**UNIT 2**

**Approaches, Designs and Methods in Public Health Research**

**Unit 1** introduced you what is Public Health and the scope and characteristics that research in Public Health may focus on. **Unit 2** introduces you to approaches, designs and methods in Public Health research. It will provide you with knowledge in theoretical and methodological approaches used in Public Health research. We will also discuss some issues that cut across different theoretical and methodological approaches such as mixed-method approaches. Unit 2, Session 1 focuses on Approaches in Public Health. Session 2 focuses on Research Designs and Session 3 on Research Methods in Public Health. In Session 3, there is a particular focus on qualitative methods. This is aimed at you gaining knowledge and insights to know the difference between quantitative and qualitative methods, so that you are able to later choose the methods you will use in an informed way. It summarises the main points about quantitative methods that will have received greater input on in the course you did in the first semester in the *Measuring Health and Disease* Module. By the end of the year you will have chosen whether you are to do more advanced modules in quantitative or qualitative research. This will be based on your having decided after your Public Health Research Module what approach, design and methods are best suited to the topic on which you wish to write your mini-dissertation. At the end of this Unit you should be acquainted at a basic level, theoretically and practically, with these various aspects of Public Health research methodology. We are using methodology here to encompass the broad term that includes approaches, designs and methods. We will later use the term methods when we speak of specific practical techniques used.

We use the standard format for our all our study sessions that we believe provide a comfortable learning environment for you. The Tasks in the Study Sessions are there to be worked through; this is important since skipping over them deprives you of the chance to internalize new ideas and to apply those ideas to new contexts. At the outset of each session, we present the intended outcomes of the session. Read them through and then refer to them as you complete the session to assess whether you have actually gained new knowledge, ideas or understandings of techniques.

There are three study sessions in this unit: Session 1: Approaches in Public Health research

Session 2: Introductions to designs in Public Health research Session 3: Research Methods in Public Health

# Unit 2 – Session 1 Approaches in Public Health Research

Introduction

Unit 2, Session 1 will introduce you to the theoretical and methodological approaches used in Public Health research. You should later become familiar with the type of Public Health research designs and methods aligned with these frameworks. These theoretical frameworks underpin quantitative and qualitative research methodologies. A research *approach* means the philosophical assumptions underpinning the research (Creswell, 2014). By the end of this session, you should be able to familiar with each approach and know the difference between them so that you bear them in mind later when you choose a research design and methods. Your first **assignment is due in this Unit, at the end of Session 3.**

Session Contents

1. Learning outcomes of this session
2. Readings
3. Distinguishing theoretical frameworks for Public Health Research and acknowledging how they underpin different research methods
4. Session summary
5. References and further readings

#### 1 Learning outcomes

By the end of this session, you should be better able to meet the intended learning outcomes in the first column; they are part of the overall Module Outcome/s in the second column:

|  |  |
| --- | --- |
| **Session Outcomes** | **Module Outcomes** |
| * Describe the kinds of approaches that apply to Public Health Research. * Locate Public Health Research in a broader theoretical framework and methodologies. * Discuss the use of Action Research in   Public Health Research. | * Discuss a range of key research approaches in Public Health |

#### 2 Readings

In the *Measuring Health and Disease* module you will have dealt extensively with the characteristics of a quantitative research methodology, so we are not including readings on a quantitative research methodology in the readings for this session.

Apart from the core reading for this module (Robson, 2011), there are seven readings for this session, some of which are very short and provide you with a brief overview. These are aimed at providing you with an introduction to the field of qualitative research methodology as well as the qualitative-quantitative methodological debate. You will be referred to them in the course of the session. There are five tasks to help you learn along the way. These are all under core readings under Course Resources on iKamva.

**Readings**

1. **Baum, F. (1995). Researching Public Health: Behind the Qualitative-Quantitative Methodological Debate. *Social Science and Medicine*, 40: 459 - 468.**
2. **Cresswell, J.M. (2014). Research Design. Qualitative, quantitative and mixed methods approaches. SAGE. Los Angeles (*sample chapter*).**
3. **Krumeich, A., Weijts, W., Reddy, P. & Meijer-Weitz, A. (2001). The Benefits of Anthropological Approaches for Health Promotion Research and Practice. *Health Education Research*, 16(2): 121-30.**
4. **Cassidy, C. M. (1994). Walk a Mile in My Shoes: Culturally Sensitive Food-Habit Research. *American Journal of Clinical Nutrition,* 59, Supplement: 190S - 197S.**
5. **Meyer, J. (2000). Using Qualitative Methods in Health Related Action Research. *British Medical Journal,* 320: 178-181. [Online], Available through UWC electronic library :** [**http://www.bmj.com/cgi/content/full/320/7228/178**](http://www.bmj.com/cgi/content/full/320/7228/178) **[***also on iKamva]*
6. **Potter, C. (2006). Ch 18 - Programme Evaluation. In M. Terre Blanche & K. Durrheim (eds). *Research in Practice: Applied Methods for the Social Sciences*: 409 - 428.Cape Town: UCT Press.**
7. **Grbich, C. (1999). Ch 8 - Action Based Methods in Qualitative Research for Health.**

***Qualitative Research in Health: An Introduction.* Sydney: Unwin & Allen: 203 - 206.**

#### Distinguishing theoretical frameworks for Public Health research: *Positivist*

**and *Interpretivist* approaches**

As you will recall one of the most important characteristics of Public Health is that it is an applied discipline aimed at promoting health and preventing health problems, primarily at a population level. It follows therefore that research into Public Health problems should be applied as well. In other words, it is concerned with the actions required to change the ways in which public and individual health is promoted.

Because Public Health research draws on a range of disciplinary knowledge it uses a number of different research frameworks and approaches. In advanced Public Health study and research, underpinning theories and frameworks are also important.

#### TASK 1 – Distinguishing theoretical frameworks for research

**Read the articles by Meyer (2000) and Potter (2006) referred to in the reading box below on different approaches to research, including those that underpin quantitative and qualitative methodologies.**

**Imagine that you have been asked to evaluate the quality of care for elderly people provided by a large old people’s home.**

**Briefly describe how your approach might differ if you were to use a:**

* **Positivist approach**
* **Interpretivist approach**
* **Participatory Approach.**

**Readings**

**Meyer, J. (2000). Using Qualitative Methods in Health Related Action Research.**

***British Medical Journal,* 320:178 - 181.**

**Potter, C. (2006). Ch 18 - *Programme Evaluation*. In M. Terre Blanche & K. Durrheim (eds). Research in Practice: Applied Methods for the Social Sciences, Cape Town: UCT Press: 409 - 428*.***

#### FEEDBACK

**Positivist and Interpretivist or constructivist research approaches**

You will already be familiar with quantitative research methods from your *Measuring Health and Disease* course. A quantitative research methodology tends to be underpinned by a *Positivist* research approach. This emphasises the collection of “value-free evidence” and “hard facts” as the basis of scientific inquiry (Robson, 2011:20). It assumes that objective knowledge or facts can be observed and independently measured (Gilson, 2012:33). With a *Positivist* approach in Task 1 you would probably decide upon some indicators of good quality of care (i.e. number of accidents, hospital admissions, etc.); then you would find the records or registers to collect the data. You might also decide to conduct a survey to measure client satisfaction with services at the home etc. This is most commonly used approach that you covered in the *Measuring Health and Diseases II* Module in your first semester.

