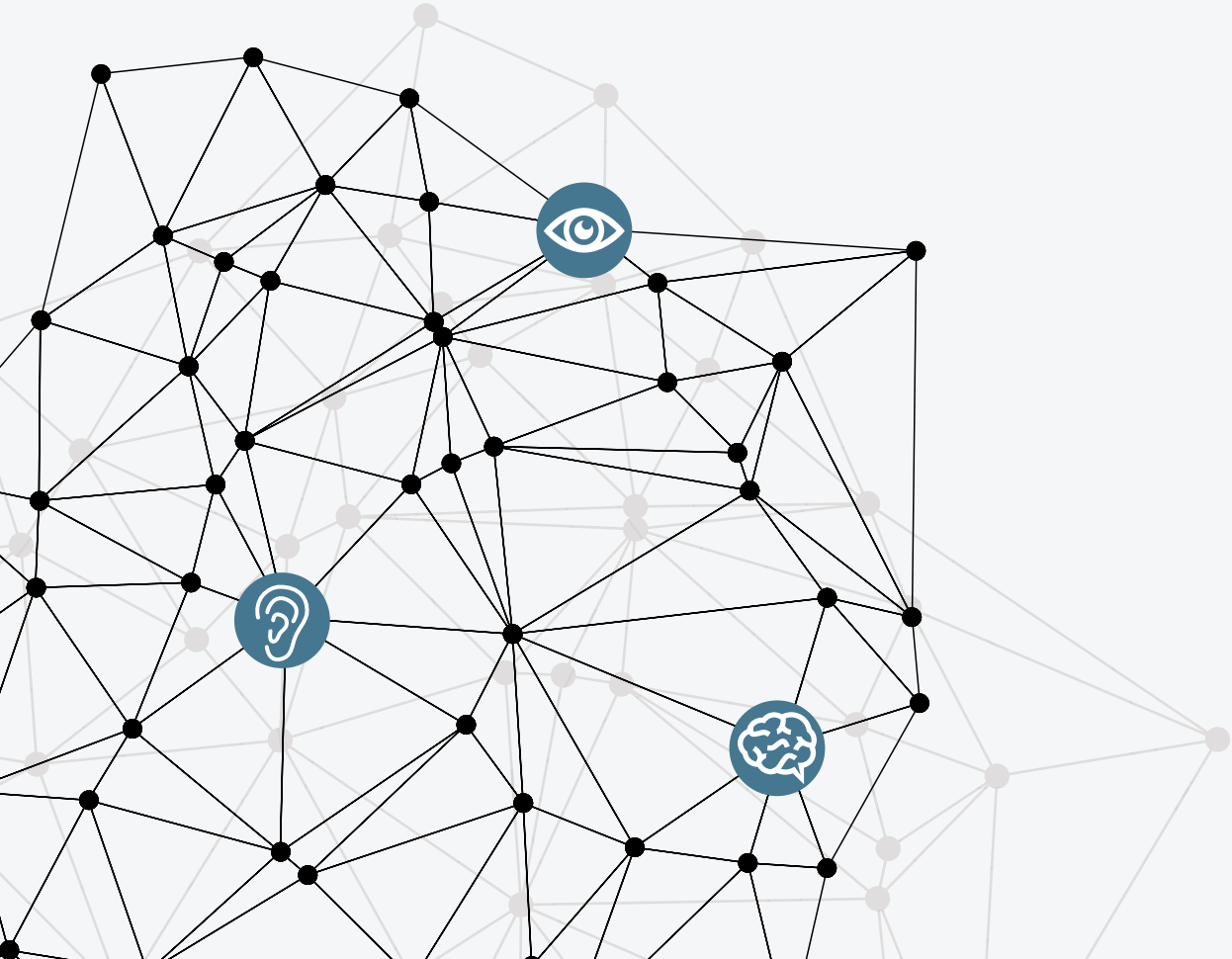
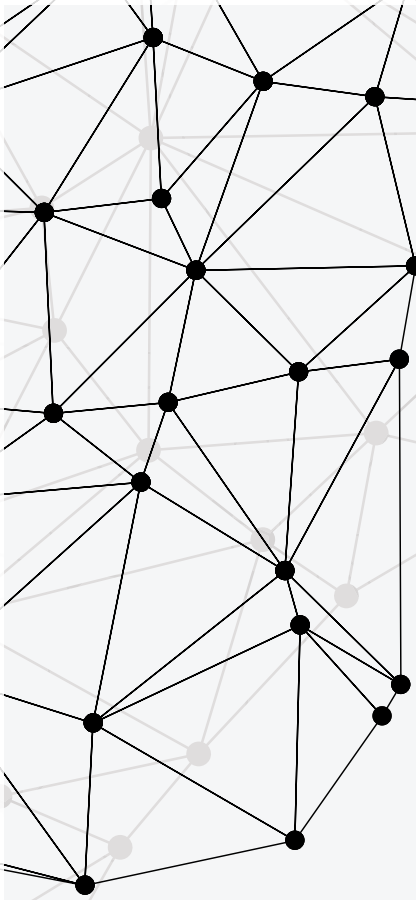
TO LISTEN, TO OBSERVE AND TO UNDERSTAND

Bringing Back Narrative into the Health Sciences

CONTRIBUTIONS OF QUALITATIVE RESEARCH

ÍNDEX





Anna Berenguera Ossó
Mª José Fernandez de Sanmamed Santos
Mariona Pons Vigués
Enriqueta Pujol Ribera
Dolors Rodríguez Arjona
Sílvia Saura Sanjaume
Vinita Mahtani Chugani
Rafael Cofiño Fernández

[…] Yasmin answered that what is true and false should be carefully considered. She said that some things could indeed be true or false, whereas other things could not be true nor false.

Words are like onions —she said—, the more layers you peel the more meanings you find. And when you discover the diversity of meanings, what is true or false becomes irrelevant. All the questions that you and Samir have asked about harems are valid, but there will always remain more to discover.

Now I will peel another layer for you —she added—, remember though that it is only one amongst many.

Fátima Mernissi
The Harem Within: Tales of a Moroccan Girlhood
Barcelona: Muchnick, 1994

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Translation: Eulàlia Farré

Institut Universitari d'Investigació en Atenció Primària Jordi Gol (IDIAP Jordi Gol)
Gran Via de les Corts Catalanes, 587
www.idiapjgol.org
@idiapjordigol

Generalitat de Catalunya
Departament de Salut

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TO LISTEN, TO OBSERVE AND TO UNDERSTAND

Bringing Back Narrative into the Health Sciences

CONTRIBUTIONS OF QUALITATIVE RESEARCH

Contents

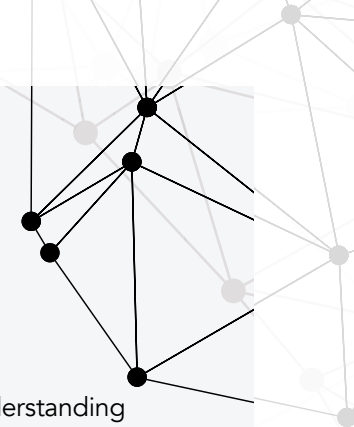
>Foreword

We are a multidisciplinary team which aims to promote and disseminate qualitative research in the health sciences. This manual originates from our experience as lecturers in the MSc Public Health of the Universitat Pompeu Fabra (UPF) and the Universitat Autònoma of Barcelona (UAB), in on-line courses and in workshops for health professionals. Our goal is to provide tools, resources and techniques to enhance the skills of the professionals who want to conduct qualitative research. Also, we want to introduce the theoretical and practical approaches used in qualitative research applied to the health sciences.

Qualitative research is indeed essential for the health sciences, since it provides access to aspects of our study phenomenon that cannot be investigated with other methodologies. Qualitative research is particularly useful to understand the human dimension, to interpret beliefs, values, attitudes, behaviour and expectations, human interaction, the impact of disease and pain, the financial, social, cultural and political factors that affect health and disease, the experience of people with the health services, the suitability of health services and the impact of the social framework on the topic of research.

In qualitative research, participants can influence decision-making and understand their priorities and choices. In addition, qualitative research gives prominence to people in the decision-making process and know their preferences and priorities. It is also particularly useful to provide explanatory frameworks, to generate hypothesis, to explain complex and emerging problems and to understand complexity, dynamics and multidimensionality. Indeed, the quantitative methods and tools characteristic of the natural sciences are not sufficient to investigate and explain population health and disease. A science of the human factor is needed.

The content of this manual has been divided into seven chapters that encompass the basic topics needed to conduct a qualitative research study. While the theoretical and conceptual backgrounds are included, emphasis has been given to the practical aspects of qualitative research. Each chapter contains theory, examples, key concepts, annotated and additional references and interactive exercises. In addition, the manual includes a glossary and seven annexes with practical aspects on the topics discussed.



We have emphasised a clear and direct style to facilitate the understanding of this manual. We invite you now to read this manual and hope that it encourages you to use qualitative research to answer relevant questions that originate in your daily practice. Also, we encourage you to provide feedback to improve the manual. Finally, we hope this manual motivates you to read further materials and to conduct more complex studies.

>1

Qualitative methodology in health sciences. Theoretical and conceptual aspects

ÍNDEX

What is research and why is it carried out?

The term research has a number of synonyms including explore, examine, analyse, and investigate. The latter comes from the Latin *investigare* (*in-* 'into' plus *vestigare* 'track, trace out') and, according to the Oxford Dictionary, means to employ strategies with the aim of discovering something.

Research in itself implies the search of a specific phenomenon through a specific methodology, i.e., we investigate to understand and explain a certain aspect of reality, a particular phenomenon or object of study. However, no research can fully explain a specific problem or event. Reality is too complex and transcends any research method. What science does is try to correctly place some of the pieces of the jigsaw whilst being aware that it will never be completely finished. In order to locate correctly as many pieces as possible every available methodology should be employed to approach the issue under study from all possible angles, slants, and perspectives. At the same time, investigators must approach research with an open mind and been conscious that all methodologies have their limits (an issue that will be explored further in the methodologies section) and that all of them are necessary to obtain a more complete picture.

Explicitly or implicitly, research is based on philosophical assumptions about what is reality and how to understand it. Such assumptions constitute theoretical-methodological frameworks known as paradigms.

Research paradigms

Paradigms, also known as "traditions", are a set of theoretical-methodological suppositions employed by researchers in an attempt to understand/interpret facts and phenomena within the context of a particular environment. They reflect the way scientific collectives understand the world, how to know it, and their own role in the process of investigation. Three distinct paradigms are currently used:

- The **Positivist Paradigm**, the basis of quantitative research, considers reality to be objective and measurable, facts can be explained without prejudice and irrespective of their context. The aim of research is to identify cause-effect relationships and thus be able to make predictions through a linear and deductive process. Given that objectivity is an essential premise, the research team should endeavour to distance itself as much as possible from the study object to avoid contamination and bias.

- The **Post-positivist Paradigm** also relates to quantitative methods although with a more flexible perspective because it acknowledges that both theory and initial research conditions only provide a partial picture of the facts. In addition, it considers knowledge to be speculative, hypothetical, and revisable. Research follows a logical sequence by which a conclusion is arrived at through deductive logic. Results are based on probability (Bayesian Theory). Objectivity is the gold standard or the basic principle even though it is practi-

cally impossible to attain in its totality. To minimise bias, researchers must be detached from the research issue in question.

> The **Comprehensive- naturalist-interpretive Paradigm** relates to qualitative research. It acknowledges the existence of numerous realities and interpretations, and that reality is always contextual and shaped by social, political, and cultural values (so-called historical realism). Research is a circular and emergent process and knowledge is obtained through induction. Investigators acknowledge their own subjectivity and influence in the research, and accept them as a positive contribution to the understanding of the reality of their investigation. To obtain a better comprehension and share the subjectivity of the study participants, researchers do not distance themselves but rather get as close as possible, even to the extent of becoming immersed in the participants' lives and contexts.

This manual deals with the comprehensive paradigm which will be explored in greater depth here and in the following chapters.

Which paradigm is most commonly used in health sciences and public health?

Do you think that with any of the paradigms authentically objective research can be achieved?
Is objectivity desirable in qualitative research?

Qualitative methodology. Theoretical and conceptual principles

Methodology is defined as the set of strategies and theoretical instruments used to apply the presuppositions of a selected paradigm to research. Each of the three previously mentioned paradigms has its own tools.

The qualitative methodology[1] questions the identification of "reality" through the quantifiable, and the notion that only the quantifiable is scientific, because it limits the understanding of complex realities. It understands that what individuals think, feel, and do, also constitutes/configures reality. Their values, beliefs, expectations, and motivations are responsible for their attitudes and behaviour in everyday life. The subjective is as real as quantifiable-measurable facts.

Norman Denzin and Yvonna Lincoln's definition of qualitative research remains valid when they state that "qualitative research is essentially characterized by the study of events within their natural context (within the context of life, according to Irene Vasilachis), trying to find their meaning/interpretation from the significance attributed to them by the individuals involved". **To understand social reality** its practitioners are committed to the naturalistic perspective and to the interpretative understanding of human experience.

Qualitative research never responds to the issue of 'How many?', which belongs to the field of quantitative research, but to What?, How?, Why?, and What for?. Questions such as: What happens with the issue under study in a particular context? and How does it happen? should be addressed with qualitative methodology.

Characteristics of qualitative research

There are a number of approaches to qualitative research (see Chapter 3), nevertheless, they share common methodology and features. They all employ the same set of tools which comprise the **comprehensive-naturalist-interpretive paradigm** as explained below:

>> To understand and interpret reality from the perspective of the study participants who are considered reflexive and inquiring subjects.

As previously mentioned, qualitative research aims to comprehend facts by un-

1. Qualitative methodology originates from various disciplines (anthropology, sociology, psychology) and from a number of theoretical approaches. Depending on the original text employed it is, therefore, not uncommon to find different words for the same concept.

derstanding the actors taking part, that is to say, the individuals involved in the issue under study. To achieve this, their perspective needs to be understood. Moreover, it should be emphasised that the participants are persons (not mere study objects) who think, reflect, and have knowledge, and that real knowledge is attained through collaboration between researchers and participants. In this regard, Irene Vasilachis points out that "in qualitative research, two subjects, the researcher and the participant build up knowledge through contributions that result from different approaches to understanding".

>> To provide a holistic approach with an emphasis on context. Researchers must apply sociocultural sensitivity.

Even though the complete understanding of a phenomenon is impossible, qualitative research aims to be as comprehensive as possible. It never divides the study object into fragments (variables) to later join them together, but assumes that the whole is more than the sum of the parts and tries to grasp its full meaning with all its complexity.

Moreover, the goal of qualitative research is to examine the issue under study within its natural context, for this reason, the research team endeavour to study its context in-depth. They believe that the closer they are to the research phenomenon the better the results will be, and a greater understanding of its sociocultural aspects achieved. According to Irene Vasilachis, researchers need to share the context (including communication) to facilitate transmission and understanding.

Consequently, researchers should get as close as possible to the context by applying historical and sociocultural sensitivity in order to understand it, and interpret the meaning of the discourses/observations/documentary productions contributed by those involved.

>> To obtain in-depth knowledge.

Rather than achieving knowledge that can be extrapolated to other contexts other than that of the study itself, qualitative research aims to explain the *here and now* of the issue under study in as much depth as possible. The priority is profound knowledge rather than extensive.

>> To understand that knowledge is a process.

Reality is not static, it is constantly changing with time, geography, and history. As a consequence, research and knowledge need to be approached as changing and dynamic processes.

>> To be aware that the aim is not the discovery of universal laws but rather moderate and situational generalizations (cross-case generalization).

Qualitative research does not aim to generalise since all phenomena are studied in their natural setting and the results applied to that context (for example, the experience/ meaning of depression differs in Barcelona as opposed to Calcutta). Nevertheless, contextual findings, followed by a detailed description and careful reflexion of the setting and results, can serve as a theoretical basis to analyse a similar event in other historical, geographical, and temporal settings.

Moreover, authors such as Margarete Sandelowsky sustain that we can indeed talk of generalization with respect to qualitative research, but it is a weaker generaliza-

Do you think that the concept of prevention has changed in recent years? If so, what is the current perception of prevention? To which factors would you attribute the change?

tion than that understood in quantitative research, and known as Cross-Case Generalization. According to Sandelowsky, qualitative research teams cannot remain isolated building small islands of knowledge. On the contrary, it should be possible to link local-contextual theories to build broader ones that increase the capacity of generalization of qualitative results. Such a generalisation, known as *cross-case generalization* or *ideographic generalisation*, is constructed from and for individual cases by combining them.

We need to clarify that the generalisation of qualitative research also depends on the interpretive level of the results. The research that reaches a high interpretive level and that creates complex theoretical frameworks and/or theories will always be more generalizable than descriptive studies.

>> To understand that the research team is neither objective nor neutral. Impartiality.

Whatever the paradigm employed, in both quantitative and qualitative investigation researchers influence their work and vice versa. In the former the extent to which variables are gathered and introduced into the statistic model, and what inclusion criteria are applied to the sample, will affect the results obtained. In the latter, however, acceptance of the subjectivity of the study participants (the main target of investigation) and research team, and the relationship between both perspectives is essential. Such qualitative research acknowledges the reciprocal influence between participants and investigators. It also recognizes the fact that the assumptions, beliefs, values, experiences and interests of researchers influence the choice and results of the investigation.

Qualitative research thus exposes and reflects on baseline assumptions. The research team evaluates all the possible options, reflects on them, and tries to understand how their subjectivity can influence the investigation. Once integrated within the study, this subjectivity can contribute to understanding the participants.

In classical, positivist, scientific training, the perspective of the investigator is viewed negatively, as something that detracts from the scientific ideal. Indeed, bias elimination is one of the main concerns in quantitative studies. Whilst in qualitative research the investigator's perspective and subjectivity of the study participants exist and grow within the reality under study. Not only is subjectivity impossible to eliminate, but should be actively employed to study the subjectivity of participants and connect with them.

All of the above explains why in qualitative research it is preferable to refer to impartiality rather than to objectivity and neutrality. Impartiality implies an attitude of listening and discovery, putting oneself in the participant's place. Objectivity and neutrality, on the other hand, imply the elimination of the researcher's perspective which, in addition to being unattainable, would remove an es-

Is it positive or negative that as a clinician I am influenced by the subjectivity of my patients and that, in turn, my subjectivity influences my relationship with them? Can the inter-subjective relationship process that takes place between professional and patient contribute to better diagnostics and treatments or does it only complicate clinical practice?

sential source of information from qualitative research. For this reason in qualitative research it is preferable to speak of impartiality rather than objectivity and neutrality. Impartiality implies having the capacity and position of listening and discovery, of placing oneself in the shoes of the other(s), whilst objectivity and neutrality imply eliminating the perspective of the research subject which does not stop being an impossible desideratum and renouncing an unlimited source of wealth.

As researchers immersed in our particular culture, we are bound to form our own opinion regarding any social aspect and phenomenon that we investigate. Consequently, we cannot be considered neutral. We can be nonetheless unbiased, provided we put aside our own views when we conduct field research and during analysis.

>> To focus on action and change.

All research, qualitative and quantitative, is carried out so that it can gain from the knowledge acquired and improve what is being studied. In the case of the former, however, the researchers become closer to participants than in other paradigms and their involvement is greater. Thus action and change, commitment to the participants, and focusing on their empowerment are intrinsic characteristics of this methodology.

In this regard, Irene Vasilachis sustains that researchers must always ask themselves whether their knowledge adds to that which the participants already possess. If it will contribute to their better communicating, loving and living, since "indifference can be translated into an act of violence against people that should be considered our equals".

Misconceptions about qualitative research. It is not:

>> Simple data gathering (interviews focus groups, etc...).

The technique selected for data collection constitutes only one aspect of qualitative research. The technique for data collection must concur with the theoretical approach and the choice of one or another depends on the objective, theoretical focus and study methods.

>> A useful methodology when there are only a few cases.

and an insufficient sample to perform a qualitative study. Rigour is essential in all research, irrespective of the paradigm applied. The choice of one or another does not depend on the number of cases available, but on the aim of our research, and the design of the sample depends on this choice.

>> An "everything goes" kind of methodology,

because according to some scientists, qualitative research amounts to informal chats over dinner, has never been a real science, and rigour is not a requirement. It will be clearly demonstrated throughout this manual that such an assumption is false.

>> A methodology that requires no training,

because it is easy to implement, and particularly useful when training in quantitative methods and statistics is scarce. Nevertheless, this manual will illustrate the methods, instruments, and training that are indispensable for the correct performance of qualitative research.

Methodological dissimilarities and complementarity in health sciences and public health

As previously stated, reality always transcends science and a phenomenon is never completely understood. Thus if we wish to obtain the greatest amount of knowledge all available methodologies should be employed to access different aspects of the same issue. Such a multifaceted perspective requires the use of a plural methodology which Alfonso Ortí calls "complementariness of methodologies due to shortcomings". This implies the acceptance of advantages and limitations of each of these techniques, and the acknowledgement of their inadequacies in relation to the representation and analysis of social reality.

In this regard, we defend the triangulation of qualitative/quantitative research and also in clinical practice and knowledge-apprenticeships of the Health Sciences. Triangulation, understood as the combination of methodologies for the study of the same issue, supposes a manner to overcome the limitations of each of the methodologies for the study of the same issue and the sum of their strengths in the effort of science to understand phenomena in the most holistic way possible. Table 1 schematically depicts the characteristics of each of the methodologies and their differences.

In general, when referring to the area of qualitative knowledge within the Health Sciences it is indicated that it is a field of knowledge imported from other disciplines (anthropology, sociology and psychology) which entered the Health Sciences in the last 50-60 years because the Health Sciences have always been framed in Natural Sciences and thus their scientific paradigm corresponds to the field of quantitative research.

Nevertheless, if we reflect on the knowledge of our disciplines we will see that

Table 1. Methodological differences between qualitative and quantitative research

Aspect	Qualitative Research	Quantitative Research
Theoretical background	Interdependency researcher-participant Emphasis on context Presence of values	Dualism researcher-object of research Context not considered Absence of values?
Aim	Sharing of meanings Inductive Intensive knowledge In-depth approach	Quantification, prediction Deductive Extensive knowledge Generalization
Research team	Subjectivity Immersed in context	Objectivity? Detached from context
Design	Flexible, open, circular Oriented for discovery	Pre-established, closed, linear Designed to prove
Sample	Intentional and reasoned Flexible Convenient and sufficient	Pre-determined sample size Probabilistic and random
Data	Observations, narratives, texts, visual data Flexible instruments	Quantitative and objective Standardized instruments
Analysis	Inductive approach Simultaneous to the data collection	Deductive approach At the end of data collection

Source: Authors own table.

this is not entirely true, but that the qualitative perspective and gaze are always present in our knowledge.

For instance, how did the theory of bereavement emerge? And the semiology of clinical conditions? Undoubtedly, through the observation of and dialogue with the affected subjects.

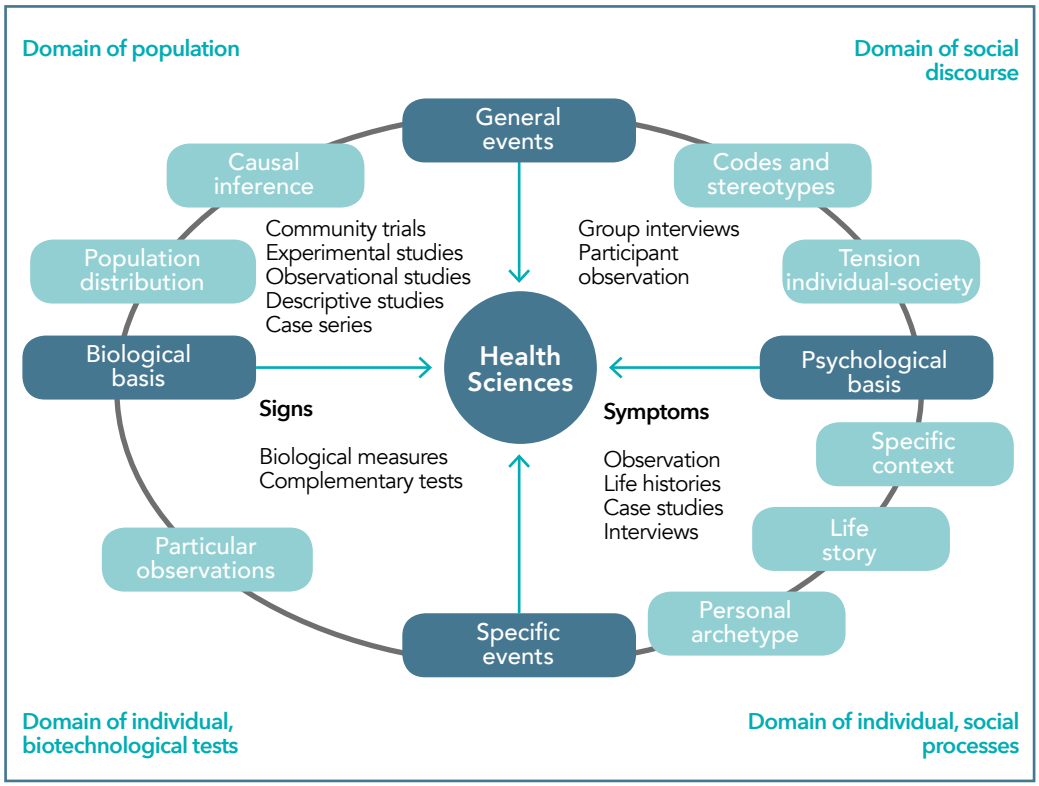
In this regard, as described by Fernando Conde, we can affirm that the Health Sciences are not nowadays and never have been basically neither pure Natural Sciences or Social Sciences but have participated in both. They represent a field where they genuinely give a hand to the two methodologies of knowledge, quantitative and qualitative, and constitute a discipline in which methodological pluralism is intrinsic to its practice.

Figure 1, created by Conde, reflects the dimension of practices, knowledge, and methodologies in health sciences. The figure is constructed from two main axes: the first represents individual-singular events and their transfer to the domain of the collective-generalizable; the second depicts the stress line between the objective (sign) and the subjective (symptom). This last axis demarcates two subspaces, one down-bottom that corresponds to clinical practice or individual practice, and the upper space that represents the collective health (public health). Both sub-

spaces have a left quadrant, corresponding to the biological/quantifiable and thus where quantitative methodologies are more suitable, and a right quadrant, which refers to the individual and population psychosocial aspects and where qualitative methodologies play a greater role.

A multi-methodological approach to the same issue permits different facets of the same phenomenon to be known and provides answers to "How many?" in addition to "What?" "How?" and "What for?", which as we previously mentioned, provides a clearer, more multi-faceted image of the issue under study. Nevertheless, what is not methodologically adequate is to approach narrative data with quantitative procedures (for example, counting in an interview how many times a specific sentence is repeated, and express this as a relevant result, or assert that 80% of the participants in a qualitative sample said something in particular) or mix numerical data with narrative ones and express them as single results. In this regard, we affirm that the results from diverse investigations **should be taken together** to improve understanding of reality and that the integrity and coherence of each of the methodologies employed should be respected.

Figure 1. Spaces of practices, knowledge, and methodologies in health sciences



Source: Conde F. [The Similarities and Differences Between the Qualitative and the Quantitative Perspective Throughout Medical History]. Rev Esp Salud Pública. 2002;76:395-408. [In Spanish]

Different models of complementarity. Qualitative research as an independent model or as a complementary model for improvement and support. Mixed methods

Jennie Popay and Gareth Williams suggest two approaches to qualitative research in public health and health sciences: as first- a differentiated model hand knowledge regarding a specific phenomenon and as a complementary model to enhance knowledge acquired through quantitative methods. Table 2 shows the different fields where qualitative research can be implemented according to these authors.

In a similar manner, investigators such as Margarete Sandelowski, Alicia O'Cathain, Janice Morse, and Ray Pawson in recent years have argued for the implementation of mixed models in health sciences. Such methods encompass different combinations of quantitative and qualitative methodology in the same study design. Table 3 shows the most frequent type of studies employing mixed methods.

>> The complementary-enhancement use of quantitative and qualitative methodologies. Practical examples.

Two examples of this are described below. In the first, quantitative and qualitative methodologies are employed in primary care research. The second carries out a synthesis of existing quantitative (meta-analysis) and qualitative (called in this case meta-synthesis) knowledge regarding the theme and integrates both in a new synthesis of knowledge.

