dental pain can be accepted as a rationale for inclusion of oral health in the primary health care (PHC) package for South Africa. The norms of the PHC package for oral health services are to expose at least 50% of primary schools to organized school preventive programmes and to ensure basic coverage of everybody in the catchment areas. Currently these norms are not adequately fulfilled in Randfontein. The purpose of this study was to gather information that can be used to improve oral health services in Randfontein. The aim of the study was to gain an understanding of the factors that influence the choice of oral health care seeking behaviour as perceived by residents in different contexts and to use these perceptions to inform appropriate health planning strategies and implementation of measures that can improve health promotion in Randfontein.*

**Abstract 2: *Understanding the Patterns of Alcohol Use among Adolescents in a Peri-Urban Historically Disadvantaged Community in the Western Cape Province, South Africa (2009)***

*Samantha Lynn Smuts*

*Alcohol consumption among adolescents is increasing due to the general availability of alcohol in many community settings. Binge drinking (defined as drinking five or more drinks per occasion) (Parry, 2000) is considered the most common type of harmful alcohol consumption among young people. The United States Youth Risk Behaviour Surveillance report proposes that patterns of health risk behaviours are established during youth (Centre for Disease Control and Prevention, 2006). The abovementioned report highlights behaviours such as alcohol misuse, drug use and risky sexual behaviour that have the potential to undermine the health and development of youth. In order to design and implement effective intervention schemes, we need to understand the dynamics of alcohol use among local youth better, as these play out in their specific social environmental and personal contexts.*

*The aim of this study was to gain an understanding of what influences the patterns of alcohol use among adolescents in a peri-urban historically disadvantaged community in the Western Cape. The study identified some of the factors that promote and inhibit drinking within the study community from the perspective of the adolescents themselves and a few of the adults who work with adolescents. The study also determined some of the harmful consequences to drinking as described by the adolescents.*

**Abstract 3: *Experiences influencing the academic performances of 1st year nursing students at the Western Cape College of Nursing, South Africa, during 2008 (2010)***

*Maria Elizabeth McLachlan*

*This is a qualitative study, the aim of which is to explore experiences influencing the
academic performance of 1st Year nursing students at the Western Cape College of Nursing, South Africa, during 2008 when the College was confronted with unprecedented failure rates among 1st Year students. It describes the College’s collaboration with a higher education institution and the changes that emanated from this collaboration. The influence of situational factors on 1st Year nursing students is explored. These include the legacy of the inequality of past learning opportunities, institutional factors which hamper students’ sense of belonging, and the social and academic integration of students into their learning environment. The methodology used in the process of exploring these factors included focus group discussions with students and in-depth interviews with staff in order to explore their respective perceptions of the problem.*

Feedback

Here are some research questions which these researchers may have focused on; in most cases, they seem to have addressed at least two research questions.

**Abstract 1:**

1. What influences the oral health-seeking behaviour of residents of Randfontein?
2. What could improve the impact of oral health services in Randfontein?
3. How do residents of Randfontein perceive oral health services in Randfontein?

**Abstract 2:**

1. How do these adolescents use alcohol?
2. What factors promote or inhibit binge drinking amongst these adolescents?
3. How does binge drinking impact on their lives?

Abstract 3:

1. What were the experiences of 1st Year nursing students at the Western Cape College of Nursing, South Africa, during 2008?
2. How did these experiences affect academic performance?
3. What factors affected academic performance of 1st Year nursing students at the Western Cape College of Nursing, South Africa, during 2008?

In these cases, we are working backwards from the aim of each research study. In your study, you will be developing your aim from your selected research question/s. You will notice that many questions can be asked and not all of them will be answered directly in the course of the study. Some of the questions like (b) in Abstract 3 may even have necessitated a quantitative study. But this is an excellent way to refine your study aim.

Task 2 – Review your study purpose and research questions

Take Robson’s design framework template, and draw it onto a large piece of paper which you can display prominently in the space where you study. After establishing your research purpose, write it onto a card or sticky note and label it “Purpose”; Abstract 1 above, for example had the purpose of “*improving oral health through PHC services in Randfontein”.* Note that your purpose guides your research questions.

In Abstract 1 above, Makubalo’s purpose can be inferred as “improving oral health through PHC services in Randfontein” (see below). His questions range around that purpose, but question (b) seems to have been the bridge to deciding his research aim. He might have asked himself: *if we want to improve services, how do we find out how to improve them? We should ask the residents themselves. But what if they have no idea of how dental services could be improved – they know nothing about the PHC vision; they may suggest a hospital! Maybe if we asked them how they see the present services, we can learn whether they value them at all, we can learn how they use them, we can find out if they even know about the, and how they value their own dental health. This will provide ideas of how to improve services and to promote them to residents.*

After you have reviewed and established your own purpose, brainstorm your research questions and fill them into the central circle using sticky notes. Remember this is flexible design: you may want to change your research questions and you are entitled to do so as your research proceeds.

**Purpose(s)** improve oral health through PHC services in Randfontein

Based on “A framework for research design” (Robson, 2011: 71).

Refer to Robson’s guidance where necessary: see references below.

|  |  |
| --- | --- |
| Design element | Reference in Robson (2011) |
| Purpose | Page 63 |
| Research questions | Pages 58-65 |

In the reading on research questions, there are a couple of key points which are worth repeating:

1 “Clarifying the purpose or purposes of your research can go a long way towards sorting out the research questions (Robson, 2011: 63).

2 “Your initial set of research questions is provisional. With flexible design, this provisionality is maintained throughout the research process” though to a greater extent in the early stages of the study (Robson, 2011: 59). Why is this possible? In qualitative research, we often do not know what we do not know, especially with human subjects. Flexibility opens up the possibility of finding out things we could not anticipate.

3 There have been some attempts to define typologies of research questions but they are not generally accepted as cast in stone. Here is the range, which has the same purpose as the typology you were offered in *Public Health Research*. Their value may be in helping you to find the words to describe your study design.

|  |  |  |
| --- | --- | --- |
| Questions | Study design | Source (see Robson for original source reference) |
| What …Why …How … | Descriptive, describes characteristicsAims to understand or explain somethingIndicates a concern for change | Blaikie (2007: 6-7) |
| What …Who … Where … When … | Descriptive | Knight (2002: 9-10) |
| How good? | Evaluative |
| What happens …How does it happen? | Narrative |
| Why … | Causal |
|  | Effects |
| What …How … | Qualitative | Onwuegbuzie and Leech (2006) |
|  | *Descriptive (QUANTITATIVE)**Relationship**Comparative*  |
| *Does …?**How much …?**To what extent …?**Is there a correlation …?**Is there a relationship …?* | *Variance questions (usually QUANTITATIVE)* | Maxwell (2005) |
| How does this thing happen? | Process questions |

The most important point that Robson (2011: 61) makes is in a quotation of Maxwell (2005: 72-74): the point is made that by developing research questions, you are not to assume that these questions can or will be answered exactly by the data you collect; inference is involved; the data in qualitative research is taken to provide evidence of “unobserved phenomena” (2011: 61); at the same time, measures for rigour (which will be dealt with later in this module) help to avoid drawing “unwarranted conclusions”. And finally, Robson suggests some characteristics for “good” or desirable research questions in Box 3.4 on page 62. He summarises as follows:

*“Good research questions:*

* *Clear and unambiguous*
* *Show the purpose of your project …*
* *Are answerable and point to the type of data needed to provide answers;*
* *Are not trivial; and*
* *Form a coherent interconnected set … (… not a random collection);”*

(Robson, 2011: 62).

Task 3 – How do your research questions measure up to these criteria?

Using the criteria above, review your own research questions and modify them if necessary. There is no immediate feedback for this task.

5 Sketching your conceptual framework

The second design element which feeds into your research design is a conceptual framework. Robson (2011: 72) describes it as your *theory about what is going on in the situation you are studying*. Although in some qualitative approaches (grounded theory and phenomenology) you are encouraged to start without strong preconceptions of, for example, why women are not using health facilities in Luanda to deliver their babies, you will, without doubt, have some theories about this issue; these ideas and concepts gained from your literature search will guide your choices regarding the data you may need, the population you will sample and the sites where you can make contact with participants. For example, if Pettersson *et al* (2004) had thought women were not using health facilities for their confinement because of the negative attitudes of nursing staff, they would have designed the study differently.

**Conceptual Framework**

**RESEARCH DESIGN**

**Purpose**

Instead of collecting data from those who did not use the facilities, they would have needed data from women who had experience of the facilities for delivery, in order to find out about nurses’ attitudes and treatment; perhaps the research team would have sought permission to observe the interactions of the nursing staff with pregnant women. However, Pettersson *et al* (2004) start out with a relatively open data agenda, although one suspects that they were in no doubt that context and culture were playing a significant role in women’s decisions about confinement.

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| **READING**Robson, C. (2011). Ch 3 – Developing Your Ideas. *Real World Research.* Chichester: Wiley: 67 -68. |

Read Robson’s discussion of conceptual frameworks and try out the process he suggests in Box 3.5 on page 68.

Task 4 – Develop your conceptual framework

A conceptual framework is: “Your theory about what is going on, of what is happening, and why. What are the various features involved and how might they be related to each other?”

Using a separate piece of paper from your design framework, map out the following, using sticky notes:

1. Your topic
2. Previous studies undertaken on the topic (from your literature review)
3. Relevant theories
4. Your intuitions about the topic
5. The views of other professionals you have spoken to
6. Link as many elements as seem related, showing not only two-way links
7. Review, add to and simplify the framework, as needed.

Guidelines: Be as comprehensive as possible; look out for inconsistencies or overlaps; exclude items later.

Feedback

Check your diagram against the ones on your USB flash drive and iKamva.

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| ANd9GcREEHPTKP1wnxe_GKOgxNyQLereoEf-qkWmYfAJdPQ1g8-vU7C1 | **USB FLASH DRIVE AND IKAMVA RESOURCE**Examples of Conceptual Frameworks. SOPH-UWC. |

6 What is flexible about flexible design?

You have in your previous module explored the concept of flexible design as being a better term for qualitative research. You have also considered whether you have the skills or the potential to learn to be a flexible investigator. Here we ask you to get to grips with the practical application of the concept. This section of Chapter 4 outlines the some of these considerations. Read this extract with the questions from Task 5 in mind.