The *Positivist* approach and view that quantitative methodologies underpinned by this collect ‘value free’, /hard facts’ is however, contentious. While quantitative research

methods are presented as if in a *positivist* framework, we know that there is really no such thing as ‘value-free evidence’, ‘hard facts’ and objective knowledge. In using quantitative research methods we still decide what type of questions to ask, what we want to measure and this is influenced as much by our own perspective as in using qualitative research methods. So in reality quantitative research should also take account of an *Interpretivist* research approach, discussed below. That is, the researcher’s values also influence how we construct the research and the meanings we derive from it. The differences lie more in what research question the research is trying to answer and therefore the details of the methods used in data collection and analysis. We will deal with research questions in more detail in Unit 3, Session 4 and methods of data collection in this Unit in session 3.

Qualitative research methods use an *Interpretivist* research approach, also sometimes called a *constructivist* research approach (Robson, 2011: 27). This approach focuses on “peoples” intentions, beliefs, values, reasons and how they make meaning ” of reality. This research approach is based on the assumption that “reality is socially constructed” (Robson, 2011: 27). It openly acknowledges that researchers’ values make a difference to how we make meaning of research findings (Gilson, 2012: 34). With an *Interpretivist* approach in Task 1, you might start by listing some of the key people involved (i.e. nursing staff, clients of the home, managers of the home), and then conduct in depth interviews with them, a data collection method that we will explain in detail later, to establish their perceptions of the quality of care being provided. This might be linked to observations that you make in the home. You would then go away and analyse the results and feedback to the staff and management of the home.

We will discuss this in more detail before you do task 2.

#### Participatory approaches

A *Participatory* approach can be part of either a quantitative or qualitative research methodology. It involves a research process in which the people whose life-world and actions are being studied are involved in the planning and carrying out of research (Bergold *et al*., 2012). They can also be involved in the analysis and interpretation. With a *Participatory* Approach in Task 1, the emphasis would be on involving the various key people in the research process, through getting them to identify ways of assessing quality of care and identifying shortcomings. They would then participate in the assessment process, in analysing the data, and be involved in planning and implementing changes. In using a *Participatory* approach in your evaluation, you could use either a *Positivist* or an *Interpretative* approach, depending on what you have been asked to evaluate. For example, a funding agency might have asked you to perform an evaluation in which they are mostly concerned with whether they are getting value for money in funding a programme. In this case, a *quantitative* research approach would be most appropriate. If the evaluation is aimed at investigating the opinions of the programme’s users on how well the programme meets their needs, then a *qualitative* research approach may be most appropriate.

It is important to remember that using any of the above approaches are valuable and legitimate in Public Health research. Which approach you use or whether you decide to use a mix of approaches depends on the research problem you are investigating. In conducting your own research later, you will need to decide on which approach or approaches and research methods best suit the research question you wish to address.

#### Public Health quantitative and qualitative research methodological

**approaches in brief**

In the follow sub-sections 1-4, we provide a brief overview of some key characteristics of a few Public Health Research methodological approaches so that we can relate these to the theoretical approaches that underpin them discussed above. We will go into more detail in the practical methods in session 3.

#### A *Positivist* research approach and quantitative research

As you will remember from the *Measuring Health and Disease II* Module, quantitative research aims to **measure** the extent of a health problem and therefore to answer the ‘*how many’* type of research questions (Pope & Mays, 1995). This is in the *Positivist* tradition.

Key here is measuring or looking at the breadth of a problem (used in quantitative research) as opposed to investigating a phenomenon in depth, which does not involve measuring a problem, but rather finding out more about what issues underlie the occurrence of the problem or issue.

* 1. **An *interpretivist* research approach and qualitative research**

In the *Interpretivist* tradition, a qualitative in contrast to a quantitative research approach, seeks to answer the *what, how* and *why* questions. It is interested in the experiences of people, and their actions, in the context of the lives they lead. It therefore aims to find concepts that can help us better understand people’s perceptions, experiences or behaviours and their social meanings. It aims to give a deeper understanding of the socio-cultural context of individuals and communities. Rather than collecting numerical data, qualitative studies involve collecting information in the form of words. Since people are unique, they may express similar issues in different ways and using different words.

As we mentioned, quantitative research is seen as aligned with a *positivist* approach and qualitative research with an *interpretivist* approach, but this is more complex as we mentioned.

Both qualitative and quantitative research methods can make both a contribution to fundamental knowledge and theory as well as fall into the typology of research types

known as Applied Research. Applied research is the kind of research that Robson (2011) calls “Real World research” (on page 11 in Box 1.1 – titled Relative emphases of real world and academic researchers). It summaries the research role of applied, real world researchers as opposed to theoretical researchers. This “real world” emphasis signifies applicability of research that solves unsolved problems. Consider whether this applies to your research topic.

Mack *et al.* (2005) describe qualitative research characteristics that could apply to research in general:

*Qualitative research, like quantitative research, is a type of scientific enquiry. In general terms, scientific research consists of an investigation that:*

This manual by Mack et al (2005) is published

by Family Health International (FHI) is available on the Internet and under optional additional readings on ion iKamva

* + - *can be theory or hypothesis generating*
* *seeks answers to a question*
* *systematically uses a predefined set of procedures to answer the question*
* *collects evidence*
* *produces findings that were not determined in advance*
* *produces findings that are applicable beyond the immediate boundaries of the study in the form of generalisability (quantitative research) or transferability (qualitatative) [this latter will be covered in detail in the Qualitative Research Methods Module].*

#### Contrasting the two approaches

Sometimes understanding the origins of a word helps us to understand its meaning afresh. Here is an interesting discussion on these meaning:

*The term “qualitative ” has its roots in “qualia”, the plural of the Latin term “quale” which means: “the subjective qualities of conscious experience […] Examples are the way sugar tastes, the way vermilion looks, the way coffee smells […] the way it feels to stub your toe”* (Nagel, 1995). *By “qualitative” (quale) is meant here the content of human experience of the following kind: a) a colour, sweetness, taste, smell and sound,*