Table 2. Role of qualitative research in health sciences and public health

Qualitative research as a differentiated model	Qualitative research as a complementary model
Exploring 'taken for granted' practices in health care	Understanding why interventions work or not
Understanding reasons for the behaviour of clinicians and the general population	Improve accuracy and relevance of quantitative research
Patient's perceptions on quality/appropriateness of services and care	Identify appropriate variables to be measured in quantitative designs
Organizational culture and change management	Explained unexpected results
Evaluation of projects and complex policy initiatives	Generate hypotheses to be tested throughout quantitative research

Source: Popay J, Williams G. Qualitative research and evidence-based health care. J R Soc Med. 1998;91(Suppl. 35):32-7.

Table 3. Most frequent types of studies in mixed methods

Design	Characteristics
Convergent	The aim is to collect quantitative and qualitative data, analyse both datasets, and then *merge* the results in order to compare them (a form of validating one set of results with the other). It involves collecting both types of data at the same time assessing information using parallel studies. The posterior integration of the results can be done in two ways: jointly analysing the results during the interpretation and discussion phrase, or during the analysis phrase through the transformation of the obtained data (for example, performing quantification of the qualitative data).
Explanatory sequential	The aim is to use quantitative methods and then use qualitative ones to help explain the quantitative results in more depth. The qualitative phase builds directly on the results from the quantitative phase. In this way, the quantitative results are explained in more detail through the qualitative data.
Exploratory Sequential	The aim is to explore and develop instruments (generally psychometric ones) which permit extensive and generalizable knowledge. To do so, the qualitative study is first developed followed by the quantitative one which is based on the results obtained in the qualitative study.
Embedded	The aim of nested studies is to support the dominating study, which can be qualitative or quantitative, with the gathering of data from the differentiated paradigm, and thus respond to a complementary question of the main research question. A qualitative sub-study inserted into the quantitative study, or a quantitative sub-study inserted into a qualitative design, can be carried out. The qualitative data can be incorporated into the study at the outset (e.g. to help design the intervention); during the intervention (e.g. to explore participants' experience); and after the intervention (e.g. to help explain results). In this way, the qualitative data enhance the outcomes of the study.
Multiphase	They generally respond to complex studies sustained over a period of time. We are speaking of interventions, very often communitarian, focused on an objective that seeks action and change. This advanced mixed methods approach involves multiple quantitative and qualitative phases all addressing a common objective, for example, the evaluation over time of the design, piloting, and implementation of a program in the community.

Sources: Adapted from: Halcomb E, Hickman L. Mixed methods research. Nurs Stand.2015;29:41-7 and Wisdom J, Creswell JW. Mixed Methods: Integrating Quantitative and Qualitative Data Collection and Analysis While Studying Patient-Centered Medical Home Models. Rockville MD: Agency for Healthcare Research and Quality. 2013. AHRQ Publication No.13-0028-EF.

➜ **Example 1:** Creation of a patient decision aids (PDA) for prostate cancer screening.

In 2004, the Urology group of the Catalan Society of Family and Community Medicine (CAMFiC) proposed a leaflet to help men decide about PSA for prostate cancer screening. The project, known as DECI¬DIU- Prostate-specific antigen (PSA), was structured in three phases (Figure 2). In the first phase, a multi-disciplinary group of professionals defined the essential concepts to be included in a PDA on prostate cancer screening and produced the first draft. In the second, phase, a pilot study with this document was carried out by means of a mixed methodology (qualitative and quantitative). Following this the document was modified and validated in the third phase. (http://gestor.camfic.cat//uploads/ITEM_520_EBLOG_1935.pdf).

During the pilot phase the qualitative study assessed in-depth the conceptual and formal understanding of the document that provided information on the benefits and risks of screening and analysed its usefulness regarding decision-making, as well as those aspects that influence the assumptions of men aged fifty-seventy years of age. Simultaneously, an extensive quantitative study was carried out with a representative sample. To do so, interviews regarding the level of understanding of the key concepts that a patient needs to make a decision about prostate cancer screening were carried out.

Sources: Fernández de Sanmamed Santos MJ, Ballester Torrens M, Ariza González F, et al. [Comprension of a document informing citizens as to the benefits and risks of prostate cancer screening. A semistructured interview-based study]. Rev Esp Salud Pública. 2007;81(3):289-304. [In Spanish]

Fabregas M, Guix L, Aragonès R, et al. [What Do Men Between 50 and 70 Know About the Effectiveness,the Benefits,and the Risks of Prostate Cancer Screening]. Aten Primaria. 2008;40: 357-61. [In Spanish]

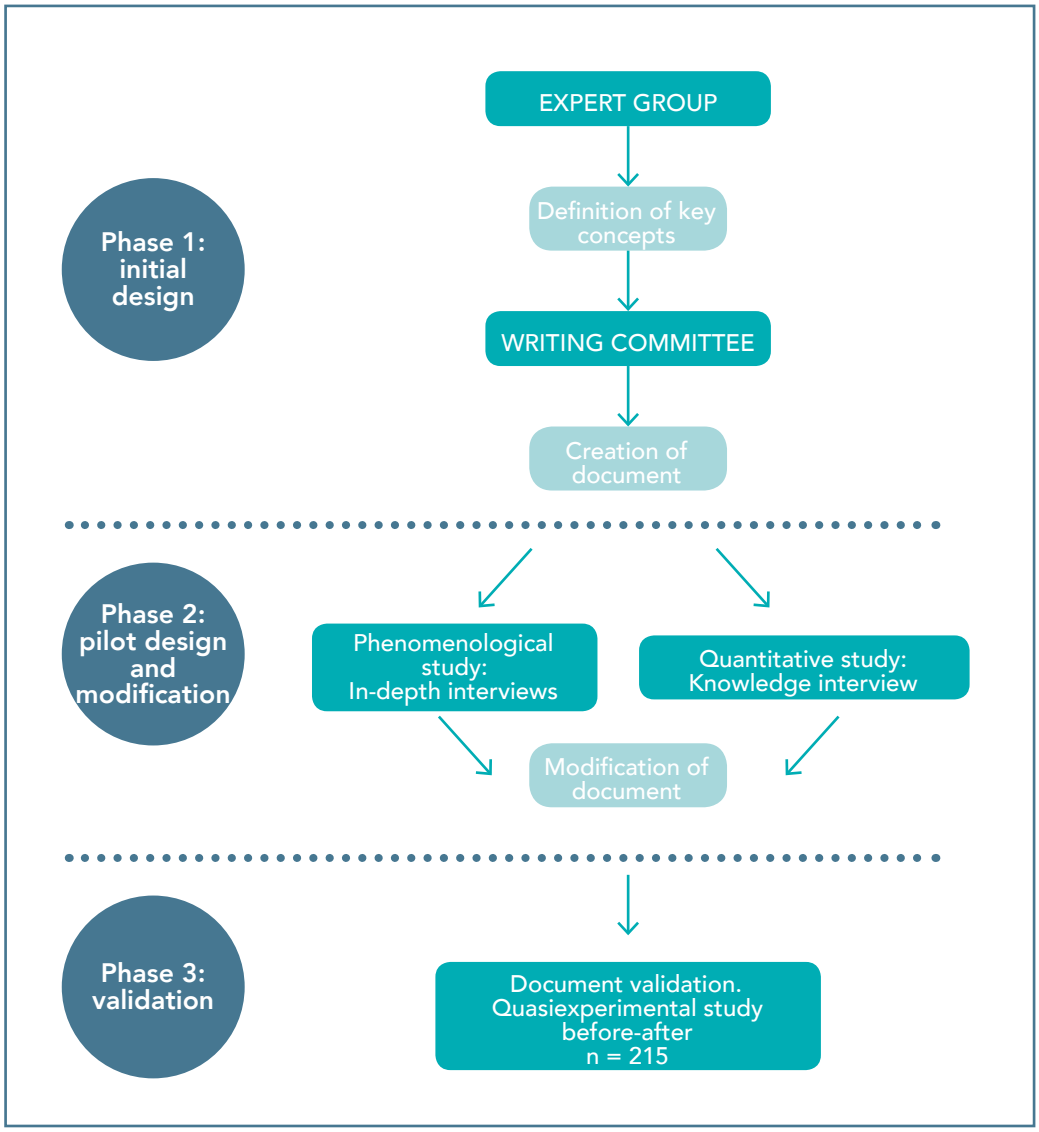
➜ **Example 2:** Published by James Thomas et al. It is an excellent example of the integration of quantitative and qualitative knowledge in the study of barriers and facilitators of a healthy diet in children (Figures 3 and 4).

Figure 3 shows how the authors first identified clinical trials regarding community interventions to promote consumption of fruit and vegetables in children. It was observed that overall the interventions barely increased fruit and vegetable consumption (half a portion/day on average), although significant differences existed among studies (For instance, one showed an increase of two portions day), and the authors were unable to find an explanation for this variability.

Second, qualitative evidence on the children's perception of barriers and facilitators for fruit and vegetable consumption was obtained. The children considered that their health was not their responsibility, but that of their parents; they did not eat vegetables and fruit for health reasons, since their parents were in charge of that. They prioritized taste before health and clearly differentiated fruit from vegetables, never mixing them in the same food group (Figure 3).

Lastly, the authors looked for clinical trials in which the opinion of the children was taken into account. In all the interventions fruit and vegetables were included in the same food group, and in

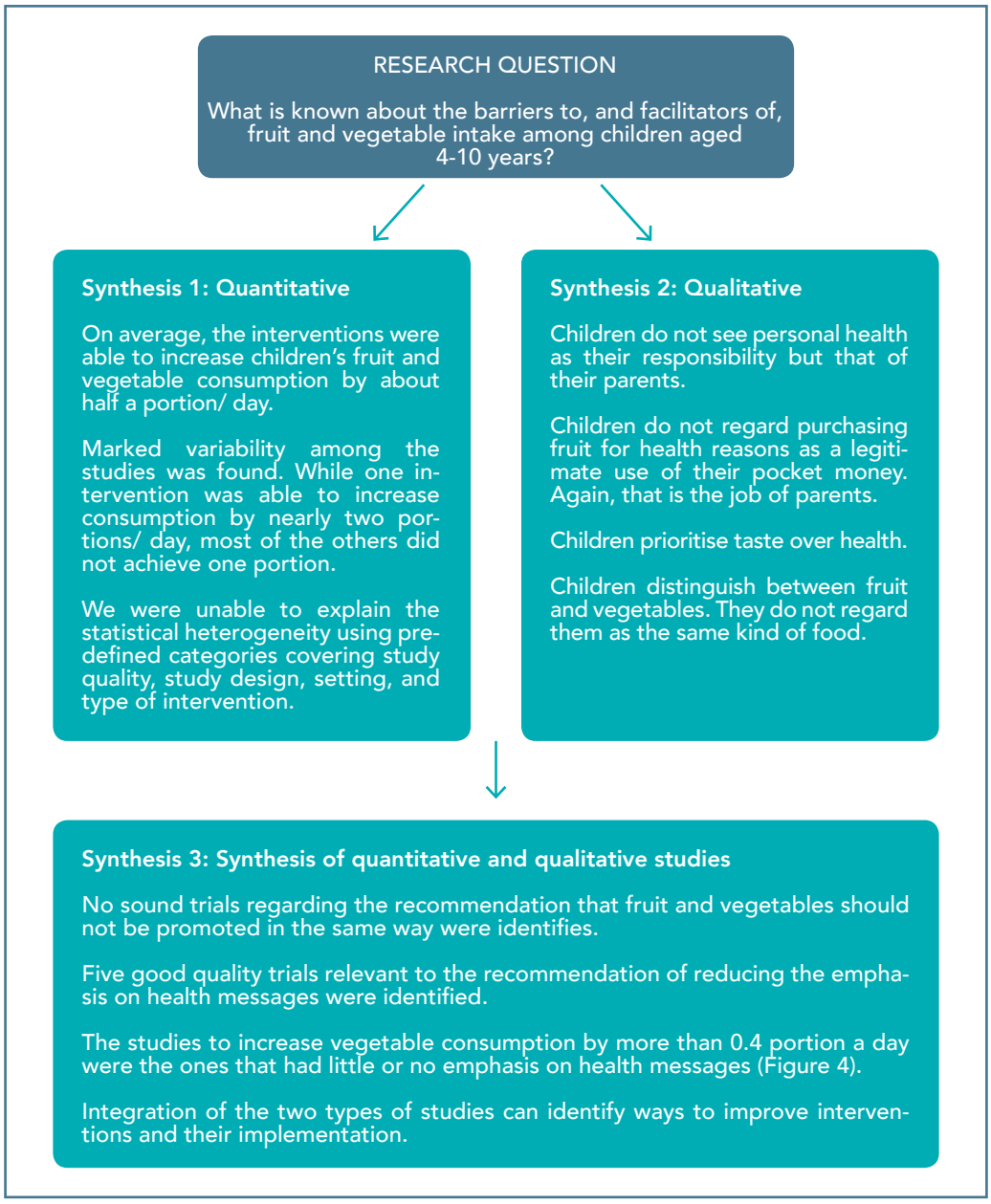
Figure 2. Patient decision aids for prostate cancer screening. Creation and validation with qualitative and quantitative methodology



Sources: Fernández de Sanmamed Santos MJ, Ballester Torrens M, Ariza González F, et al. [Comprension of a document informing citizens as to the benefits and risks of prostate cancer screening. A semistructured interview-based study]. Rev Esp Salud Pública. 2007;81(3):289-304. [In Spanish]

Fabregas M, Guix L, Aragonès R, et al. [What Do Men Between 50 and 70 Know About the Effectiveness, the Benefits, and the Risks of Prostate Cancer Screening]. Aten Primaria. 2008;40: 357-61. [In Spanish]

Figure 3. Practical example of the use of quantitative and qualitative synthesis



Source: Thomas J, Harden A, Oliver S, et al. Integrating qualitative research with trials in systematic reviews. BMJ. 2004; 328 (7446):1010-2.

five there was practically no mention of health. When effectiveness was analysed it was realized that the interventions integrating the children's perception, obtained by means of qualitative research, were significantly greater (Figure 4).

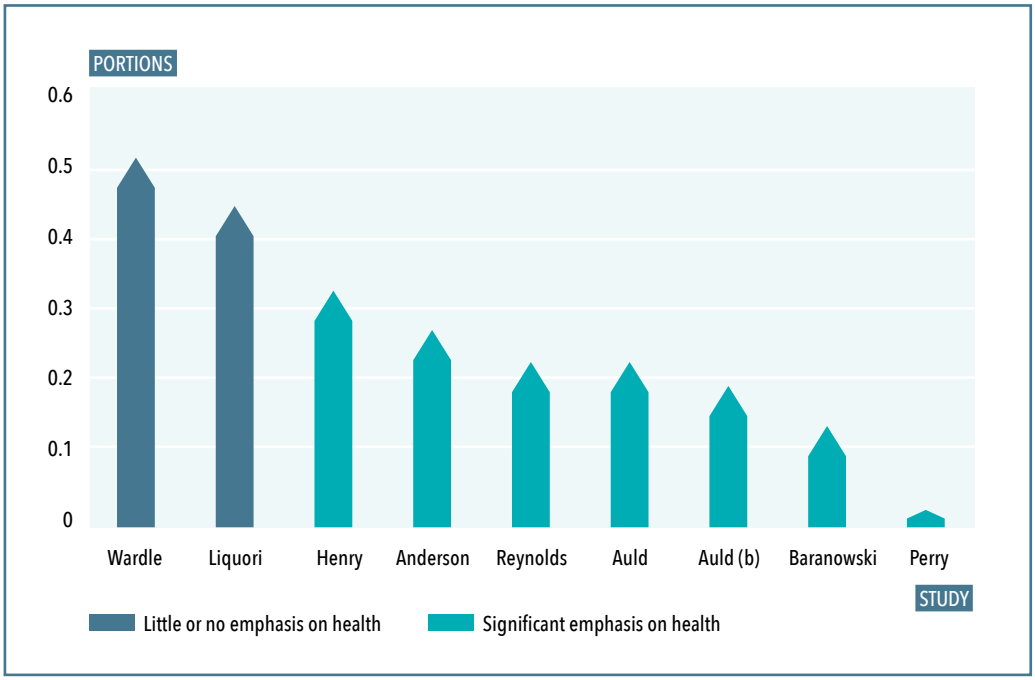
This study illustrates the fact that the integration of results obtained with both qualitative and quantitative methodologies, obtains a greater understanding of the issue at hand.

Source: Thomas J, Harden A, Oliver S, et al. Integrating qualitative research with trials in systematic reviews. BMJ. 2004; 328 (7446):1010-2.

Table 4 shows further studies that have used mixed methodology and some references with theoretical support on mixed methods.

Write a research objective which would require the joint use of qualitative and quantitative methodologies

Figure 4. Increase in consumption of fruit and vegetable in trials with data on health emphasis



Source: Thomas J, Harden A, Oliver S, et al. Integrating qualitative research with trials in systematic reviews. BMJ 2004;328(7446):1010-2.

Table 4. Examples of studies that have used complementary quantitative and qualitative methodology and theoretical references regarding mixed-methods

Examples of studies
Alonso-Coello P, Romero JZ, Comas DR, del Campo RR. [Diagnostic yield in benign anal disease in primary care]. Aten Primaria. 2009;41(10):582-3.
Aymerich M, Berra S, Guillamón I, et al. [Development of the Spanish version of the KID-SCREEN, a health-related quality of life instrument for children and adolescents]. Gac Sanit. 2005;19:93-102. [In Spanish]
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Esch T, Mejilla R, Anselmo M, et al. Engaging patients through open notes: an evaluation using mixed methods. BMJ Open. 2016;6:e010034.
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Greenhalgh T, Stramer K, Bratan T, et al. Adoption and non-adoption of a shared electronic summary record in England: a mixed-method case study. BMJ. 2010;340:c3111.
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Howman M, Walters K, Rosenthal J, et al. You kind of want to fix it don't you? Exploring general practice trainees' experiences of managing patients with medically unexplained symptoms. BMC Medical Education. 2016;16:27-7.
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Examples of studies

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Theoretical references of complementary use of quantitative and qualitative methodologies

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Berenguera A, Pujol-Ribera E, Violan C, Romaguera A, Mansilla R, Gimenez A, et al. Core indicators evaluation of effectiveness of HIV-AIDS preventive-control programmes carried out by nongovernmental organizations. A mixed method study. BMC Health Serv Res. 2011;11:176.

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Garcia M, Borras JM, Mila N, Espinas JA, Binefa G, Fernandez E, et al. Factors associated with initial participation in a population-based screening for colorectal cancer in Catalonia, Spain: a mixed-methods study. Prev Med. 2011;52(3-4):265-7.

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Little P, Moore MV, Turner S, Rumsby K, Warner G, Lowes JA, et al. Effectiveness of five different approaches in management of urinary tract infection: randomised controlled trial. BMJ. 2010;340:c199.

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Source: Authors own table.

To conclude, and before examining in-depth the methods and instruments required to conduct research with qualitative methodology, it should be emphasized that the complementary and joint use of different paradigms enhances knowledge. Nevertheless, each has its own set of tools which should be respected in order to maintain the integrity and coherence of each of the methodologies employed.

Key Concepts

- Qualitative research represents a paradigm, a perspective, and an attitude that differs from quantitative research.
- Different methodologies, methods, and procedures correspond to each paradigm and its presuppositions.
- The objective of science and research is to bring us as close as possible to the understanding of reality. According to the qualitative paradigm, individual subjectivity forms part of the studied reality and is an essential component of research.
- Qualitative research is characterized by the fact that it studies issues within their natural context and tries to find their meaning through the significance that participants attribute to them. The objective is to share these meanings through the analysis and interpretation of discourses and/or observations and/or documentary productions.
- Qualitative research does not try to find universal laws because it understands that there is not one single truth but multiple truths that depend on the contexts. It seeks more moderate and situational generalizations based on the joint results of contextual research.
- Qualitative research prefers to speak of researchers' impartiality rather than objectivity or neutrality. Impartiality implies a capacity to discover and listen to others, whereas objectivity and neutrality signify the elimination of the researcher's perspective even though this is practically impossible.
- The Health Sciences combine both quantifiable elements (the sign) and aspects which are in the subjective field, of feeling (the symptom). In this respect they participate as much in the Natural Sciences as in the Social ones.
- Qualitative research is an "ethically" necessary opportunity for the understanding of reality as reality is so complex that it transcends any and all methodological perspectives.
- Methodological plurality and the complementarity of the methodologies in the understanding of a phenomenon are essential in the approach to complex realities such as those found in health sciences.
- Mixed methods constitute a research design that encompasses different procedures to combine and integrate quantitative and qualitative methodology in the same study.

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>2

Systematic search of qualitative studies: key strategies

ÍNDEX

Background

The aim of a bibliographic search is to identify and retrieve available documentation on a specific subject. Afterwards, information of interest will be extracted from these articles. The purposes of a bibliographic search are varied: knowledge update, preparation of a scientific meeting, design of a research project, writing up a systematic review, a scientific paper or clinical practice guidelines, solve usual care questions related to persons and families, planning of community interventions and evaluation of health services. In conclusion, the bibliographic search is essential for excellence in professional practice, for continuing professional development, for teaching, for research and for audits, planning and management purposes. Moreover, it will offer evidence-based care to patients and family members.

The search and identification of qualitative studies must be systematic and reproducible. The strategies employed in the search for quantitative studies are not readily transferable to qualitative research. Some authors have underscored the challenge of the searches for qualitative research and have suggested strategies to improve them. The use of creative terms in the titles, abstracts with incomplete information and indexing terms that do not adequately reflect the contents of the publication hinder the retrieval of qualitative studies and transform the search into a real challenge. Some progress was achieved with the introduction in 2003 of the term *qualitative research* as controlled vocabulary in MEDLINE. However, few relevant and many irrelevant references are still obtained with this search engine.

Planning and conducting a systematic bibliographic search of qualitative studies

Planning a systematic bibliographic search should facilitate a quicker access to the most relevant information. The following aspects need to be taken into account when initiating the bibliographic search:

- The purpose of the bibliographic search (healthcare, teaching, solve clinical questions or person centred care questions, research, management and/or planning)
- Type of design
- If we pursue a comprehensive or a specific search
- If we plan a periodical update of the information
- Accessibility to databases and scientific journals
- Time

The characteristics of the research query and the objectives of the investigation determine the strategy to be followed and the best choice of sources to retrieve the information required in as little time as possible. The first phase of a bibliographic search is to define the information requirements, the formulation of the search query and to determine the search

criteria. The query must be simple and specific with regard to the study subjects (perspective, population, who?), setting, study topic (exposure, intervention, what?), comparison if applicable, results and evaluation. Following the suggestions of Rafael Bravo, Antoni Parada and Ana Barderas, the steps proposed in Table 1 will allow us to undertake an efficient systematic search.

Table 1. Example of systematic search of qualitative studies

Phases of the search strategy	Example	
1. Analysis of problem and formulation of query	**Do patient´s expectations influence chronic medication compliance?**	
2. Identification of concepts: separate the components of the question or search terms in natural language. Formulate query following SPICE: • **S**etting (Where?) • **P**erspective (Who?) • **I**ntervention / exposure / phenomenon of interest • **C**omparison • **E**valuation	**S_Setting_Context_Place_Where:** Primary Health Care **P_Perspective_From Who_:** People on the same medication for at least 6 months **I_Phenomenon of interest Exposure_ Intervention_What?:** Expectations of chronic medication **C_ Comparison_ What_else:** Not applicable **E_ Results:** Use of medicines (treatment adherence and discontinuation, search for further information, agreement)	
3. Translate terms from natural (everyday language) to controlled language using the specific terms of each database. PubMed uses MeSH terms Alternatively, we can search the indexing terms of articles relevant to our research query.	**Natural language** Primary Care Chronic medication Expectations Adherence Qualitative research	**Controlled language** **Related to Primary Health Care** • Primary Health Care • Family Physician • Family Medicine • General Practitioner • Community Health Nursing • Nurse practitioner **Related to the perspective** • Chronic diseases **Related to the object of study** • Medication expectations • Patient compliance • Adherence • Concordance **Related to qualitative research** Qualitative research Phenomenology Nursing research Qualitative Interview Experience
4. Plan the strategy to be followed	Select terms to be used	
5. Select information sources or the databases more suited to the research query	MEDLINE - MEDLINE Plus; Cochrane Library; Cochrane Plus; EMBASE; CINAHL; Science Citation Index; Social Science Citation Index; Indice Médico Spanish; LILACS; CancerLit; CUIDEN; Cuidatge; Teseo; Scielo; PsychINFO; Scopus	

Phases of the search strategy	Example
6. Search for each term independently: as a free text (tw: searches in the title, in the abstract, in the MeSH terms and in the subheadings), as MeSH (MH), taking into account synonyms and truncation characters: (*) wildcard for an unlimited number of characters (?) for an only character.	**#1** ("primary health care" [MH] OR "primary care") **#2** "Chronic diseases" **#3** "medication expectations*" **#4** ("Qualitative research" [MH] OR "Qualitative research" OR Qualitative OR Interview OR Experience* OR "focus group")
7. Implementation of strategy Combine terms by means of logical operators (AND and OR), filter search (by age, language, time) and apply methodological filters	**#2 AND #3 AND #1 AND #4**
8. Assessment of results	Based on the assessment of results, we might need to change strategy. If we get too many results, we can restrict the search by time or adding controlled vocabulary. If we do not get enough results we can broaden the search with synonyms, natural language terms and expanding the time frame.
9. Consider the need to consult other sources	Taking into account the diversity of indexing practices in MEDLINE and CINAHL, a comprehensive search might require the use of both and also of databases less used by health professionals. Other sources of data can be books, lectures and communications in scientific meetings. On occasion, several search strategies might be necessary.

Source: Authors own table.

Identifying the concepts of the structured question: PICO, SPICE, SPIDER and STARLITE

An accurate formulation that includes all components of the research query is essential for an effective search and to find the most relevant documents. We can apply different strategies that originated in quantitative research with the PICO method, followed by later alternatives such as SPICE (for the search of qualitative studies); SPIDER (for the search of qualitative studies and/or mixed methods); and STARLITE (*Standards for Reporting Literature searches*) for the bibliographic search of systematic reviews of qualitative studies (see Table 2).

Table 2. Strategies to formulate structured questions

Concepts of the structured question	Example of question	Concepts of the structured question in natural language
PICO **P- Patient or problem of interest** **I- Intervention** **C- Intervention to compare** **O- Outcomes of interest**	Is nicotine replacement therapy better than brief counselling to quit smoking?	**P-** Smoker **I-** Nicotine replacement therapy **C-** Brief counselling **O-** Quitting smoking
SPICE **S- Setting** **P- Population** **I- Phenomenon of interest** **C- Comparison** **E- Evaluation**	Do people in advanced stages of cancer attended in palliative services want to participate in the decisions on their own treatments? To openly address treatment in their illness, does it influence end of life experiences and emotions in any way?	**S-** Palliative services in Spain **P-** Patients with an advanced stage cancer **I-** To openly address the patients' preferences in relation to their treatment **C-** Not addressing the issue at all **E-** End of life experiences and emotions
SPIDER **S- Sample** **P I- Phenomenon of interest** **D - Design** **E- Evaluation** **R- Research type**	What are the knowledge, beliefs and practices of people at high risk of contracting hepatitis B and C and which are the barriers and facilitators of detection, treatment and changes in behaviour?	**S-** People at high risk of contracting hepatitis B and C **PI-** Knowledge, beliefs and practices with respect to hepatitis B and C **D-** Methodological aspects: Focal groups; interviews; discourses; narratives; observation; grounded theory. **E-** Barriers and facilitators of detection, treatment and changes in behaviour. **R-** Qualitative or mixed methods studies
STARLITE **S - Sampling strategy** **T - Type of studies** **A - Approaches** **R- Range of years** **L - Limits** **I - Inclusions and exclusions** **T - Terms used** **E - Electronic sources**	What are the expectations and experiences of women abused by their partners when they seek help from health professionals?	**S–** Sensitive (every study on the subject); specific (relevant studies selected by specific filters); selective (year, journals, discipline specific) **T–** Qualitative studies **A–** Electronic search**;** references from studies reviewed; contact with investigators **R-** Start search from July 2004 **L–** Age group; language;… **I–** In English; girls and women over 15 years of age; abused by their partners currently or in the past; with analysis of expectations and experiences of these women with health professionals **T-** "intimate partner violence" or "domestic violence" or "battered women" or "spouse abuse" and related terms in qualitative research **E-** Medline; Applied Social Sciences Index and Abstracts; Social Science Citation Index; CINAHL; PsycINFO.