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| **READING**Robson, C. (2011). Ch 6 – Flexible Design. *Real World Research.* Chichester: Wiley: 130 - 134.  |

**Task 5 – Anticipating flexibility in your design**

a) In Box 6.1 Characteristics of a ‘good’ flexible design (p132), point 2 states that a flexible study is “framed within … certain assumptions and characteristics … [which] includes: evolving design; presentation of multiple realities; the researcher as an instrument of data collection, and a focus on participants’ views”. Which of these characteristics do you plan to embed in your design? How will it work? What will it achieve? This question is part of your assignment, so give it a try.

b) In what situations might flexibility suit your study?

For example, in the course of setting up interviews for the *Professional Needs From the MPH, 2009* study, it proved much more difficult than anticipated to secure interviews. Where we had hoped to ensure maximum variation of professional role amongst our sample, this proved impossible; graduates had moved on and were inaccessible; travel out of the cities was too complicated in the limited time available; so we settled for those who obliged us, making the sample, a convenience sample. In addition, the study was not designed with key informants participation. When offered the opportunity to interview three very busy people leading the health system (through our graduates), we took the opportunity gladly.

**Feedback**

The real issue here is that the flexible investigator ventures with an open agenda into an area where little knowledge has been established. If you were to travel through unknown territory, you might at some point become aware that you cannot proceed without mosquito protection, that a low ratio vehicle is needed, or that a different strategy is required to reach your destination. This is in the nature of flexible design, and is in strong contrast to fixed design, where design is formalized and refined well in advance, where the investigator is regarded as *detached* from the study instruments (Robson, 2011), where biases are addressed in advance of data collection, where a very different set of strategies is used to ensure that the results are generalizable through statistical selection of the sample, and attention to internal validity of the study. It is worth dipping into Robson’s (2011) Chapter 5 on Fixed Designs (pp81-130) to really understand the nature of flexibility in contrast to fixed design. Remember once again that both are necessary, that they are often complementary and fixed designs often have very powerful real world application. Read the indented paragraph on page 84 quoting Bentz and Shapiro (1998), if you feel yourself becoming polarized against quantitative research!

7 Session summary

In this session, you have started the process of combing through your research study design so far, and elaborated and refined it to make it more coherent. You have also addressed the idea of flexible design and the importance of a logical relationship across your design, starting with a problem statement, proceeding to clarifying purpose, research questions and your own Conceptual Framework for the topic. In the next session, we take the process one step further and try to guide you through the process of using your research questions to determine your population, sample and data collection methods. Keep your work from this session and prepare to write it up.

8 References and further reading

Pettersson, K. O., Christensson, K., De Freitas, E. G. G., Johansson, E. (2004). Adaptation of Health Care Seeking Behavior During Childbirth: Focus Group Discussions with Women Living in the Suburban Areas of Luanda, Angola. *Health Care for Women International*, 25(3): 255 - 280.

Session 2 – From aim and objectives to methods

Unit 2

## Introduction

In this session, you will embark upon your own research journey. In this section, you are invited to review what you have brought from *Public Health Research* so have your assignments handy. Although you may want to adjust focus and emphasis, you are strongly advised NOT to change topic. You have written a literature review on this topic already – that’s a large contribution to the process. You do not want to do that again.

Remember that this is a minithesis not a full thesis: it is weighted at 60% of your total result; so again, it is not the last word on a topic, nor your life’s work. There will be chances to study other topics once you have met the requirements of this one! So it is incumbent on you not to be too ambitious, to choose a manageable scale of research topic, and to assist others to do so.

Contents

1 Learning outcomes of this session

2 Readings

3 Your topic, your discipline

4 Review and refine your aim and objectives

5 What kinds of information will you need and where will you get it?

6 Session summary

7 References and further readings

Timing of this Session

This session has one short reading and two tasks.

1 Learning Outcomes of this Session

|  |
| --- |
| **By the end of this session, you should have:** |
| * Review the Public Health context into which your study fits.
* Review and revise your problem statement, research questions, study aim and objectives.
* Identify the information and the data sources which will be required to address this problem.
 |

2 Readings

You are referred to the reading below in the course of this session.

|  |
| --- |
| **READINGS**Robson, C. (2011). Ch 1 – Introduction. *Real World Research.* Chichester: Wiley: 3-12.  |

3 Your topic, your discipline

By the end of *Public Health Research*, you had established your study topic, problem statement, your aim and objectives. We ask you now to review them in the light of your further understanding of flexible design. The first task is to think about your topic in relation to your field – Public Health. Jot down your topic and make a spider diagram around it which indicates where it fits into the field of Public Health.

For example, it may have significance in relation to prevention strategies, e.g. *Knowledge of handwashing practices amongst supervisors, and children aged 3-6 years, in five crèches in Ondangwa.*

It may be related to a community’s understanding of a health condition, in preparation for a health promotion intervention, e.g. *Understanding the Patterns of Alcohol Use among Adolescents in a Peri-Urban Historically Disadvantaged Community in the Western Cape Province, South Africa.*

It could be an evaluation of a health promotion intervention, e.g. School-based HIV counselling and testing: providing a youth friendly service.

It may relate to health services improvement, e.g. *Teenage girls' access to and utilization of adolescent reproductive health services in the Mpika District, Zambia* or *Perceptions on the factors influencing oral health seeking behaviour of communities in Randfontein, Gauteng, South Africa.*

It may relate to health workforce (human resources) strengthening, e.g.*Experiences influencing the academic performances of 1st year nursing students at the Western Cape College of Nursing, South Africa, during 2008.*

It may relate to environmental health concerns, e.g. *Exploring the knowledge, attitudes and practices of street food vendors in the City of Johannesburg regarding food hygiene and safety.*

It could be concerned with strengthening clinical interventions in the field of HIV, maternal and child health and nutrition, e.g. *Effects of peer counselling on feeding practices of HIV positive and HIV negative women in South Africa.*

Knowing what aspect of Public Health your project relates to is important in delineating the topics you explore in your literature search, in developing your conceptual framework, and in establishing whether your topic could be termed a “Real World” research topic. This is important in the field of Public Health, because unless your professional role is in a research institute, your research will be of most value if it has Real World application to problems in the field of Public Health. The key concepts in Robson’s (2011: 4) discussion of Real World research is that it “focuses on problems which have a ‘people’ dimension”. It has particular value in the hands of a Public Health professional like you, and we hope it will not be a one-off minithesis experience, but an ongoing practice of your professional life. You may want to reread Robson’s discussion of the topic or at least to look at his comparison of the Real World researcher with an academic researcher in Box 1.1 on page 11.

|  |
| --- |
| **READING**Robson, C. (2011). Ch 1 – Introduction. *Real World Research.* Chichester: Wiley: 3-12.  |

Take a look at the related website which offers a number of examples of real world studies. Consider whether your study fits into this genre of research.

4 Review and refine your aim and objectives

Study Session 1, Unit 3 of *Public Health Research* had taken you through the characteristics of a good aim and objectives. To remind you, an Aim is a “general statement on the intent and general direction of the study” (Gray, 2005: 59). Look now for the logical progression between the elements of your design, in other words, a series of **If … then** statements. **If** your problem statement is **A**, **then** it is logical for your research questions to be **B.** In the*Professional Needs From the MPH, 2009* study, our Problem Statement was:

 **PROBLEM STATEMENT AND RESEARCH QUESTIONS**

What are the key competencies which should be developed for effective functioning of Public Health professionals through a Public Health curriculum in sub-Saharan Africa post-2009 and Do different cadres of Public Health personnel in Namibia and Zambia require different competencies?

We do not know whether the MPH is meeting the professional needs of health professionals in sub-Saharan Africa.

This led us to select the following aim:

Is the AIM related to the initial research problem?

Is it clear and precise?

Was it defin-able?

Is it achievable with the time and resources available?

Can you improve on it?

**AIM**

The study aimed to understand the professional needs of Namibia and Zambia-based health professionals studying the Masters in Public Health (MPH) at a distance.

You also already know what makes good objectives. Test your memory or refer to your *Public Health Research* module, and add four of these criteria to the box below. Remember that objectives play the role of a work schedule for your research study; they specify the information you need answered to answer the research question/s and to fulfill your aim. Our objectives for this study were:

**CRITERIA FOR GOOD OBJECTIVES**

*(Once again, evaluate our objectives and rephrase them if you see flaws)*

\*Competency is taken to mean applied knowledge, skills and behaviours required for the professional roles Public Health managers must play

Formulating good aims and objectives is important because:

* They help to focus the study (narrow it down to essentials).
* They avoid collection of data that are not strictly necessary for understanding and solving the problem.
* They determine the planning of the study and how to organise data collection, recording, analysis, interpretation and utilisation.
* They are helpful in evaluating the implementation of the study.

**Task 1 – Review your design so far**

Review your design so far by referring to your *Public Health Research* assignments, and make adjustments and changes if you think it necessary. Use the logical reasoning statements *If … then …* to ensure that there is coherence in the design, e.g. If the Research questions are A, then the Aim should be A1.

Map out your objectives remembering that they are the road map for your study. You may have more than the four we had, or less. Remember that the objectives indicate what is to be achieved, the specific information the study must yield and the detailed research questions that must be answered to fulfil the aim. You do not need to put “Make recommendations …” as an objective: it is assumed you will do this. Check each objective using these criteria:

**A set of good objectives:**

* cover the different aspects or individual components of the problem and its contributing factors in a coherent way and in a logical sequence.
* are clearly phrased in operational terms and are easy to apply in practice.
* are commonly phrased in “measurable” terms. [Remember that in qualitative research we mean “able to be captured; so the verbs you use – describe, explore, examine say a lot about whether and how they are to be captured]
* are clear, specific and unambiguous.

What follows from them, the methods, specify how the objectives are to be achieved.

 **PROBLEM STATEMENT AND RESEARCH QUESTIONS**

Objectives specify what you will do in your study, where and for what purpose.

**AIM**

5 What kinds of information will you need and where will you get it?

Your next step is to use your objectives as the basis for developing your methods. To do this, you need to develop a good sense of what methods are available to you, which you will do in the course of the next study session of Unit 2 on sampling and in Unit 3 which focuses on data collection. But at this stage, you can at least ask yourself the question, what information will I need to fulfil these objectives?

Task 2 – Brainstorm what information you need

Write your objectives into the left column of a table like this one; then brainstorm all the possible places you could gather this information, the sites, people, documents that could provide it. In the third column, evaluate how likely it is that you could obtain information from each of these sources; number the sources in priority order. Select the best sources.