*(b) the content of purely subjective experiences such as pleasure, sensation, pain, and (c) existential experiences such as angst, guilt, responsibility, freedom,*

*meaningfulness, meaninglessness, despair, hope, joy, happiness, love, etc. These are phenomena to be studied qualitatively. The term “quantitative” has its root in “quanta” which refers to something that has mass, weight, volume that can be described in terms of numbers, and can be localized in space and time. For*

*example, houses, trees, cars, tables, chairs, computers fulfil these conditions”*

(Hallberg, 2002: 42)*.*

Robson (2011:17) contrasts the qualitative and quantitative approaches noting:

*“The quantitative route tried to follow essentially the same research path as researchers of the so-called ‘natural’ sciences such as physics, chemistry or*

*biology. Advocates of qualitative approaches considered that, because the focus of social research is on human beings in social situations, you need a very different approach to the research task.”*

Robson, argues furthermore:

*“Human consciousness and language, the interactions between people in social situations, the fact that both researcher and researched are human, - and a host of other aspects …”* (Robson, 2011: 17) required a different approach.

Thus the data cannot be pre-specified in the same way as quantitative research but we must have a clear idea of the main questions that we want to ask each participant.

Mack *et al*. (2005:1) state: *“..qualitative research seeks to understand a given research problem or topic from the perspectives of the local population it involves. Qualitative research is especially effective in obtaining culturally specific information about the values, opinions, behaviors, and social contexts of particular populations”.*

Read the following two articles that are on iKamva

**Readings**

**Cooper D, Harries J, Myer L, Orner Bracken H and Zweigenthal V. (2007). "Life is still going on": Reproductive intentions among HIV-positive women and men in South Africa. *Social Science and Medicine.* 65 (2): 274-283.**

**Cooper D, Moodley J, Zweigenthal G, Bekker LG, Shah I, Myer L. (2009). Fertility Intentions and Reproductive Health Care Needs of People Living with HIV in Cape Town, South Africa: Implications for Integrating Reproductive Health and HIV Care Services. *AIDS and Behaviour.* DOI 10.1007/s10461-009-9550-1.**

#### TASK 2 – Why choose a qualitative or quantitative research approach for a study?

Having read the two articles, answer these questions:

1. What is the broader topic of both studies?
2. Which article presents qualitative research? Which presents quantitative

research?

1. Why was qualitative research appropriate in the study 1 (Cooper et al, 2007)?
2. Why was a quantitative approach appropriate in study 2 (Cooper et al, 2009)?
3. Is the rationale for using a qualitative approach convincing?
4. Is the rationale for using a quantitative approach convincing?

#### FEEDBACK

* 1. The broader topic that both articles focus on is the fertility desires and intentions of people living with HIV in South Africa.
  2. Cooper et al (2007) (study 1) presents qualitative research and Cooper et al (2009) (study 2) presents quantitative research
  3. A qualitative approach for the first study was appropriate because it wanted to find out more in depth what choices people living with HIV make with respect

to having children and what influences these choices.

* 1. A quantitative approach was appropriate for the second study as it wanted to measure or count the number of people living with HIV who intended either to have or not have children and what factors made the most difference or impact

on their choices.

#### A mixed methods research approach

A *mixed method* research approach involves the use of both quantitative and qualitative methodological approaches that are underpinned by different theories about research enquiry. This means measuring the extent or breadth of a health problem through *quantitative* research and also gaining insights into the way people experience a problem, using *qualitative* research methods. This approach is increasingly being used in Public Health Research, in situations where this approach helps us to address research questions better. In the following reading by Baum (1995), she discusses the debate on use of a *mixed methods* approach. It is useful to understand these issues, particularly when you argue for your choice of methodology in your research protocol/protocol – even though you will need to decide whether you will use quantitative or qualitative methods, depending on which research module you choose next year.

**READING**

**Baum, F. (1995). Researching Public Health: Behind the Qualitative-Quantitative Methodological Debate. *Social Science and Medicine*, 40: 459 - 468.**

#### Studies that Demonstrate the Benefits of a Mixed Methods Approach

It is important to appreciate the ways in which mixed methods have been used in health research. This will provide us with some practical understanding of the kinds of research tools that can be used.

The following article by Krumeich et al. (2001) concerns the use of anthropological understandings derived from research and their usefulness to health care research. This section focuses specifically on one particular method in a qualitative research approach.

**Reading**

**Krumeich, A., Weijts, W., Reddy, P. & Meijer-Weitz, A. (2001). The Benefits of Anthropological Approaches for Health Promotion Research and Practice**. ***Health Education Research*, 16(2): 121-130.**

**TASK 3 – The application of an anthropological approach to health problems**

1. **Read the article by Krumeich et al*.* (2001).**
2. **Briefly summarise the ways in which the anthropological studies of HIV in South Africa and breastfeeding in the Dominican Republic could have informed the respective interventions.**

#### FEEDBACK

The HIV and breastfeeding studies reported by Krumeich *et al.* (2001) demonstrate that interventions have little chance of success when social and cultural issues are not considered; and while it is tempting to dismiss these case studies as important only in the context of exotic, or other cultures than one’s own, it is important to remember that everyone has culture and within our own cultures there will be sub-cultures with a world view that does not necessarily accord with our own, the ‘mainstream’ or that other sub-groups - for example, young people, people from a different social class. We are now in a position to further explore this issue in terms of the implications for research theory, and it is to this that we now turn.

Up to now we have considered the mixing of methods from a purely pragmatic position. We need, however, to situate this issue in a more theoretical framework. Let us start by looking at an article by Cassidy (1994) on cross-cultural research.

**READING**

**Cassidy, C. M. (1994). Walk a Mile in My Shoes: Culturally Sensitive Food-Habit Research.**

***American Journal of Clinical Nutrition,* 59, Supplement: 190S - 197S [on iKamva].**

**TASK 4 – Consider the researcher’s relationship with the participants**

1. **Read the article by Cassidy (1994).**
2. **Cassidy uses the terms “warm” and “cool” to describe the proximity of the researcher to the research participant. In the table below, list those methods that could be termed *warm* or *cool*.**

|  |  |
| --- | --- |
| ***Warm* methods of collecting data** | ***Cool* methods of collecting data** |
|  |  |

Cassidy discusses some useful characteristics of *warm* and *cool* methods. In the spaces below summarise the advantages of each.