Source: Authors own table.

Indexing and search terms

The indexing terms in qualitative research are not always clearly defined and it is often necessary to use words from the title, the abstract and keywords to find articles. Table 3 shows a list of useful terms suggested by different authors.

Other qualitative articles can be found with the name of the author, the name of the analysis programmes (Atlas.ti, NVivo), by discipline (ethnology, psychology, sociology, anthropology, philosophy), by study topic (Perceptions, Attitudes, User Views, Standpoint, Viewpoint), by techniques and/or analysis (In-depth interviews, Semi-structured interview, Focus group, Grounded theory, Action Research, Content analysis, Thematic analysis). Information about methods could be seen in Chapter 3.

Information sources to respond to our query

The search in qualitative research encompasses various disciplines and information sources: books, discussions with colleagues, contact with experts, library catalogues, electronic libraries of universities, the Directory of Open Access Journals (DOAJ), Web 2.0 (blogs, wikis), grey literature, electronic databases, the Internet, academic journals, professional organizations and reports. Each of these sources of information offer different options and coverage, all of them have their particularities, advantages and disadvantages. The adequacy of use of these sources is contingent on the specific requirements of the user.

The bibliographic databases are not fixed entities that produce always the same results. They can be independent and accessible until they merge into a larger database or even disappear. Also, the databases update periodically (quarterly, yearly) and a search might therefore not produce the most recent literature. On the other hand, most contain indexing errors caused by documentarians, authors and editors. The attitude of the searcher is also not fixed, she might change database or search strategies; fatigue and frustration also play a role in the time and dedication to a search.

Table 4 Information sources commonly used to respond the research question.

Table 3. Useful indexing terms to find qualitative research articles in databases

FREE TERMS	qualitative method*, qualitative stud*, constant comparative, qualitative, case stud*, participant observ*, ethnograph*, focus group*, interview*, theoretical sampl*, phenomenol*, purposive sampl*, grounded theory, content analysis, lived experience, life experience, ethnological, ethnonursing, action research, findings, narrativ*, talk*, perspective*, perception*, vignette
MEDLINE-PUBMED	qualitative research, nursing methodology research, Interviews as Topic, focus groups
CINAHL (Wilczynski et al., 2007)	ethnography, qualitative, grounded-theory, thematic-analysis, content-analysis, observational-methods, constant-comparative-method, field-notes, participant-observation, narratives, field-studies, audiorecording, focus-groups
BARROSO (Barroso et al., 2003)	case study, constant comparison, content analysis, ethnography, exploratory study, feminist, focus group, grounded theory, hermeneutic, interview, narrative/narrative analysis, naturalistic study, participant observation, phenomenology, qualitative method, qualitative research and thematic analysis
SHAW (Shaw et al., 2004)	**Controlled language (thesaurus)** **MEDLINE**: "Qualitative Research" or "Nursing Methodology Research" **CINAHL:** Subheading "Qualitative Studies" with terms like "Phenomenological Research" and "Grounded Theory"
	Free language: "ethnograph$", "lived experience$", "narrative analysis", "grounded theory" and "glaser and strauss$". This approach looks in titles, abstracts and keyboards
	Broad terms: with three broad terms "qualitative", "findings" and "interview$" and the controlled term "Interviews"
WONG (Wong et al., 2004)	**Search with a single term** **Higher sensitivity:** interview:.mp **Higher specificity:** interview.tw **Best sensitivity+specificity:** interview [TW]
	Search with two or three terms **Higher sensitivity:** interview:.mp OR px.fs. OR exp health services administration **Higher specificity:** qualitative [TW]. OR themes [TW] **Best sensitivity + specificity:** interview:.mp. OR experience:mp. OR qualitative.tw.
GRANT (Grant et al., 2004)	**Design:** Action research, active feedback, analysis (conversation, discourse, documentary, key informant, narrative case study), case study, documentary, ethnography, focus-groups, grounded-theory
	Interviews: cognitive, focused, in-depth, semi-structured, structured, taped, unstructured
	Observation: participant, open ended questionnaire survey, participatory research, phenomenology, qualitative synthesis, reflection on learning process, visual data collection tools

Source: Authors own table.
**and $= wildcart or clipped term; mp=Multiple position; tw=Text Words*

Table 4. Information sources commonly used to the research question

Name of resource	Description
ASSI (Applied Social Science Index)	Information on community medicine and social aspects of health and wellbeing
Cochrane Methods Qualitative and Implementation	Our focus is on methods and processes involved in the synthesis of qualitative evidence and the integration of qualitative evidence with Cochrane intervention reviews of effects. Our purpose is to advise Cochrane and its network of people on policy and practice and qualitative evidence synthesis, develop and maintain methodological guidance, and provide training to those undertaking Cochrane reviews. From 2012 our mandate has been extended to include methods for undertaking systematic reviews of implementation
BIREME	Virtual health library. Latin American and Caribbean Centre of Information for Health Sciences. Access to searches in LILACS, PAHO, Medline and Cochrane
CINAHL (Cumulative index to nursing and allied health literature)	Database specialized in nursing. Books, PhD thesis, conference proceedings, educational software, audio-visual materials and journals (access to full text in some)
DARE (CRD Databases)	Database of systematic reviews which includes abstracts
Embase	Database with an extensive coverage of European journals
Excelencia Clínica	Searcher specialized in evidence-based practical resources
HTA (CRD Databases)	Database of health technologies assessment reports
ISI Web of Knowledge	Web-based platform with references from the main scientific publications on any discipline
JBI Connect+	Database of systematic reviews specialised in nursing from the Joanna Briggs Institute
LILACS	Bibliographical database with references from health sciences journals from Latin America
MEDLINE	The best known and most used biomedical database. Comprehensive, free of charge, good quality of classification and very effective in retrieving references from the index
Psycinfo	With relevant information on psychology and related disciplines such as medicine, psychiatry and education
Red de Investigación Cualitativa en Salud (REDICS)	Resources of the Red of Qualitative Research in Health
Journals of qualitative research	Index of journals of qualitative research and journals that publish qualitative studies
Scopus	Includes abstracts and references of articles on science, technology, medicine and social sciences
ResearchGate	Information on researchers, discussion forums and exchange of articles

Source: Authors own table.

Access	Language	URL
€	English	http://www.proquest.com/products-services/ASSIA-Applied-Social-Sciences-Index-and-Abstracts.html
Free	Spanish	http://methods.cochrane.org/qi/welcome
Free	Spanish	http://regional.bvsalud.org/php/index.php?lang=en
€	English	https://www.ebscohost.com/nursing/products/cinahl-databases/cinahl-complete
Free	English	http://www.crd.york.ac.uk/crdweb/
€	English	https://www.embase.com/login
Free	Spanish	http://www.excelenciaclinica.net/
Free	English	http://www.crd.york.ac.uk/crdweb/
€	Spanish	http://www.accesowok.fecyt.es/
Free	English	http://es.connect.jbiconnectplus.org/
Free	Spanish	http://lilacs.bvsalud.org/es/
Free	English	http://www.ncbi.nlm.nih.gov/pubmed
€	English	http://www.apa.org/pubs/databases/psycinfo/index.aspx
Free	Spanish	http://www.isciii.es/ISCIII/es/contenidos/fd-el-instituto/fd-organizacion/fd-estructura-directiva/fd-subdireccion-general-servicios-aplicados-formacion-investigacion/fd-centros-unidades/fd-investen-isciii-2/redics.shtml
Free/€	English	http://www.slu.edu/organizations/qrc/QRjournals.html
€	English	https://www.scopus.com/home.uri
Free	English	https://www.researchgate.net

Identify qualitative research studies in Cumulative Index to Nursing and Allied Health Literature (CINAHL)

The CINAHL database produced by *Cinahl Information Systems* provides indexing of the main nursing and allied health journals since 1982, including publications from the *American Nurses Association* and the *Nacional League for Nursing*. Subscription is required. In CINAHL we can find books, PhD thesis, conference proceedings, educational software and audio-visual materials. The database also includes either the full text or the references from around 500 journals. Some studies have observed that there are less methodological terms in the indexing of qualitative articles in MEDLINE than in CINAHL. CINAHL's greater accuracy in qualitative research can be attributed to the great use of qualitative research in nursing. Nancy Wilczynsky and col. provide different search strategies to discriminate qualitative studies in CINAHL. Using various field tags (exp:explode; tw:textwork; sh;subject heading; $:truncation; mp:-multiple posting) the highest sensitivity is achieved with the combination of

Table 5. Comparison of indexing in MEDLINE and CINAHL

Title of article	indexing terms in CINAHL	indexing terms in MEDLINE
"Personal growth after severe foetal diagnosis" (Black & Sandelowski, 2010)	Major topics: Personal Growth Parents-Psychosocial Factors Prenatal Diagnosis Psychosocial Factors Perinatal Death Minor topics: Human Ethnographic Research Male; Female; Adult Record Review Medical Records Parental Attitudes Evaluation Purposive Sample Interviews Audio-recording Content Analysis Prospective studies Pregnancy Outcomes Pregnancy Marriage Time Factors Emotions Scales Funding Source	Mental Health Ethnography End-of-life Perinatal loss

Source: Authors own table.

terms **exp study design OR exp attitude OR exp interviews;** and highest specificity with **grounded theory.sh. OR thematic analysis.mp**. The combination search that achieves the highest sensitivity + specificity is: **interview.tw OR audiorecording.sh OR qualitative stud$. mp**. Indeed, the strategies that combine indexing terms with words from the text can achieve high sensitivity and specificity in searches of qualitative studies in CINAHL.

Table 5 shows an example of indexing terms for the same article of qualitative research in MEDLINE and CINAHL and illustrates the variability of indexing practices of these databases. If we require a comprehensive search we should use all available sources.

Methodological filters (CLINICAL QUERIES and SPECIAL QUERIES) to retrieve the articles most relevant to our research

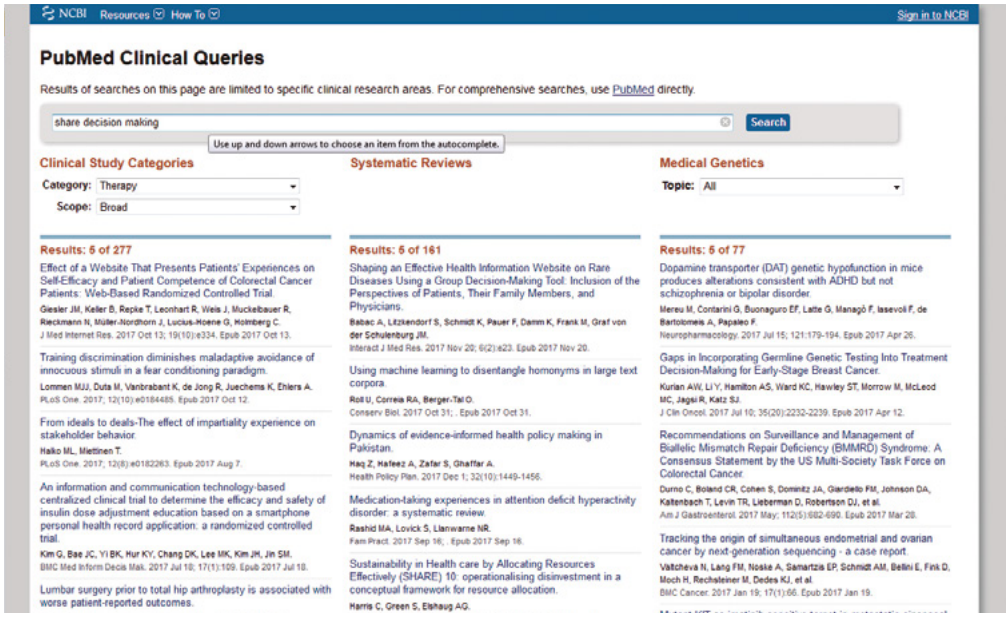
The procedures to plan and carry out bibliographic searches improved greatly with the emphasis on evidence-based practice. A key element of this progress were the systematic reviews, which undertake a systematic and comprehensive search of literature to identify relevant studies on the topic of interest. Health professionals, librarians and documentarians laboured to optimise bibliographic searches and developed complex strategies (*advanced search*) that facilitate an efficient retrieval of evidence also by less experienced investigators.

Systematic reviews were traditionally based on quantitative studies, particularly on randomized clinical trials. To increase the probability of retrieving relevant articles, Brian Haynes and col. designed various methodological filters very useful in quantitative research. These filters use predetermined search strategies useful and intuitive to identify the most relevant studies on a given topic. In CLINICAL QUERIES of PubMed (see Figure 1) and assuming that for each question a specific type of study provides the most adequate answer, these filters are applied to the following types of design: therapeutics (clinical trials), diagnosis (sensitivity and specificity studies), aetiology (cohorts or case-control studies) and prognosis (cohort studs ies). In addition, filters can emphasize sensitive/broad (comprehensive search that retrieves most articles on a particular topic) or specific/narrow (search that retrieves a smaller number of publications but with more relevant contents).

>> Filters to facilitate the search of qualitative studies

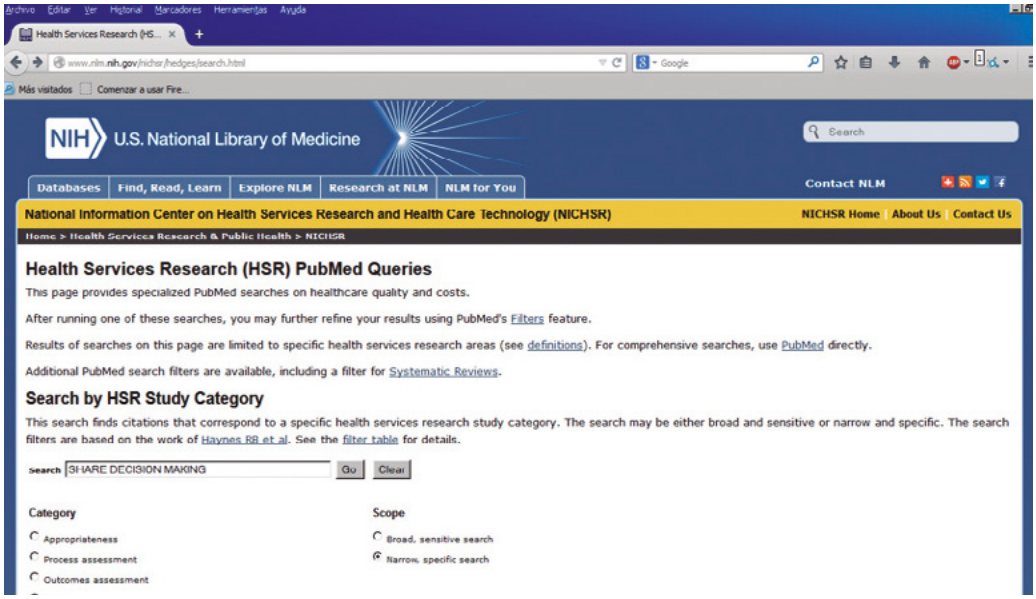
Sharon Wong and col. evaluated different search strategies to find qualitative studies in the main journals in MEDLINE; manual search was their gold standard. The studies and reviews were considered qualitative if the contents, data collection and analysis corresponded to this methodology. In order to obtain a wide range of search terms, they formulated a list of free terms [tw: methodology in title or abstract], controlled language (MeSH), type of publication, subheadings and

Figure 1. Screen of CLINICAL QUERIES in PubMed and example of use
Source: Screenshot from PubMed



Source: Screenshot from PubMed

Figure 2. Screen with the SPECIAL QUERIES options of PubMed



Source: Screenshot from PubMed

field tags. These lists originated from several qualitative studies, queries to documentarians and health professionals with some experience in the subject, and interviews carried out in international meetings. The author and Brian Haynes developed some filters to improve the retrieval of qualitative articles and analysed sensitivity, specificity and the best combination of both applying diverse search strategies: with a single term (interview.mp) or with the combination of two or three terms (experience [tw] OR interview [tw] OR qualitative [tw]). Researchers can use these filters to determine the best balance between sensitivity and specificity based on the objectives of the research.

Options such as SPECIAL QUERIES of PubMed/MEDLINE (see Figure 2) include a specific category of filters for qualitative research within PubMed Health Services Research (HSR) Queries Methodology Filters

http://www.nlm.nih.gov/nichsr/hedges/search.html

Web 2.0 (social web) and other internet resources

Web 2.0 or social web is a work in progress difficult to define. In practice, Web 2.0 is a group of applications free of charge that internet users know well and that facilitate the participation of these users in the Internet, where they publish, edit and exchange contents. Web 2.0 increases the intensity and efficiency of generation of knowledge and the exchange of ideas and allows collective work and virtual contact with colleagues and society in a simple way and at low cost.

The most characteristic tools of Web 2.0 are the blogs, wikis, Really Simple Syndication (RSS), various Google services (Google Scholar and personal searchers), social bookmarking web services (Del.icio.us) and various resources for the management of multimedia archives (Youtube, Flickr and podcasts). The most popular application are probably the **blogs**, where the blogger and participants share ideas, opinions, news, suggestions and knowledge. Blogs also offer the opportunity to network and generate debate, in contrast with the most predetermined corporate websites. The contents of the blogs can be disseminated through the search and indexing tools of different web formats such as Hypertext Markup Language (HTML), Really Simple Syndication (RSS) and Resources Description Framework (RDF), using their searchers and indexing tools. Blogs with searchers specialized in health and medicine can be found at:

- MedWorm (http://www.health2con.com/tv/medworm-a-medical-search-engine/)
- eDrugSearch (https://edrugsearch.com/blog/)

We should mention especially **Healthtalk.org**, a digital platform with the following aims: a) provide reliable, relevant evidence-based information on diseases and health problems; b) contribute resources for continuing professional education; c) promote better communication between patients and health professionals. This platform includes many different perspectives on a particular health problem and facilitates sharing of experiences amongst people with similar problems. You can access these platforms at: http://www.healthtalk.org/ and www.youthhealthtalk.org

Really Simple Syndication (**RSS**) is a web news dissemination system, easily recognisable through its orange label. News, publications and other information of interest have a heading usually followed by a brief abstract for the users to decide if they want to access the whole text. Webs such as that of the Spanish Society of Family and Community Medicine have RSS where you can subscribe to different subject categories. Any website (internet portals, scientific publications, blogs, and podcasts) can have its own RSS.

A Wiki is an interactive web application were the users can quickly and easily produce, edit, modify and erase contents. The most universal example is Wikipedia (www.wikipedia.com) and in biomedicine, the Ganyfid encyclopaedia (www.ganfyd.org).

Finally, we want to underscore the need to include within the bibliographic search for qualitative research local, social and community publications that reveal what happens in real life to real people: local councils; neighbourhood associations, support groups, local societies. This information will be essential to approach the study subject and to contextualize it.

This chapter has addressed the search strategies of qualitative research. In the next chapter we will introduce the characteristics of study design in qualitative research, the theoretical-methodological approach and aspects of method and sample design. We encourage you to continue. It might be challenging, but you will not get bored!

Resources around this chapter could be seen in Appendix 1.

Reflections and exercises about this chapter:

Which are the best databases in a search for qualitative studies? Is it important to use more than one source? Elaborate

Which information sources are available at your library?

Do a bibliographic search exercise to locate qualitative studies on promotion of physical activity, following the phases proposed below:

1. Elaborate a structured question following the SPICE strategy to retrieve the relevant evidence on promotion of physical activity
2. .Identify key elements for the search
3. Identify terms in natural language
4. Identify MESH terms for each concept
5. Write down the strategy and combine terms with logical operators (AND-intersection, OR-addition or NOT- exclusion)
6. Search in two databases
7. Which articles match in the two databases?
8. Conduct an advanced bibliographic search to find relevant information on promotion of physical activity in PubMED/MEDLINE's SPECIAL QUERIES, whit a filter specific for qualitative studies
9. Analyse results and consider modifying strategy

Try PubMED/MEDLINE's SPECIAL QUERIES, with a filter specific for qualitative studies, on promotion of physical activity. Analyse and discuss the results

1. Based on the previous structured question, conduct an advanced bibliographic search to find relevant information on promotion of physical activity
2. Identify MESH terms for each concept
3. Write down the strategy combining elements by means of logical operators
4. Use filters, if adequate
5. Search in two different databases
6. Which articles match in the two databases?
7. Analyse results and consider modifying strategy accordingly

Concept	Electronic databases	Natural terms (free language)	Controlled language (MESH terms in thesaurus)	Number of articles retrieved	Number of relevant articles

Key concepts

- Bibliographic search is essential for continuing professional development, for excellence in professional practice, for teaching, research, audits, planning and management.

- The use of imaginative titles, abstracts lacking in essential information, variability of indexing terms in databases and the difficulty in setting up effective filters hinders the search for qualitative studies.

- The need for systematization and reproducibility of the search and identification of qualitative studies has been highlighted by the undertaking of systematic reviews of qualitative studies.

- Planning a systematic search of information yields more relevant findings.

- The characteristics and objectives of the query determine the strategy and the choice of the best sources to achieve the results required in as little time as possible.

- The query must be simple and specific with regard to the study subjects, the setting, the objective of the study, comparisons if any, results and assessment. We suggest to follow the acronym SPICE.

- MEDLINE and CINAHL include search terms of qualitative research. In CINAHL, indexing terms for qualitative methodology are more accurate. Consequently, searches in CINAHL retrieve a higher number of relevant publications.

- There are various strategies and filters to optimise bibliographic search in qualitative research, but its effectiveness is yet unknown. Recent publications compare sensitivity, specificity and precision of different strategies applied to different databases.

- Web 2.0 (social web) provide free applications with the potential to increase the intensity and efficiency in the generation of knowledge and collective work, and to contact other colleagues and society at large.

- In qualitative studies, search effectiveness can greatly improve if different strategies are implemented in different databases. Authors and documentarians have a key role in improving indexing.

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>3

Design of qualitative studies: theoretical, methodological perspectives, methods and sampling designs

ÍNDEX

The hallmarks of qualitative research

Following the introduction to the qualitative paradigm in Chapter 1, we will now discuss the theoretical, methodological aspects of design in qualitative research.

The design of qualitative studies is typically **flexible, open** and **changing.** The research questions and the objectives are open to be further defined and enriched during the investigation process. During the design of a qualitative research protocol the different phases of the investigation must be logically articulated to enhance quality, efficiency and to facilitate the continuity of the research. The assessment of the theory, the methods, data collection and the analysis and interpretation of findings do not follow a linear template. Indeed, there is a continuum between the different phases and knowledge originates from an iterative process that moves between theory, methods and data.

The initial proposal or **planned design** evolves and can change. The concepts and elements in the initial proposal are used as a guide and template, without restricting reality. The research team must keep a creative and open attitude and acknowledge the need to introduce changes to capture the relevant elements that emerge during the investigation. These new elements can affect the research questions, the methods, data collection techniques, analysis and results.

Modifications can be introduced right from the onset of the investigation. Events during field work, changes in the research queries and the reflexivity of the research team will bring about the **emergent design**. The **final design** is only obtained at completion of all phases of the investigation.

The research process in qualitative research is **circular** and **emergent.** The different phases of the investigation are not sequential (they can overlap), but are instead interactive and interdependent, i.e., each component can influence and modify the others. For instance, when we are in the data collection phase we might become aware of a possible informant that we did not plan to include. However, this informant can greatly contribute to the understanding of the object of research. The inclusion of this type of informants might lead the research team to rethink the objectives, the sample and/or the data collection techniques.

Flexibility and **circularity,** true fingerprints of qualitative research, do not imply lack of direction or lack of rigour and quality. On the contrary, the **reflexivity** of the research team is essential to introduce changes and emergent elements in the investigation.

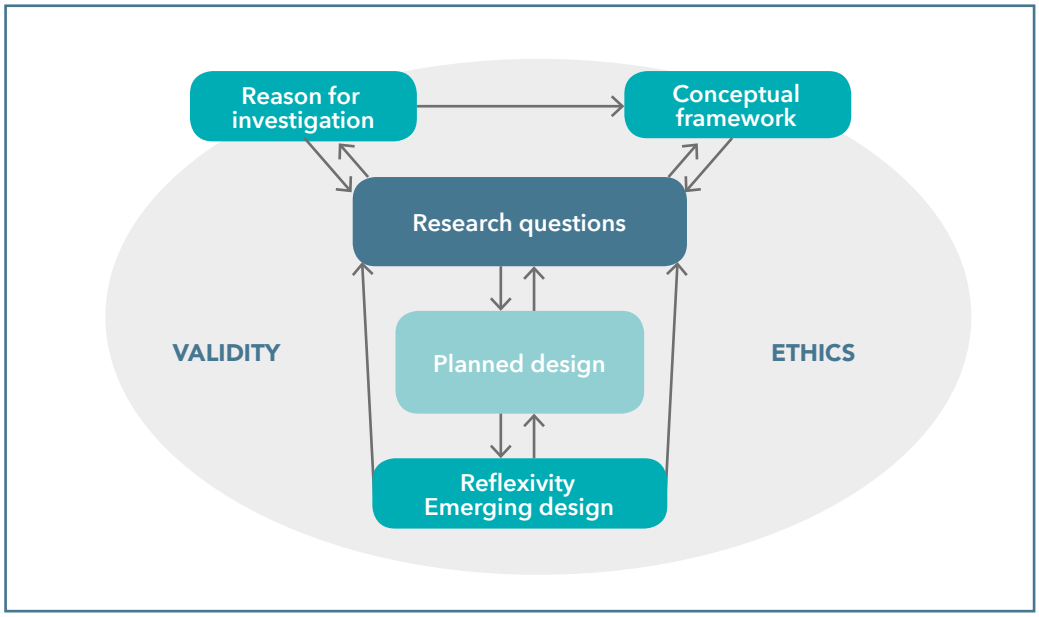
Linda Finlay describes reflexivity as a conscious self-awareness of the research team that promotes the analysis and assessment of the influence of subjective positions-answers, intersubjective dynamics and the research process in the results. Reflexivity pervades all phases of the study, even before from the subject that arouses interest, from the bibliographic search and the theoretical orientation up to the writing up of the final report. Carmen de la Cuesta underscores that is not about undertaking reflexive activities but about being reflexive. In some measure, the whole research team is linked to the topic of study, chooses topics of interest, is involved in field work, uses theoretical sensitivity for the analysis and contributes to the writing of the report. In conclusion, reflexivity is not

the last phase of the study, but pervades the whole research. The research team accepts the mutual influence between researchers and participants; moreover, the research team tries to unravel its own impact in the investigation and to integrate its subjectivity and maintaining impartiality in the study as a means to understand the participants.

Figure 1 illustrates the interactive link between the different components of the design. Design is an iterative, evolutionary and changing process, which involves checking back to the previous phases (going backwards) and evaluating the implications of the motives, conceptual framework, research questions, methods, validity and ethics.

Which are the three hallmarks of qualitative research?

Figure 1. Links between the different phases of the investigation and its components



Source: Adapted from Maxwell JA. Qualitative research design. An interactive approach. 2nd ed. Thousand Oaks, CA: Sage; 2005.

Design phases

Every phase of qualitative research requires a careful design. Table 1 summarizes these phases, (see more detail in Appendix 2 *Guidelines for study design in qualitative research*). This chapter explains the first three phases of the design process, although it should be considered that some phases overlap.

Table 1. Phases of qualitative research

Phase 1: Transformation of the original idea into a research question
Phase 2: Contextualization and approach to the study phenomenon
Phase 3: Conducting the planned design
Phase 4: Field work
Phase 5: Reformulation of the investigation: emergent design
Phase 6: Production of results
Phase 7: Analysis of results. Conclusions.
Phase 8: Dissemination of results

Source: Calderón C, Fernández de Sanmamed MJ. [Qualitative research in primary care]. In: Martín Zurro A, Cano Pérez JF. [Primary care. Concepts, organisation and clinical practice]. 7th ed. Barcelona: Elsevier España S.L.; 2014.[In Spanish]

>> Phase 1. Transformation of the original idea into a research question

To investigate consists in identifying and defining a phenomenon interesting to study, to formulate queries on knowledge gaps, to deliberate and plan how to answer these queries, applying best the methodology that approaches the truth about that phenomenon, how to collect data and interpret, disseminate and apply the results. The first step for the research team is to define **what they want to study, why and what questions do they want to answer**. This first phase is essential to plan the study, since the research question will determine the design of the study.