Example using the *Professional Needs from the MPH, 2009* study

|  |  |  |
| --- | --- | --- |
| **Objectives** | **What source of information would meet each objective?** | **Priority 1-3 Ease of access** |
| 1. To describe the professional roles played by registered students and graduates of the MPH | SOPH-UWC MPH students with at least one year’s experience and SOPH-UWC MPH graduates in Namibia and ZambiaLine managers of studentsSOPH-UWC student databases | 1 easiest to reach1 more difficult3 very difficult2 fairly easy |
| 2. To explore what competency\* gaps mid-level health professionals perceive in relation to their professional roles | SOPH-UWC MPH students with at least one year’s experience and SOPH-UWC MPH graduates in Namibia and ZambiaOriginal motivations written by students when they applied to SOPH-UWCMinistry officials or other knowledgeable personsHR departments of health ministriesHealth ministry job descriptions for some of these rolesAcademic papers on the topicObservations of graduates in their workplaces | 1 easiest to reach1 more difficult2 Easy to obtain2 difficult to reach3 difficult to reach5 difficult2 available2 costly to do |
| 3. To identify gaps in the SOPH 2009 MPH curriculum in relation to the professional roles described by participants | SOPH-UWC MPH curriculum frameworkFindings from Objective 2 | 1 Available1 Will be available |
| 4. To compare findings for Namibian and Zambian health professionals | Findings from 1 and 2 | 1 Will be available |

**Feedback**

Because this is not a very complex research study, the sources are fairly straightforward. Having brainstormed them does not mean that you can get access to all of them. Some of them, such as “job descriptions” for health professionals may not be freely available and are also developed for a different purpose; they are therefore less pertinent sources of information. Some of the persons noted under Objective 2, such as Ministry officials may also be difficult to access for a study such as this which is not of national significance. The idea of observing students in their workplaces is an interesting one, and would give the study an ethnographic orientation; but this would be a time-consuming process, and resources might not allow the investigator to spend that long in another country. Have you noticed how Objectives 3 and 4 are clearly contingent on Objectives 1 and 2? Keep a list of your highest priority information sources for the next task, where you will share this and other information about your study with a peer in the class.

6 Session summary

In this session, you have hopefully covered a lot of ground and are ready now to explore the most appropriate methods for your study. Remember that the process of writing this all into a Protocol for submission to the Higher Degrees Committee is not that far away. The more work you do now, the easier the process will be after the end of this module!

7 References and further reading

Gray, D. E. (2004*). Doing Research in the Real World.* London: Sage Publications.

Pettersson, K. O., Christensson, K., De Freitas, E. G. G., Johansson, E. (2004). Adaptation of Health Care Seeking Behavior During Childbirth: Focus Group Discussions with Women Living in the Suburban Areas of Luanda, Angola. *Health Care for Women International*, 25(3): 255 – 280.

Session 3 – Sampling

Unit 2

## Introduction

By now you will have some understanding of the qualitative research approach, and its implications for your study design. You have also reviewed your research question/s, aim and objectives. It is now time to look at how you will get the information you require, starting with the source of your data – the sample that will be appropriate, and how you will access that sample. This session suggests how to go about this.

# Contents

1 Learning outcomes of this session

2 Readings

3 Deciding on your study population

4 Sampling types

5 Sample size

6 Your sampling strategy

7 Session summary

8 References and further readings

**Timing of this Session**

This session has three readings and four tasks, one of which forms part of your assignment. It should take you up to four hours to complete.

1 Learning outcomes of this session

|  |
| --- |
| **By the end of this session, you should be able to:** |
| * Describe a research population and a research sample.
* Contrast the different types of samples used in qualitative and quantitative research.
* Identify an appropriate sample population and sampling approach for your study.
* Describe how to access your sample and the resource people who could assist you.
 |

2 Readings

Sections on sampling can be found in different chapters in the text by Robson (2011). The most useful description which contrasts sampling in fixed and flexible designs can be found on pages 270 – 277. Sampling strategies for qualitative studies starts on page 274. There is also a short section on from 152-154 which discusses the fact that the findings from flexible designs are not generalisable. A useful chapter on sampling by Ritchie, J. Lewis, J. and Elam,G. (2003) is also included in the Readings folder, to give a more detailed overview of the different types of samples, and the situations in which they are used. This is a long chapter, and you do not necessarily need to read it all. Recommended sections will be noted in the text as a guide for your reading.

|  |
| --- |
| Ritchie, J. Lewis, J. and Elam,G. (2003). Chapter 4 – Designing and Selecting Samples in J. Ritchie and J. Lewis (eds). *Qualitative Research Practice: A Guide for Social Science Students and Researchers.* London: Sage Publishers: 77 – 88 and 107 – 108.Robson, C. (2011). Chapter 10 – Surveys and Questionnaires. *Real World Research.* Melbourne: Chichester: Wiley: 270 – 277.UCLA Center for Health Policy Research*. Section 4: Key Informant Interviews.* [Online], Available: <http://healthpolicy.ucla.edu/programs/health-data/trainings/Documents/tw_cba23.pdf> [Downloaded: 22.1.14]. |

3 Deciding on your study population

Once you have a clear idea of what you are going to study – your research purpose, question/s, aim and objectives – you will need to consider how you will acquire the information to address these. This is through identifying who or what will be able to provide this information. Considering where you can get this information is the starting point for developing your sample. The group who can provide this information constitutes the study or target population.

Do you recall that in the last session, you brainstormed what sources of information might meet each of your objectives, using a table like the one below? You also considered how easy it would be to access these data sources. For example, the population for the *Professional Needs From the MPH, 2009* study included all the MPH graduates and students from Namibia and Zambia. Then we thought further about who could give us the most informed data (who had richest experience) and decided it should be restricted to those students with at least one year’s experience, and that graduates should be included, but also that graduates should have left the SOPH no more than five years earlier, to minimize recall bias (information which is biased because the participant simply cannot remember what the course provided).

|  |  |  |
| --- | --- | --- |
| **Objectives** | **What source of information would meet each objective?** | **Priority 1-3 Ease of access** |
| To describe the professional roles played by registered students and graduates of the MPH | SOPH-UWC MPH students with at least one year’s experience and SOPH-UWC MPH graduates in Namibia and ZambiaLine managers of studentsSOPH-UWC student databases | 1 easiest to reach1 more difficult3 very difficult2 fairly easy |

Take out your work from Session 1 Task 2 now, as you will be working on it further.

The population for a study is those who have direct experience of the phenomenon under study, i.e. in the study above, those with experience of the competencies needed from the MPH. Those with direct experience were active second year students in 2009, and graduates from the previous five years. This population is defined by having relevant experience during a particular time period.

Another example: a study is to be conducted on the support services and networks for a group of economically deprived pensioners living in a particular geographic neighbourhood. It can be the whole group of pensioners, or a sub-group, e.g. women, within that population. Here the study population is determined by the specific setting of that neighbourhood and the research focus.

Similarly, in Dr Estelle Lawrence’s study of *School-based HIV Counselling and Test*ing (HCT)(2013), the population was young people in secondary schools located in Cape Town, who receive HCT services. Here the framing criteria for the population are:

Young people at schools

**receiving HCT services**

 **Study Population Criteria**

Having established this, Dr Lawrence needed to decide how and where she would get young people with best experience of HCT services as well as access to this group. Since she is a school doctor in Cape Town (although not in the specific district she conducted the study in) she had insider knowledge, access to authorities in the Department of Education, but she may also have made calls and asked questions to establish who would be the best sample.

Depending on your research question, you may need to refine your population group further by determining additional criteria to define it. Using the example of pensioners, you may want to focus only on women pensioners’ access to services and support because there are more of them, or conversely men, as there are fewer and they are generally less vocal and potentially more isolated. Whatever your decision, making the decision based on your research question, aim and objectives is a key aspect in selecting your population and sample, so it is important to give it due consideration. Task 1 below should assist you in this process.

**Task 1 – Who is your study population?**

Reflect on the research question, aim and objectives of your study.

Which population group do you think will provide the sort of data you hope to acquire? Having made that decision, think carefully about whether you want to narrow this down to some specific sub-members within that population group. Discuss this with your study partner and even if you decide to refine these decisions later, the process of thinking it through will assist in focusing your research.

Feedback

You should aim for a clear resolution on the population group that will best provide you with the data you are seeking. But it is of course unrealistic to use a whole population group, e.g. all secondary school goers who receive HCT services. Your next task, therefore, is to identify a smaller number of people from within the study population, who richly represent the characteristics of the study population, and who will become the respondents for your study. This sub-group constitutes the study sample. The next section will examine different types of sample for different types of research, with an indication of how to choose those that will best serve your study.

1. Sampling types

**4.1 What is a sample?**

A sample can be described as a portion, or part of the study population, composed of members (elements or subjects) from which the information is collected (Moule and Hek, 2011).

Selecting a sample is not confined to a research study. Sampling is something we do in everyday life. We are constantly making judgements about people or things on the basis of selected knowledge, and then broadening these insights, and applying them to inform our opinions (Robson, 2011). The likelihood of these being useful sources of information upon which to form an opinion will depend to a large extent on the criteria we used for making the judgement.

A sample in research is similar: in order for it to be a useful and relevant, a clear assessment of the purpose of the study is essential, as is the nature of the population group to be studied. To develop your sample, you need to develop criteria for selecting those in the population who have direct and rich experience of this phenomenon. They should not be people who speak for others about a phenomenon, e.g. asking pensioner’s children how the pensioners experience services. This is not a problem however, if clinic staff are interviewed as Key Informants about how pensioners use the services. We will discuss Key Informants further on.

Remember that your sample is selected with your research objectives in mind, so interviewing people who can only talk about what others have done, will not be helpful! The aim of sampling in qualitative research adds to our understanding of what it is:

The aim of qualitative sampling

*“… is fundamentally different from that in quantitative research such as surveys, epidemiological studies, or case control studies. The goal of these methods is to ensure that the sample is statistically representative and that the findings can be confidently generalised to the population from which the sample is taken.*

*Sampling in qualitative research is not concerned with ensuring that the findings can be statistically generalised to the whole population. Rather, sampling in qualitative research is purposive* [or purposeful]. *The aim is to describe the process involved in a phenomenon, rather than its distribution. … Qualitative research typically uses nonprobability sampling techniques …* (Liamputtong & Ezzy, 2005: 44-45).