The advantages of *cool* methods are:

The advantages of *warm* methods are:

#### FEEDBACK

Cassidy’s *warm* and *cool* classifications can help us to understand some important theoretical issues in research. It is usually believed that *real* data is only available when it is collected objectively; that is when there is no observer or participant bias. In experimental research, which forms part of quantitative research, the randomised, double blind control trial is often considered as the gold standard in collecting data. Being blind to both participants and to researchers, this method is presumed to

produce data which is *uncontaminated* by *undesirable* influences. The effects of a drug, for example, can be assessed in this way without fear of so called subjective influences, which might skew the results one way or another (known as the placebo effect).

However, in order to have this degree of control, the question is often asked: *To what extent is the problem studied outside of the context in which it exists?* This question is crucial because, however strong a piece of research is, it is of limited use if it cannot be operationalised in order to address the problem that it seeks to solve. So for example, laboratory research, which examines the different variations of a pathogen, its ability to infect, for example, is extremely important and necessary. If, however, most research is undertaken in the real world conditions which give rise to the transmission of the pathogen and therefore we will be unable to put the results from the laboratory to good effect.

#### Action Research in Public Health Research

Action research may be used in either quantitative or qualitative research approaches. The next reading by Grbich (1998) demonstrates that Action Research is a distinct type of research methodology that is based primarily on a *Participatory* research approach and reflects many of the characteristics of the new Public Health. It is:

* + Participative, in that it engages health professionals and users of health services throughout the research processes;
  + Democratic, in that it uses techniques of consensus to decide the ways in which

research should be directed;

* + Action focused, because the research question is framed explicitly by the needs of the individuals or communities concerned.

**READING**

**Grbich, C. (1999). Ch 8 - Action Based Methods in Qualitative Research for Health. *Qualitative Research in Health: An Introduction.* Sydney: Unwin & Allen: 203 - 206.**

**TASK 5 – Consider the drawbacks of Action Research**

**Read Grbich (1999) that discusses Action Research. You have noted the value of Action Research above, so while you read, try to identify some of drawbacks of Action Research.**

#### FEEDBACK

Action Research requires commitment and time from participants, which might not be forthcoming. A great deal of capacity development for participants is required, at least initially. This type of approach needs skilled facilitation to guide the participants, but also to handle conflicts that may arise from a critical look at practices.

1. Session summary

In this session we introduced you important Public Health research approaches and an overview of the research methods aligned with these approaches. We also covered the importance of health and illness being understood within their social and cultural milieu as a key to a better understanding of the nature of the problems that face us. It is vital therefore that we have a research approach that allows us to examine issues in context. In the next session we will look at study designs for you to consider practically in thinking towards you own research.

### References

* Bergold, J., & Thomas, S. (2012). Participatory Research Methods: A Methodological Approach in Motion. *Forum Qualitative Social Research*, 13,1.
* Cresswell, J.M. (2014). Research Design. Qualitative, quantitative and mixed methods approaches. SAGE. Los Angeles
* Gilson L, ed. (2012). *Health Policy and Systems Research: A Methodology Reader - The Abridged Version*. Alliance for Health Policy and Systems Research, World Health Organization [this have been uploaded on Ikamva in course resources in the sub-folder, optional additional readings].
* Pope, C. & Mays, N. (1995). Qualitative Research: Reaching the Parts Other Methods Cannot Reach: An Introduction to Qualitative Methods in Health and Health Services Research. *British Medical Journal,* 311: 42 - 45. [Online], Available through UWC electronic library access : <http://www.bmj.com/cgi/content/full/311/6996/42>

# Unit 2 - Session 2 Introduction to Study Designs

Introduction

One of the issues that immediately confront researchers in any field is the choice of design for their study. It is very common for researchers to come to this issue with pre-formed ideas reflecting their bias for a particular way of doing research. That is to say, there is already an idea in people's minds about what may be the *best* data. In an earlier unit we referred to this as *brand loyalty*. It is very important, however, to remember that the best data is that which can most helpfully answer your research question.

You have already encountered in some ways study designs in quantitative research in the *Measuring Health and Disease* Module. In this session we will briefly review the different study designs including research design. At the end of this Unit, you will be better able to understand the variety of study designs at your disposal. . We will in a later Unit (Unit 3, session 2) discuss research problems.

Session Contents

1. Learning outcomes of this session
2. Readings
3. Examining study designs
4. Strengths and weaknesses of study designs
5. Fixed and flexible study designs

5 Session summary

Timing

There are four tasks in this session based on readings in this unit; this is important for you to be able to practice analysing study designs. It should take you about three hours.

## 1 Learning outcomes

By the end of this session, you should be better able to meet the intended learning outcomes in the first column; they are part of or relate to the overall Module Outcome in the second column:

|  |  |  |
| --- | --- | --- |
| **Session Outcomes** | **Module Outcomes** |  |
| * Understand what a study design is * Describe the variety of study designs commonly used in public health research. * Discuss the strengths and weakness of particular designs. * Discuss the choice of study design appropriate to specific research approach. * Justify the selection of particular research designs in relation to the level of knowledge | * Grasp the concept of study design * Apply different research designs |
| **2 Readings** | | |

**Beaglehole, R., Bonita, R. & Kjellstrom, T. (1997 – 2006 pgs 39-60?). Ch 3 - Types of Study. In *Basic Epidemiology*. Geneva: WHO Publications: 1 - 26.**

**Robson, C. (2011). Ch 3 – Developing Your Ideas. In *Real World Research:* 58 – 63 (top of page). West Sussex: John Wiley and Sons.**

**Robson, C. (2011). Ch 5 –Fixed Designs. In *Real World Research*: 81–84. West Sussex: John Wiley and Sons.**

**Robson, C. (2011). Ch 6 –Flexible Designs. In *Real World Research*: 130-132. West Sussex: John Wiley and Sons.**

## Examine study designs

A design is an overall plan for connecting the broad concepts of research to empirical research. It captures what research data is required and therefore the type of methods you will use to collect them.

This session focuses on study designs commonly used in health services research.

Although a bewildering array of study designs is available in health research, study designs can usually be separated into the following categories:

* Exploratory
* Descriptive
* Analytical or Explanatory
* Experimental

**Readings**

**Beaglehole, R., Bonita, R. & Kjellstrom, T. (1997). Ch 3 - Types of Study. In *Basic Epidemiology*: 1 – 26). Geneva: WHO Publications.**

The reading by Beaglehole *et al.* (1997) provides an overview of each type of study within these categories.