At this stage we need to define some basic concepts:

> The **study phenomenon** is the topic of interest for the research team. We will find areas poorly understood. The research team poses then questions that have never been answered, questions that have been addressed but in another sociocultural context, that have not been addressed with an adequate method, or questions with conflicting answers: What happens?; Why does it happen?; When does it happen?. The answers to these questions will advance the understanding of this phenomenon and will probably lead to more questions. According to Carmen de la Cuesta, when we have our study phenomenon we must first and foremost assess if it can be researched, if the question is relevant, novel and feasible taking into account the time and resources of the research team.

> Once we have selected our **study phenomenon** we can define what we want to achieve with the investigation and which specific questions we need to

answer. **The research questions** reflect the uncertainty of the research team in relation to the study phenomenon. The research team aims to reach part of the truth or get closer the truth.

- **The objectives of the study** will be to answer the research question. The objectives are usually formulated as verbs (to know, analyse, determine). The formulation of the objectives should include the rule of the six *w*: **what** we want to know, **for what or whom, when, where, why and how**. This rule of thumb is very useful to transform the research questions into study objectives (see example in Table 2).

Thus, from the initial idea of the research team, which could be a relatively vague concern over an event and the first questions (What is the problem?, For whom?, Why?), the problem becomes better framed and conceptualized. During this process, the **initial idea** is transformed into a **research question**.

The journey from the **initial idea** to the **research question** starts by challenging what is known and presented as evidence with a literature review (see Chapter 2), essential to establish the conceptual framework of the phenomenon to be investigated and to understand its relevance**.** Joseph A. Maxwell (Figure 1) refers to the contexts or conceptual framework, theories and beliefs that support the design of the investigation as context/conceptual framework. The conceptual framework is built by the research team from different sources:

1) Life experience (knowledge of the study phenomenon that originates from reading literature on the subject, discussions of research groups, research team experience and reflexivity, scientific meetings, advice from people that know that field).

2) The critical analysis of the theories and relevant research on the subject to find gaps and contradictions. Here you can find useful the concept mapping, with representation of the field of study and the existing theories.

3) Pointers from the pilot study and previous investigations to facilitate understanding on the subject and to improve and shed light on the design.

According to Scott Reeves, the conceptual framework provides different perspectives to investigate complex phenomena. Conceptual framework is particularly useful to orientate and focus the study design and the interpretation of data. Priscila Anderson explains that the conceptual framework exists at the heart of any practice, planning or health research. It is therefore important to indicate which is the conceptual framework used by the research team to approach the investigation on a particular phenomenon.

The review of the literature will provide the theoretical basis, the current debates and the standpoint of the scientific community in relation with the study topic. It is important to highlight, though, that many study topics have grey areas, where we find different opinions and points of view, such as in the screening for breast or pros-

Write down the research questions and one objective of a topic of interest following the rule of the 6 w

Table 2. Example of formulation of the research objectives following the rule of the six *w*

What?	To describe the lived experience of time as given at different places when living with severe incurable illness and receiving palliative care
Who?	Nine men and 14 women with more than 18 years, living with severe incurable illness and receiving palliative care, having mental capacity, able to manage an interview, speak and understand Norwegian
When?	From April 2009 to February 2010
Where?	Representing different settings: such as palliative day care units, palliative hospital bed units, palliative nursing home units and private (own) homes in Norway
Why?	Experience of time as an important topic is under researched and theoretically undervalued within nursing, while environment is one of the four major concepts of nursing Place of care is an important part of care that needs attention especially in palliative care Experience of time as it is perceived by patients at the place of care while receiving palliative care is of importance at a number of levels for the individual, the family and the healthcare policy
How?	Phenomenological design with open unstructured in-depth interviews as a method was that it afforded the opportunity to gather rich descriptions of time with variations and nuances
Objective	The aim of this study is to describe, from a phenomenological perspective, the lived experience of time as given at different places of persons living with severe incurable illness and receiving palliative care in Norway

Source: Ellingsen S, Roxberg Å, Kristoffersen K, Rosland JH, Alvsvåg H. Being in transit and in transition: the experience of time at the place, when living with severe incurable disease-a phenomenological study. Scand J Caring Sci. 2014;28(3):458-68

tate cancer and the human papilloma virus vaccine. The research team is committed to look for and to expose the contentions on the topic under study, independently of the research standpoint. In addition, if in the literature search many studies on a topic are already found, it is worth rethinking if the study is needed or if it would be better to do a review of the topic.

➜ Example: a research team wants to design a **complex intervention** aimed at people 45 to 75 years of age in primary care, with the aim to implement health promoting activities to improve their quality of life and to avoid the most frequent chronic diseases. It is a project with mixed methods that follows the first three design phases of a complex intervention according to the Medical Research Council: 1) Phase 0 Theoretical (Identifying existing evidence): a) literature review of the interventions aimed at promoting healthy lifestyles (nutrition, physical exercise and smoking); b) **i**dentification and evaluation of the different theories on health promotion and economic evaluation. 2) Phase 1 Modelling and putting into operation: the components of the intervention, their interrelation and their relationship with health results will be determined by means of a qualitative study with all the people involved (general public, key informants and professionals); the barriers and facilitators will be identified in order to design a flexible intervention feasible to implement in primary care. 3) Phase 2 Pilot/exploratory trial that will implement the intervention and evaluate feasibility, acceptability and potential effectiveness of the intervention.

During Phase 0 the research team builds the conceptual framework from the identification, the review and evaluation of the different theories of health promotion and the methods of economic evaluation. In Phase 1 (qualitative study), the research team thinks over and chooses the more appropriate theoretical, methodological approach and includes its own experience, attachment and familiarity to the study phenomenon, an essential step prior to decide on the methods, techniques and analysis of the study.

Source: Zabaleta-del-Olmo E, Bolibar B, García-Ortíz L, García-Campayo J, Llobera J,-Bellón JÁ, Ramos R. Building interventions in primary health care for long-term effectiveness in health promotion and disease prevention. A focus on complex and multi-risk interventions. Prev Med. 2015;76 Suppl:S1-4. ●

After reading and analysing the background information we must be able to answer the following questions. The answers will take us to the relevance and justification of the study:

> Can we find an answer to our question in studies previously published? What is known about this field? Which are the knowledge gaps?

> What are the debates on this topic? Which are the different standpoints or positions?

> Which theories, concepts and definitions will guide and be part of the study?

> Main authors of the research on the study phenomenon.

> Will this research contribute to the knowledge of the problem and to take action? Which benefits are expected from this study?

> Now that we know the current understanding of this topic: In our context, is this study relevant for professionals? Is important for persons?

Even when all the background work is done and we have decided to go ahead with our study topic, in qualitative research the questions remain open and the objectives are provisional. Indeed, we define and redefine them iteratively along the research process. In addition and in contrast with quantitative research, we do not start with a hypothesis that we want to verify. Our aim is to understand and discover through inductive reasoning. The hypothesis will be generated from the data along the process.

>> Phase 2. Contextualization and approach to the study phenomenon

An essential element of qualitative research is to get close to the social, cultural, historical and geographical context of the study phenomenon. In contrast to the background required in quantitative studies, in qualitative studies we do not only look at previous publications obtained from electronic databases and other resources mentioned in Chapter 2. Here, we pay great attention to subjective and contextual sources of information such as the opinions of the people involved in the topic under study, newsletters from associations and local newspapers. In conclusion, in addition to the bibliographic review, the approach to the object of study in qualitative research involves reading history and general information books on the context, analysis of non-scientific documents, establishing contact and familiarity with the field, interviews with experts on the subject and/or the context (known as key informants) and the prior knowledge and reflexivity of the research team.

>> Phase 3. Conducting the planned design

The conceptual framework we choose, the contextualization, the approach to the study phenomenon and the objectives will influence how we collect, analyse, interpret and use the results obtained. When the research team has research queries and a provisional objective and has chosen the conceptual framework, they can decide which **general methodology or epistemological tradition** will approach the object of study and which method or specific path they will follow throughout the investigation.

The following sections introduce various aspects of methodology, methods and sampling required for the design of the study.

Distinction between methodology, methods and techniques

Lupicinio Íñiguez-Rueda underscores that methodology, methods and data collection techniques are three different concepts. Data collection techniques are procedures to obtain data that will be used according to the various methodological standpoints and methods (see Table 3).

We should emphasize that qualitative research is not only a technique to generate narrative data or an observational or documentary information collection technique (see Chapter 4), but a process where it is essential to determine the methodology, methods and type of study.

Methodology refers to the paradigm that the research team chooses to investigate the phenomena. Firstly, we must decide if we are going to use qualitative or quantitative methods and if we will decide based on the study phenomenon and the aspects we want to learn. Consequently, if we need to find out about figures (how many patients suffer from or die because of lung cancer, prevalence of smoking, risk of lung cancer amongst smokers), we will need to use the quantitative paradigm. In contrast, if we want to understand underlying behaviours, attitudes, experiences (why some people smoke, how they perceive the need to quit smoking while still smoking heavily), then we need to use qualitative research. The characteristics of the qualitative gaze and the phenomena susceptible to be unravelled with qualitative research are detailed in Chapter 1.

Qualitative methodology encompasses **various theoretical perspectives**: phenomenology, hermeneutics, interactionism (ethnomethodology, ethnography), social constructionism and critical perspective. Each approach reflects a theoretical, philosophical point of view on

Table 3. Distinction between methodology, methods and techniques

	Definition	Classification
Methodology	Theoretical corpus chosen by the investigator to approach the study phenomenon. It comprises the theories, concepts and tools developed to apply the assumptions of the chosen paradigm to the research and knowledge of the study phenomenon.	**Quantitative Methodology** **Qualitative Methodology** *Phenomenology* *Hermeneutics* *Interactionism* *(Ethnomethodology; Ethnography)* *Social constructionism* *Critical perspective*
Methods	Specific paths to approach and to get closer to the object of investigation. The methods facilitate the knowledge of social processes.	Level of interpretation in accordance with the data found Type of study Relationship of the research team with the context: degree of acculturation Level of participation of the actors
Techniques	Specific procedures of data collection and production. Based on the framework they are ascribed to, these procedures can be used by both quantitative and qualitative research.	Conversational techniques Observational techniques Documentary techniques Numerical techniques *

** The numerical techniques usually belong to quantitative research. However, they can also be used in qualitative research.*
Source: Adapted from Iníguez Rueda L. [Qualitative research and evaluation: theoretical and conceptual bases]. Aten Primaria 1999;23(8):496-502.[In Spanish]

the construction of social events, with its own *corpus* of knowledge and procedures. Two research teams might agree on using the same paradigm (qualitative paradigm) but they will respond to different theoretical, methodological perspectives, which are usually determined by their training and experience.

We will now explain the most significant theoretical, methodological approaches. Aspects related to methods in qualitative research will be presented later. Chapter 4 will introduce the techniques to generate information.

Theoretical, methodological perspectives

Before explaining the theoretical, methodological perspectives in qualitative research we would like to underscore that:

a. This classification might differ from those you can find in other manuals or disciplines; we aim to facilitate and summarize the key elements.

b. The different theoretical approaches have expanded throughout disciplines. They can on occasion combine. Indeed, the borders between these different orientations can sometimes appear blurred.

c. Our position is to prioritize debate over methodology. We emphasize the theoretical and methodological reflection on the object of study, the research project and the strategies to approach the study phenomenon. Ideally, the research team should think about and answer the following questions (see Appendix 3):

- How does the team want to construct meaning?
- What does the team aim to understand?
- How does the team want to understand?
- Which is the level of participation or the role of the research team?
- Which is the level of participation of the actors?
- Which is the level of interpretation of the study?
- What are the best techniques to obtain information?

In conclusion, the research team reflects and decides what they want to do. Only after this process do they ascribe their proposal to a theoretical, methodological perspectives According to Margarete Sandelowsky, "*tell me what you have done and I will ascribe a name to the perspective*." Indeed, Jesús Ibañez explains that the research team is a DIY group able to use different methodologies, methods and techniques and to build an investigation dialectally related with the study phenomenon.

>> Phenomenology

Phenomenology was initially described by Edmund Husserl (1859-1938). It aims to explain how **people describe social phenomena through their actual experiences**. Researchers try to capture the meaning, the common traits and the essence of experience in everyday life. They use the strict description of experiences and a detailed analysis for an in-depth understanding of the meanings. In phe-

nomenology, questions on experiences are asked in first person, the participants are recruited because they have experience on the study phenomenon and often a small sample size provides a detailed description and rich data of this experience, enough to reveal essential aspects.

The data are mainly obtained through individual interviews, but can also be combined with other techniques such as observation or reading relevant documents on that particular topic. In phenomenology the description of the meaning can be attained by observing the experience from outside (ETIC approach– see section on *Level of acculturation*) with candour leaving behind prejudice, theoretical positioning, knowledge, feelings and judgement to view the essence of the phenomenon. In a nutshell, it aims to highlight the description of the experience as described by the person who has experienced it.

➜ Sidsel Ellingsen and colleagues conducted one study using the phenomenological perspective, with the objective to describe the lived experience of time as given at different places (private home, hospital palliative care ward, hospital palliative day care ward, palliative nursing home), when living with severe incurable illness and receiving palliative care.

Methods: The motivation for choosing a phenomenological design with open unstructured in-depth interviews as a method was that it afforded the opportunity to gather rich descriptions of time with variations and nuances. Data consist of 26 tape-recorded interviews from 23 respondents: 9 men and 14 women, with more than 18 years, living whit severe incurable illness and receiving palliative care, having mental capacity, able to manage an interview, speak and understand Norwegian receiving palliative care in Norway. All but one lived at home and were either outpatients at a palliative day care unit or had a temporary stay in a palliative care ward at a hospital or in a nursing home. Face-to-face in-depth interviews were carried out from April 2009 to February 2010 in the respondent's own home or at different palliative care units at the hospital or in the nursing home.

Results: A common meaning of a shifting space for living emerged from the analysis and was revealed through three different aspects: (1) Transition from a predictable to an unpredictable time; (2) Transition between a safe and unsafe time; (3) To be in transition from a homely to a homeless existence.

Conclusions: The study shows that the lived experience of time as it presents itself at different places cannot be separated from bodily condition. In a situation of embodied suffering, safety is revealed as the most important aspect of life, while a homely atmosphere is described as essential for feeling at home in existence.

Keywords: experience of time, palliative care, transition, place of care, atmosphere, embodied, phenomenology

Source: Ellingsen S, Roxberg Å, Kristoffersen K, Rosland JH, Alvsvåg H. Being in transit and in transition: the experience of time at the place, when living with severe incurable disease-a phenomenological study. Scand J Caring Sci. 2014 ;28(3):458-68. ●

>> Hermeneutics

Hermeneutics means to **interpret**, clarify, decode, reveal or translate the language

(text). It means that something becomes understandable. It is believed that the name originates from the Greek god Hermes, the messenger, to whom the origin of language and scripture was ascribed and who they considered patron of communication and human understanding. Initially it meant the understanding of the messages from the gods, which required a correct interpretation.

Understanding is the result of interpretation and it is linked to a historical, social and cultural context. The aim is to comprehend the multiplicity of the phenomenon by means of language, in itself a carrier of cultural and historical influences. The aim would be to understand the world-text of the participants and to interpret it by means of reflection. Hermeneutics considers experience itself as an interpretive process. The purpose of this perspective is to trap the implicit meaning of the experience, i.e., to interpret the experience and reveal its hidden meanings.

Contemporary hermeneutics has influenced many schools of thought and very different authors. Amongst the most relevant propositions we find that of Hans Georg Gadamer and Wilhelm Dilthey. For Gadamer, understanding is agreeing through language and dialogue (the dialectic of question and answer). On the other hand, understanding means interpreting. If during a conversation a person puts herself in the other person's shoes to understand her point of view, during text interpretation the analyst tries to put herself in the informant's shoes to understand first the text as well as the author and then, even better than the author. In hermeneutics the investigators have an ETIC approach (from within the phenomenon – see section on *Level of acculturation*) and their task is to go beyond the simple description to reveal hidden meanings and to interpret them.

The interpretation must be understanding, i.e., it implies the fusion of the horizon of the interpreter and the reality interpreted. The research team proceeds to integrate the reality in the system of meanings of here and now.

The two central premises of hermeneutics according to Gadamer are: a) *historicity* or previous judgement (conceptions, prejudices and the horizon of our own meanings are part of our linguistic experience and make understanding possible) and b) *universality* (people that communicate and are understood have a common human conscience that make comprehension possible). Therefore, assumptions must not be eliminated or cancelled since they facilitate the understanding of the meaning. Besides, since we are human beings, it is possible to understand another human being. In the hermeneutic approach the questions can include conceptual, theoretical and historical traditions.

➜ The abstract of the study published by Foteini JD Vouzavali et al on the nurse-patient relationship during care of people in critical situations, unable to communicate, is an example of the hermeneutics perspective.

Background: The nurse-patient relationship has been postulated to lie at the core of nursing care. However, it is unclear how this concept applies in critical care, as a great majority of critically ill patients are unable to communicate.

Aims: Through a phenomenological hermeneutical perspective, we aimed to explore intensive care nurses' perceptions and meanings regarding their relationship with critically ill individuals.

Methods: A Heideggerian hermeneutical approach was used to design the study and analyse the data, which were collected through repetitive interviews with 12 intensive care nurses.

Results: Critical care nurses reported to experience deep relationships with patients, which seemed to be mediated by the ongoing contact with patients' bodies. These relationships evoked intense feelings of love, empathy and care and affected how nurses perceived and made sense of their role and their world. The identified core theme of their experience is entitled 'syncytium', which describes a network of closely connected cells. According to participants' perceptions, nurse and patient affected each other reciprocally and were mutually dependent upon each other. In Heideggerian terms patients provide nurses with opportunities to experience 'authentic care' and they participate in their 'being-in-the-world', thus they are central in nurses' meanings about their role and existence. Other elicited themes that account for the perceived nurse-patient relationship include the spatiality/temporality of the relationship, nurses' perceptions and meanings attributed to their role and nurses' perceptions of death.

Conclusions: Critical care nurses appear to experience their relationships with patients intensely. These relationships are invested with meanings and elicit powerful feelings. Patients are central in the nurses' meaning-making process and role perception.

Relevance to clinical practice: These findings have implications for the educational preparation of critical care nurses and their psychological support.

***K*ey words:** Interpretative research, Intensive care nurses

Source: Vouzavali FJ, Papathanassoglou ED, Karanikola MN, Koutroubas A, Patiraki EI, Papadatou D. 'The patient is my space': hermeneutic investigation of the nurse-patient relationship in critical care. Nurs Crit Care. 2011;16(3):140-51.

>> Interactionism

Interactionism, a theory firstly developed by George Mead, conceptualizes reality as a collective or social construction. Interactionism aims to understand and interpret the interactions between people through the analysis of symbols, in particular of the language people use in everyday encounters. In other words, it aims to understand how individuals create meanings through social action, interactions and reactions. Herbert Blumer structured the basic ideology of interactionism. Blumer was a recognized and influential teacher in the universities of Chicago and Berkeley between 1954 and 1969. According to Blumer (1969), interactionism is based on three assumptions: a) human beings act towards objects of the physical world and towards other beings in their environments in relation to the meaning that these objects and beings have for them; b) the meaning derives from social interaction (communication with people like us through language and other symbols that produce meanings); c) the meanings are established and modified through a process of interpretation where the actor selects, chairs, cancels, regroups and transforms meanings in light of her situation and the direction of her action); on the other hand, the meanings are used and reviewed as instruments to guide and materialize the action.

In view of the emphasis on understanding social interactions, interactionist studies often obtain data from observation, since it is the technique best suited to this perspective. According to Blumer, "the study must be carried out from the position of the actor." Consequently, the research team must plunge into the world of the participants and adopt an EMIC attitude (from inside the phenomenon – see section on *Level of acculturation*). Since the action is created by the actor with what she perceives, interprets and judges, the research team needs to view the particular situation as the actor views it, to perceive the objects as the actor perceives them, to discover the meanings in terms of the meaning that they have for the actor and follow the behaviour of the actor as organised by her: in a nutshell, the research teams need to assume the role of the subjects of research and see the world from their point of view. Although observation is the main technique of this perspective, researchers can also use interviews to capture elements of social action.

We can differentiate two perspectives within interactionism that differ in the origin of its traditions and in the mode of capturing the meaning: ethnomethodology and ethnography.

Ethnomethodology

Ethnomethodology is a sociological movement born in the second half of the twentieth century from the work of Harold Garfinkel and Aaron Cicourel, who emphasized that social reality is constructed, produced and experienced by their members (one ethnos or human group that lives together). Ethnomethodology aims to analyse the methods used by people to give meaning and carry out everyday actions (to communicate, to think, decision making). In other words, it aims to reveal how people create their worlds, which rules generate them. Ethnomethodology assumes that all humans have a practical sense (or a practical sociological reasoning) used to adapt the rules for everyday activities, as professionals and/or simply, as common people.

Ethnomethodological studies use video recording, ethnographic register and innovations that imply the interaction of the researcher with the social groups. Language is the most important element of any social situation. The logic of language is essential for the logic of the social constitution of meaning. It is also a part and an essential organizer of interaction. The research team enters the context as a virtual participant (semiEMIC approach - see section on *Level of acculturation*), can use impressions, field notes, documents (audio and video) and tries to find meaning through a process of polihedric interpretation of the reality of a human group. To this end, the researcher must carefully apprehend every detail of language and interaction (gestures, mimics, tone, silences, style), the picture must contain all the elements and the phenomenon under study must be visualised in the specific context (place, presence of other people, interests, beliefs, values, attitudes and culture) of the participants. It is not enough to apply a system of pre-established rules that often originate in a theoretical framework, since what is valid for a group might not be valid for another and the same behaviour can reveal very different experiences, feelings and attitudes.

In conclusion, the best technique for data collection in ethnomethodology is the observation and recording with audio and video to analyse the scenes repeatedly and to triangulate the interpretation with other analysts.

The purpose of ethnomethodology is to specify the essence of social practices in circumscribed phenomena. To interpret, the research does not start from nil, but from the resources of that society (group culture, family vocabulary, professional orientations) and the conceptual frameworks that give meaning to the topic under study. Indeed, ethnomethodologists endorse Foucault's view that the individual does not make up everything, but "uses patterns suggested or imposed by her culture, society or social group". Ethnomethodology has studied many aspects of family, society and human health.

➜ A study by Núria Codern reflects on the contributions of the ethnomethodological qualitative approach which studies the organization of everyday talks in the field of professional practice, based on an analysis of the interaction patient-health professional (doctor or nurse) during a motivational interview to help quit smoking in people with low motivation in primary care. You can consult the abstract of this article below:

Background: Research indicates that one third of smokers have low motivation to stop smoking. The purpose of the study was to use Conversational Analysis to enhance understanding of the process in Motivational Interviewing sessions carried out by primary care doctors and nurses to motivate their patients to quit smoking. The present study is a substudy of the Systematic Intervention on Smoking Habits in Primary Health Care Project (Spanish acronym: ISTAPS).

Methods: Motivational interviewing sessions with a subset of nine participants (two interview sessions were conducted with two of the nine) in the ISTAPS study who were current smokers and scored fewer than 5 points on the Richmond test that measures motivation to quit smoking were videotaped and transcribed. A total of 11 interviews conducted by five primary health care professionals in Barcelona, Spain, were analysed. Qualitative Content Analysis was used to develop an analytical guide for coding transcriptions. Conversation Analysis allowed detailed study of the exchange of words during the interaction.

Results: Motivational Interviewing sessions had three phases: assessment, reflection on readiness to change, and summary. The interaction was constructed during an office visit, where interactional dilemmas arise and can be resolved in various ways. Some actions by professionals (use of reiterations, declarations, open-ended questions) helped to construct a framework of shared relationship; others inhibited this relationship (focusing on risks of smoking, clinging to the protocol, and prematurely emphasizing change). Some professionals tended to resolve interactional dilemmas (e.g., resistance) through a confrontational or directive style. Interactions that did not follow Motivational Interviewing principles predominated in seven of the interviews analysed.

Conclusions: Conversational analysis showed that the complexity of the intervention increases when a Health professional encounters individuals with low motivation for change, and interactional dilemmas may occur that make it difficult to follow Motivational Interview principles. Incorporating different forms of expression during the Motivational Interviewing could help to build patient-centred health *care* relationships and, for patients with

low motivation to stop smoking, offer an opportunity to reflect on tobacco use during the office visit. The study findings could be included in professional training to improve the quality of motivational interviewing.

Keywords: Conversation analysis, Communication, Motivational interviewing, Primary health care, Qualitative research, Smoking cessation, Social interaction

Source: Codern-Bové N, Pujol-Ribera E, Pla M, González-Bonilla J, Granollers S, Ballvé JL, Fanlo G, Cabezas C; ISTAPS Study Group. Motivational interviewing interactions and the primary health care challenges presented by smokers with low motivation to stop smoking: a conversation analysis. BMC Public Health. 2014;14:1225.

Ethnography

Ethnography is an interactionist theoretical approach whose aim is to observe, register, understand and describe in detail the cultural practice, social interactions, traditions, behaviours, beliefs, decisions and actions of the different human groups (teams, organizations and communities), i.e., their identity and lifestyle. We can find the roots of ethnography in the anthropological studies of the early nineteenth century carried out in remote, scarcely inhabited rural areas. The investigators spent long periods of time in those communities to report their beliefs and social contracts. One of the most popular ethnographic studies is *Argonauts of the Western Pacific*, by Bronislaw Malinowski (1884-1942), on the rituals and social practices of the inhabitants of the Trobriand Islands. Based on the analysis of faraway cultures in anthropology, the ethnographic methods have been applied to closer social and cultural contexts.

Ethnographic studies take place where the action occurs. The ethnographer gets close to the source of data and pays attention to every detail. Ethnography involves minute observation and the participation in the social life of the group during field work. The main method of data collection is participant observation. The research team usually assumes an active role in the everyday activities of the community to comprehend the culture. Besides, participating in the activities facilitates asking the members of the group under study about their actions and behaviour. According to Martyn Hammersley, "the ethnographer participates in everyday life of the people during a sufficient length of time to observe what happens, to listen to what is said, to ask. Data are obtained with the participation in the experience or situation under observation, therefore we assume that the observation is participant; it can be that the investigator does not participate in the action, but she surely will participate in the experience. The ethnographer is always there."

Ethnography uses many sources to collect data. To register the information the field notes are mandatory. They contain the data of the observation and the experiences of the ethnographer in a particular culture. The ethnographer also collects permanent registers, audio-visual materials such as photographs, maps, recordings, videos and other data that can illuminate the object of research. The field diaries must include recollections of the investigator, analytical notes, feelings and challenges. The field work is usually supplemented by interviews to obtain further information and to discover data inaccessible for people outside that particular culture. Ethnographic data are rich, detailed and thick. They are organised chronologically or by categories for an easier access.

The analysis of ethnographic data focuses on categories and cultural patterns.

The results are detailed descriptions of cultural practices and of their particular contexts. Here "context" does not refer to the physical space but to beliefs, values and situations that explain comprehensively human behaviour. Thick description refers to the report of the research team that details traditions, practices, beliefs and myths of a culture.

➜ We add the study of Catherine Pope on the use of electronic decision aids in a health emergency context which uses the Normalization Process Theory.

Background: Information and communication technologies (ICTs) are often proposed as 'technological fixes' for problems facing healthcare. They promise to deliver services more quickly and cheaply. Yet research on the implementation of ICTs reveals a litany of delays, compromises and failures. Case studies have established that these technologies are difficult to embed in everyday healthcare.

Methods: We undertook an ethnographic comparative analysis of a single computer decision support system in three different settings to understand the implementation and everyday use of this technology which is designed to deal with calls to emergency and urgent care services. We examined the deployment of this technology in an established 999 ambulance call-handling service, a new single point of access for urgent care and an established general practice out-of-hours service. We used Normalization Process Theory as a framework to enable systematic cross-case analysis.

Results: Our data comprise nearly 500 hours of observation, interviews with 64 call-handlers, and stakeholders and documents about the technology and settings. The technology has been implemented and is used distinctively in each setting reflecting important differences between work and contexts. Using Normalisation Process Theory we show how the work (collective action) of implementing the system and maintaining its routine use was enabled by a range of actors who established coherence for the technology, secured buy-in (cognitive participation) and engaged in on-going appraisal and adjustment (reflexive monitoring).