**4.2 Probability and non-probability samples**

Research samples are divided into two categories – probability samples which are used primarily for quantitative or fixed design studies, and nonprobability samples which are used for flexible or qualitative studies. Probability sampling is critical to statistical generalisation, so possibly the most important point to take on is that qualitative research findings cannot be generalised. We do not set out to do so; we cannot do so.

In this module our focus is on nonprobability samples and some common sampling strategies that are used for them. But before we introduce them, we will take a brief look at what is meant by probability sampling, to remind you of the terminology that you may come across as researchers, and so that you can see the difference between the two approaches more starkly.

* 1. **Probability samples**

A **probability sampling** method is any method of sampling that utilizes some form of random selection. In order to make a random selection, you must set up some process or procedure that assures that the different units of analysis in your population have equal probabilities of being chosen. Humans have long practiced various forms of random selection, such as picking a name out of a hat, or trying not to choose the shortest straw from a handful of straw. These days, we tend to use computers as the mechanism for generating random numbers as the basis for random selection.

Probability samples are used when undertaking a study where there is a requirement for a statistically representative result which can be generalized to the whole population; the process for selection is generally based on a “sampling frame” established to determine the size and randomness of the sample. They are described as probability samples because it is possible to assess the likelihood (or probability) of any person in the population being included in the sample. Probability samples tend be large, as the larger they are, the lower the likely error in generalising the results. Also, as the sample is selected randomly, there is less likelihood of sampling error bias. However such samples are not intended to provide in-depth information, and so are not appropriate for qualitative studies. There is a range of approaches used in selecting quantitative research samples, which include simple, systematic and stratified random samples, and cluster sampling. You can read more about these in Robson (2011) pages 271 – 273, simply so you are able to distinguish the two sampling approaches.

|  |
| --- |
| READINGRobson, C. (2011). Chapter 10 – Surveys and Questionnaires. *Real World Research.* Melbourne: Chichester: Wiley: 270 – 277. |

* 1. Non-probability samples

Nonprobability sampling on the other hand does not involve random selection. Does that mean that nonprobability samples are not representative of the population? Not necessarily: they are certainly not statistically representative, but they represent key characteristics of the population. They are selected to gain “information rich cases for in-depth study” (Patton 190:182). This makes them easier smaller and less complicated to establish than probability samples.

Nonprobability samples cannot however depend upon the rationale of probability theory, and therefore cannot be generalized. With a probability sample, we know the odds or probability that we have *represented* the population well. We are able to estimate confidence intervals for the statistics. With nonprobability samples, we may or may not represent the population well, and it will often be hard for us to know how well we have done so. It is the rationale for sampling choices which seeks to address this issue.

|  |
| --- |
| Nonprobability samples |
| * No random selection.
* The sample members represent a high level of genuine experience of phenomenon.
* The sample represents the range of characteristics of the population, not the size.
* Researcher needs to know the relevant characteristics within a population.
* Ideal for small scale, in-depth studies.
* Cannot be generalized.
 |

In general, the scientific research community prefers probabilistic or random sampling methods over nonprobability methods, simply because they have been designed to be statistically accurate and rigorous. However, in Applied Social Research, the aim is “not to generalize about the distribution of experiences or processes” (Liamputtong and Ezzy, 2005: 45), but rather to understand more deeply the experiences of a particular group of people who have significant experience of a phenomenon. Like quantitative research, the sample must be representative of the population. However, unlike quantitative research, this representation is not statistical representation: it is rather about having appropriate experience of the phenomenon being studied.

We can divide nonprobability sampling methods into two broad types:

|  |  |
| --- | --- |
| **Accidental or convenience sampling** | Purposive sampling |
| * Researcher cannot access more specifically chosen candidates.
* Researcher uses this method for convenience.
* Randomly selected.
 | * Deliberately chosen to represent particular features of a population group.
* Takes more effort to establish this sample.
* Not randomly selected.
* Often widely diverse to represent different characteristics of population.
 |

Convenience or accidental sampling is regarded as less desirable by Patton (2002: 241-242) and Liamputtong and Ezzy (2005: 46). An example might be sampling stroke patients from a nearby private hospital because it is easily accessible, rather than in a public hospital. Convenience sampling is described as samples that are selected according to ease of access, which means that they are developed without any specific sampling criteria. This might become necessary when potential respondents do not respond to the invitation to participate in a research study.

This lack of any guiding criteria leaves convenience sampling more open to criticism, with some researchers, arguing for a more systematic and pre-determined approach (Patton 2002, in Ritchie, Lewis and Elam, 2003). It is important, therefore, for researchers using this approach to note these limitations in their research report. A further example of convenience or accidental sampling is Opportunistic sampling which occurs when researchers take advantage of unexpected situations that arise during the course of the research. They take advantage of unforeseen opportunities which arise during the research process, that are seen as advantageous to the study as a whole (Ritchie, Lewis and Elam, 2003).

**Study Participants and Data Collection**

Ten focus group discussions (FGDs) were conducted (Barbour &

Kitzinger, 1999; Krueger, 1994), six in the PDUs and four in the community.

The participants (48 women) were aged from 19 to 73 years and

education ranged from none to ninth grade.

Purposive sampling is the approach mostly used by MPH students, and so it is discussed in some detail. However, given that research is carried out in the real world, there are often problems in gaining access to the “right” people. For example, you may be restricted from gaining access to what are seen as confidential lists, data may be out of date, you may come across “gatekeepers” who are reluctant to give you the information you require, or members of the population may not want to participate. These may be the reason that you resort to convenience sampling. This is discussed again briefly in the section below on gaining access to your sample. Purposive samples are differentiated further.

* 1. Different types of purposive sampling

Purposive samples are selected according to the researcher’s judgement about what is needed to provide a good understanding of the chosen topic. They are chosen for particular features or characteristics that are relevant for the specific study, and they are usually designed to be as diverse as possible within those identified characteristics. To assist in this process the researcher may decide to identify inclusion and exclusion criteria to guide his/her selection.

Common types of purposive studies include:

|  |  |
| --- | --- |
| homogeneous samples | where the sample contains individuals with the same characteristics, such as culture, age range, locality. |
| heterogeneous samples | where there is a deliberate strategy to include characteristics that are different from each other, such as women and men, different localities. |
| maximum variation samples | Where cases are selected “to provide for wide variations in the experience or process being examined, e.g. comparing people who recover extremely quickly with those who take a very long time may provide insights into the process” (Liamputtong & Ezzy, 2005: 46).  |

|  |  |
| --- | --- |
| typical case samples | where the characteristics are very “normal” or “average”. |
| extreme case or deviant samples | where cases are selected because of their unusual characteristics, which makes them particularly enlightening. |
| quota sampling | where the researcher uses her or his knowledge of particular characteristics of the study population to get as representative a sample as possible (Moule and Hek, 2011). It is the approach most similar to that used to select a stratified random sample. |
| Snowball, chain or sequential referral sampling | where one group is asked to refer another (usually a harder to reach group). This is a useful approach for gaining access to population groups that are not easily accessed, such as migrants, homeless people or drug addicts, men who do not use a community centre. The strategy assumes that people associate with others in the same situation as themselves, and so can recommend others to be included in the sample. In other words, this is a self-generating sample. While a valuable source of “difficult to reach” respondents, it has the limitation of perpetuatingparticipants with similar characteristics (Moule and Hek, 2011). |
| theoretical sampling | where researchers use data collection towards generating theories, as is used in Grounded Theory. With this approach the researcher analyses his/her data and uses that to determine the next phases of the data collection.  |

Having taken care in selecting your study population, you will have to decide on the criteria within that population that you want to access. Regardless of the type of sample you select, it is useful to draw on your literature search to assist in the selection of your sample. This will provide insight into the characteristic known to have an impact on the subject being investigated and the range of people within the study population who would be best suited to provide good data. Here is a good example from graduate Milka Mushimba’s MPH *Study into Patient Perception About Reasons for Non-Adherence to Antihypertensive Medication in Windhoek District, Namibia* (2011: 46). She writes:

*“According to Burns and Grove (2001), inclusion criteria are the sampling requirements identified by the researcher that must be present for an individual to be included in the sample. An exclusion criterion is a sampling requirement that eliminates or excludes individuals from being in the sample. The inclusion criteria were:*

* *Patients had to have their latest blood pressure (BP) recording of more than 150/90mmHg in the past six months which had been to taken by senior registered nurses, who also coordinate hypertensive clinics at the KHC.*
* *Only residents of the Windhoek District could participate in the study.*
* *Patients who speak one or more of the following languages could participate namely, Otjiherero, Oshiwambo, Afrikaans and English language, since the researcher is conversant in them.*

 *The exclusion criteria were:*

* *Patients who were on secondary prevention following cardiac events, or stroke.*
* *Patients with cognitive impairments.*
* *Patients with cardiac pacemakers.*

*The reason for excluding these individuals was that their circumstances were more complex and could affect their perception.*

Do you notice how the researcher gives a reason for each decision. It may be helpful to some of you to see the identification of your population and sample as looking for the units of analysis for your study.

*People are typically, but not necessarily, the units of analysis in qualitative research. Other sampling units might include settings or places (meetings, carnivals, drinking) things, artefacts (newspaper headlines, advertisements, garbage)* (Liamputtong & Ezzy, 2005: 45).

4.6 Using key informants in your sample

In selecting your sample, you will be deciding on the quality of information your respondents will be able to give you. You may be looking for lay opinions, for example, from people who are perhaps the recipients of your services. This could be the pensioners or young people in the examples cited above. They may or may not be interviewed as a group.

You may however, also want to have “expert” views from specialists in the field. In the above examples, they could be geriatricians or people running old people’s centres in the first example, or teachers or school nurses in the second. These are known as key informants, and will best be interviewed individually. Depending on what your question is, you may want either of these categories or both. The value of key informants is that they may give insight into something participants do not wish to disclose, notice or care about, which may have significance for your study. They may confirm what other members of your sample say (which we call data triangulation).

*“Key informants are those whose social positions in a research setting give them specialist knowledge about other people, processes or happenings that is more extensive, detailed or privileged than ordinary people, and who are therefore particularly valuable sources of information to a researcher, not least in the early stages of a project”* (Payne & Payne, 2004).