#### TASK 1 – Formulating study designs

1. **Read the chapter by Beaglehole *et al* (1997).**
2. **Note again that in public health research we are interested in a broad approach to research and would be most interested in ways of collecting a variety of data. With this in mind we will practice formulating study designs within the categories provided in the Beaglehole *et al.* and Robson readings.**
3. **Using the example of post-natal depression, for each of the categories - explorative, descriptive, analytical, experimental - describe in the spaces a study design for research in post-natal depression. The first one is done for you.**

*a*. *An example of a descriptive study design in post-natal depression employing a variety of data methods might be:*

A study that is interested in the prevalence and characteristics of post-natal depression. This is undertaken through a survey conducted on general practitioners, obstetricians and other health professionals on the number of cases of post-natal depression seen over the past 12 month. In additional, in-depth interviews are conducted with women diagnosed of having post-natal depression to gain an insight into the nature of the problems, especially as it is experienced.

*An example of an explorative study design in post-natal depression might be:*

*An example of an analytical/explanatory study design in post-natal depression employing a variety of data methods might be:*

*An example of an experimental study design in post-natal depression employing a variety of data (through a quantitative methodology) might be:*

#### FEEDBACK

*An example of a descriptive study employing a variety of data might be:*

A study that is interested in the prevalence and characteristics of post-natal depression in your district. A survey is conducted on general practitioners, obstetricians and other health professionals on the number of cases of post-natal depression seen over the past 12 month. As well, in-depth interviews are conducted with women diagnosed of having post-natal depression to gain an insight into the nature of the problems, especially as it is experienced.

*An example of an explorative study might be:*

A study that that is interested in how post-natal depression is experienced by women in the district. A qualitative study is conducted among women who delivered over the past 12 months. In-depth interviews are conducted with women to explore their lived experiences.

*An example of an analytical study might be:*

A study that is interested in understanding the relationship between social support and post- natal depression. A survey is conducted on the range of support services available to women during pregnancy and after delivery. This is accompanied by focus group studies with members of a post-natal support group and health service delivery practitioners about social factors, and their experiences with the kinds of support services available.

*An example of an experimental study might be:*

A study that tests the effectiveness of home visits during pregnancy and after delivery in addressing post-natal depression and other health issues. Volunteers for the study are women

the first 3 months of pregnancy who are randomly allocated to an intervention group which receives standard care during pregnancy, e.g. child birth classes, antenatal care plus on-going

home visits by mid-wives. A control group receives the standard pregnancy and antenatal care. Survey data is collected from both groups on quality of social support, psychological

well-being and socio-economic characteristics before and after the birth of the child. In-depth interviews are conducted with selected individuals from intervention and control groups,

which focus on quality of social support.

As you can see there are differences in research study design, which are appropriate to different uses and types of research methods. As the next section indicates, however, each study design has strengths and weakness.

## Strengths and weaknesses of study designs

It is very important to appreciate that the choice of study design must take a number of factors into account.

TASK 2 – Critique study designs

Re-read the article the reading by Beaglehole *et al.* (1997), and critique the study designs above on post-natal depression, especially in terms of strengths and weaknesses. Use the chart below to indicate what you think are the strengths and weaknesses in each of the study designs for antenatal depression. Think about how you would correct some the weaknesses.

|  |  |  |
| --- | --- | --- |
| **Study design for antenatal depression** | **Strengths** | **Weaknesses** |
| Descriptive study |  |  |
| Explorative study |  |  |
| Analytical study |  |  |
| Experimental study |  |  |

#### FEEDBACK

See the feedback on the following page.

|  |  |  |
| --- | --- | --- |
| ***Study design for antenatal depression*** | **Strengths** | **Weaknesses** |
| ***Descriptive study*** | In a survey, will establish the size and distribution of the problem and should be relatively easy to do within a short space of time and will be relatively inexpensive. In in-depth interviews will describe participant views and experiences | Difficult to identify causal risk factors which could assist in designing an intervention. The in depth interview may not go in depth into what factors underpin these views and experiences |
| ***Exploratory study*** | Will provide an in-depth information about the relational dynamics and context within this specific setting that led to women developing post-natal depression. It will provide ideas for intervention and treatment that are context- sensitive. | Difficult to determine whether the factors identified have a widespread impact or not in the qualitative research mentioned. |
| ***Analytical study*** | Allows the identification of associated risk factors for depression during pregnancy | Will not evaluate the effectiveness of any interventions which have been formulated |
| ***Experimental study*** | Will allow us to evaluate any interventions | Can be expensive and difficult to organise. |

What we want to demonstrate is that there are a variety of study designs, which help to assist in painting a fuller picture of the problem under examination. However, consistent with our earlier discussion on level of research question, we would also want to make sure that our study design is in the first place pitched at the appropriate level. It is to this that we now turn.

## Categorising study designs according to the knowledge level

Having examined the range of study designs in Public Health Research we are now in a position to start carefully choosing designs for specific research purposes. The next few activities will provide you with the knowledge and skills to select appropriate study designs to your research needs.

We look at the state of knowledge of an issue and what type of study design may be appropriate.

The table below, taken from Varkevisser *et al.* (1997), reflects categories. (1) gaining knowledge about the characteristics of an issue, problem or challenge, (2) establishing a set of appropriate study designs. The table outlines the types of study design best suited to each category of knowledge.

|  |  |
| --- | --- |
| **State of knowledge of the issue/problem** | **Type of study design** |
| Knowing that an issue/problem/challenge exists, but knowing little about its characteristics or possible causes  (Level 1 knowledge) | Exploratory or descriptive studies, such as:  **Descriptive case studies**  Exploratory or Descriptive Qualitative studies  Descriptive Cross sectional surveys |
| Suspecting that certain factors contribute to the problem/issue (Level 2 knowledge) | Analytical quantitative or qualitative (comparative studies) such as:   * Analytical Cross-sectional studies * Case control studies * Cohort studies * Theoretically driven studies – there may be a hypothesis |
| Having established that certain factors are associated with the problem/issue, desiring to establish the extent to which a particular factor causes or contributes to the problem (level 2 knowledge) | Cohort studies  Experimental or quasi-experimental study designs |
| Having sufficient knowledge about the cause to develop and assess an intervention that would prevent, control or solve the problem/issue/challenge  (Level 3 knowledge) | Experimental or quasi-experimental study designs  Evaluation studies |
| Having sufficient knowledge about the cause to develop and assess an intervention that would prevent, control or solve the problem | Experimental or quasi-experimental study designs |

|  |  |
| --- | --- |
| (Level 3 knowledge) | Evaluation studies |
| Having sufficient knowledge about the cause to develop and assess an intervention that would prevent, control or solve the problem  (Level 3 knowledge) | Experimental or quasi-experimental study designs  Evaluation studies |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **State of knowledge of the problem** | **Type of study design** |  |
|  | **1)**  **(Level of knowledge)** |  |
|  | **2)**  **(Level of knowledge)** |  |
|  | **3)**  **(Level of knowledge)** |  |
|  | | | |