Conclusions: Huge effort was expended and continues to be required to implement and keep this technology in use. This innovation must be understood both as a computer technology and as a set of practices related to that technology, kept in place by a network of actors in particular contexts. While technologies can be 'made to work' in different settings, successful implementation has been achieved, and will only be maintained, through the efforts of those involved in the specific settings and if the wider context continues to support the coherence, cognitive participation, and reflective monitoring processes that surround this collective action. Implementation is more than simply putting technologies in place – it requires new resources and considerable effort, perhaps on an on-going basis.

Source: Pope C, Halford S, Turnbull J, Prichard J, Calestani M, May C. Using computer decision support systems in NHS emergency and urgent care: ethnographic study using normalisation process theory. BMC Health Serv Res 2013;13:111. ●

>> Social constructionism

Constructionism, a paradigm of theory, interpretation and practices, sustains that reality is constructed within the social, historical and individual context, i.e., reality is part of a specific plan and time and is actively created by human beings. People process external stimuli and construct cognitive structures that generate their adaptive behaviour.

Social constructionism originates from sociology and social psychology. According to this paradigm, knowledge is a human construction, a shared experience produced during the process of interaction between investigators and participants, where the social context, mutually constructed, has a key role. The social constructionism research teams aim to describe, understand and explain minutely a particular context from the analysis of the interaction between researchers and investigators. They try to elucidate the building process of the meanings and clarify which meanings and how do they get incorporated into language and into the action of the social actors. The social constructionism researchers assume that reality is not fixed; people build their own reality, which is amenable to change when people is better informed. The role of the research team is usually EMIC, although it can also be ETIC.

Social constructionism underscores values such as altruism, empowerment (to compensate the misbalance of power) and emancipation. It promotes the involvement of users and professionals during the research process. It is a reaction to the conventional evaluation methods, which frequently exclude the voice of some of the actors involved in the evaluation process. All this involves a trend towards equality, towards less hierarchic structures, towards distribution of power between stakeholders and towards the design of interventions and activities with the participation of all stakeholders to improve the situation.

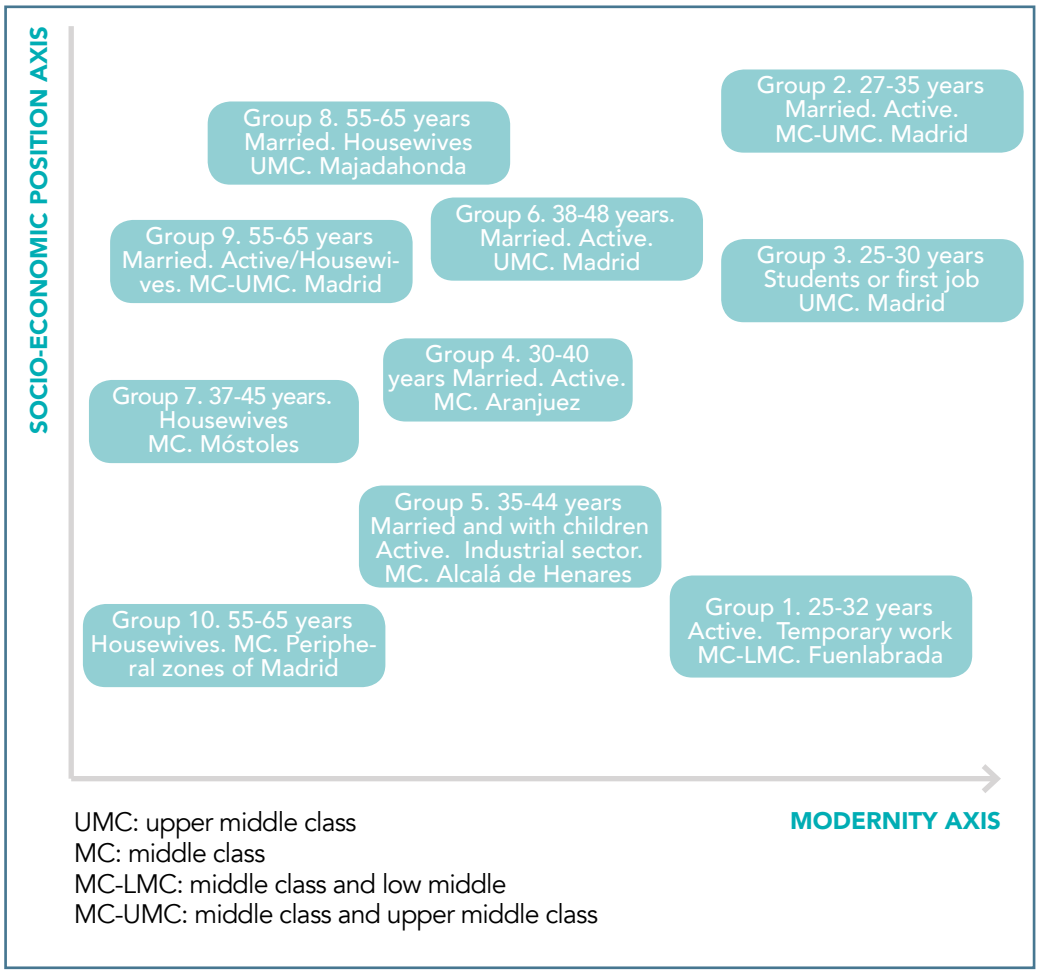
➜ The social constructionist approach is exemplified in the study of Fernando Conde on the evolution of the social representations of health in women from Madrid. Even though the author does not specify the theoretical perspectives, she uses discussion groups because she is interested in the collective generation of social meanings of health for women, and she carries out an analysis of interpretative data by means of discourse analysis.

Background: In 1993 a first investigation was conducted in women from Madrid. In 2000 a second investigation was carried out with the aim to analyse a hypothetical evolution of the social representation of health in women and consequently, introduce changes in the health programmes from 1993 with the results of this research. The objective was to analyse the possible evolution of the discourse on the social representations of health that between 1993 and 2000 would express every type found in 1993.

Methods: Qualitative research in 2000 was based in 10 discussion groups, defined by the «typologies» of the women constructed during the 1993 investigation. The characterization of the types was determined by sociodemographic and role variables identified as significant in 1993. The discourse analysis was represented in graphs to visualise the evolution of social representations.

Results: Research revealed important changes between 1993 and 2000. In

Figure 2. Map of the groups



Source: Conde F and Gabriel C. [Evolution of social representations about health among women from Madrid, 1993-2000]. Rev Esp Salud Pública 2002; 76: 493-507. [In Spanish]

2000 the discursive perspective had evolved from the role of housewife to the role of working woman; in 2000 the main social representations highlighted a dimension closer to personal balance in which the role of the women beyond that of wife and mother is very important; the dimension of worries also had evolved, with an emphasis now on the stress due to the working hours at the job and at home.

Conclusions: The study reached methodological conclusions linked to the qualitative methodology to undertake comparative and temporary studies, and more pragmatic conclusions that contributed to change health programmes for women addressing their actual concerns. ●

>> Critical perspective

More than a specific theory, critical perspective is an intellectual movement that encompasses various ideological approaches such as feminism, emancipation and participative research. The research teams that use critical theory aim to investigate to understand, but also to criticize society and to change it, questioning the assumptions of the dominant institutions. Critical perspective is based on Marx's theories on production and capitalism and was developed later on in the Institute of Social Research of Frankfurt's University in 1930. More recently, critical perspective has been applied by social scientists such as Pierre Bourdieu and Michel Foucault.

The reserch team that use critical perspective study how the construction of knowledge and the organization and power in general, and of the institutions in particular (schools, hospitals and governments) exclude and oppress particular people, groups and perspectives. They worry about socioeconomic, gender, religion and race equity and justice. They challenge the *status quo* and the establishment and try to promote action, change and empowerment. According to critical perspective, what constitute reality are social, political and cultural factors, economic, ethnic and gender values constituted historically and currently as a source of oppression. The research team and the people that participate in the investigation collaborate, are linked interactively, reality is constructed both ways and evolves permanently. The values of both sides impact on the research and the results. The dialectic relationship characteristic of critical perspective leads to awareness, empowerment and emancipation.

➜ To illustrate critical perspective, we present the abstract of the following study published by Carol Chapman et al.

Aims: This paper presents examples of good practice in nutritional screening and care and identifies methods used to overcome contextual constraints and discusses the implications for nursing practice in hospitals.

Background: Nutritional screening is an important step in identifying those at risk of malnutrition, but does not produce improved nutritional care unless it results in a care plan that is acted on. The importance of nutrition and implications for clinical care make it imperative to improve practice.

Design: Qualitative investigation. Methods. Between January 2011–February 2012, focus groups were held using a semi-structured discussion guide with nine groups of health professionals (n = 80) from one hospital: four with nurses, three with doctors and two with dietitians. Discussions were audio-recorded, transcribed and coded into themes and subthemes, which were then depicted in a thematic map and illustrated with verbatim quotes.

Findings: Three strategies for sustaining effective nutritional practice emerged: establishing routines to ensure screening was undertaken; re-organizing aspects of care to promote good practice; developing innovative approaches. Issues to be addressed were the perceived disconnection between mandatory screening and the delivery of effective care, a requirement for nutrition education, organizational constraints of a large

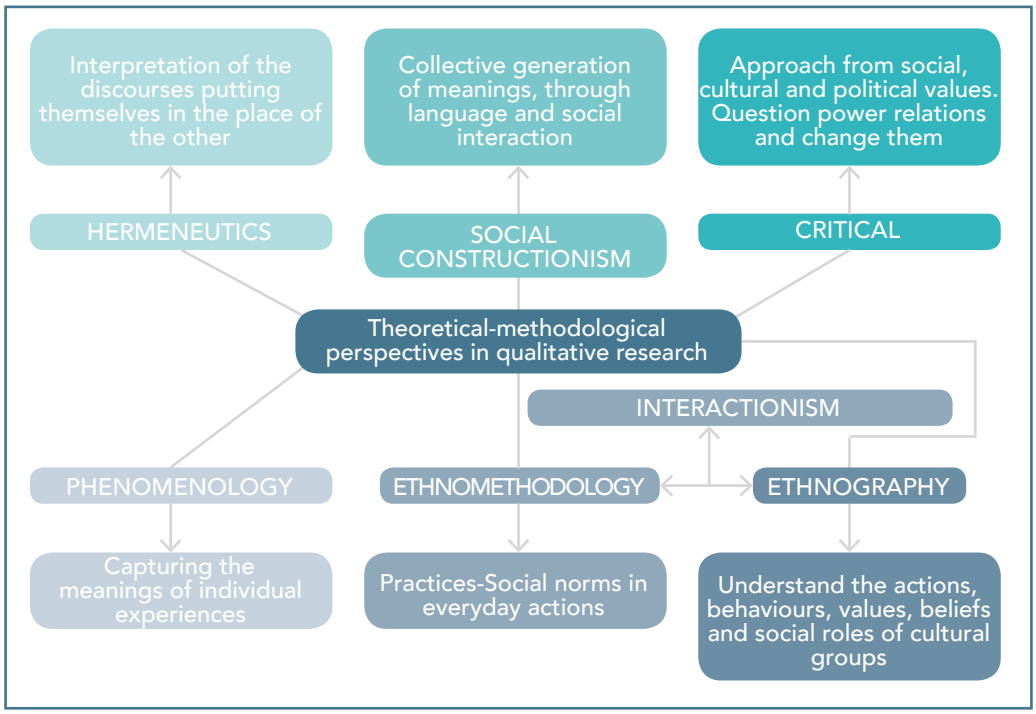
university hospital and the complexities of multidisciplinary working.

Conclusion: Professionals seeking to improve nutritional care in hospitals need to understand the interaction of system and person to facilitate change. Nursing staff need to be able to exercise autonomy and the hospital system must offer enough flexibility to allow wards to organize nutritional screening and care in a way that meets the needs of individual patients.

Source: Chapman C, Barker M, Lawrence W. Improving nutritional care: innovation and good practice. J Adv Nurs. 2015;71(4):881-94.

Figure 3 shows a synthesis of the theoretical perspectives mentioned in this manual.

Figura 3. Theoretical, methodological, perspectives and their orientation



Source: Adapted from Dew K. A health researcher's guide to qualitative methodologies. Aust N Z J Public Health 2007;31(5):433-7.

Propose one study with phenomenological perspective and another with critical perspective.

Methods in qualitative research

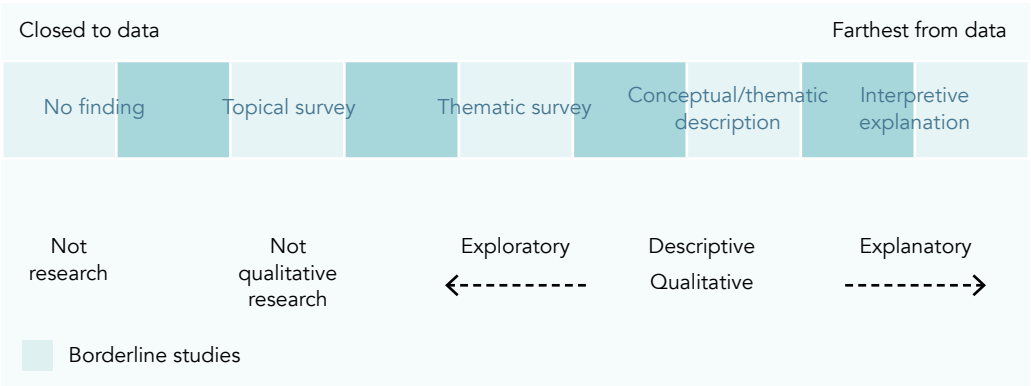
In ancient Greek, method means *pursuit of knowledge*, *odos* meaning *way*. When applied to research, it refers to the type of specific approach by the research team to the study phenomenon, to the people that will participate in the research, to the context, to the role of the research team and to the actors of the phenomenon, during the investigation and generation of knowledge (see Table 3 on page 61).

The methods comprise the operative elements and activities that make possible the knowledge of the phenomenon under study: level of interpretation; type of study, relationship of the research team with the context; and level of participation of the actors.

>> Level of interpretation in accordance with the data

Irene Vasilachis explains that the qualitative paradigm, also known as interpretative, is based on the philosophical idea that understanding social processes and the human action implies always to interpret. Researchers will produce theory based on the interpretation of the actors' meanings obtained during the dialogic meeting between actors and investigators. Authors such as Janice Morse and Margarete Sandelowski explain that the naturalist approach of studies, "**where things are told as they are**" (without interpretation), are simply data. They think that research needs "**to go beyond data**" and elaborate the results. Margarete Sandelowski explains that "qualitative studies might contain results either very close/identical to the data collected during the fieldwork not filtered by interpretation, to the more interpretative and generators of theory, i.e., those furthest away from the data collected in the field." Sandelowski believes that the simple transcription of data (interviews, observations) and the list of topics that originates from these data are not real research. Interpretation is essential for the results of a study to be

Figure 4. Level of interpretation of data and types of studies



Source: Sandelowsky M, Barroso J. Classifying the findings in qualitative studies. Qual Health Res 2003; 13(7):905-23

considered qualitative research; it can go from thematic clustering up to the generation of theory (Figure 4). In conclusion, research can produce results that are more naturalistic (closer to the data) or more interpretative, to the point of generating theory.

>> Types of study

In qualitative research, the type of study is related to the theoretical, methodological perspectives to the methods chosen to approach the study phenomenon and also to the analytic plan. The different types of study depend on the questions that we want to answer (Table 4).

> *Exploratory study:* Used when the research team has not identified enough information about a poorly understood phenomenon.

➜ Theories on the risk perception of HIV in our culture already exist. A collective of Nigerian women in our city lead us to study their preventive behaviour and risk perception of HIV-AIDS, a reality completely unknown to us. ●

> *Descriptive study:* Used to document what happens with the phenomenon under study. Descriptive studies contribute to an improved knowledge of events, behaviours, beliefs, attitudes, processes and structures relevant to our study phenomenon.

➜ After the exploratory study to learn about preventive behaviour of the Nigerian group in our area, we want in depth knowledge about preventive behaviour, which preventive methods are used and with whom, and their knowledge on sexual transmitted diseases. ●

> *Explicative-interpretative study:* Used when beyond the naturalistic study of the phenomenon, interpretations on why does it happen are sought.

➜ After the descriptive study to know how, with whom and what the preventive behaviour of the Nigerian community is, we want to know if our culture's theories on risk perception can be applied to this group. Moreover, we can design a study to generate a theory on risk perception in this Nigerian collective. ●

> *Predictive study:* Aims to identify causality and to predict how the phenomenon under study will evolve.

➜ Here, we want to predict how the people from Nigeria that live in our area will elaborate risk perception, and the risk perception they will have when they come into contact with the culture of the host country. ●

> In relation to predictive studies, it is important to take into account that not every qualitative research team endorse them, in the understanding that reality transcends research and therefore that it cannot be predicted.

>> Relationship of the research team with the context. Level of acculturation. EMIC (from inside)/ ETIC (from outside):

Acculturation represents the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members. There are two different approaches in the relationship of the research team with the context: EMIC and ETIC. The ***EMIC*** approach originates from the ethnography that believes that the basis for social knowledge is in the actions of the people, and that the research team can share the meanings by observing **"from inside"**, i.e., the research team gets inside the object of research through acculturation. By studying and revealing these actions we know reality. In conclusion, it is the participation of the research team in the phenomenon of study in her attempt to share the meanings.

➜ **Example of EMIC approach:** A research team aims to promote the reflection on assistance to family members of patients admitted to the eating

Table 4. Type of studies in qualitative research

Type of study	Purpose of the study	Research questions
Exploratory	• To investigate a little known topic • To identify and discover important aspects of a phenomenon • To generate hypothesis for future research	What happens in this context? • What are the emerging topics, patterns and categories? • What are the emerging relationships between these categories?
Descriptive	• To gather information on the topic of study	What happens in A? • Which are the events, behaviours, beliefs, attitudes processes and structures more outstanding on this phenomenon?
Explicative-interpretative	• To explain the causes that shape the phenomenon • To unravel how the causes interact to produce the phenomenon	What does A mean? • What events, beliefs, attitudes and policies shape this phenomenon? • How do these forces interact to generate this phenomenon?
Predictive	• To predict how the social processes might evolve. • To identify predictive conditions of the evolution.	What happens in B if I modify A? • What will happen in the future as a result? • Who will be affected? And • How?

Source: Adapted from Marshall C, Rossman GB. Designing qualitative research. Newbury Park, CA: Sage; 1990.

disorders unit of a hospital in Barcelona. Four members of the same hospital in Barcelona play the role of family members to observe the interaction between professionals and family members. ●

In the ***ETIC perspective*** the research team tries to understand the study phenomenon "**from the outside"**. In essence, they share the meanings on the study phenomenon through the narrative of the actors.

➜ **Example of ETIC approach:** A research team aims to promote reflection on assistance to family members of patients admitted to the eating disorders unit of a hospital in Barcelona. They carry out fifteen interviews to family members to know about their experiences during the assistance process. ●

The relationship of the research team with the context is gradual, from complete acculturation (EMIC) to low acculturation (ETIC). We can also find middle-ground positions in which some form of direct observation takes place (for instance, interviewing patients admitted to hospital while observing the ward).

>> Level of participation of the actors:

Qualitative research operates on the assumption that the social event under investigation is built by the people involved in this same event, people with their own knowledge of the topic investigated by the research team. The research team does not establish a relationship with an study phenomenon but with subjects, in this case the actors under research.

However, the relationship research team/ subjects of research might vary according

Think about one possible example of research for both approaches: EMIC and ETIC

to the type of dialogic relationship. These differences are shown in aspects such as the level of participation of the people investigated or the value ascribed to the knowledge that these people have in relation to the generation of the formal theory, i.e., the theory generated by the investigation. Authors like Irene Vasilachis are in one of the end of the spectrum of the subject-subject relationship and advocate for a relationship totally horizontal and dialogic. She explains that during the generation of knowledge there must be "a cognitive interaction, in which equal subjects cooperatively build the knowledge by means of a contribution which results from the implementation of different forms of knowing".

In the qualitative paradigm the subject of research always participates, but the level of participation ranges from simple informant to the highest participation typified by the Participatory Action Research (PAR).

> ***Participation as informants***: The participants in research are informants. It is lowest level of participation. For instance, when they respond to the questions of an interview.

> ***Partial participation of the actors:*** the subjects of research can collaborate. For instance, they can look for informants to complete the sample, they could verify the data analysed (*member checking process*) and even help the analysts to interpret the data.

> ***Participatory Action Research (PAR):*** is based on the assumption that the people construct their own reality, and that the communities where they live have their own historical, social and cultural development that transcends, precedes and continues the research process.

According to Lorelei Lingard, PAR is typified by the insertion of research in historical practice, by community intervention and the compromise of the research team with the social reality, to facilitate the participation of individuals in the transformation and improvement of their social environment.

The premises of the PAR can be summarized as follows:

- The relationship between the research team and the communities-contexts-subjects of research must be horizontal and dialogic.
- The formal scientific knowledge (research team) joins the non-formal knowledge (subjects of research) to carry out the action and social transformation.
- The research team becomes agent-promoter-companion of change and becomes involved with the community under study. The research and the action are carried out simultaneously and the actors will determine the continuity of the research and the actions.

➜ An example of PAR would be the study of Pilar Delgado on the modification of nursing practice in an intensive care unit. The general objective of this study, carried out in an intensive care unit, was to promote the reflection on nursing care through a participative process so as to bring about change in nursing practices. The Participatory Action Research was used, following the model of Kemmis and McTaggart (consisting of cycles, each with 4 phases: planning, action, observation and reflection). Kemmis and MacTaggart explain that we can objectivize a change if we analyse the three dimensions included in the culture of groups: language, activities and relationships). Data were obtained through systematic observation, 7 group meetings and analysis of documents. A total of 8 nurses participated in the study. The meetings were recorded and transcribed verbatim. An analysis of the process and of the meaning of the verbatim was carried out (process of codification/categorization and cards with extracts of the documents). The results of this study have revealed the change in nursing practice and verified that the reflection-action method promotes changes in clinical practice. This new perspective on nursing enhanced quality and humanization of care, since the respect for the patient increased, the nurses got closer and supported better the family, and resulted in a better coordination of care and more interprofessional collaboration. The authors concluded that Participatory Action Research is a valid method for practice nurses to modify everyday practice.

Source: Delgado A, Sola A, Mirabete I, et al. [Modification of nursing practice through reflection: a participatory action research]. Enferm Intensiva 2001; 12(3):110-126. [In Spanish]

Reflection about the level of participation of the actors in the following scenarios.

➜ *SCENARIO 1*

*This study has the **objective** to know the perception of the school community and the participation, agreement and compromise of the teachers in relation to the implementation of an evidence-based health promotion programme.*

***Methods:** The Framework for Program Evaluation in Public Health of the Centers for Disease Control and Prevention was used. It comprises six interrelated steps: 1) Involvement of stakeholders; 2) Description of the programme; 3) Assessment design; 4) Generation of results; 5) Justification of conclusions and 6) Ensure use and share lessons learned.*

***Setting:** 12 Primary and secondary schools of Barcelona that implemented the programme during 2010-11.*

***Study population:** In April 2011 the sample of participants was designed with criteria of adequacy, convenience, sufficiency and diversity of points of view. Researchers wanted to enrich the discourse by purposively selecting participants with a broad knowledge of the study phenomenon, with information on both health and education as key topics of the strategy. Sample size was determined during the research process, adding cases if the possibility of novel information existed, or to improve and increase collected data, until reaching saturation.*

***Data collection:** Two focus groups with teachers in charge of health matters in the schools were carried out. With regard to health professionals of the Barcelona Public Health Agency that worked with schools on a regular basis, researchers chose the individual interview in depth because it was not feasible to conduct focus groups. A total of 23 individual interviews were conducted; 47 people participated in the study. The sessions of focus groups and interview were carried out by experts in methodology who were independent of the health promotion programme (a student of the MSc of Health and Community Wellbeing of the UAB and an assistant). Based on bibliographical research and interviews to key informants, a script was prepared to collect the information.*

***Data analysis:** was based on field notes and a manual analysis of thematic contents of the discourse. This involved the identification of the elements that shaped the reality under study, the description of the relationships between them and the synthesis of the results in four categories (barriers, facilitators, suggestions for improvement and future needs). Three independent investigators carried out data analysis. The differences were solved by consensus.*

Source: Adapted from Ramos P, Pasarín MI, Artazcoz L, and col. [Healthy and participative schools: evaluation of a public health strategy]. Gac Sanit 2013 ;27(2):104-10. [In Spanish]

➜ ***SCENARIO 2***

A study published by Marga Sánchez-Candamio and colleagues with the ***objective*** *of identifying and analysing the processes that characterize the socialization and training of medical residents (MIR) in the institutions where they practice.*

Methods

Design*: Ethnographic study with a duration of 2 years.*

Setting: *Teaching primary care centres and teaching hospitals of Catalonia.*

Subjects of study and sample: *health professionals, residents, patients and teaching centres (39 different centres and 19 specialties), with the aim to attain maximum variability of discourses.*

Techniques to generate data*: Data were collected by means of individual interviews, discussion groups and participant observation of all selected training settings. Moreover, documents related with training of medical residents were analysed. Participant observation took place in all scenarios of activity of the MIR (ward, clinical sessions, emergency services, outpatients, training courses and socialising settings outside work). Two psychologists from the research team went to the teaching centres and carried out an open, intensive observation during multiple sessions, initially non-focalized and not structured, of all settings mentioned. The extracts of transcriptions and results were sent to 3 participants of each setting for verification.*

Source: Sanchez-Candamio M. El proceso de socialización de los MIR. Educación Médica, 2002; 5(2):82-9. [In Spanish]

Sampling designs in qualitative research

Mathew Miles, Elizabeth Murphy and Marga Pla explain that sample design in qualitative studies is key to the investigation, since the validity of results will depend mainly upon it. The decisions on the sampling strategy in qualitative research are determined by the conceptual framework of the study. The challenge is to select those participants that can provide significant information. The reasoning of the sampling in qualitative studies is completely different to quantitative studies: sampling is not randomized and the sample does not have to be statistically representative.

The common characteristics of sampling in qualitative research are:

> ***Intentional and justified.*** The sample units are not chosen with criteria of statistical representativeness but of **representativeness of the variability of discourses**. Researchers look for sample units (contexts, people, events, processes, activities) that can best re-

spond to the research queries, that contribute to knowledge and discovery and that interpret in depth the phenomenon under study from different points of view.

- ***Accumulative and sequential*** until having enough information to reach the objectives of the study.

- ***Flexible, circular and reflexive***. Initial decisions on sampling can lead to new aspects that need to be studied, or to verify if other informants are more suitable. Therefore, the research team might need to consider modifications on sampling throughout the investigative process. The **power of the sample** is based on the theory and data driven of information that the sample units can provide.

>> Characteristics of the sample: Relevance and sufficiency of the sample

To conduct a sampling design we must take into account:

- **Convenience-sufficiency of the sample** relates to **quality of information.** After considering feasibility: has the sampling been conducted as best as possible to reach the objectives of the study?; have the contexts and/or participants that can best explain the phenomenon under study been selected?

- **Sufficiency of the sample** relates to **amount of information.** Sample size is defined by the quality and quantity of information. When the amount of information for the objectives of the study is attained we can say that the sample is sufficient. But when can we say that it is really sufficient? The questions *when do we stop collecting data?* and *how many more interviews, groups or observations do we still need to conduct?* keep popping up. In fact, there is no magic number and more interviews do not equate to a better result. Many authors would consider the answer to be *it depends*, and explain it based on epistemological, methodological or practical reasons. We need to take into account that the sampling is **accumulative** and that for lack of other criteria, the most frequently used in qualitative research is saturation or **redundancy.** The sample is sufficient when information has reached **saturation**, i.e., when the information is repeated and does not contribute any new angle. To collect data until reaching saturation involves simultaneous techniques and analyses and does not allow to specify the number of interviews needed until the project is completed. Moreover, although some experts consider the criterion of saturation ideal, others assert that from a theoretical, methodological approach it is impossible to reach saturation. However, Greg Guest conducted a systematic review of his data (16 interviews on reproductive health of women in Africa) and found that the saturation took place in the early phases (of the 36 emerging codes in the analysis, 34 were obtained in the first 6 interviews and 35 in the first 12). In conclusion, the answer to the question *when do we stop collecting data? Is depends*. For further information we recommend the study of Greg Guest, that of Mark Mason and the report of the National Centre for Research Methods, coordinated by Sarah Elsie Baker and Rosalind Edwards, where 14 experts and 5 beginners in qualitative research suggest some solutions taking into account the theoretical perspective, the discipline,

objectives of the study, population and context, ethical aspects and availability of time and resources.