If you choose to include key informants, you should be able to provide a rationale for this choice. This resource which you will find in your Readings folder may be helpful.

|  |
| --- |
| UCLA Center for Health Policy Research*. Section 4: Key Informant Interviews.* [10 pages]. [Online], Available: <http://healthpolicy.ucla.edu/programs/health-data/trainings/Documents/tw_cba23.pdf> [Downloaded: 22.1.14]. |

5 Sample size

As noted above, in a probability sample (in a quantitative study), the aim is to produce a sample that is statistically representative of the population as a whole, in order to generalise results to the whole population; these tend to be large samples. In qualitative research, by contrast, it is the qualities of, rather than the quantity of the sample that is important, and while the sample still seeks to include the characteristics of the study population, their selection is neither random, nor statistically representative. As noted earlier, the purpose of non-probability research is to gain as rich a sample of data as possible. The hope is therefore to collect as many “bites” of rich data from each respondent as possible (Ritchie, Lewis and Elam 2003), and in order to do this justice, the sample needs to be kept reasonably small.

Green and Thorogood (2004) discuss sample size in relation to the aim of the research – what you are expecting the data to do in respect of answering your question. They suggest that the size should be “… *however many will be credible to the users of your research”* (Green and Thorogood, 2004: 102). In this instance, credible means that your readers will feel that these findings can be trusted because they come from this range and number of population members. It will also depend on the type of research and the approach adopted. The sample size would of course vary if you were doing in depth interviews or focus groups, or a combination of both, as noted above.

It will also vary according to the purpose of your study e.g. minithesis, informal research to establish the nature of a problem, a study which you wish to publish. Green and Thorogood cite, as an example, a case study of a life history where a sample of just one respondent could be adequate, while the size of an opportunistic sample may depend on the opportunities that present themselves and the willingness of the respondents to agree.

A methodological approach to sample size is implied in theoretical sampling of Grounded Theory. This process continues until “data saturation” occurs, meaning when no new insights are obtained (Green and Thorogood, 2004; Robson, 2011). In other words, it is a sample developed in order to build a reliable theory. However, as Green and Thorogood (2004) point out, there are a number of practical difficulties in achieving saturation. These include the likelihood of running out of time or funding before saturation is achieved, and the expectation of sponsors or ethical committees to have a clear indication of the sample composition and size before the research begins. From their experience of in-depth interviews, they propose a variation to saturation, which is - continuing until no new data emerges after gathering data from about 15 - 20 respondents in each category.

Sample sizes of this dimension would, of course, not be realistic for your MPH study. Given that the research being undertaken is for a minithesis, the samples will be smaller. This will be a decision that you take in consultation with your supervisor, and dependent on your research question. Be aware, however, if you aspire to publish from your thesis, you may need a bigger sample. It is however really important to be realistic about what is possible within the scope of your minithesis and your time available. Collecting data may not take that long but analysing it will! Costs of transcription, possible costs of travel, and other factors may also affect your sample size.

Depending on the nature of the study and a range of practical considerations, your sample size will vary. Here are a few examples of minitheses by SOPH graduates to illustrate the range.

|  |  |
| --- | --- |
| **Study** | **Population, Sample and Criteria for Selection, Data Collection Technique** |
| Samantha L Smuts: *Understanding the Patterns of Alcohol Use among Adolescents in a Peri-Urban Historically Disadvantaged Community in the Western Cape Province, South Africa* (2009) | Population: Disadvantaged youth community in peri-urban areaSample: Heterogeneous including both relevant ethnic groups, male and female, attending and not attending schoolData collection techniques and sample size:4 Focus groups: 6-8 participants each5 coloured males attending: school 10 coloured females attending school 4 black Xhosa/English speaking attending school 8 black Xhosa/English not-attending school Indepth interview: 1 coloured female attending school after the researcher noticed that she seemed to have valuable information to contribute towards the study)Key informant interviews: (KI) tavern owner, soccer coach, youth pastor (all male), one black, two coloured |
| Constance Ndhlovu Choka: *Teenage girls' access to and utilization of adolescent reproductive health services in the Mpika District, Zambia* (2011) | Population: Teenage in-school girls in Mpika District, ZambiaSample: homogeneous, and typical – 50% pregnant, 50% notData collection techniques and sample size: 10 indepth interviews with teenage girls4 key informant interviews with those rendering ARH servicesOne focus group with ten pregnant teenage girls |
| Mlungisi Patrick Makubalo: *Perceptions on the factors influencing oral health seeking behaviour of communities in Randfontein, Gauteng, South Africa* (2012) | Population: all residents of Randfontein above seventeen years old who had visited the oral health section in the Randfontein Primary Health Care (PHC) Facility.Sample: Heterogeneous. Three separate residential areas: Mohlakeng (mainly black residents\*); Toekomsrus (mainly coloured race residents); Randfontein urban area (predominantly Caucasian area).Data collection techniques and sample size:Two focus groups (FGDs) for each of 3 areas: 5-9 participants each  |
| Miriam F Mitchell*Parental Perceptions of Health and Health Needs in Early Childhood Care and Development Centres in Amathole District,* *Eastern Cape Province, South Africa* (2011)  | Population: The study population consisted of the parents of children enrolled in WESSA associated ECCD centres in Amathole District. Sample: 40 adults with no upper age limit, from two different rural ECCD centres in Amathole District, each with one or more dependent children who had been enrolled in the selected ECCD centre for at least six months prior to the study. All had been primary guardians for at least one year. Child headed households were excluded from the sample.Data collection techniques and sample size: Four heterogeneous focus groups, ranging in number from four, five, nine and eleven respondents (total 29). Two FGDs each included one male participant in the group, while the other two FGDs were composed entirely of women.  |
| Milka I Mushimba*A Study Into Patient Perception About Reasons for Non-Adherence to Antihypertensive Medication in Windhoek District, Namibia* (2011)  | Population: The study population for this study included male and female adults whose ages ranged from 35-69 years and who had been diagnosed with hypertension during the period 1 January 2006 to 31 December 2007. The respondents all attended the Katututra Health Center and had been identified as being non-adherent to antihypertensive medications. Sample: Eight non-adherent hypertensive patients (three males and five females). Data collection techniques and sample size:8 individual in-depth interviews |

\*Those of you who have not lived in South Africa may question the stratification of the sample; however, since the Apartheid policy created such deep divisions between people of different ethnicities, and because these equate to a whole range of economic, cultural and social conditions, it remains of interest to discern how deprivation continues to affect different communities, in order to address Public Health issues. In addition, even after 15 years, communities have remained culturally very separate, which means that they may experience and respond to conditions differently. Furthermore, language differences prevail making it necessary as a researcher to declare the language in which focus groups were held. Some participants would have been speaking their mother tongue; others not.

It is worth noting, though, that unlike samples in probability studies, the sample size could shift from the initial estimate. In the first example above, a young woman who seems especially knowledgeable on the topic is added to the sample. Qualitative research has the flexibility to provide the opportunity to add additional respondents as the research progresses, if it becomes evident that there are gaps in the current data collection, or if the opportunity arises to go into more depth in a particular area. In other words, it is possible to extend the boundaries of the research to gain greater understanding of the phenomenon being studied if the opportunity or need arises.

Task 2 – Determining criteria for your sample

You have already determined your study population in Task 1. Now think about the sampling strategy you will adopt. The result should be a discussion (in paragraphs) which forms part of your assignment. It should cover a description of the information you need, your population, the sample type that suits this study, the criteria with which you will select your sample, the sample size. Include a rationale for every decision. You could also describe your sampling procedure which is explored in the next section. It should be about 600 words long. In preparation, ask yourself the following questions:

1. Based on my research question, aim and objectives, what information do I need? Where or who in this setting or population can give me the richest data about the phenomenon in question?
2. Can I select my sample purposively? Look through the table above to see whether any particular sampling type applies. It will never be a neat fit, but try to assign a name to it. What are the characteristics in this population which should be represented, e.g. men and women?
3. If you decide on a heterogeneous sample, which of the diverse characteristics of the population such as sex, age, culture, ethnicity, economic level should be represented?

To guide you, read Ritchie, Lewis and Elam (2003) and the relevant sections of three minithesis exemplars which you will find in a folder called “Exemplars of SOPH-UWC Minitheses” on your USB flash drive and iKamva. Although these exemplars are not necessarily perfect, you may find them helpful.

|  |
| --- |
| READINGRitchie, J. Lewis, J. and Elam, G. (2003). Chapter 4 - Designing and Selecting Samples in J. Ritchie and J. Lewis (eds). *Qualitative Research Practice: A Guide for Social Science Students and Researchers.* London: Sage Publishers: 77- 88 and 107- 108. |

In each case, you will find the relevant section in Chapter 3 of each minithesis (under Methods); most studies include sections on:

* Study Population
* Sampling Size
* Sampling Procedure

|  |  |
| --- | --- |
| ANd9GcREEHPTKP1wnxe_GKOgxNyQLereoEf-qkWmYfAJdPQ1g8-vU7C1 | **Exemplars of SOPH-UWC Minitheses (See USB flash drive and iKamva)**We have downloaded a selection for you to look at; however, all UWC minitheses and theses are to be found on the UWC Library website. Log on as an Off-campus User and you will be led to a screen with [Electronic Thesis and Dissertations](http://etd.uwc.ac.za/). You can search by SOPH, topic or surname. |

The published paper by Pettersson *et al* (2004: 258) in your Readings folder also described the sample, but obviously, for reasons of space constraints in a journal, is much briefer.

*Ten focus group discussions (FGDs) were conducted (Barbour & Kitzinger, 1999; Krueger, 1994), six in the PDUs and four in the community. The participants (48 women) were aged from 19 to 73 years and education ranged from none to ninth grade. Thirty women were pregnant, 6 of them for the first time. The number of previous pregnancies ranged from 0 to 10. All groups included women who had experienced childbirth only at home, only at institutions, and both at home and at institutions. Participants originating from other provinces in Angola, that is, internally dislocated women and participants with various civil statuses, were represented in all groups.*

Notice also that the sample is larger, in tune with the demands of the scholarly journal for which it was intended, as well as probably the demands of Grounded Theory.

6 Your sampling strategy

You will have now identified your ideal sample. What is left is for you to establish how you will gain access to them. This can be quite challenging, and may involve several telephone calls, consultations, as well as more formal processes like writing to request permission to interview school pupils or health facility staff.