#### FEEDBACK

Your chart should look something like the one below:

|  |  |
| --- | --- |
| **State of knowledge of the problem** | **Type of study design** |
| 1) Having sufficient knowledge about the cause to develop and assess an  intervention that would prevent, control or solve the problem (level 3  knowledge) | Experimental or  quasi-experimental study design  \*\* see below |

|  |  |
| --- | --- |
| 2) Suspecting that certain factors contribute to the problem (level 2  knowledge) | Analytical study such as a Case control study design  - Theoretically driven study  This may include a  study, which compared the family and social experiences of women who had  teenage pregnancies with a group who  did not. |
| 3) Knowing that a problem exists, but knowing little about its characteristics  or possible causes (Level 1 knowledge) | Descriptive study design such as a cross sectional  study.  One design may be to examine the birth records of  local delivery centres  examining the number and nature of delivery to women  16 years and under. Another may do a  set of in depth interviews at one point in time. |

**\*\* For example**, an appropriate design may be an in-depth, on-going observational study on classroom activities, which examined the ways in which sex education and related topics were handled in and were received by students two school. One school has introduced a problem-based sex education curriculum, another continues to use the traditional version, and we can attempt to measure the uptake of each by students. Accompanied to this might be an analysis of curriculum material (policy documents, subject materials etc.), related to sex education.

It may be that your descriptions differ from those given above. That does not matter. The most important thing is that you begin to understand the ways in which we can increase or decrease the breadth of the research enterprise. All of the above examples are useful areas to research. We should however remember that public health research in particular is interested to ensure that research goes beyond the purely descriptive level in order to put this kind of knowledge into action/intervention to change.

## Overview of fixed and flexible design strategies

**TASK 3 – Distinguish between fixed and flexible study designs**

1. **Read the selected sections of the two chapters (Ch 5 & 6) by Robson (2011) referred to in the readings on page 15 above.**
2. **Robson distinguishes between *fixed, flexible* study designs. He equates the *fixed design* with a quantitative study, and the *flexible design* with a qualitative study. Why do you think is he making this deduction? Do you agree with him?**

#### FEEDBACK

To recap on your reading and on what was explained earlier, quantitative studies involve collecting numerical information on variables that have been pre-specified. We then have a list of information elements (variables) that we want to count or describe numerically. To make sure that we can compare subjects, the variables must be counted or described in exactly the same way – otherwise the comparison is not valid. In contrast, qualitative studies involve collecting information in the form of words. The data cannot be completely pre-specified, although we do have an idea of the main questions that we want to ask each participant. Quantitative and qualitative studies are therefore very different in terms of the flexibility in their study designs. Mack *et al.* (2005: 3) describe this in the following ways:

*“Generally, quantitative methodologies are fairly inflexible. With quantitative methods such as surveys and questionnaires, for example, researchers ask all participants identical questions in the same order. The response categories from which participants may choose are “closed-ended” or fixed. The advantage of this inflexibility is that it allows for meaningful comparison of responses across participants and study sites. However, it requires a thorough understanding of the important questions to ask, the best way to ask them, and the range of possible responses”.*

*“Qualitative methodologies are typically more flexible – that is, they allow greater spontaneity and adaptation of the interaction between the researcher and the study participant. For example, qualitative methods ask mostly “open-ended” questions that are not necessarily worded in exactly the same way with each participant. With open-ended questions, participants are free to respond in their own words, and these responses tend to be more complex than simply “yes” or “no”.*

*“In addition, with qualitative methods, the relationship between the researcher and the participant is often less formal than in quantitative research. Participants have the opportunity to respond more elaborately and in greater detail than is typically the case with quantitative methods. In turn, researchers have the opportunity to respond immediately to what participants say by tailoring subsequent questions to information the participant has provided. This introduces flexibility in the framing of questions. It is important to note, however, that there is a range of flexibility among methods used in both quantitative and qualitative research and that flexibility is not an indication of how scientifically rigorous a method is. Rather, the degree of flexibility reflects the kind of understanding of the problem that is being pursued using the method.”*

This flexibility in qualitative research does not only pertain to data collection, but also applies to the way sampling occurs and the way data is analysed. (Note: This issue with respect to the flexibility of qualitative research will not be covered further here but will be discussed in detail in the *Qualitative Research Methods* module.)

**TASK 4 – Considerations for using a fixed design quantitative study**

* 1. **Read again the selected section of Ch 5 by Robson (2011) on Fixed designs (referred to in the readings on page 15 above) and Kellehear (1993) [on iKamva].**
  2. **What are some key issues that these authors highlight when considering a fixed design, quantitative study?**

**FEEDBACK**

Robson points out the following key features of fixed designs:

* + 1. *Fixed designs are theory-driven*. This implies that a clear and known conceptual framework should exist within which fixed designs can be implemented. Conversely, without a known conceptual framework, a quantitative study does

not have grounding or validity; instead an alternative design strategy should be considered.

* + 1. *Quantitative studies are concerned with group properties and general tendencies*.

Thus they require rather large samples. Also, they are not able to capture the complexities of human behavior.

* + 1. *Requires objectivity of the research instrument for validity.* Various criteria for

validity of measurements need to be adhered to when conducting quantitative studies. These measures need to be good proxies for the variables that they

represent.

Kellehear (1993) argues that the decision of the study design should go beyond brand loyalty to consider the “people under investigation”.

* + 1. Characteristics *of the target population.* In certain instances, where shortened, less intensive and even invasive interactions with the study subjects are desirable, fixed design studies may be preferred.

#### 7 Session summary

In this session we have looked at ways in which your study design can be given depth, by making sure that the knowledge levels are at the appropriate level of complexity and examined fixed and flexible designs. In the next session of this unit we will examine in brief quantitative and qualitative research methodologies and qualitative data collection methods.

# Unit 2 - Session 3

Research Methods in Public Health Research

### Introduction

The aim of this study session is to further develop knowledge of methods for conducting public health research.

### Contents

1 Learning outcomes of this session

1. Readings
2. Recapping on quantitative research methods
3. The Purpose of Qualitative Health Research
4. Issues best addressed by qualitative research methods
5. The value of quantitative and qualitative research methods
6. Distinguishing *what* and *why* questions
7. Common methods of collecting qualitative data
8. Session summary
9. Assignment 1 reminder
10. Unit conclusion and summary
11. References

### Timing

There are four tasks and four core readings in this session; it is mainly focused on ensuring that you have a good understanding of quantitative data collection techniques and terminology as well as familiarising you further with the purpose and methods in qualitative health research. There are some additional readings or in text scenarios. The timing of it depends on your prior knowledge of these concepts.