>> Types of sampling

There are two main types of sampling: **theoretical sampling** and **purposive sampling**

Theoretical sampling originated in the grounded theory (discovery of the theory from data obtained systematically). Barney Glaser defined theoretical sampling as a "process of systematic data collection to generate theory". In theoretical sampling, sample design follows a theoretical, conceptual plan that will determine the typologies or profiles of the sample unit (contexts, informants, events). The aim is to obtain as much discursive variability as possible to guarantee that different conceptual meanings on the study phenomenon are collected.

The construction of profiles or typologies by means of theoretical sampling is carried out according to the characteristics or variation patterns that the research team considers that can influence the meanings of the phenomenon under study (information obtained from references, from key informants, from the experience of the researcher).

Next, the search for the sampling units (informants, contexts, events) is carried out according to the typologies or profiles that have been theoretically determined, so that the data obtained from all sample units capture the greatest variation of conceptual meanings. Besides, we must emphasize that the studies with a theoretical sampling design have more transferability-applicability to other contexts (external validity).

In theoretical sampling the research team must ask:

- Which information will be needed?
- Which people and/or groups can supply this information?
- Where can we find this people/ groups?

➜ An example of theoretical sampling is the study of Maribel Pasarín and col. on the reasons of the population to attend hospital emergency departments for non-urgent health conditions. Participants were patients that attended hospital and primary care emergency services for non-urgent health conditions.

Steps followed for the theoretical sampling:

a. Qualitative study to share the meanings of the action of these people and to elaborate an explicative framework for this action through induction. To this end, theoretical sampling was used.

b. Researchers reflected on the sampling units to obtain the greatest variability of discourse in the people that attend hospital emergency services; homogeneity-typicity and heterogeneity-diversity

c. The sampling units were identified taking into account the theoretical framework. What and/or who are the cases?

Sample Units

	Low-middle accessibility to Emergency Unit in Hospital	High accessibility to Emergency Unit in Hospital
Low and middle-low socioeconomic status	Residents in Llançà (Girona); users of the *Emergency Unit* in Figueres Hospital Users of the Emergency Services in Primary Health Care Centre in Llançà (Girona)	Users of the Hospital del Mar in Barcelona Users of the *Emergency Unit* in Primary Health Care Centre Zona Franca in Barcelona
Mid-upper socioeconomic status	Residents in Jonquera (Girona); users of the *Emergency Unit* in Figueres Hospital Users of the Emergency Services in Primary Health Care Centre in Jonquera (Girona)	Users of the Hospital de Sant Pau in Barcelona Users of the Emergency Unit in Primary Health Care Centre Numància in Barcelona

Source: Adapted from Pasarín MI, Fernández de Sanmamed MJ, Calafell J et al. [Reasons for attending emergency departments. People speak out]. Gac Sanit 2006;20(2):91-9. [In Spanish]

Sample Units

- People who had been in Emergency Unit or who had attended Primary Care Emergency Services.
- People from different context and with different geographical access (Easy and difficult) to Emergency Unit.
- Residents of areas of different socioeconomic levels (low, middle-low and mid-upper). The following table shows all aspects considered.

d. Determination of inclusion and exclusion criteria: The emergency visits to the primary care centre during normal opening hours were not included because during fieldwork the system of identification of these emergencies was not efficient.

e. The strategy of selection of sampling units was defined: the city of Barcelona was chosen as an area with high accessibility to EU; two primary health care centres (PHCC) of the Girona Health Region (PHCC of Llançà and PHCC of La Jonquera) were selected for middle-low accessibility. Two different approaches were used in relation to the socioeconomic level of the areas of residence. In Barcelona researchers had access to a wealth index of the different areas (family economic capacity index [FECI]) and the EU and the primary care emergency services were chosen according to the FECI of the catchment area. Areas of low FECI were the catchment area of the Hospital del Mar and of the PCES Barceloneta; areas of middle-high FECI were the catchment area of the Hospital de St Pau and the PCES Numancia. In Girona, the socioeconomic level of the patients was determined based on discussions between the research team with the health professionals of this area. The population of the PHCC of Llançà was considered to have a higher socioeconomic level

Selected persons & focus group participants

	Selected persons	Letters sent	Confirmed by telephone	Attenders in groupal sessions
Emergency Unit Hospital del Mar	55	12	5	7
Primary Health Care Center Barceloneta	58	12	5	1
Emergency Unit Sant Pau	40	7	5	3
Primary Health Care Center Llançà	45	8	6 + 1 probably	4
Emergency Unit Figueres residents in Llançà	29	8	5	2
Primary Health Care Center Jonquera	36	36	3 + 3 probably	2
Emergency Unit Figueres residents in Jonquera	33	33	5	3
Primary Health Care Center Zona Franca	94	94	17	7
Primary Health Care Center Numància	99	99	16	9

Source: Adapted from Pasarín MI, Fernández de Sanmamed MJ, Calafell J et al. [Reasons for attending emergency departments. People speak out]. Gac Sanit 2006;20(2):91-9. [In Spanish]

than the population of the PHCC of La Jonquera. The combination of the segmentation variables produced a total of 8 strata (see Table above). The following Table shows the people selected and those who attended group interviews.

Source: Adapted from Pasarín MI, Fernández de Sanmamed MJ, Calafell J et al. [Reasons for attending emergency departments. People speak out]. Gac Sanit 2006;20(2):91-9. [In Spanish]

In **purposive sampling,** used when the previous theoretical construct is very poor, the selection of contexts and/or informants follows explicit, pragmatic criteria, such as feasibility of contacts, accessibility and the specific interest of a group. Some examples of purposive sampling are samples of volunteers, chain referral-snowball sampling (when a participant with the inclusion criteria is chosen and asked to identify other possible informants that find other informants until the sample is com-

plete), and all purposive sampling according to criteria of accessibility, time, etc.

➜ **Example of purposive sampling**

***Study title**: Qualitative research on the primary care professionals' conceptualization of frequent attenders.*

Objectives of the study:

To study the meanings and semantic categories on frequent attenders built by primary care physicians.

To analyse the actual consequences of these meanings and categories (answers for frequent attenders, ways of interacting)

To describe conceptualizations of physicians on health, health services and professional identity as consequences from the problematics of frequent attenders.

***Participants:** Physicians, as study subjects because of their key position in the construction-legitimation of disease as a clinical, administrative, social, identifiable entity. Primary care was chosen since it is the first port of call of health services and where most consultations due to unspecific conditions take place.*

Steps taken towards purposive sampling:

Sampling was essentially carried out based on criteria of accessibility to the study population. However, researchers aimed at interviewing people as diverse as possible.

This type of sampling is not based on strict theoretical criteria, but to obtain a high variability in the discourse of primary health care professionals (homogeneity-typicity) and (heterogeneity-diversity) researchers pondered about the different sample units.

Different discourses on the study phenomenon were identified. Even though the sampling was purposive, researchers aimed at discursive variability in relation to gender, age, family and community medicine specialty or no specialty, years of experience and sociodemographic characteristics of the catchment population (economic and educational level of the catchment population of the primary care centre).

Source: Adapted from Alameda CA, Pazos GA. [Qualitative research on the conceptualization around the frequent attendance by primary care staff]. Rev Esp Salud Publica 2009;83:863-75. [In Spanish]

Although theoretical sampling design would be the first methodological choice, sometimes purposive sampling is required. For instance, when there is very little known on the study phenomenon and when the informants are not identified and a snowball sampling is necessary.

Both the theoretical and the purposive samplings can follow different strategies. Table 5, adapted from Mathew Milles and Michael Huberman, describe different sampling strategies. Each strategy aims at specific goals that have to fit in the objectives of the investigation, the theoretical framework, the methods and naturally, the type of sampling selected (theoretical or purposive). When we chose a sampling strategy that intentionally looks for the 'confirmative-non confirmative case', the 'extreme or deviant case' and the 'typical case', our main concern is to increase the validity of results, whereas others like the

Characteristics of the people interviewed and their work context

Name*	Gender	Age	Primary Health Care Speciality	Years of Experience	Primary Health Care Zone	Primary Health Care Characteristics
Lola	Female	61	Yes	20	Madrid capital (north zone)	Middle social class Aged population
Fernando	Male	36	Yes	6	South Metropolitan Municipality	Lower social class Young popula-tion
César	Male	55	Yes	26	South Metropolitan Municipality	Middle social class Young population
Alejandro	Male	62	No	¿?	South Metropolitan Municipality	Middle social class Young population
Alicia	Female	45	Yes	18	South Metropolitan Municipality	Middle social class Young population
Natalia	Female	46	No	15	Madrid capital (south zone)	Lower social class Aged population
Patricia	Female	50	No	17	South Metropolitan Municipality	Lower social class Young population
Javier	Male	40	Yes	12	West Metroplitan Municipality	Upper social class Young population

Source: Adapted from Alameda CA, Pazos GA. [Qualitative research on the conceptualization around the frequent attendance by primary care staff]. Rev Esp Salud Publica 2009;83:863-75. [In Spanish]
** All names are invented*

A study aims to know how patients with fibromyalgia perceive quality of care by primary care professionals. Which people and/or groups can provide the necessary information? Where can we find these subjects? Design a theoretical sampling

'opportunistic' and the 'snowball', emphasize the inductive aspects of research.

>> Decisions on sampling prior the start of field work

Although we are aware of the flexibility and circularity of qualitative designs in general and of sampling designs in particular, we must plan and reflect prior starting fieldwork. We will need to:

- Decide ***type and strategy of sampling***. We have to create a framework to take a broad, holistic view on sampling.

- ***The holistic understanding of a phenomenon*** is not easy. Consequently, the research teams often need to reach a compromise between the concepts of *homogeneity-typicity* and *heterogeneity-diversity* of the discourses. This agreement also needs to take into account feasibility and accessibility of the sample.

- ***To identify and define sampling units***. What and/or who are the cases?: contexts (districts, communities, primary care centres and primary care professionals…), programmes (resident training programmes, quality of care programmes, clinical practice guidelines, community programmes…), informants-actors (physicians, primary care nurses, patients with chronic conditions…), documents (clinical records, information leaflets for patients…).

- ***There can be various, non-exclusive, sample units*** (the sample can include teams of primary care professionals and teaching aids and simultaneously, interviews to residents of family and community medicine). However, the more the units the more complex the design and the analysis will also be more complex.

- ***To define inclusion and exclusion criteria of cases or sample units*** in the protocols of qualitative research, clearly stating the reasons for selection.

- ***To define the selection strategy for the sample units. Recruitment strategy***: Origin, how and when the cases will be selected and how the team will establish contact with the selected units.

- Take into account the ***ethical aspects of sample design***: Confidentiality, informed consent, benefits and potential risks of the investigation, foreseeable consequences of the presence of the researcher in the field, relationship of power between investigators-subjects of research, use and consequences of power relationships.

- ***Evaluate feasibility of the sample*** in terms of time, resources and /or accessibility.

Table 5. Different sampling strategies in qualitative research

Strategy	Description and purpose	Appropriate for type of sampling
Typical case	Aims at and highlights the most common characteristics of the phenomenon.	TS
Extreme or deviant case	Analyses the phenomenon from its most unusual manifestations. Looks for the extreme discursive variants.	TS
Confirmative and non-confirmative cases	Elaborates an initial analysis with the most common discourse and looks next for exceptions and variability.	TS
Maximum variation	Collects the discursive variations of the study phenomenon and identifies the most relevant common patterns.	TS
Intensity	Looks for informants that live the phenomenon with intensity. Not interested in extreme meanings.	TS or PS
Homogeneous	Looks for a discourse restricted to one aspect of the topic of study. It is a strategy that narrows and simplifies the understanding of the phenomenon.	TS or PS
Illustrative case	Looks for cases that prove the main findings. Allows logical generalization and the greatest translation of information to other cases.	TS or PS
Stratified	Stratifies by subgroups and looks for the meanings of each of these subgroups. Illustrates subgroups and facilitates comparisons.	TS
By criterion*	All sample units have a determined profile as defined in the sample design, which usually represent discursive variations on the study phenomenon.	TS
Convenience**	The selection of the sample responds to convenience criteria, i.e., it saves time, money and effort, but might lessen credibility of results.	PS
Opportunistic	Follows emergent topics without prior planning. Takes advantage of unexpected circumstances and underscores induction.	PS
Chain referral-Snowball	People that know potential "good" informants in relation to the study phenomenon propose them.	PS

Randomized	Selects informants randomly. It adds credibility when the sampling base is too big.	PS
Combined or mixed	Flexible sampling uses a combination of strategies. Characterized by flexibility, triangulation of informants and the search of many interests and needs.	TS o PS

TS: theoretical sampling; PS: purposive sampling.
** The description of this sampling strategy responds to the definition of theoretical sampling.*
*** The description of this sampling strategy responds to the definition of purposive sampling.*
Source: Adapted from Miles MB, Huberman AM. Qualitative data analysis. Thousand Oaks, CA: Sage; 1994

>> Practical advice for field work

Field work is a cornerstone of qualitative research, which characteristically aims to study the events within its own context. Indeed, field work must be carefully thought over and planned by the research team. The following aspects must be considered:

- ***Visit the field before starting fieldwork*** for an in depth knowledge of the terrain before making decisions.
- ***Study the possibilities and type of access to the field,*** with special care on the first contact and in particular with the "gatekeepers", those that allow access to the field.
- ***Analyse the link with the subjects of research,*** i.e., the relationship between the research team and the subjects of research (for instance, when the professionals carries out research with their patients they should question if the power relationship is excessive, if maybe the fieldwork should be carried out by somebody else, if they are too involved or prejudiced to obtain reliable results.)
- ***Analyse the relationship between the "gatekeeper", the institution that conducts and funds the investigation, and the informants***.
- ***Think over the influences and effects of these relationships.*** Is the relationship between research team and participants close enough? Is it too close?

>> Sampling flexibility

We have already explained that sometimes the sample will probably change once the field work has started. The causes are as follows: because the selected informants do not contribute enough data to the understanding of our topic; because better informants are identified; and because we consider that some informants or contexts can provide more information on one or more aspects of our topic. Therefore, and in agreement with the flexibility of sampling tenet, after the initial data collection the research team needs to review and ask: are we getting the information we are looking for?; are these the best informants?; is there any aspect of this problem that requires specific informants?; who are those informants? The answer to these questions leads to reconsider the sample during the initial phases and during all the field work.

>> Quality and rigour assessment of sampling design

It remains essential to assess the quality and rigour of the sample and to understand the interrelation between the parts and the whole. When evaluating the design of qualitative research, the following aspects must be addressed to ensure the critical assessment of this phase of the research:

> Type of sampling used (theoretical or purposive)

What type of sampling have we chosen?

> Adequacy of the sample units to respond to the research questions

Has the sampling design been clearly defined? Is it operative and adequate for the study, the theoretical framework and the method?

Are the participants relevant to the research question? Has the selection of participants been clearly explained?

> Sampling units selection strategy

Is the context of selection of informants clearly described?

Is the place of recruitment adequate for the study?

> Sufficiency-Saturation (repetition of information and confirmation of collected data)

Are the sample size and configuration suited to the objective and the sampling strategy?

Is data saturation taken into account?

> Ethical considerations of sampling

Have ethical considerations being taken into account during sampling? (How to explain the research, informed consent, confidentiality and approval by the ethics committee).

We have introduced the design phases of qualitative research stepwise. We have already chosen the methodology, selected a theoretical-methodological approach and the methods, carried out the sampling design and defined the contexts and/or informants.

What's the next step? Which aspects of our investigation should we approach in the following chapters?

Key concepts

- The characteristics of qualitative research are flexibility, circularity of the research process and the reflexivity of the research team.
- The first step for the research team is to translate the initial idea into a research question. The process will transform the preliminary concept into a specific, conceptualized query.
- In qualitative research the research process is circular and emerging. The design is flexible, open and changing and the initial design can change in order to capture the most relevant aspects that emerge during the process. This emergent design will only convert to final design at the end of the study.
- Within qualitative methodology there are various theoretical, methodological perspectives that reflect different views on the construction of the study phenomenon. Each of these approaches has its own body of knowledge and procedures.
- The different methodological perspectives in qualitative research contain controversy and coincidences. Consequently, their limits can be blurred and transformed.
- The methodological perspectives are linked to specific disciplines (anthropology, philosophy, sociology, psychology…) and specific perspectives (feminism, Marxism…). It is important to analyse where and how their confluence, differences, conflicts and contradictions emerge.
- It is essential for the research team to clearly differentiate methodology, research methods and data collection techniques.
- The methods contain the different operative aspects and activities required to approach the event under study: level of data interpretation, type of study, level of acculturation of the research team and level of participation of the actors.
- In qualitative research the sample is not selected at random, but constructed purposefully (the sample does not have to be statistically representative). The power of the sample does not rest on size, but on the quality of information provided by the sample units.
- The convenience/appropriateness (quality of information) and the sufficiency of the sample (amount of information) are the two main criteria to evaluate the validity and rigour of the sample.
- More than obtain results that can be generalized, the main objective of sampling in qualitative research is to build a rich and broad knowledge for an in depth understanding of the study phenomenon.
- There are two main types of sampling: theoretical and purposive. There are various strategies for the search and selection of participants. The theoretical design is usually the first choice. However, on occasion, purposive sampling will be a good option.

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>4

Data Collection Techniques

ÍNDEX

Introduction to the main data collection techniques in qualitative research

In Chapter 3 we learned how to design a study. Once the methodology, methods and sample have been selected, we must think about which data collection techniques are the best suited to our research, in accordance with rigour criteria related to epistemology and reflexivity, which we will revise in Chapter 7.

Qualitative research is more than a group of data collection techniques. Data collection techniques are the specific procedures used to gather information (see Table 3 in Chapter 3). Various data collection techniques can be used in the same project to enhance the understanding of the phenomenon and the rigour of the study (triangulation of techniques).

➜ For instance, Ana Garay and colleagues conducted a study with the objective "To evaluate blood donor services in Catalonia (hospital blood banks, mobile units, promoters, associations, donors and volunteers) by means of the analysis of procedures that aim to guarantee goals, the values linked to policies, organizations and operative systems". To this end, the following data collection techniques were used: participant observation of actions and practices carried out during blood donation, individual and group interviews to participants at all levels of blood donation and collection of documents (letters, leaflets, posters, reports).

Source: Garay Uriarte A, Iñiguez Rueda L, Martínez González M, Muñoz Justicia J, Pallarès Parejo S, Vázquez Sixto F. [Qualitative evaluation of the blood collection process in Catalonia]. Rev Esp Salud Publica. 2002;76(5):437-50. [In Spanish]

Data collection techniques have different classifications. Table 1 shows the classification of Miguel Vallés, one of the most commonly used.

Table 1. Classification of data collection techniques

Techniques	Types
Conversational or narrative	Individual interview Group interview • Discussion groups • Focus groups • Triangular groups Biographical techniques
Observational	See Table 6
Documentary	

Source: Adapted from Vallés MS. [Qualitative techniques of social research. Methodological reflexion and professional practice]. Madrid: Síntesis; 2000. [In Spanish]

Conversation, observation and reading are all part of our professional and everyday life.

➜ For instance, when a colleague returns to work after a leave of absence because her husband was admitted to hospital we ask her how she feels, if it was hard, if she felt scared, the treatment administered to the husband and so on. We want to know about her personal experience, but in real life, not in a research context. We adopt a qualitative perspective (we are not interested in quantifying the efficacy of the antibiotic used). ●

What differentiates these common activities from those conducted within a research project are the clear orientation toward an objective, planning, control and the observance of rigour procedures. The queries and objectives of the study and the theoretical approach will determine the data collection techniques that we use. The adequacy and pertinence of the selected technique must always be explained.

Conversational techniques

These are talks with one or more people with the purpose and design oriented toward social research. The interviewer needs to be trained, have good conversational skills and an analytical mind. The objective is to establish a dialogue that produces in-depth, contextualized information without inducing or forcing answers. The interviewer must remain impartial and convey to the interviewee that there are not right or wrong answers.

➜ For instance, in a focus group with young women with the aim "To know the perception of the risk of contracting a sexual transmitted infection (STI)", when they were asked if they knew any STI one of them answered "ticks". Here, pointing out that ticks are not a STI would have been out of place. In contrast, the answer was told again in question format to encourage them to continue talking on the subject. ●

Conversational techniques aim to create a situation as normal as possible and for the interviewer and the participant to interact. The basic instrument is the **interview**. With the interview, researchers can collect information and describe and interpret subjective facets such as beliefs, experiences, opinions and attitudes that techniques such as observation are not able to capture. The interview is the interaction between interviewers and interviewees with the objective to obtain the personal impression of some experience, event and behaviour to understand and comprehend the meanings and sense that these phenomena have for the interviewees.

Based on the number of participants, there are two types of interviews: individual, with only one informant and the interviewer; and group interview, with several participants. Most of the following procedures described for individual interviews are also applicable to group interviews.

>> Individual interviews

Meetings between the interviewer and the informant (interviewer). The aim of this interaction is for the interviewee to transport the interviewer to her world so

that the interviewer understands the interviewee's own meanings.

Use of individual interviews

We will use individual interviews when we need the individual discourse. In this case, qualitative research aims to understand the meanings that this person uses in her everyday life to make sense of the world, since her actions depend upon these meanings. Individual interviews are also used when peer pressure is feared due to the nature of the topic or particularities of participants.

➜ For instance, if we want to know the opinions of a group of teenage boys about affective-sexual relationships, they might not talk about what they really think for fear of what their peers would say ("I get all the girls I want, etc."). Consequently, the most appropriate way to explore these opinions would be individually. ●

Individual interviews are also the technique of choice in the case of research which deals with highly emotional, delicate topics (for instance, women that have or are suffering from gender-based violence) and also when participants are scattered in space and logistically or financially it is very difficult to group them (for example, participants from rural areas).

Types of individual interviews

We classify individual interviews based on how much direction is applied:

> **Conversational, in-depth, open interviews:** are informal, guided by broad topics and the questions emerge spontaneously from the relationship between interviewer and informant. We want to know of the interviewee's priorities, needs and wishes. For example, when you are performing observation (as data collection technique) you can collect aspects of the observation that are unclear or we want to deepen.

> **Semistructured (using a guide) interview:** here the topics and some of the questions are planned in advance, but with the possibility of adding and changing questions as the interview/research progresses and the results of the interviews are analysed. It is the most frequently used in qualitative research on health.

> **Open-ended structured interview:** the sequence and formulation of questions is always the same but the answers are open-ended.

> **Closed structured interview:** where questions and answers are predetermined. It is in fact a survey. As such, this data collection technique is generally used in quantitative studies and does not adapt well to qualitative research.

As a rule of thumb, the more structured the interview is, the easier the analysis is, but reduces the richness of the information obtained.

Setting, duration and register of information

Flexibility is important, in particular to be able to adjust to the interviewee's choice of time and **setting**, which must be pleasant and accessible, with little noise and no interruptions, where the interviewee feels comfortable and which guarantees confidentiality. Participants often choose their own homes for convenience. In this context the researcher can observe their everyday context, of importance in qualitative studies. It is also important to choose a neutral space that fosters relationships and that does not impact on the discourse of the informants.

➜ For instance, if we want to learn about the opinion of the nurses of a hospital department on the system of incentives, it would be inappropriate to conduct the interview in the office of the nurse supervisor. ●

It is important to determine a priori the **duration** of the interview, which in any case should never exceed 2 hours. In relation to the **register** of interviews, the method most commonly used is audio recording. The notebook is currently only used on those occasions where the interviewee does not want his/her voice to be recorded.

It is important for the interviewer to write down at the end of the session the impressions of the interview (Has the interviewer felt comfortable during the interview?; Was the interviewee at ease?; Incidences of the interview). These notes will be helpful for future interviews and will contribute to establish a framework in which to interpret the data.

Design and structure of the interview (individual and group)

Flexibility, circularity and reflexivity in qualitative research do not mean that the phases of the investigation are not clearly defined. On the contrary, individual and group research interviews must always be planned in accordance with the design of the investigation. Indeed, an interview should always consist of the phases shown in Table 2.

> Introduction and presentation

➜ Example of the start of a group interview in a group of 16 to 21 year-old girls:

Good afternoon,

Before we start I'd like to thank you for your time. My name is SS and I'm conducting a research project to understand what you think about relationships, love and risk of pregnancy and of contracting a sexual transmitted infection (STI). I've come with JG, she will take some notes and can help if any problem comes up.

We are a group of general practitioners from different primary care centres and we study what young people like you think. What you say, your opinions and ideas are very important to improve our health services. Everything you say is confidential and anonymous.

What are we going to do? You all know what a survey is, like asking questions in a specific way. I will ask a question and you have to respond. For instance: do you support Futbol Club Barcelona? Yes/no. This could be the question in a survey, but sometimes the questions I ask cannot be replied so easily. When the questions are more complicated than yes/no and we really want to know what people think, we use the interview. In conclusion, we meet here as we would meet in a coffee shop, to talk freely on this topic. Everything you say is very important for the research team; there are no right or wrong answers. This is why we need to record the conversation, because we need to listen carefully to what you say and remember everything you said. Do you give me permission? Ready? I will switch on the recorder, ok? I will distribute some leaflets with information on this study and how we observe confidentiality and anonymity of data. If you want you can introduce yourselves, with either your name or a name of your choice. You can tell us your age and what you are studying at the moment.

Table 2. Phases of the interview (individual and group)

Welcome the interviewees
Introduction: • Introduction of the person that will conduct the interview and of the observer if it is a group interview (names and some characteristic related to themselves about why they have been invited to attend the group). • Thank the participants. • Justification and objectives of the study and the interview. What are the topics of study, explain what is expected of the project and the benefits for the participants and the population in general. Explain that you intend to publish the results of the study. • Indicate the procedures that will be used (conversation, interview, interaction) and specify the duration of the interview. • Request permission to record the interview and reassure participants on confidentiality and anonymity of data. Request informed consent and permission to publish results. • Introduction of the interviewees, their characteristics and the reason why they were invited.
In-depth debate: • Initial question (introductory questions: general and not emotionally charged). • Thematic questions (interview guide).
Closing statement: • Brief summary of contributions. • Final contributions: "Before we finish I'd like to know if somebody wants to add..." • Explain what the results will be used for. • Thank for the participation.

Source: Adapted from: Calderón C, Fernández de Sanmamed MJ. [Qualitative research in primary care]. In: Martín Zurro A, Cano Pérez JF. [Primary Health Care: concepts, organization and clinical practice]. 7th ed. Barcelona: Elsevier España S.L.; 2014. [In Spanish]

> Development of the interview, in-depth debate

It is important to create a relaxed environment where people feel comfortable and secure to speak freely. The researcher that conducts the interview needs to convey genuine interest, understanding, motivation and trust. It is crucial to remember that the interviewer is the listener and must show empathy to achieve a social interaction of true interpersonal communication. The interview must resemble a conversation, such as when two people talk with ease about important matters. The interviewer must be aware of non-verbal communication and look directly and naturally at the informant, seem at ease and respect the silences without breaking them with snappy questions or personal comments.

> Guide of the interview

The guide of the interview is a reminder of the topics that need to be discussed. The type of interview will determine if the guide is more or less structured. A semi-structured interview, the most commonly used in health research, is not a structured guide, but a list of general topics that need to be approached with each participant. While the guide is a reminder of the key topics that need discussing, it should be revised and expanded with the progress of the inter-

view and in future interviews. The guide must not be applied literally. On the contrary, it should adapt to the interviewees and their context. The interview guide is particularly useful in the studies where different researchers carry out the interviews.

Hanna Kallio *et al.* suggested a framework for the development of a qualitative semi-structured interview guide, including five phases: (1) identifying the prerequisites for using semi-structured interviews; (2) retrieving and using previous knowledge; (3) formulating the preliminary semi-structured interview guide; (4) pilot testing the guide; and (5) presenting the complete semi-structured interview guide.

The questions must be neutral and clear so that the interviewee can answer on layman terms. It is important to approach gradually the world of the informant by firstly asking some general and non-emotionally charged questions (about events, knowledge, descriptions) and slowly move on the conversation to feelings, interpretations and emotions. It is best to start asking about current experiences and then about past events.