Task 3 – Consider how you will access your sample

How do you anticipate gaining access to your proposed sample? Some questions to ask are:

a. Who will assist you?

* Do these people have a good understanding of what you are intending to do?
* Do they have the knowledge of the population and contacts to identify a good sample?
* Are they respected and trusted among the potential sample?

b. Where is the study population and therefore the sample?

* How accessible are they to you?
* If not geographically close, will you be able to make sufficient visits to the site for your data collection?

c. Are there categories within this group that you think will be difficult to access?

* How will you gain access to them?
1. What will you do if you are not able to recruit a sufficient number of people for your study?

Add this information to the notes you have compiled so far for your study, and submit it as part of your assignment. It does not matter if there are unanswered questions, but you should show that you have thought them through.

Feedback

Being realistic about whom you can access for data collection, and gaining access to your respondents is a crucial part of your research and it is important to give it careful consideration. Unless you are very familiar with the study population, you will need to draw on the support of others to approach and secure interviews with your sample. Support could come from colleagues, people working in the sector such as health workers, from NGO workers in the same field, faith-based organisations and so on. It is essential for them to understand the nature of your research, and what you hope to achieve from the selected sample. Gaining their support and understanding will be key to you gaining access to a good sample, and to solving difficulties should they arise. Be aware that if there are problems at this stage, the very people you are hoping will provide access, could become gatekeepers, and restrict your access to the sample.

It is very important, therefore, to get this right. So prepare yourself to do some preliminary networking and listening. A good point is made by Liamputtong and Ezzy (2005: 55) in introducing in-depth interviews: they say that “In-depth interviewing is a privilege”. This in a way applies to anything you ask of your study participants. You are to some extent intruding into their lives. Some benefit may ultimately come of your research, but do not expect members of your sample to see it this way. They may have had previous experience of researchers; they may have become tired of being the subject of research. At all times, they should be approached with great respect and appreciation, through channels they trust.

Think about who you anticipate approaching to assist you with your sample. How well do you know them? Do you feel confident that they will understand, and support your approach? What steps can you take to ensure this?

Task 4 – Plan to avoid delays in data collection

To assist you in thinking of strategies for accessing your sample, return to the spidergram you developed for yourself in Unit 1 where you considered things that might delay your progress in your minithesis. Focus on the availability of research participants (your sample) which was one potentially delaying factor. Develop your spidergram as below, anticipating some of the possible problems you may encounter, e.g. participants may feel distrust. Think about specific strategies you could use to minimise these issues. Problem issues can be written in the ovals; strategies to avoid delays could be written in the little clouds.

Remember, in the real world, particularly when working with a range of different people and organisations, there will always be unanticipated delays. These may arise from the workload of your proposed sample, the availability of institutional data, bureaucratic procedures, the mobility of communities, among many other reasons. The more you can anticipate these problems the less likely they are to be a problem.

Return to your notes and if relevant, add any additional points you think will be helpful to ensure that this key process will proceed smoothly.

7 Session summary

In this session, you have engaged with a number of aspects of sampling and hopefully made some progress in thinking through the possibilities, pitfalls and potential of your own sample. This is an important step in your design, as long as you remember that there is nothing random about sampling decisions. With every decision you make, ask: *Why? Why eight interviews? Why men and not women? Why interviews and focus groups? Are key informants really necessary? Will eight indepth interviews with a homogeneous sample provide sufficient data for me to answer my research question?* And each time you ask *why*, jot down your answer so that writing your rationale is backed up well.

In the next session of this Unit on designing your study, we focus on ways in which qualitative researchers achieve quality in their research – strategies to ensure rigour in a study.

8 References and recommended reading

Green, J. and Thorogood, N. (2004) *Qualitative Methods for Health Research,* London, Sage Publications Limited.

Liamputtong, P. R. and Ezzy, D. (2005). Ch 2: Rigour, Ethics and Sampling. *Qualitative Research Methods*. Sydney: Oxford Universuty Press: 32- 52.

Liamputtong, P. R. and Ezzy, D. (2005). Ch 3: In-depth Interviews. *Qualitative Research Methods*. Sydney: Oxford University Press: 54- 74.

Moule, P. and Hek, G. (2011) *Making Sense of Research: An Introduction for Health and Social Care Practitioners,* 4th edition. London, Sage Publications Limited.

Mushimba, M. I. (2011). *A Study into Patient Perception About Reasons for Non-Adherence to Antihypertensive Medication in Windhoek District, Namibia.* Unpublished MPH Minithesis, SOPH, University of the Western Cape, Cape Town.

Patton, M.Q. (2002) *Qualitative Research and Evaluation Methods,* 3rd edition, Newbury Park, CA, Sage.

Payne, G. & Payne, J. (2004). [*Key Concepts in Social Research. Sage Research Methods.*](http://srmo.sagepub.com/view/key-concepts-in-social-research/SAGE.xml) [Online], Available: <http://srmo.sagepub.com/view/key-concepts-in-social-research/n28.xml> [Downloaded: 14.1.14].

Pettersson, K. O., Christensson, K., De Freitas, E. G. G., Johansson, E. (2004). Adaptation of Health Care Seeking Behavior During Childbirth: Focus Group Discussions with Women Living in the Suburban Areas of Luanda, Angola. *Health Care for Women International*, 25(3): 255 - 280.

Ritchie, J. Lewis, J. and Elam, G. (2003). Chapter 4 - Designing and Selecting Samples. In J. Ritchie and J. Lewis (Eds). *Qualitative Research Practice: A Guide for Social Science Students and Researchers.* London: Sage Publishers: 77-88 & 107-108.

Session 4 - Quality in qualitative research

Unit 2

## Introduction

In a Masters study of the experience of Chronic Fatigue Syndrome (CFS), the researcher relates that she was surprised by the reaction of one of the contributing participants, who asked how the researcher had understood the condition so accurately (Personal communication, Pat Mayers, 2012). This in effect is an example of where trustworthiness has been achieved: the participants actually recognised their own experience in the study. In a qualitative study, this is one important aspect of quality. The findings should be credible, they should ring true. This is one aspect of quality in qualitative research, which is the topic of this session.

Karp (1996: 202) is quoted in Liamputtong and Ezzy (2005: 32) as saying:

*“The ultimate test of a study’s worth is that the findings ring true to people and let them see things in new ways. In this case, I hope that those personally familiar with depression recognize themselves in the words of my respondents and feel that my analysis illuminates their life situations. Aside from the scientific worth of what I have done, such a response is important to me because I believe that knowledge and understanding are the fundamental preconditions for positive change”.*

From *Public Health Research*, you are no doubt aware that in the field of fixed design, researchers must ensure that every effort is made to curb so-called threats to validity in order to achieve quality scientific research (Trochim, 2013). In flexible designs, the same expectation exists, that every effort will be made to ensure trustworthiness of the design at an early stage of design. However, as we have emphasised across this Unit, the foundations of the two approaches differ fundamentally in epistemological position, so how we therefore judge quality will differ accordingly. In this session, we describe the rather different strategies we use to achieve quality (often referred to as “rigour”) in qualitative research.

# Contents

1 Learning outcomes of this session

2 Readings

3 What do we mean by rigour in research?

4 Criteria and strategies for rigour in qualitative research Session summary

5 Writing a plan for rigour

6 Transferability of your study

7 Session summary

8 References and further readings

Timing of this Session

This session has four readings and six tasks, one of which forms part of your assignment. It should take you up to four hours to complete.

1 Learning outcomes of this session

|  |
| --- |
| **By the end of this session, you should be able to:** |
| * Accurately explain concepts for rigour and debate whether there is equivalence with quantitative concepts of validity and reliability.
* Present a logically argued plan for ensuring rigour of the study.
 |

2 Readings

|  |
| --- |
| Creswell, J. W. & Miller, D. L. (2000). Determining Validity in Qualitative Inquiry. *Theory into Practice*, 39(3): 122 – 130.Malterud, K. (2001). Qualitative Research: Standards, Challenges, and Guidelines. *The Lancet*, 358: 483 - 488.Robson, C. (2011). Chapter 6 – Flexible Research. *Real World Research.* Melbourne: Chichester: Wiley: 152 – 160. |

3 What do we mean by rigour in research?

When we talk of rigour in qualitative research, we mean a standard for judging qualitative research, a means of validating your study. It is a quality we seek to achieve in both quantitative and qualitative research and it answers the question: *How credible or believable is this study?* In qualitative research, rigour is the equivalent of qualities such as *validity* in quantitative research.

In Mahmoud F. Fathalla’s *A Practical Guide for Health Researchers* (2004: 79), scientific rigour is discussed:

*“The English word ‘rigour’ literally means ‘strictness’. In scientific research, the*

*term rigour is used to imply that:*

* *the study protocol is being adhered to;*
* *the research is conducted in accordance with established ethical standards;*
* *meticulous and detailed records of all observations are maintained;*
* *methods of measurement are used in an objective way to provide valid and reliable*
* *results;*
* *data are analysed and interpreted using appropriate statistical methods to assess the validity of the results and their generalizability;*
* *the researchers continue to be well versed with the literature on the subject during*

 *the study;*

* *results are presented in such a way that other investigators can re-analyse the data*

 *using the same processes and methods and reach the same conclusions, and* other

*investigators can replicate the study to confirm or refute the findings”.*

|  |  |
| --- | --- |
| ANd9GcREEHPTKP1wnxe_GKOgxNyQLereoEf-qkWmYfAJdPQ1g8-vU7C1 | **USB FLASH DRIVE AND IKAMVA RESOURCE**Fathalla, M. F. (2004). *A Practical Guide for Health Researchers.* Cairo: WHO Regional Publications Eastern Mediterranean. |

Some of these guidelines apply to both quantitative and qualitative research, but those underlined are specific to quantitative research.