### 1 Learning outcomes

By the end of this session, you should be better able to meet the intended learning outcomes in the first column; they are part of or relate to the overall Module Outcome in the second column:

|  |  |
| --- | --- |
| **Session Outcomes** | **Module Outcomes** |
| * Distinguish between quantitative and qualitative study methods * Identify the main data collection methods for quantitative studies. * Describe the purpose of qualitative research in public health research. * Understand the methodological considerations for collecting qualitative data. * Identify the main data collection methods for qualitative studies | * Apply different research methods * Explore the application of qualitative and quantitative methods to collecting data |

#### IMPORTANT: Assignment 1 reminder

By the end of the study session, you will be asked to compare two studies, one using a qualitative method and a second using a quantitative method. You should be able to combine the knowledge gained in previous sessions and build on this from this session so that you are able to distinguish between the two sets of methods through a series of questions.

**2 Readings**

**Kellehear, A. (1993). Ch 9 - Rethinking the Survey. In Colquhoun, D. & Kellehear, D. *Health Research in Practice*: 126 - 137. London: Chapman & Hall. [on iKamva]**

**Robson, C. (2011). Part II. Ch 4 – General Design Issues. In *Real World Research*: 70 – 77. West Sussex: John Wiley and Sons.**

**Pope, C. Ziebland, S. & Mays, N. (2000). Analysing Qualitative Data. *British Medical Journal*, 320:114 - 116.**

## 3 Quantitative research methods

Because quantitative research is principally interested in measurement and quantification of data, research using quantitative methods involves collecting numerical data or information on variables that have been pre-specified. We therefore have a list of information elements (variables) that we want to count or describe numerically. To make sure that we can compare subjects, the variables must be

counted or described numerically in exactly the same way – otherwise the comparison is not valid. Quantitative data is therefore collected in a way that allows for characteristics to be expressed numerically. Commonly, these results are analysed or tested using statistics to see how valid and reliable the observations are.

## 3.1 Key considerations for quantitative studies

In the *Measuring Health and Disease II* module you have dealt extensively with the characteristics of quantitative research. It would be a good idea to skim through that module and refresh your understanding. In this section, we will consider key issues that may influence the choice for undertaking a fixed design quantitative study.

#### TASK 1

**Consider the four features of quantitative research mentioned above, and make an argument for or against using a quantitative study method may consider for a proposal.**

## The purpose of qualitative studies

We have to some extent discussed the nature and purpose of qualitative research methods in earlier units. However, is very important to make sure we have a better grasp of the significance of using qualitative research methods in order to do justice to our notion of Public Health research.

As we mentioned before in Unit 2, session 1: Generally, qualitative studies aim to find concepts which can help in understanding perceptions, experiences or behaviours and their social meanings. Hence qualitative research aims to answer the *what, how* and *why* questions in contrast to quantitative research that aims to determine *how many* (Pope & Mays, 1995). Qualitative research therefore has the ability to reveal the details behind an issue without trying to measure it or associate it with another variable (Black, 1994).

It is important to consider what we can learn from qualitative research and what particular value it brings to Public Health Research.

Mack et al.(2005: 1-2) answer the question “What can we learn from qualitative research?” as follows:

*“The strength of qualitative research is its ability to provide complex textual descriptions of how people experience a given research issue. It provides information about the “human” side of an issue – that is, the often contradictory behaviors, beliefs, opinions, emotions, and relationships of individuals. Qualitative methods are also effective in identifying intangible factors, such as social norms, socioeconomic status, gender roles, ethnicity, and religion, whose role in the*

*research issue may not be readily apparent. When used along with quantitative methods, qualitative research can help us to interpret and better understand the complex reality of a given situation and the implications of quantitative data. Although findings from qualitative data can often be extended to people with characteristics similar to those in the study population, gaining a rich and complex understanding of a specific social context or phenomenon typically takes precedence over eliciting data that can be generalized to other geographical areas or populations. In this sense, qualitative research differs slightly from scientific research in general* “.

One must not lose sight of the fact that qualitative research, though described above as valuable in combination with quantitative research, can and is often valuable as a stand alone approach.

**READING**

* + Pope, C. Ziebland, S. & Mays, N. (2000). Analysing Qualitative Data. *British Medical Journal,* 320:114 - 116. [Online], Available: <http://www.bmj.com/cgi/content/full/311/6996/42>[also on Ikamva]

#### TASK 2 – Discuss the value of qualitative research for health research

**Read the article by Pope, Ziebland and Mays (2000). In this paper Pope *et al*.( 2000) make a claim about the importance of qualitative methods for health research. Discuss this claim in relation to our earlier discussion about the nature of health systems research.**

FEEDBACK

If you noted that the action and problem-centred nature of public health research requires that it be driven by the real issue rather than a researcher’s theoretical standpoint, you have done well. You may also have discussed the importance for health research of combining the so-called strengths of each (given in Box 2 of the article). Having explained the purpose of qualitative research, we are now in a better position to explore the different methods of collecting qualitative data.

## Issues best addressed by qualitative research methods

You should by now be fairly familiar with what issues can best be addressed using a qualitative approach. Here is a self-check quiz for you to see how conversant you have become with distinguishing the application of the approaches. Here is a set of study titles from MPH and one PhD student at SOPH. Some are qualitative, and others are quantitative.

#### Task 3 – Qualitative or quantitative study?

Read each title and aim, underline key phrases that tell you whether it is a qualitative or a quantitative study, and then assign the most likely approach in the second column.

|  |  |  |
| --- | --- | --- |
| **Title of Study** | **Study Aim** | **Approach** |
| Low birth weight in the West  coast/winelands region by K Rendall- Mkosi, MPH student, 2003 | 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. |  |
| Assessment of risk factors for obesity  and its consequences on ‘chronic disease of lifestyle’ in Morogoro district, Tanzania, 2006 by MMagafu, MPH student, 2006 | The aim of this study is to determine the  risk factors and their impact on chronic diseases in a district in Tanzania |  |

## The value of both quantitative and qualitative research for Public Health

There are obviously many important applications for quantitative research in Public Health,

e.g. randomized control trials, and quasi-experimental designs (Baum, 1995).

With respect to qualitative research, Baum (1995: 459) argues, “Public health problems result from complex social, economic, political, biological, genetic and environmental causes. A range of methods are needed to tackle these and public health researchers are most effective when they are eclectic in their choice of methods.”

## Distinguishing *What* and *Why* questions in terms of level of analysis

If you are starting out as a researcher, you may find the framework presented here useful in clarifying the nature and design implications of your research problem. The framework categorises research questions into three levels, which is helpful in later structuring your literature review and deciding which research design to use. It is also helpful in alerting you to whether your research is merely descriptive or more analytical. As we discussed earlier, descriptive and analytical research can be both quantitative and qualitative. Often we are happy for research to remain at the level of description; but as we stressed in an earlier session, Public Health Research is principally an action form of research. It should not merely provide descriptions of the problem but go on to look at ways of solving it; and in order to start to understand how to solve problems we need to seek certain kinds of information.