➜ Example of interview guide of a study with the objective: "To understand the social representations and perception of risk of sexual transmitted infections (STIs) and unwanted pregnancy in people youngsters 16 to 21 years old".

1. What are the meanings of love, sex and sexual relationships?

2. Opinions of young people about acquired knowledge on sexual relationships, birth control and STIs. How and where have they acquired this knowledge?

3. What are the perceptions of young people on the risk of contracting HIV and other STIs?

4. What are the perceptions of young people on the risk of an unwanted pregnancy?

5. Perception of the male and female aspects of sexual relationships.

6. What influences decision making in sexual relationships (motivations, attitudes, individual and collective behaviour).

7. What do young people think about access to the health system and their relationship with health professionals?

8. How do young people think that health care professionals can improve preventive interventions for STIs and unwanted pregnancies?

Source: Saura S et al. [Gender meanings of the risk of sexually transmitted infections/HIV transmission among young people]. Aten Primaria 2017. (doi: 10.1016/j.aprim.2017.08.005.).

> Closing of the interview

Before finishing the interview it is important to check that all topics of interest have been dealt with, to briefly summarise the interview and to ask the participants if they want to add something: Would you like to add something before we finish? Interviewers must thank participants, reassure them on the observance of confidentiality and anonymity and explain again how the results of the investigation will be disseminated. If the project involves verification by informants. The participants will be given the results of the study for their information.

Table 3 summarizes advantages and disadvantages of individual interviews

➜ Christa M. Kelleher conducted a study based on individual interviews with the objective "To explore the experiences of mothers on pain and discomfort associated with breastfeeding". This study, based on semi-structured, in-depth interviews with 52 women from Canada and USA conducted at approximately one month postpartum. A thematic analysis revealed that many women experienced pain and discomfortand that they were generally surprised by the extent, intensity and duration of discomfort and pain, which ranged from mild to severe. Several women indicated that the physical impact of breastfeeding affected their relationship with their baby; others indicated that they became hesitant to continue the practice due to feelings of physical vulnerability, pain and/or discomfort. Lastly, women's experiences of the physical implications of breastfeeding were influenced in part by assistance provided by health care practitioners, in both positive and negative ways.

Source: Kelleher Christa M. The physical challenges of early breastfeeding. Soc Sci Med. 2006; 63:2727-38. ●

>> Group interviews

Interviews where a group of people take part, with the aim to understand the discourses of a specific social group. A key aspect of this technique is the interaction between participants, who speak freely, respond, support one another and disagree. The group enhances individual contributions and encourages participants to explore and clarify ideas. It is important to be aware that attitudes and points of view on a specific event do not develop in isolation but in the interaction with other people.

➜ For instance, the perception of fibromyalgia by primary care physicians will be different from that of specialists in orthopaedics and traumatology and from fibromyalgia patients. ●

Use of group interviews

Group interviews will be used when we want to explore the discourse within a so-

Table 3. Advantages and disadvantages of individual interviews

Advantages	Disadvantages
Flexibility, since it can be adapted to individuals and circumstances	Requires trained, experienced researchers
Opportunity to observe the person (gestures, expressions)	It is slow
Obtains information more completeand more in-depth	Can be expensive

Source: Vázquez ML (coord). [Introduction to qualitative research techniques applied to health]. Col·lecció Materials 168. Universitat Autónoma de Barcelona; 2006. [In Spanish]

cial context; when we want to encourage interaction amongst participants; when we are interested in a social discourse to understand the multiple meanings-realities of the groups-collectives-society. This is very useful when the subject of study has an abstract component or when the interaction of participants is enriching. When they are better suited to the informants than individual interviews, for instance, in the case of children. Although different theoretical or methodological perspectives can benefit from group interviews, the possibility of sharing social meanings make it the technique of choice in studies with a socio-constructionist perspective. Group interviews cost less and save time compared to individual interviews.

Types of group interviews

Group interviews are classified according to the steering applied by researchers. The choice of interview will depend on the purpose of the study and the methodological perspective we want to follow.

- **Focus group.** Here, the individual point of view of the discourse is crucial: "the group listens but the participants talk like individual interviewees". Interaction is the instrument to encourage individual discourse. A focus group tends to centre in a specific topic and the functioning of the group and the moderator is more directives.

- **Discussion group** is generally considered a more open, flexible and less directive type of group interview than the focus group. A discussion group studies the common spaces of individual subjectivity, i.e., group intersubjectivity. Interaction itself becomes a source of data. The group moderator stands apart, is less directive. The group dynamics aims to reproduce a specific social context, and participants' discourse constructs the narrative of the social group they belong to.

Describe a topic that would benefit from a triangular group approach

- **The triangular group** was developed by Fernando Conde in the 1980s and 90s to study drugaddiction in Madrid. They aim to understand stereotyped topics such as affective-sexual relationships and drugaddiction. Triangular groups can have two or three participants. These types of group allow participants to express a different view from the topical discourse of their social group and when needed, to rebuild a new discourse for themselves. The interviews are usually more individualized and directed. At least, the triangular group works as a group beyond having a different dynamics and personal experiences of the participants have more punch than the most common discussion groups. The small group aims to bring closer researcher and participant to create more interactive and critical-productive dynamics. The chair needs to show skill by decidedly participating when required while not interfering in the discourses.

→ Let's imagine that we are conducting a study "To understand the behaviour of young people in relation to prevention of sexual transmitted infections (STIs)

and unwanted pregnancies and the use of condoms". We might use focal groups since we are interested in focusing on this specific aspect. If we want "To know the social representations of young people on the risk of contracting a STI and unwanted pregnancy", a discussion group would be a better choice to grasp the topical discourse of the social group (young people) on risks. But if we think that peer pressure might exist within these discussion groups due to the subject at stake and we aim to go beyond a stereotyped discourse we should perhaps use triangular groups. ●

Forming in the groups: selection of participants, group size, setting and duration of the group interview

The participants must represent the target population, since our aim is to obtain information on the meanings of the main discourses on the topic of study. Once informants have been selected, we must decide how we are going to build our groups. The groups should simultaneously combine a certain degree of homogeneity to encourage debate and enough diversity to obtain contrast of opinions to enrich this same discourse. It is recommended to use homogeneity in those characteristics that can be a hindrance to group interaction and heterogeneity criteria in those characteristics that favour discursive variety. For instance, gender segmentation might be indicated in certain cultures because having both genders in the same group would hinder the discourse; similarly, segmentation can make sense when mixing participants from lower and high socioeconomic status can restrict the discourse. When we create the group we should think if the people selected would chat about the same topic in their everyday lives.

➜ For instance, if we want to know what young people think about affective-sexual relationships we could segment the groups according to cultural characteristics to ensure origin homogeneity; otherwise interaction would be very difficult. We might also consider different ages within the same group to encourage discourse (for instance: group 1-gipsy origin, 16-21 years old; group 2-non gipsy, autochthonous origin,16-21 years old). ●

Group size must guarantee a sufficient level of dialogue and discussion to produce information. Ideally, the number of people should be between 6 and 8. Less than six is usually insufficient to generate good group dynamics and frictions happen more easily, except in the case of triangular groups. A group with more than 10 participants might hinder the discourse.

Once potential informers are identified they are invited to participate in the study, usually via phone call or email, sometimes after having been sent a letter explaining the project. Attention to detail is essential in this phase to facilitate the success of the group. Potential participants must be informed about the objective of the investigation and the institutions and researchers involved. Confidentiality and consent forms must be strictly observed. We will develop this aspect further in Chapter 7.

We advise to summon more people than those strictly needed to carry out the interview (at least two more people), since motivation and circumstances may vary and might change by the day of the appointment. It is also recommended to send a reminder of the interview the day before.

Group interviews generally last between 60 to 90 minutes. Participants must be in-

Imagine we are conducting a study with the objective: "To unders what people with type 2 diabetes think about their condition".

We have decided to carry out a theoretical sampling with the following profiles:
1. Age: 40-65/>65 years
2. Gender: Male/ Female
3. Socioeconomic status: High/Middle-low
4. Origin: Autochthonous /Moroccan/Latin American

Which groups would you create? Which variables would you use to segment?

formed of these times before hand. The number of groups will be that required to reach discourse saturation, i.e., sufficiency of data is achieved when new data provided by different participants and/or data sources are exhausted (see sufficiency of the sample in Chapter 3). The setting for the group meeting, similarly to individual interviews, must be comfortable, easily accessible and a place that guarantees confidentiality. In general, group participants do not get any financial compensation, as in individual interviews. Incentives can be refreshments, cost of transport, vouchers or presents given for their participation, but trying not to encourage usual participation. However, this can vary depending on the country.

In the case of focus or discussion groups, two researchers are needed: the moderator and the observer. The moderator must have the skills to encourage the debate amongst participants and must be able to intervene in those situations that hinder group discourse, for instance when everybody is silent, when people get irritated, when they deviate from the topic or when somebody high jacks the meeting. The moderator tries to intervene as little as possible, allowing the "group to talk" without expressing judgement. In contrast, the observer stays in the background and does not intervene at all. The job consists of observing non-verbal communication, the dynamics of the group, the participants and their interventions, of taking notes on what participants say and their positions. A simple sketch that locates each participant exactly where they sit, moderator included, might be helpful for the transcription and data analysis, the interventions and the roles carried out by each participant. The observer is also in charge of opening the door to the people that are late to avoid interruptions in the group dynamics, and she will help if there is any technical problem or any issue with the participants.

Appendix 4 contains useful material for the preparation and completion of indi-

Table 4. Advantages and disadvantages of group interviews

Advantages	Disadvantages
Group dynamics facilitates interaction between participants	The perception of the other participants can affect their contributions, inhibit participation and modify answers based on the opinion of others
A lot of information can be obtained in a short time	Skills to moderate a group are needed
With the interaction and influence of the group the information obtained is more rich	It can be difficult to convene all participants
Different points of view can be freely exposed	
Captures real life information in an environment that aims to mirror everyday social experience	
Shows differences in opinion and contradictions between participants	

Source: Vázquez ML (coord). [Introduction to qualitative research techniques applied to health]. Col·lecció Materials 168. Universitat Autónoma de Barcelona; 2006. [In Spanish]

vidual and group interviews. Table 4 shows the advantages and disadvantages of group interviews.

➜ Carlos Calderón and colleagues conducted a research project with discussion groups (DG) with the objective "To find out the perceptions of family doctors (FD) and Psychiatrists (PS) on their inter-relationships in the health care of patients with depression". Discussion groups were carried out to capture the meaning given by the social groups of FD and PS on the phenomenon under study. An intentional sample to configure 4 DG of FD and 2 of PS, homogenous as regards socioeconomic level, and heterogeneous as regards the centres they came from, work experience and gender. A total of 29 FD from 20 primary health care centres, and 13 PS from 11 mental healths centres, distributed according to the socioeconomic level of the reference population, participated. The meetings were arranged and held in the primary care research unit. A sociological discourse analysis was carried out. The results showed that the perceptions and attitudes of FD and PS are different in relation to their relationship with patients, expectations and healthcare context. In both cases they perceived the unsuitability of the real patient as regards the prefixed perceptions of the professional. The increasing demand for healthcare for patients with depression and its treatment are conditioned by a social context that cannot be controlled and by increasing deficiencies in the collaboration between different levels of care.

Source: Calderón C, Retolaza A, Bacigalupe A et al. [Family doctors, psychiatrists and the patient with depression: the need to – Re-adjust healthcare approaches and organization dynamics]. Aten Primaria. 2009;41:33-40. [In Spanish]

>> Biographical techniques

Biographical techniques, also known as **life histories, oral history** or **life stories**, can be classified as data collection conversational techniques. However, they are close to constitute an independent methodological corpus encompassing conversational, documentary and observation techniques. They are used to understand social and historical events and to analyse the impact of interventions and social changes by means of the analysis of personal experiences. Biographical techniques are also used to reconstruct contexts and periods of a community.

Bernabé Sarabia and Antonio Martín point out that the life history is a qualitative research technique that consists of the collection and analysis of narratives carried out by the research team on the stories of real experiences of participants. A life history aims to sketch the life of a person or a group or an event as recalled by those that experienced it, for instance a civil war, poverty or social exclusion. On the whole, the positive and negative transitions that occur throughout life which, together with socioeconomic status, ethnicity, culture, family and religion, impact on the life of individuals.

Within biographical techniques we find several polysemic terms related to the use of these techniques from various disciplines and approaches.

Joan Pujadas differentiates between **life story** and **life history**. Life story is the history of a life as told by the protagonist. Life history is the study of cases (people, families, social groups and historical events) and includes not only the events as told by an individual, family or social group, but you can also use pre-existing or research documents and other records.

Miguel S. Vallés explains that the term "life history" encompasses in fact various techniques and results, i.e., several "life histories". There are three types of life histories that result from three different techniques of collection and presentation of histories and therefore, three types of biographical techniques:

- **Technique of a single story:** obtained from a single person; considered "autobiographies ordered by the social researcher" to differentiate them from the life histories that are "autobiographies carried out by the protagonist". Life stories that result from in-depth individual interviews can also provide this information.

- **Technique of compared stories**: information sources are various people from the same environment, such as family members, neighbours and colleagues, with the aim to obtain "various voices" of the same story. It is important when we need to contrast the information, thus the use of several voices that have experienced the event.

- **Technique of parallel stories**: biographical histories of several unrelated people. In this case, we are interested in the experience itself.

The objective of the biographic interview is to remember an experience. The interviewee sets up a bridge between a past event and what the person remembers right in the present, accesses the memory, which is a re-enactment of what happened but influenced by personal and sociocultural aspects. Biographical memory is a social process; we should take into account that when we remember a past event we do it based on our own experience in relation with others and within our current social and cultural context.

Procedures in biographical techniques do not differ in essence from procedures described in other types of interview, since usually information is obtained by means of individual interviews. These interviews are usually open interviews or interviews that are practically non-structured. Structure, confidentiality and respect and the skills of the interviewer will be the same than those mentioned for individual interviews. The analysis of life histories provides an insight into how health problems and other vital events such as bereavement are really experienced, how they are socially constructed and how to formulate adequate health policies.

- An example of research carried out with biographical techniques is the study of Francisca Muñoz and colleagues with the objective "To analyse the experience of women that suffer gender-based violence from their point of view, and to identify the factors related with putting up with or breaking free from this situation". The technique of parallel stories was used by means of an open-ended interview. The Grounded Theory of Glasser and Strauss, open and axial coding and the Atlas-Ti 5.2 programme were used to analyse the data. In conclusion, the authors explain that these women define"put up with" and "break free" as qualitatively distinct states, with influence of multiple personal and cultural factors, and they also define a "path" or process between the two. This path depends on the level of assertiveness of the women in relation to decision making.

  Source: Muñoz F, Burgos Mª L, Carrasco A et al. [Coming out of the whirlwind of abuse. Qualitative research on gender violence]. Aten Primaria. 2009;41:493-500. [In Spanish]

- Examples of biographical techniques of compared stories are the histories of life carried out by historians that try to reconstruct historical events. For instance, the study published by Dora Schwarzstein that reconstructs a historical event by means of interviews to people that emigrated to Argentina

Table 5. Classification of personal documents and different biographical techniques

Personal documents: They are written in the first person about the life of an individual for other purposes than those of a researcher
Autobiography
Personal diary
Correspondence
Photographs, films, other iconographic registers
Personal effects
Biographical registers: They are written in the third person with the participation of the researcher
Life history (The researcher analyses in-depth)
Single story
Compared stories
Parallel stories
Life story (The researcher's interpretation is minimized)

Adapted from Pujadas (1992). Source: Vallés MS. [Qualitative techniques of social research. Methodological reflexion and professional practice]. Madrid: Síntesis; 2000. [In Spanish]

during the Spanish civil war and also explains how the republican immigrants were welcomed and treated in Argentina by the Argentinean government and population.

Source: Dora Schwarzstein. Between Franco and Perón. [Memory and identity of the republican exile in Argentina]. Barcelona: Crítica; 2001. [In Spanish]

➜ Another example of research that used biographical techniques is the study of Bernard Roy and colleagues with the objective "To adopt a vital cycle approach in a study on poverty and social exclusion". To this end, life histories were collected by means of open interviews that focused on the meaning of lived experiences. A thematic analysis was carried out to determine the categories of the different components of life in childhood and adulthood experiences. With the analysis of the different life histories we can identify the positive and negative experiences and the key moments in the life of interviewees. These results contribute to the design of measures to fight social inequalities in health.

Source: Roy B, De Koninck M. La recherche qualitative sur les inégalités sociales de santé: le parcours de vie. Can J Public Health. 2013;104:e154-8.

Can you tell which type biographical technique has been used in the above mentioned research (Roy and De Koninck)?

Observational techniques

Observation means to contemplate carefully and systematically how a social event unravels as it is, and whenever there is non-participant observation, this technique does not modify or distort the observed phenomenon. Observation is particularly useful for the in- depth study of the everyday life of organizations, institutions and social groups. As a result, observation is the technique of choice in interactionist theoretical perspectives (ethnography and ethnometodology). The objective is to obtain information on a topic-context through direct on-site observation. To observe entails more than mere description, it implies to look for, to understand and to capture their meaning. Training is needed to observe with rigour. Often the same study complements observation with interviews and analysis of documents. They are key techniques for assessment studies such as Ana Garay's and col. previously mentioned "A Qualitative Evaluation of Blood-Donor Services in Catalonia."

>> Types of observation

Table 6 specifies the different types of observation in relation to the degree of involvement of the observer, disclosure, duration and extent of the observation.

In a **participant observation** the observer immerses in the reality that tries to study and becomes another member of the group. The researcher in this context attempts to understand the events of a specific social context from the point of view of the people that experience them; **non**

participant observation takes place without the participation of the observer, i.e., she does not get fully involved in the context, group or situation under observation.

➜ For instance, let's imagine a study where the observer is behind a video camera in a primary care consultation room to observe the activities that health care professionals and patients carry out during a specific day. ●

In an **open observation**, participants know they are being analysed; in a **covert observation***/**, participants ignore that they are being observed. However, this type of observation is questionable since it does not comply with some principles of bioethics such as autonomy. We will develop these aspects in Chapter 7.

>> Planning the observation

The use of any data collection technique requires previous planning which will result in a specific design that corresponds to the methodology selected and that can be successful in obtaining information to respond to the objectives of the study. When we are about to carry out an observation, we must plan the below aspects, bearing in mind that we must keep a flexible design, and some of these aspects will depend on how specific the objective of the study is.

> **Focus of the observation:** What are we going to observe? Which aspects are we going to observe and will contribute to data collection to respond to the query of our study?

Table 6. Types of observation

Involvement of observer	Researcher participates fully	Researcher participates partially	External or non-participant researcher
Disclosure of observation	Open: participants know they are being observed	Some participants know they are being observed, some do not	Covert: participants do not know that they are being observed*
Disclosure of purpose	Participants are fully informed of the objective of the observation	Participants receive only partial information	Participants are not informed or receive fictitious information**
Duration	Various sessions		Only session
Extent	Comprehensive observation of the context		Observation selective or focused in some aspects of the context

Source: Adapted from Patton MQ. How to use qualitative methods in evaluation. Newbury Park, CA: Sage; 1987.

- **Type of observation:** Define type of observation. For instance, will it be participant or non-participant? Consider also other aspects shown in Table 6.
- **Setting of observation:** Where will the observation take place? Which are the contexts and backgrounds?
- **Timing of the observation:** A single or multiple sessions? If multiple, how many?
- **Register techniques:** How are we going to record the observation? Video camera, photo camera and/or field notes.

>> Phases of the observation process

Figure 1. Planning the process of observing

>> Methodological aspects of observation

Observation with rigour requires training of the gaze, technique and skills. Miguel Santos explains different ways of learning how to observe. Firstly, we can be the subject of observation and compare what we interpret of our actions with the analysis of the observer. Secondly, we can compare our observation with other people's that have contemplated the same action. Thirdly, our observation can be examined by an expert to analyse the rigour of the interpretations. Lastly, practicing observation exercises and analysing the reports based on the opinions of what the observed were doing.

To collect the data of an observation, a climate that fosters spontaneous and authentic communication and the presence and participation of the observer in all group activities in the case of participant observation is recommended. The greater the transparency and the longer the observation time the more authentic the behaviour of the participants.

>> Field preparation

The "field" is the social reality that aims to be analysed through the presence of the person that investigates in the different contexts and settings where this reality takes place; it is the place where the researcher is located to carry out the observation. Field preparation requires patience and persistence and can be long depending on accessibility, the knowledge of the field and the degree of participation required. The "gatekeepers" are the people with the power to facilitate or block access to the field, and therefore the entrance of the research team to the field. It is essential to inform and explain the procedure to the observed subjects. When a field is entered the "foreigner's syndrome"occurs, i.e., the phase during which the researcher is an outsider learning the rules and the social language and introduces herself to the community, social group or institution. This phase where the investigator is an outsider is more acute the greater the cultural distance between observers and observed. It is important to participate by integration and by learning to think, talk and behave like the subjects under observation. It is best to start the field work when the context is well known and the situation fully normalized. It must be taken into account that the wow effect on the researcher at this stage is relevant as it is when we detect the most striking findings.

➜ Let's imagine that we want "To understand how the gipsy community of our primary care centre experience obesity and diabetes and their consequences". We are going to conduct an observa-

Figure 1. Planning the process of observing

1. **Select a site to be observed that can help you best understand the central phenomenon.** Obtain the required permissions needed to gain access to the site.
2. **Ease into the site slowly by looking around; getting a general sense of the site; and taking limited notes, at least initially.** Conduct brief observations at first, because you will likely be overwhelmed with all of the activities taking place.
3. **At the site, identify who or what to observe, and how long to observe.** Gatekeepers can provide guidance as you make these decisions.
4. **Determine, initially, your role as an observer.** Select from the roles of participant or nonparticipant during your first few observations.
5. **Conduct multiple observations over time to obtain the best understanding of the site and the individuals.** Engage in broad observation at first, noting the general landscape of activities and events. As you become familiar with the setting, you can begin to narrow your observations to specific aspects.
6. **Design some means for recording notes during and observation.** The data recorded during an observation are called fieldnotes. Fieldnotes are text (words) recorded by the researcher during an observation in a quality study.
7. **Consider what information you will record during an observation.** For example, this information might include portraits of the participants, the physical setting, particular events and activities, and personal reactions.
8. **Record descriptive and reflective fieldnotes.** Descriptive fieldnotes record a description of the events, activities, and people. Reflective filednotes record personals thoughts that researches have that relate to their insights, hunches, or broad ideas or themes that emerge during the observation.
9. **Make yourself known, but remain unobtrusive.** During the observation, be introduced by someone if you are an 'outsider' or new to the setting or people.
10. **After observing, slow withdraw from the site.** Thank the participants and inform them of the use of data and the availability of a summary of results when you complete the study.

Source: Creswell, JW. Educational research: Planning, conducting and evaluating quantitative and qualitative research. 4th ed. Upper Saddle River NJ: Pearson/Merrill/PrenticeHall; 2012.

tion to this end. Firstly, we cannot just turn up in the heart of the gipsy quarter. We should first talk to the president of the community (gatekeeper), for instance, to explain the study we want to carry out. Then the gatekeeper authorises the entrance to the neighbourhood and introduces us to the people to be observed. We should get to know the community and the neighbourhood and integrate in their everyday life. For instance, it they have a meal we should be eating with them. ●

>> Carrying out the observation

When the researchers observe they must do it with rigour and therefore plan in advance and focus and delimit the observation. Everything cannot be observed at the same time, and sentences and actions out of context do not have any value. The observation needs to be planned, we must ask ourselves: What are we going to observe? Which focus of observation are we going to choose to obtain information relevant to the objective of the study?

An open approach is crucial as it is not known beforehand what may be relevant or what we may discover as the observation takes place. Some aspects of the observation are as follows:

- **Setting:** physical environment, context, behaviours conditioned by the context.
- **Participants:** who, how many, their roles, function.
- **Activities and interactions:** what is happening, is there any fixed pattern, how people interact to one another and how they respond to the activities that they carry out.

Supposing we were conducting a study with the objective to evaluate the traning quality offered to Master's students at University.
Can you think of a possible focus of observation that can answer the objective of the study?

- **Frequency and duration of observation of the activity:** beginning and duration of the situation, is it unique or does it recur, is this situation typical or exceptional.
- **Other aspects:** informal activities, unplanned activities, symbolic aspects of what is being said, non-verbal elements (outfit, gestures).

>> Register of information

Information can be registered with different methods. Miguel Santos explains that each register of information has its particularities and demands. The written register is recommended when the observers need to be in a strategic place where they do not interfere with the natural evolution of the action, and to carry out an unobtrusive register of what they observe, the experiences, comments and the interpretations (these last in brackets).

It is recommended to register descriptive and reflective fieldnotes that includes all events of the investigation as well as the feelings and experiences of the observers and their interpretations.

Fieldnotes should start with the title, date, moment and location of the observation. It should be noted that observations should be distinct from interpretations and names of places and people should be changed. An example is shown in Appendix 5.

If we use video or photograph we must know their advantages and disadvantages. With the video we can obtain foregrounds where we see human expressions and reactions. The image can be rerun and thus precision can be achieved by the research team. The observers can just register the action, they do not need to look and then register. However, the camera's viewfinder only captures part of the action and ignores the rest of the context. Also, the large amount of information hinders the analysis. The video can distort reality since participants might "act" knowing that they are being recorded. However, it is common to forget the camera is recording you as time goes by.

Photography is useful to reconstruct reality and can be analysed later on. However, the freezing of time, the fragmentation of reality, the descontextualization and the intentionality of the photographer are limitations that result in a partial insight of the phenomenon under study, leaving others that could greatly enrich the research.

Often, it is not possible to simultaneously observe and register. For instance, if we are conducting a participant observation in the kitchen of a hospital we cannot go there with the field notes, the video or the photo camera. In cases like this we must take notes immediately after completing the observation. In other cases different methods of register can be used simultaneously to complement, for instance, field notes and photo camera.

Appendix 5 shows an example of how to carry out an observation exercise and how to register it in paper. Table 7 shows some symbols to be used in the field notes.

>> Withdrawal

Field withdrawal can be difficult for the researcher and participants. It is important to progressively reduce visits and remind that the study is nearing the end. The field is left when saturation is reached. It is important to leave a good impression and to thank the participants.

> The study of Catherine Pope and col. is an example of ethnographic investigation that used observation as a data collection technique, with the objective "To understand how a particular computer technology becomes normalised; how a technology becomes embedded in work practices and in different healthcare settings". The study used non- participant observations during 20 months at different times and during different days of the week of professionals that responded to emergency calls, primary care physicians, clinical supervisors and those who allocated ambulances, to evaluate their activities without interfering in their work; individual interviews were carried out with various informants (politicians in charge, police inspectors, software professionals and managers) related to the study topic. A thematic analysis with open coding and constant comparative method was carried out. The authors concluded: Huge effort was expended and continues to be required to implement and keep this technology in use. While technologies can be "made to work" in different settings, successful implementation has been achieved, and will be maintained, through the efforts of

Table 7. Suggested Punctuation marks for the observation register

Punctuation marks	Name	Use
"."	Double quotation marks	Textual quotations
' '	Simple quotation marks	Approximate quotations
( )	Parenthesis	Contextual data and/or interpretation of the observer
<>	Angle brackets or chevrons	Argot
------	Discontinuous lines	Time partition
/ |	Dash	Contrast between situational linguistic terms and jargon

Source: Icart T, Pulpón A (coords.) Garrido E and col. [How to prepare and present a research project, a dissertation and a thesis]. Barcelona: Universitat Autònoma de Barcelona; 2012. [In Spanish]

those involved in the specific settings and if the wider context continues to support the coherence, cognitive participation, and reflective monitoring processes that surround this collective action.

Source: Pope C, Halford S, Turnbull J, and col. Using computer decision support systems in NHS emergency and urgent care: ethnographic study using normalisation process theory. BMC Health Service. 2013;13:111-23

Documentary techniques

Documentary techniques consist in the identification, collection and analysis of documents related to the event or context under study. Here we do not share meanings directly through the protagonists but through their writings and/or graphic materials.