The highest expectation of qualitative research is that it is credible or provides as accurate (as possible) a reflection of what participants actually expressed, experienced or perceived. Sandelowski (1986) asserts the equivalence of qualitative and quantitative criteria, while Pope and Mays (2000) note that

*“****Quality*** *in qualitative research can be* ***assessed*** *with the same broad concepts of* ***validity*** *and* ***reliability*** *used for quantitative research, but that these need to be operationalised differently to take into account the distinctive goals of qualitative research”.*

However, others argue that the two approaches are so different in perspective and stance that different concepts must be developed to ensure rigour (Guba and Lincoln, 1985 cited by Robson, 2011: 155). Robson explains this debate (2011: 155-156), suggesting that it is at the point when we assert that our qualitative research is “scientific” that the argument becomes heated, because flexible design studies cannot always meet the validity standard of replicability. Robson (2011: 155) quotes Bloor (1997: 37*)* on this:

*“Social life contains elements which are generalizable across settings … and other elements that are particular to given settings (thus forever limiting the predictive power of the social sciences)”.*

At times, when discussing rigour, it sounds as if researchers become defensive; Sandelowski (1986) and Pope and Mays (2000) seem unwilling to challenge the hegemony of quantitative research, and would rather argue rather apologetically that the qualitative approach is really very much the same as quantitative approach. This seems surprising since qualitative research is doing something quite different. In which case, why should the means of ensuring quality be the same?

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| --- |
| **READING**Malterud, K. (2001). Qualitative Research: Standards, Challenges, and Guidelines. *The Lancet*, 358: 483 - 488. |

In this reading, page 483 column 2 – Malterud argues that to achieve credibility, we need to undertake various strategies:

* we need to question our findings and interpretations;
* we need to assess whether they are internally valid, i.e. derived from our aim;
* we need to consider whether they are externally valid or transferable, as they are not universal;
* we need to think if context or our own bias affected our findings;
* we need to display and discuss how we analysed and processed data.

In other words, she is advocating a critical interrogation at every point of the process. Robson (2011) also moves away from the apologetic stance, and argues that the best strategy is not to deny the fixed design criteria (validity and reliability) but to find alternate ways of applying them.

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| --- |
| READINGRobson, C. (2011). Chapter 6 – Flexible Research. *Real World Research.* Melbourne: Chichester: Wiley: 152 – 160. |

This debate is one which you should be familiar with; it is the main basis upon which flexible studies are criticized for lack of scientific status.

4 Criteria and strategies for rigour in qualitative research

Having made you aware of the debates, we will adopt Robson’s (2011) and indeed most qualitative research theorists position by focusing on the credibility (rather than the validity) of the research. So we now move forward to identify criteria for good qualitative research.

**Table 1: How research is judged**

|  |  |
| --- | --- |
| **QuaNTItative Research is judged by its:** | **QuaLITative Research is judged by its:** |
| reliability validitygeneralisability | credibility (involving internal validity)trustworthiness/dependability/transparencyconfirmability/ auditabilitytransferability/applicability |

 (Creswell & Miller, 2000).

The criteria in the right column are the qualities that we seek to achieve in qualitative research, and one needs to be very clear about what each means. They are slippery terms, and cannot be used interchangeably according to how you “hear” and understand them. You will probably find that different authors select different criteria for rigour to strive for in qualitative research; when you discuss rigour for your protocol (which you locate under the Methods section), cite the literature source for each use of one of these terms, and use the authority of that author to justify your usage.



Some authors avoid the use of these abstract terms, focusing rather on the strategies that can be used to achieve rigour, such as triangulation; to clarify the difference, these are two different “orders” of concept: as in baking a cake, there are qualities we seek to achieve like taste, lightness and texture, and there are strategies to achieve lightness, such as beating the mixture thoroughly, and adding the correct amount of baking soda it the mixture.

In the table below, the words on the left side are the qualities you want to achieve, e.g. trustworthiness. You could also call this a criterion for rigour. The words in the middle column are the strategies or processes you will undertake to achieve these qualities.

**Table 2: Qualities and strategies for rigour**

|  |  |  |
| --- | --- | --- |
| **Qualitative Research** **is judged by its QUALITIES** (write synonyms for these below) | **This is achieved by using the following STRATEGIES:** | **Define each of the strategies here using the reading below:** |
| Credibility  | Internal validityQuality at all stages |  |
| Trustworthiness/dependabilitytransparency | Member checkingTriangulationReflexivityPeer debriefing Collaboration |  |
| Confirmability/auditability | Audit trail |  |
| Transferability/applicability | Thick description |  |

If you use the word "trustworthiness, in your plan, for example, whose definition have you adopted? Always cite that reference.

In summary, these are the qualities of rigour that are advocated by the different authors:

|  |  |  |
| --- | --- | --- |
| Creswell & Miller (2000) | Guba and Lincoln (1985) | Malterud (2001) |
| They use the term validity for rigour;They aim for credibility  | Truth value (credibility)Applicability (fittingness)Consistency (auditability)Neutrality – is it possible? Simply by designing the study, by being the instrument of research, can neutrality be achieved? We turn to reflexivity to counter our own biases, to lay them bare, but can we actually avoid them? Neutrality (confirmability) | Validity and relevance |

Task 1 – Define strategies for qualitative rigour

a. Using the literature you have been referred to so far including Robson (2011: 156-159), and the following article by Malterud (2001) and Cresswell and Miller (2000), define each of the qualities and strategies for rigour in column 3 of the Table 2 above. In addition, there are a number of Internet resources you may want to use: Payne and Payne (2004) only provides the first few paragraphs of each definition, but it is still helpful.

|  |
| --- |
| **READING**Malterud, K. (2001). Qualitative Research: Standards, Challenges, and Guidelines. *The Lancet*, 358: 483 - 488.Creswell, J. W. & Miller, D. L. (2000). Determining Validity in Qualitative Inquiry. *Theory into Practice*, 39(3): 122 – 130. |
|  | **INTERNET RESOURCE**Payne, G. & Payne, J. (2004). [*Key Concepts in Social Research. Sage Research Methods.*](http://srmo.sagepub.com/view/key-concepts-in-social-research/SAGE.xml) [Online], Available: <http://srmo.sagepub.com/view/key-concepts-in-social-research/n28.xml> [Downloaded: 14.1.14].Trochim, W. M. K. Introduction to Design. *Research Methods Knowledge Base.* [Online], Available: <http://www.socialresearchmethods.net/kb/qualval.php> [Downloaded: 21.1.14]. |

What Cresswell and Miller (2000) add to the discussion is a basis (rationale) for using different strategies. They suggest that this is influenced firstly by the paradigm or worldview you subscribe to, as well as the reading audience to whom your study is directed. In relation to the suggestion that the strategy should differ according to who is reviewing the research, they suggest that for the researcher, there is one set of strategies which entail a particular lens or perspective on the research; they propose a lens for the participants, and one for those who are “external to the study”, e.g. reviewers, examiners, lecturers. For each lens, they argue that there are particular strategies to fulfill this purpose. If more than one of these groups will “receive” the research, (which is almost always the case), one would use more than one strategy.

Below is Table 3 which is the two dimensional matrix extracted from Cresswell and Miller (2000: 126): it shows their argument as to how one selects strategies.  Bear in mind that the divisions between paradigms are porous – in other words, even though you are holding a primarily Constructivist/Interpretivist paradigm, you may wish to use strategies from the other paradigms. Those that you are least likely to use are prolonged engagement, collaboration and peer debriefing; but I would be worried if you did not engage reflexively, and keep an audit trail showing changes in the process of sampling, data collection and analysis. What the continuum from left to right seems to illustrate is that some strategies are more in keeping with Positivism, and others are suitable for engaging with participants as equals using a Critical Paradigm. Cresswell and Miller (2000) attempt to ensure that you select strategies for a reason, and do not resort to a *mixed vegetable soup* of strategies for rigour.

Table 3

**Task 2 – Justify your selected strategies**

Once you feel you understand these concepts and what they involve, write a short note to yourself in the table below for those strategies you plan to use, explaining why you would use this one. Cresswell and Miller (2000) is your source for this, as well as the objectives of your study, as well as the general rationale for why, for example, we triangulate.

**Table 4: Rationale for Strategy**

|  |  |
| --- | --- |
| **Strategies for rigour** | **Why to choose this strategy** |
| Internal coherenceQuality at all stages |  |
| Member checkingTriangulationReflexivityPeer debriefing Collaboration |  |
| Audit trail |  |
| Rich description\* |  |

*\*Note that “The term thick description was introduced into qualitative research by the anthropologist Clifford Geertz, who borrowed it from the philosopher Gilbert Ryle. It has often been misinterpreted to mean rich, thickly detailed description, but neither Geertz nor Ryle used it in this way. Ryle developed this concept as part of an attempt to banish from philosophy the idea of “mind” as a separate entity from behavior. He argued that mental terms refer not to unobservable “ghostly” processes located in a “secret grotto” in the skull, but to aspects of people's public behavior—not their bodily movements per se, but their dispositions …”* (Maxwell & Mittapalli, 2008 In Given, 2008).

4.1 Quality through coherent study design

In addition to these much debated strategies for quality in qualitative research, quality can also be developed through ensuring that there is systematic coherence across the whole design process. Look back at Session 1 of this Unit, section 3. In it we wrote:

*One of the golden rules of qualitative research is that there should be a logical linkage, an internal consistency or alignment between all the elements of the design beginning with the problem statement or research question. This could be termed design coherence, and although it may seem self-evident, it can get forgotten when you are faces with a menu of intriguing sounding approaches and are confused as to which to choose and why. At that point, the best strategy is to return to your problem statement and your study aim, and follow on logically.*

In that section there is a diagram illustrating this process of developing internal coherence. It illustrates how each element of the design is derived from the previous decisions: the research question is derived from a social problem in its context. The research question generates your aim and objectives; objectives are used to map where the information which will answer your research question is to be found; this understanding in turn begets the site, population and sample criteria. The sample and objectives suggest possible modes of data collection, from which data is derived. And all of this happens within a social and an epistemological context with you, the researcher as the bridge and the generator of this design. In summary, you need to ensure that there is a golden thread linking all the elements of the design, and any reader of your study should be able to grasp the logical flow of the elements. This in itself constitutes a legitimate step towards achieving scientific validity.

|  |  |
| --- | --- |
| ANd9GcREEHPTKP1wnxe_GKOgxNyQLereoEf-qkWmYfAJdPQ1g8-vU7C1 | **USB FLASH DRIVE AND IKAMVA RESOURCE**You may wish to use the same diagram which we have put on the USB flash drive and iKamva and called “Coherent Study Design Diagram”, or something like it in your design process. |

5 Writing a plan for rigour

In order to write your plan to achieve rigour in your study, you need to first say WHAT qualities you seek to achieve, and then to say HOW you will achieve that quality (the strategy). In each case, you should cite whose definition of the quality you are using, and you should provide a rationale for why you have chosen this strategy.