A good way to start is to distinguish between research which poses *What* questions and studies which ask analytical or *Why* Questions. This is brought out in the next reading.

**READING**

**Haider, R. Kabir, J., Hamdani, J. & Habte, D. (1997). Reasons for Failure of Breast Feeding Counselling: Mothers’ Perspective in Bangladesh. *Bulletin of the World Health Organisation,* 75: 191-196. [uploaded on iKamva]**

#### TASK 4– Distinguishing What and Why questions

**Read the article by Haider, Kabir, Hamdani, & Habte (1997).**

**In what ways did the researchers go beyond the *What* questions, and how did they start asking *Why* questions?**

#### FEEDBACK

In the research example Haider *et al* (1997)’s paper, the researchers went beyond simply describing breast-feeding counseling. They could have done further analytical quantitative research to see what factors were related to failure to breast-feed. However, this would not have given them enough information to enable them to intervene appropriately to address failures in breast-feeding. The *Why* questions were posed in order to examine in greater depth the reasons for the failure of breast- feeding counseling. This was done by following up mothers and interviewing them

qualitatively to find out the problems they experienced in putting counselling advice into practice. Notice how the paper provides a useful set of case studies, pictures or *vignettes* about some of the children, to illustrate the problems that were faced by their mothers in infant feeding on returning home. The paper is thus an example of how researchers through qualitative research, try to get a deeper understanding of the effectiveness of services and why services do not always succeed.

## Common methods of collecting qualitative data

There are three main methods of collecting qualitative data:

* Individual interviews
* Focus Group Discussions

At this stage you will be briefly introduced to each method. In the next session we will explore each method in more detail.

#### Individual Interviews

It would be fair to say that interviews form by far the most common method of data collection in qualitative research. This is usually described as ‘in-depth’ interviewing since the aim is to gather information, which has a number of characteristics.

Firstly it is from the perspective of the respondent, not the researcher. It is true that by nature in-depth interviews are driven to some extent by the researcher.

However, rather than lead the respondents through a series of prepared questions, as far as possible, the researcher attempts to elicit the respondents meaning and depth of coverage. Secondly, prompts and probes (“Why do you think that is?” “Can you tell me more about that?”) are used to get below the initial responses. Lastly, the

management of the interview is such that researchers often actively pursue unanticipated issues that emerge.

#### Focus Group Discussions

There are a number of reasons for organising focus group discussions for qualitative research. They range from seeking consensus on a particular issue to exploring a diversity of views available. They all attempt to use a social basis for information gathering, in other words they exploit the dynamics that are involved when a group of people discuss a particular issue. Focus group discussions are often justified on the grounds that more ideas are collected when people are able to ‘bounce ideas’ off each other, in other words there is something to be gained from the synergy involved in groups.

However, this may not always be the case. Morgan quotes a study (*Annual Review of Sociology*, 22: 129 - 224) in which it was found that collecting information from groups generated only 60-70% of the ideas that were gained from interviewing the equivalent number of individuals. Of course, the time involved in interviewing

individuals is far greater than that required when conducting focus groups and this is considered to be a distinct advantage in favour of focus group discussions.

## 9 Session summary

This session was designed to introduce you to a different way of thinking about quantitative and qualitative research. You were familiarized with key considerations about qualitative and quantitative methodologies and studies, the latter to complement the knowledge you gained from the *Measuring Health and Disease II* module. It also dealt with data collection methods in qualitative research. Besides the broad statement in the table below, we will not cover qualitative study sampling and data analysis. This will be done if you do the module next year on *Qualitative methods*.

The following table summarises in brief of the broad overall differences in quantitative and qualitative research method approaches.

|  |  |  |
| --- | --- | --- |
|  | **Quantitative Research** | **Qualitative Research** |
| **Sampling method** | Large probability samples; randomly selected;  statistically representative so as to be generalizable. | Relatively small samples; purposefully selected; Representative (but not  statistically) of broad types of information relevant to research; not intended to be generalizable. |
| **Data collection** | For example through survey questionnaires: Pre- determined questions asked in exactly the same way, so to be able to generalize, validate and check reliability. | For example in-depth interviews: More like a conversation; aimed at probing people’s view of the world in order to gain in-depth insights |
| **Analysis** | Categories are isolated and defined as precisely as  possible before the study is undertaken; may try to prove or disprove a hypothesis | Categories isolated and defined during research – they emerge from what  participants say; may generate hypothesis/es. |

#### You are now ready for Assignment 1

**11 Assignment 1 needs to now be prepared and submitted**

1. **Conclusion of Unit 2 and summary**

This unit has attempted to provide you with an overview of the different study methods used in public health research and the common methods of collecting qualitative data.

One striking difference between quantitative and qualitative methods is the relationship between data collection and analysis. In quantitative methods it is usually the case that all data is collected before analysis begins. In qualitative methods however, data collection and analysis often take place side-by-side. This is because qualitative methods often seek to revise hunches and propositions along the way. Indeed as we have said, purposive sampling requires that respondents be recruited to provide cases of rich-information. The kinds of information of interest to the researcher often change as the research progresses, and in light of the on-going analysis.

## References

* Black, N. (1994). Editorial. Why we Need Qualitative Research. *Journal of Epidemiology and and Community Health*, 48: 425-426.
* Mack, N., Woodsong, C., Macqueen, K. M., Guest, G. & Namey, E. (2005). *Qualitative Research Methods: A Data Collector’s Field Guide.* [Online], Available:[http://www.fhi360.org/sites/default/files/media/documents/Qualitati](http://www.fhi360.org/sites/default/files/media/documents/Qualitative%20Research%20Methods%20-%20A%20Data%20Collector%27s%20Field%20Guide.pdf) [ve%20Research%20Methods%20-](http://www.fhi360.org/sites/default/files/media/documents/Qualitative%20Research%20Methods%20-%20A%20Data%20Collector%27s%20Field%20Guide.pdf)

[%20A%20Data%20Collector's%20Field%20Guide.pdf](http://www.fhi360.org/sites/default/files/media/documents/Qualitative%20Research%20Methods%20-%20A%20Data%20Collector%27s%20Field%20Guide.pdf)

* Pope, C. & Mays, N. (1995). Qualitative Research: Reaching the Parts Other Methods Cannot Reach: An Introduction to Qualitative Methods in Health and Health Services Research. *British Medical Journal,* 311: 42 - 45. [Online], Available: <http://www.bmj.com/cgi/content/full/311/6996/42>[also on Ikamva]