It is also important to consider a couple of other issues with regard to your plan.

Task 3 – When, why and where?

In your planning, consider the following questions:

a. When do we plan procedures for rigour? And why then?

b. When do we engage in strategies for rigour?

c. Where do we write about it in the protocol and thesis?

Feedback

Your plan for rigour should be developed from the outset of your study design, and actioned through ensuring quality throughout the process of research. Below we outline further actions to ensure quality during sampling, data collection and interpretation.

**Table 5 – Ensure quality at every stage of research**

|  |  |
| --- | --- |
| Implement quality measures during … | **Strategies for rigour** |
| sampling | * Use of criteria for recruitment and selection
* Clear rationale for these criteria
* Use of key informants
* Develop familiarity with research context
* Rich description of setting and participants
* Thick description

- Audit trail at any time during implementation |
| **data collection** | * Train data collector to become an astute listener and observer.
* Member checking
* Accept
* supervision
* Debriefing with supervisor or co-researchers after data collection events
* Reflexivity to increase self-awareness, e.g. by keeping research diary/fieldwork journal
* Triangulation
* Declaration of theoretical position
* Document researcher’s background
* Read literature before/during study

- Audit trail at any time during implementation |
| **interpretation** | * - Declare limitations of study
* - Regard it as “an interpretation” not “the interpretation”
* - Declare own assumptions through reflexivity
* - Never speculate – recommend further research

- Audit trail at any time during implementation |

Your plan for rigour will be part of your research protocol and contained under the method section and contained in the Method Chapter in the Thesis itself. Points from your audit trail and arising from reflexivity might be included in your Introduction (Chapter 1) or at the outset of your Findings (Chapter 4).

Task 4 – Write your plan for rigour

1. Develop three to five paragraphs describing your own strategy for rigour.
2. Explain the aspect of rigour you are trying to achieve, e.g. credibility. Cite the source of the concepts you use.
3. Describe the strategies you will use and how and when you will use them.

## Note that there is no need to teach the reader about quality or rigour in your study; rather just explain how you will achieve it and provide a rationale. Be careful also not to treat this as a technical (formulaic) process; really think through how you are going to achieve quality and try to explain it lucidly, in a carefully structured set of paragraphs. This task will form part of your assignment, and will also be a useful piece that you can use in your protocol and Methods chapter.

Feedback

Here is a short exemplar from a successful Minithesis protocol: it is brief and only includes strategies to be used, without providing a broader frame of the qualities they seek to achieve. In this example, I would have expected some explanation of what is meant by rigour, and of the quality - credibility - which the researcher aims to achieve by using these strategies. Through achieving credibility, the researcher could have said that this suggests that the study is acceptable as good science, and that we can take its findings seriously. This is important stuff, so treat it as such. In addition, as you read any further qualitative studies, critique them with this in mind.

So although it got through Higher Degrees Committee, it is not very explicit. What do you think?

 

This is HOW it will be achieved but there is no rationale. It is kept very short possibly because space is so tight in the protocol (12 pages)

This is HOW it will be achieved

Here the author tells us why it is being used

The next example is perhaps a little too long. Join me in

critiquing it using these questions:

Task 5 – Critique a plan for rigour

1. Does it state the reasons for ensuring rigour?
2. Does it give us an overview of the strategies?
3. Is each strategy linked to a citation?
4. Is the nature, purpose and rationale for each strategy explained?
5. Is the process of achieving that strategy explained?

Some comments have been inserted in capital letters.

**Extract from a *Protocol for Factors Influencing the Academic Performance of 1st Year Nursing Students at the XX College of Nursing, South Africa, during 2008*** Maria Elizabeth Mc Lachlan

# *3.9 MEASURES FOR RIGOUR*

*The importance of rigour in qualitative research cannot be overemphasized*<WHY?]. *Therefore the researcher attempted to ensure the rigour and plausibility of the study by integrating the steps that follow into the research process. Data source triangulation was achieved by collecting data from both students and lecturers. In addition, methods triangulation was undertaken by using FGDs as well as in-depth interviews (Koch & Harrington, 1998; Patton, 1990; Mays & Pope, 2000 and Streubert Speziale & Carpenter, 2003). The afore-mentioned contributed to a broader, more holistic perspective of the phenomena being researched.*

*Transferability was facilitated by developing a thick*<RICH RATHER THAN THICK] *description of the context in which this study was undertaken to ensure that those who read the study are able to establish whether it is applicable to their context or not. This study is relevant for the South African context and was applied to a college environment.*

***3.9.1 Credibility***

*The credibility of a study depends on the level of detail of description of the setting, the reasons for the study, identification of the problem, the kind of data collected and how it was collected (Gifford,1998).* NO RATIONALE FOR CREDIBILITY IS GIVEN, BUT PERHAPS ITS TOO OBVIOUS? *The credibility of this study was ensured by giving a thick* <INCORRECT USAGE] *description of the setting and of the problem and how it was identified.* [THIS SHOWS HOW IT WAS ACHIEVED AND IN MANY WAYS IT IS A DESCRIPTION OF AUDITABILITY>*Data collection is described with regard to the time period over which it was collected, how it was collected, how coding was done and how themes were eventually identified.*

*Credibility was also ensured by immediate transferral of data collected to a CD. A second CD was made and kept locked in a safe to ensure confidentiality. The interpreter was a 4th Year student at the College who was busy with her psychiatric module. He/she is a keen and committed student. It was thought that he/she would have insight into the students’ world and well placed to understand what was needed from the student participants. Cognisance was taken of the fact that they knew him/her and would not feel strange or inhibited in her/his presence. He/she also wanted to learn about research. He/she was well prepared by the researcher with regard to confidentiality and note taking and was presented as neutral and unbiased in the FGDs.*

*Translation of isiXhosa was done by both the interpreter and the verbatim transcriber and by developing verbatim transcriptions of interviews and Focus Group Discussions. By means of this process the researcher attempted to develop an accurate reflection of the participants’ perceptions, ideas and experiences. Furthermore, the researcher ensured that participants’ “lived experiences” were accurately exemplified through using direct quotations in the findings. This is referred to as “…vividness and faithfulness to the description of the phenomena” (Koch and Harrington, 1998: 885). Leading questions were avoided as far as possible and non-verbal behaviour of participants were observed and recorded in notes. Some verbatim transcriptions were returned to the participants to check whether they considered the transcription an accurate record of what they said. To ensure that coding was done logically the supervisor also coded data, and exemplars coded by the researcher were verified by the supervisor to ensure that data was not distorted and that the study is credible.*

***3.9.2 Reflexivity***

*The researcher is a psychiatric nurse with experience in interviewing, but acknowledges the fact that some answers could have been explored in more detail as time was a constraint. Furthermore, being a psychiatric nurse, and presently teaching social sciences, the researcher could comprehend the social and cultural issues of the participants and had empathy for the participants, especially in the FGDs. Sensitivity towards cultural and social issues amongst the participants was ensured by including an isiXhosa speaking interpreter during the Focus Group Discussions with IsiXhosa students (Whittemore, Chase and Mandle, 2001).*

*The researcher attempted to be reflexive of her own role at all times within the study process, by self-critique, appraising her influence on the process, and by keeping a journal (Gifford, 1998; Koch & Harrington, 1998 and Morse, 2002). Being a lecturer employed at the xxx for the last ten years, the researcher had to be constantly aware of her own subjectivities and biases, and not to impose any of this during data collection.* WOULD YOU SAY THAT A RATIONALE IS PROVIDED FOR THIS STRATEGY?

***3.9.3 Dependability***

*Dependability “…seeks the means for taking into account both factors of instability and factors of phenomenal or design-induced change” (Lincoln & Guba, 1985: 299). The researcher ensured dependability by documenting the changes in the research process, for example, the change of cohort of 2007 students to 2008. There were no other changes with regards to the setting, research problem, research design, and data collection methods during the research process (Gifford, 1998).*

## **Feedback**

You need to learn to be critical of the strategies for rigour engaged by other researchers as you read their studies, and of course, of your own.

The final issue that we should discuss when it comes to quality is the concept of transferability.

6 Transferability of your study

# We have established that generalisability is not expected of qualitative research; however, there is a form of application of findings in qualitative research which is termed transferability.

*“Transferability refers to the degree to which the results of qualitative research can be applied or transferred to other contexts or settings. From a qualitative perspective transferability is primarily the responsibility of the one doing the research. The qualitative researcher can enhance transferability by doing a thorough job of describing the research context and the assumptions that were central to the research. The person who wishes to "transfer" the results to a different context is then responsible for making the judgment of how sensible the transfer is”* (Trochim, not dated)*.*

# Take a look at the paper by Kirsti Malterud which you read earlier, and focus on pages 484-486.

|  |
| --- |
| READINGMalterud, K. (2001). Qualitative Research: Standards, Challenges, and Guidelines. *The Lancet*, 358: 483 - 488. |

Here she discusses transferability as the equivalent of external validity in quantitative research. She recognises that presentation of “background material, demographics and setting descriptions” (2001: 485-486) is the means whereby transferability can be assessed. This makes it incumbent on the researcher to provide a rich description of the setting and population in the Introduction, in relation to the sample in the Methods section, and possibly at the start of the Findings. The aim is to provide the reader with sufficient information to be able to assess whether this setting is similar enough to one you are considering, and whether there is therefore a likelihood that the same findings may be applicable or transferable.

7 Session summary

In the course of this session, we explored several understandings of rigour in flexible design, as the means to achieving quality in qualitative research. We explored the debate as to whether the criteria applied to fixed designs should be used to assess flexible studies. We noted that qualitative researchers need to be conscious of quality issues at every stage of their research starting with design, and continuing across the study in the form of reflexive practices. We also noted that quality begins with a coherent and systematic design for your study, and argued the need to make transferability possible, by providing a rich description of setting, population and demographics.

We have set you the task of starting to write your plan for rigour which forms part of your assignment, but which you should be able to use in your draft protocol. In the process of writing it, we emphasised that you need to attach yourself to a position on rigour, to use the explanation and argument of a particular author who subscribes to this position, and then to become sufficiently familiar with it to be able to argue your stance. All of this is so you can outline your plan for rigour in your own study. And the whole discussion should be thoroughly cited, strongly motivated and coherently structured. Good luck with it!

7 References and further reading

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