A myriad of documents can be considered data sources: laws, regulations, contracts, correspondence, work projects, memoirs, reports, newspapers, films, photographs and drawings and notes of those involved. Documents are classified either as *official* or *personal*. *Official* documents originate from organizations and institutions and can be confidential (minutes, internal memorandums, confidential reports) or public (press releases, regulations). Authorisation will be required to access and use private documents. *Personal* documents are biographies or autobiographies, diaries, letters and photographs. These are secondary data, i.e, it is information generally generated for purposes other than those of the researcher. The use of most of these documents also require authorisation. Table 8 shows the classification of documents according to Keith MacDonald and Colin Tipton.

Table 8. Classification of documents

Written documents
- Official documents of the public administration: reports and official statistics. For instance, the published registers of parliamentarian debates and the publications of the census
- Written press (newspapers and magazines)
- Private papers (letters, diaries, memoirs, biographical or autobiographical material)

Visual documents
- Photographs
- Paintings
- Sculptures
- Architecture

From MacDonald K, Tipton T (1993). Source: Vallés MS. [Qualitative techniques of social research. Methodological reflexion and professional practice]. Madrid: Síntesis; 2000. [In Spanish]

In general, data obtained from documents can be used as data originated from interviews and observations. Indeed, the combination of techniques enhances the understanding of the phenomenon under study and increases the rigour of the research.

➜ Margalida Miró-Bonet conducted a study exclusively with documentary techniques with the objective: to explore the continuities, transformations and ruptures in the discourses building the social identity of nurses in Spain between 1956 and 1976. Method: From a poststructuralist and postfeminist perspective, we carried out a genealogical discourse analysis of the manuals of professional morals used during the training of nurses. Results and discussion: Analysis of the manuals revealed that the professional identity of nurses was constituted by a discursive matrix and power relations, in which a residual Christian moral discourse and other dominant gender, technical and biomedical discourses can be identified. Conclusions: These discourses fundamentally highlight power relations of a disciplinary and pastoral nature. Some of these discourses have brought about a symbolic matrix which remains in the foundations of professional practice, health policies, social image, etc. The hegemony of these discourses for 20 years and the observation of current reality allow us to infer that nurses in Spain have managed to transform and break many of these elements and to propose other ways of viewing the profession.

Source: Miró-Bonet M, Gastaldo D, Minero-Caminero G. [Why we are as we are: Discourses and power relations shaping the professional identity of nurses in Spain (1956-1976)]. Enferm Clin. 2008;18: 26-34. [In Spanish]

This chapter has described the techniques used in qualitative research to obtain data. These techniques (conversational, observational and documentary) have generated a large amount of data that we must now organize and interpret (see Chapter 6). In Chapter 5 we will learn about participatory techniques.

Key concepts

- Qualitative research is more than a group of techniques for data collection. The techniques are specific procedures to collect information.
- There are 3 main data collection techniques in qualitative research: conversational, observational and documentary.
- The interview is the basic tool of conversational techniques. It can capture subjective aspects of people such as beliefs, experiences, opinions and attitudes that cannot be accessed with other techniques. These aspects can then be shared and interpreted.
- According to the number of informants, the interviews can be individual, with only the researcher and one participant; or group interviews, with a researcher, an observer and several informants. In group interviews the interaction is an instrument to encourage individual discourse.
- The semi structured interview (interview based on a guide) is the most frequently used in qualitative research in Health Sciences.
- Group interviews can be focus, discussion or triangular groups. The choice of group will be determined by the objectives of the investigation, the phenomenon under study and the dynamics that the researchers want to achieve.
- The biographical techniques, also known as life histories, are classified within the conversational techniques. However, they are close to constitute an independent methodological corpus.
- Observation is the process of systematic and careful contemplation of the development of a social event as it happens. The objective of observations is to obtain information on a topic-context through direct on-site observation. It is particularly useful in studies with an interactionist perspective.
- The documentary techniques consist in the identification, collection and analysis of documents related to the event or context under study. Here we do not share meanings directly through the protagonists but through their documents, writings and/or graphic materials.

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>5

Participatory methods and techniques of data collection

This chapter focuses on the data collection techniques associated mainly with participatory action research (PAR), although the techniques explained in Chapter 4 might also be used in PAR. The methods and techniques more specific to PAR involve a design and implementation that collectively bring together information of transformative nature, transcending the conventional collection of data for the research team. In summary, these techniques are applied to the reflection-action process with the aim to generate collective reflection and to organize the build-up of gathered information.

The importance of community participation in research is not only growing, but crucially a right based on social justice, empowerment and autonomy. Participation means the involvement of the people in decision making at three levels of increasing impact: information, consultation and participation. When participation is truly effective, it represents maturity in deliberative democracy and promotes empowerment by strengthening people's capabilities and exercising people's rights.

From research to action

In Chapter 1 we emphasize that qualitative research focuses on action and change, and indeed, in some research processes the transformative action transcends the research itself. In such processes we identify three starting points: we want to know reality, we want this knowledge to transform reality and we want to transform it together with the people that inhabit this reality. In this process three words stand out: Research, Action and Participation.

Initially described by Lewin in the 1940s as *Action Research*, we now find variations from the PAR of Orlando Fals Borda and the Latin American school inspired in Paulo Freire, to the North American *Community Based Participatory Research* (CBPR), more strongly centered on public and community health. As indicated by Barbara Israeli, the common characteristics of PAR and CBPR are as follows:

- They are **participative**. The boundaries between the research team and the community blur. The researchers act as catalysers and the people in the community are co-researchers during the investigation process. Power is distributed in all research phases.
- They emphasize the **process** which cooperatively strengthens the contributions of the community and researchers.
- This **research is linked to the generation of action** and is usually applied to cycles of intervention-action. It is thus usually linked to community interventions.
- **Co-learning** is key to the process. Researchers generate and share knowledge and people in the community contribute knowledge and intelligence. The level of collective learning is useful to evaluate the process. This is an essential element within CBPR.
- The whole process combines three fundamental elements: **Investigation**, **education and action for change.**

Meredith Winkler and Nina Wallerstein point out that CBPR is not a research method, but a set of methodological directions on how to conduct investigation in social contexts ("is not the methods but the methodological contexts of their application"). Indeed, PAR and CBPR use a wide range of methods and techniques of social investigation centered on participation of the people in the communities with the objective of empowerment and social change, thus integrating knowledge and action. PAR and CBPR were initially used to identify needs and to plan and evaluate health services in developing countries, but they are now frequently used in different communities all around different countries. It is important to point out that many of these techniques, when used by citizens in local contexts, can be adapted, combined in a creative way or configured according to the needs and knowledge of the community itself.

Reflection and describe why it is necessary to develop research with the Participatory Action Research (PAR) approach

Participatory methods and techniques

Throughout the PAR process, the data collection techniques community empowerment. The community itself is conducting research and thus the techniques should be designed to adapt to the cultural, social and educational level of the community and to extract the correct information from the communities that work with the investigators. In fact, every information collection technique featured in Chapter 4 might become a participatory technique as long as it can be adapted to and used by the researcher community.

➜ For instance, the revitalization of the Health Board of Arriondas (Asturias, Spain) included assessing needs and local resource. The design included conducting various in-depth interviews to key people in the community and also surveys in women's associations. Basic training sessions were provided for members of the health board so that they could conduct the interviews and the surveys themselves. The population participates actively in all phases of the intervention.

Source: Obsaludasturias. Asturias Actúa en Salud Comunitaria – [YouTube]. (Accessed 22 Feb 2017). Available at: https://www.youtube.com/watch?v=iLK4Pv6Yr_8&feature=youtu.be.

Participatory techniques can be used in PAR processes and also as data collection techniques in other community research and intervention processes. Table 1 presents instances where participatory techniques have been used.

Table 1. Examples of different participatory methods and techniques used in Participatory Action Research

Objective	Methods and Techniques used	Further information
Development of a community health assets map	Photovoice Mapping party	http://www.obsaludasturias.com/ https://youtu.be/W2O-3fk-WqNQ https://youtu.be/TV6YT32_YQc https://youtu.be/FJb-AkxSQaU https://youtu.be/TV6YT32_YQc
Assessing Community Needs and Resources	Individual interviews Group interviews Photovoice	https://youtu.be/iLK4Pv6Yr_8
Getting to know the environment to promote healthy eating habits in a neighbourhood	Photovoice	https://hhhproject.eu/hhh-sub-studies/photovoice/ https://www.mibarriosaludable.com/fotovoz-bilbao/
Design of HIV prevention materials in groups of young people socially excluded	Individual interviews Focus Groups	https://obsaludasturias.com/obsa/que-es-el-obsa-2/documentos/
Home food preparation practices, experiences and perceptions	Photo-Elicitation	https://www.ncbi.nlm.nih.gov/pubmed/?term=photo-elicitation+and+mills
Innovative Learning Activities. Introducing World Café to Medical and Nursing Practice Students	World Café	https://www.ncbi.nlm.nih.gov/pubmed/28972636
Collect improvement suggestions from residents of Family and Community Medicine	Open Space Technology	http://www.educationforhealth.net/temp/EducHealth253208-1719643_044636.pdf
The Power of Digital Storytelling as a Culturally Relevant Health Promotion Tool	Storytelling	https://www.ncbi.nlm.nih.gov/pubmed/27402721

Source: Authors' own table.

Which aspects should you consider when choosing a participatory technique for participatory action research (PAR)?

What are the key aspects of the participatory techniques used in participatory action research (PAR)?

The above mentioned participatory methods and techniques are as follows:

>> Photovoice

This method was firstly used by Caroline Wang and Mary Ann Burris between 1994 and 1997 in women's health studies in China's Yunnan region. Photography was the women's tool to portray their social reality with a triple objective: a process of critical knowledge about the needs of their environment (*awareness*), a reflection on the difficulties of reaching these needs (*ameliorate*) and a desire for social and political transformation (*transformation*). The epistemological foundations are firmly anchored in Paulo Freire's model of critical conscience, critical feminist theory and critical ethnographic models.

The use of photography is particularly good for communication in adults with reading or writing difficulties since as a creative process, data collection, the final presentation of results and attempts at transformation become more emotional and symbolic. A first session takes place with the selected people to present the objectives and methodology. Since these are techniques linked to PAR and CBPR, the objectives should be those defined as relevant by the community, as opposed to objectives imposed by the researchers. In some cases cameras are distributed amongst participants, alongside basic instructions for their use. However, the technicalities of photography should not be emphasized, since the goal is not a photojournalism exhibition, but a process of construction of the social reality with the population, in which *how* pictures are taken might also become a source of information.

A second session induces reflection and dialogue with the photographs using a SHOWED questionnaire (Table 2). Some research teams limit the questions to 4 (they eliminate number 5) and some adaptations include questions 1, 2 and 3. The phase that links the observation of the photograph with the responses of the group to each question in the SHOWED questionnaire is crucial in photovoice. The participants and the research team are in charge of the construction and discussion of the **image-text unit** (the data unit of this technique), fundamental toward the selection of the main topics and categories of analysis.

Photovoice is therefore a mixed technique that combines observation and conversation. Wang and Burris explained that "it is contrary to the spirit of photovoice to consider the photographs in isolation, far from their own voices and stories".

Table 2. SHOWED questions. Acronym of the technique used in photovoice to guide the dialogue around the photographs

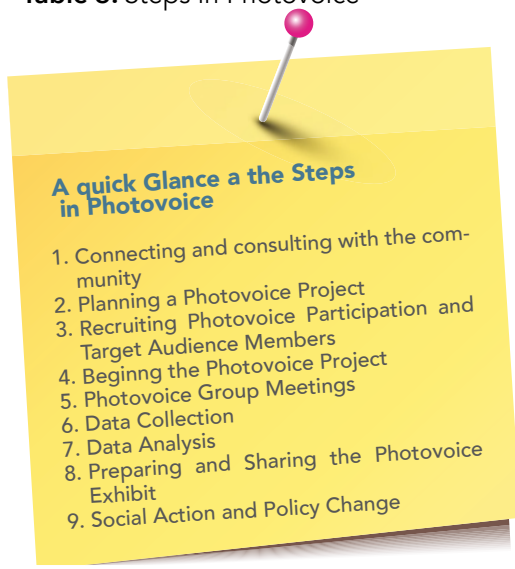
1.What do you **S**ee here?
2. What is really **H**appening here?
3. How does this relate to **O**ur lives?
4. **W**hy does this concern, situation, strength exist?
5. How can we become **E**mpowered through our new understanding?
6. What can we **D**o?

Source: Wang CC. Photovoice: a participatory action research strategy applied to women's health. J Womens Health. 1999;8(2):185–92.

The term used is the combination of the word Photo and the acronym VOICE (Voicing Our Individual and Collective Experience), reflecting the purpose of most participatory techniques: **to provide the population with loudspeakers to improve reality.**

While generally photovoice advances stepwise, some activities can overlap. Additionally, some activities must have a clear start and finish before the group can move on, while others might last several weeks. Every photovoice project is unique. The progress of each group is influenced by differences in the projected timeline, budget, photovoice participant goals and objectives, community resources and importantly, community needs. Beverly Palibroda and colleagues suggest nine steps in their book "A practical guide to photovoice: sharing pictures, telling stories and changing communities" to assist with planning and implementation (Table 3).

Table 3. Steps in Photovoice



Source: Authors' own table.

➜ A study by Julia Díez and colleagues that aimed to understand key determinants of the local food environment influence on residents' diets is an example of photovoice study funded by Heart healthy Hoods Starting Grant ERC 2013. This project was conducted in the District of Villaverde, a low-income area located in Madrid (Spain). From February to May 2015, 24 residents working in four photovoice

groups took photographs related to their local food environment. They used a purposive sampling strategy to engage participants. Each group met at least for five weekly sessions which lasted approximately two hours. In session 1, the research team explained the project aims and scope, handed out digital cameras, collected demographics, and discussed the group sessions schedule. In addition, participants engaged in a one-hour photography workshop led by a professional photographer. At the end of this first session, the research team invited participants to "take pictures of all the features related to food environment in your neighbourhood over the next week" and to bring the five pictures that they believed were the most important to the next session. Sessions 2–4 consisted of small group discussions, where they analysed and critically discussed their photographs. The research team used the SHOWED mnemonic method to guide discussions on why participants took a specific photograph and what it meant to them. Through a consensus-building process, participants identified 30 emerging categories, which followed five conceptual themes related to their food environment: 1) eating in moderation; 2) cultural diversity; 3) food stores; 4) social relationships; and 5) economic crisis and poverty. In session 5, participants selected the photographs that they wanted to be published or used in future dissemination activities (i.e., photography exhibition). Participants and researchers successfully collaborated in analyzing, writing and disseminating the project results, and directly informing local policy-makers, media, and other residents.

Source: Díez J, Conde P, Sandin M, Urtasun M, López R, Carrero JL, Gittelsohn J,Franco M. Understanding the local food environment: A participatory photovoice project in a low-income area in Madrid, Spain. Health Place. 2017;43:95-103.

>> Photo-Elicitation

Photo-elicitation is a fundamental component of photovoice. It was first described in 1997 and is a form of CBPR that engages participants at each step of the research process as documentarians, commentators and agents of social and political change. In contrast with photovoice, photo-elicitation focuses on the interview process itself, whereas photovoice is a more comprehensive term concerning an action-oriented research strategy. Photo-elicitation produces rich data by encouraging community awareness and engagement. Images include photographs, video, paintings, cartoons, graffiti, advertising and other. Images can be provided by either the interviewer or the subject. The principal aim of photo-elicitation interviews is to record how individuals attribute social and personal meanings and values to images. The meanings and emotions triggered by photographs may disagree with or complement those obtained by means of verbal inquiry. Interestingly, from an evolutionary perspective the areas of the brain that process visual information developed earlier than the areas that process verbal information. Visual images might kindle emphatic understanding of how other human beings experience their world. Photo-elicitation has proved successful in a diversity of studies and is commonly used in participatory research with young children and marginalised communities.

Photo-elicitation is unique for the interviewer and the subject. When a photograph is taken, the meaning for the interviewer results partly from the context of

the image. To another interviewer, the same photograph could illustrate a similar concept, but two interviewers would never have exactly the same initial reaction to the image.

Photo-elicitation is an ideal method of qualitative research for natural visual learners. Also, images are processed differently from verbal communication in the brain. Therefore, photographs might alleviate social anxieties related to difficult emotional subjects such as illness, death, poverty, etc.

Photo-elicitation is controversial as a research method, since photographs taken during social experiments are sometimes considered art rather than research. However, certain sub-sets of data can only be obtained when interviewer and subject collaborate to create an image that escapes other traditional means of data gathering. Without these sub-sets, some important conclusions of research related to human emotion and expression could prove meaningless.

➜ An example of qualitative research with photo-elicitation is the study by Sarah Hanson and colleagues, who worked with a new walking group where participants presented multiple health problems, in a community from Great Yarmouth (England) with poor health and poor socio-economic indicators. The aim of the study was to understand non- participation in walking groups amongst specific social groups and how walking groups could be more effectively promoted to attract the people in the communities that could benefit most. Participants took part in a programme conducted by a physical activity trainer which consisted of walking with the group for 12 weeks, once or twice per week for 50 min at a time, including a 5 minute cooldown exercises at the end. Participants were given a disposable camera and simple instructions to capture images that represent what is helpful and unhelpful of walking in everyday life and positive and negative experiences of belonging to a walking group. Participants returned the camera to the research team approximately two weeks after the end of the programme for the photographs to be developed. Individual interviews were held a further two weeks later. The semi-structured interviews used the photographs both for open-ended, participant driven elicitation and also as a basic interview guide. Interviews were digitally recorded and data were transcribed and analysed. The research team found that prior to joining there were low expectations of any health benefit and walking groups were not viewed as 'proper' activity. The group format and social expectations presented a barrier to joining. Participants described developing awareness of the health benefits of walking by joining the group. Rather than socialising, what held the group together was the shared sense of achieving health goals.

Source: Hanson S, Guell C, Jones A. Walking groups in socioeconomically deprived communities: A qualitative study using photo elicitation. Health Place. 2016;39:26-33.

>> Mapping party

The mapping party is, in effect, a casual meeting of individuals to collectively map a specific area. It brings together people from different social spheres to co-create the Map through interaction and negotiation of the meanings of mapping, the mapping data and the data itself. Furthermore, mapping is considered an activity with emotional, cognitive and social com-

ponents. The central objective of mapping is to identify assets (any resource that strengthens the ability of persons, groups and populations to maintain and improve their health and wellbeing) of a given area. The aim is to depict on a map the elements of interest to inform others in a free, sustainable and non-commercial manner.

The territory can be charted without moving (for instance, in a meeting room), or indeed by strolling around the area. Prior cartography knowledge is not required, since instructions regarding paper mapping, use of GPS and/or specific cartography software are provided beforehand. Tasks are distributed amongst groups of different ability. Data collection takes place on paper maps or through the use of collaborative digital maps such as OpenStreetMap (OSM) or maps available in Alianza de Salud Comunitaria (http://www.alianzasaludcomunitaria.org/activos-para-la-salud/).

➜ The following example illustrates community health work, community engagement and mapping assets for health in Asturias. The video presents some revitalisation experiences of the Health Boards and participatory health analysis and assets mapping for health.

Source: Obsaludasturias. Asturias Actúa en Salud Comunitaria – [YouTube]. (Accessed 22 Feb 2017). Available at: https://youtu.be/iLK4Pv6Yr_8

➜ For instance, though it´s only a mapping experience not a mapping party technique, various organizations attached to the Alianza de Salud Comunitaria share a map to facilitate the geolocation of health assets to professionals and users. It is currently promoted by the Health Observatory in Asturias, Primary Care Community Activities Programme of the semFYC, Public Health Agency of Catalonia and Andalusian Public Health School. By the Health Observatory in Asturias, Primary Care Community Activities Programme of the semFYC, Public Health Agency of Catalonia, Andalusian Public Health School and other seventeen institutions. This network locates assets via web, and in the case of the Health Observatory in Asturias, through apps for mobile phones and connecting the network to the electronic health records in Primary Care to facilitate the "Recommendation of health assets from the consultation room".

Source: Alianza de Salud Comunitaria. Activos para la Salud [Internet]. Available at: http://www.alianzasaludcomunitaria.org/activos-para-la-salud/

Guide to recommend health assets in primary health care and clinical settings. [Internet]. Available at: http://obsaludasturias.com/obsa/guia-de-recomendacion-de-activos-en-el-sistema-sanitario/

Think about the advantages of incorporating images (photos, drawings, videos, maps and any other images) in research

Reflect on the ethical aspects of using photography and video for participatory action research (PAR)

>> World cafe

World Café is a natural and effective method to generate meaningful, open and creative conversations on a topic of common interest, sharing collective knowledge, ideas and points of view to awaken the collective wisdom, to reach a deep understanding on the topic and a commitment of collaborative action. It has a flexible format to adapt to different circumstances and takes place in comfortable settings with the participation of groups of about 12 people. Simultaneous conversations can take place in the different tables, and each table might propose different topics of conversation. A rotation system is set up and in each table information from the various participants is collected. Usually, each table maintains one same person throughout the session, who explains the previous discussions to the new participants. The information can be collected by writing on paper or drawing. Toward the end, all emerging information is shared and the topics discussed are summarised and categorized. We recommend some minutes of silent reflection on the deepest patterns, topics and questions. One of the characteristics of the World Café is the opportunity to move between tables to meet different people, which encourages sharing key ideas and themes and to exchange points of view that will enrich participants with new and unexpected ideas.

According to "A Quick Reference Guide for Hosting World Café", the following seven design principles should be used together to foster collaborative dialogue, active engagement, and constructive possibilities for action:

1. Set the context

Think about the goals of the meeting and the elements required to achieve success: e.g., who should participate, most pertinent topics, most useful sorts of harvest, etc.

2. Create Hospitable Space

A welcoming, comfortable space is crucial to the success of the Café. When people feel at ease, they produce their most original thoughts and conversations.

3. Explore questions that matter

Topics relevant to the reality of the group will create knowledge. Choosing powerful questions is critical to achieve the goals of the session. A relevant question should be simple and clear, suggestive, open new possibilities, induce deeper reflection and seek usefulness.

4. Encourage Everyone's Contribution.

Individuals get involved when the questions are relevant to them. All participants should engage in the conversation, novel and interactive techniques to involve them should be applied. Provocation can be used, it might enliven the conversation and produce far-reaching results.

5. Connect Diverse Perspectives

The Café offers the opportunity to meet new people, to actively communicate your ideas and to connect them to ever-widening circles of thought. The exchange of ideas in the various tables or groups greatly enhance the chance of unexpected insights.

6. Listen together for Patterns and Insights

Listening is the crucial element that determines the success of a Café. Through shared listening and paying attention to themes, patterns and insights, we sense a connection to the larger group. Encourage people to listen also to what is not being said.

7. Share Collective Discoveries

The exchanges held at one table connect with the discussions in the other tables. In the last phase of the Café, known as the "harvest", a large group conversation will convey the wholeness of the conversations. After a few minutes of silent reflection on the patterns, topics and more profound questions discussed in the small group conversations, they should be shared with the larger group. A graphic recorder is recommended to register the harvest.

➜ For instance, a session in a class to clarify concepts. During a training course on health promotion, it is of interest to know the previous knowledge of participants. Thus, participants are divided in four groups to develop a constructive dialogue on four concepts: community health, community engagement, health determinants and health promotion. All groups participate in each topic and at the end, four definitions emerge within the creative process of collective knowledge. ●

➜ Anne MacFarlane et al. published a paper on the use of World Café as a participatory method for community engagement in research prioritization in Ireland and the USA. The principles of purposeful and snowball sampling were followed in both settings, and a diverse range of community and healthcare stakeholders participated (n = 63, and n = 55 USA). The design was cross-sectional in Ireland (one-off café event in two geographical locations) and longitudinal in the USA (series of five cafés with the same community stakeholders). In both settings, participants were explicitly questioned for their views on research priorities by asking what issues were of most concern to them. Researchers did not make any inferences about research priorities. Some of the resulting research priorities were as follows: find out what works well and implement it; put the community at the heart of health service planning and delivery; focus on the specific needs of specific social groups; develop health promotion activities for chronic conditions; and improve people's knowledge and understanding of primary health care services. Design principles for World Cafés were found to align with high-quality patient engagement for research prioritization in both settings. World Cafés facilitated meaningful collaboration among stakeholder groups in research prioritization (research agenda setting) and explored research priorities (engagement with research). The café ambience, emphasis on hospitality and self-facilitation created an environment for dialogue within and across participating groups (interac-

A research team designs a World Cafe that aims to promote social awareness about death from various points of view and to break the taboo of talking about any death-related issue. Find powerful questions that are relevant to the group and help attract collective energy, insight and invite reflection and action.

tional features). There was a commitment to follow-up actions with reference to subsequent research (outputs).

Source: MacFarlane A, Galvin R, O'Sullivan M, McInerney C, Meagher E, Burke D, LeMaster JW. Participatory methods for research prioritization in primary care: an analysis of the World Café approach in Ireland and the USA. Fam Pract. 2017;34(3):278-284.

>> Open Space Technology

Inspired mainly by earlier techniques of meeting organization for large groups (community forums), this term was coined in 1982 by Harrison Owen. Open Space Technology is a technique used when conversation spaces with a common topic are needed for large groups of participants. Similarly to World Café, the starting point is to create conversation spaces as comfortable as possible for people to fully take part in an open meeting with no predefined agenda.

The meeting might last between one and three days. The basic scheme of the Open Space Technology (OST) is as follows:

1. **Open Space Technology presentation.**
2. **Definition of agenda.** Establish topics to be discussed and the people in charge of each topic. Organize schedule and meeting rooms.
3. **Start of groups.** Each group gets ready to discuss the different topics. We suggest a fairly formal collection of the information that emerges from each group. Participants are free to leave one group and enter another one.
4. **Return to the initial larger group to share the topics discussed in the various groups to reach some conclusions.** If an agreement is needed, before sharing the results a priority system for later discussion in the larger group should be established.

➜ In November 2017, the Public Health Agency of Asturias organized a meeting of community health using the Open Space Technology methodology. The objective of the meeting was to further the understanding of how to work more and better on health with the participation of the community. 230 people registered and the meeting lasted a whole morning. In the first part of the meeting the OS was explained; next, a working schedule was discussed and the participants suggested topics. A list with 30 items was produced. Each of the people that had suggested a chosen topic was put in charge of developing the topic within a group and was given straightforward instructions to collect the information produced. The groups were free to join if the topics created shared similar characteristics. When the final consensus of topics was determined, two different times were scheduled to start work. Participants were explained that they were free to move amongst groups. Each group collected proposals classified in three categories: proposals for the future, tools (methodologies) and habits to be discarded.

Source: Observatorio de Salud en Asturias. Observatorio de Salud de Asturias – OBSA. 2017. http://obsaludasturias.com/obsa/

>> Storytelling

Storytelling is a research method with a flexible design and a broad spectrum of applications, associated processes and variations. It consists of inviting people to tell and share stories about their experiences and their responses to difficult situations.

Storytelling aims to construct the meaning of a study topic from raw information. Telling stories on past events and actions means giving voice to experience and entails three main benefits:

- sharing and evaluating stories of past achievements is appealing, energizing and might increase self-belief (*if I have done it, I can do it again*);
- those listening might learn from the experiences of others and reinterpret their own;
- communities can strengthen commonalities, group identity and social rules.

Within clinical research, storytelling is a powerful tool for patients and professionals to share experiences, skills, achievements and expectations when facing death and disease. The dialogues created by means of storytelling can also be very useful for research in public health. Additionally, storytelling might be a powerful strategy to disseminate the results in the community.

With regard to PAR in the community, active listening might provide relevant information on how a health message can better be adapted to empathise, educate, motivate and persuade. Storytelling can prove more successful in generating interest and commitment, improving understanding, influencing beliefs in the real world and in persuading sceptical audiences.

➜ Dr. Vinita Mahtani's PhD Thesis illustrates how a story can explain the results of a qualitative study. The philosophy of arts-based research was used to transform the results of a qualitative study about the antidepressants users' perspective into a creative product. A tale was written in which an eagle is the main character of this story, symbolizing the human being. The life events of the eagle resemble human experience. The eagle presents symptoms of depression, seeks help and is offered various options. Time goes by and nothing really helps her, until she finds the owl, which provides her with a solution which should be only temporarily used. However, the eagle decides to use it as a way to live her life. The tale tries to reach a wide audience of patients and professionals with two objectives: firstly, to encourage reflection about how drugs are used to keep up with life events; and, secondly, about who has the power to judge the decisions made by the patient.

Source: Mahtani Chugani V. Estudio cualitativo sobre la percepción del beneficio y del riesgo de ansiolíticos y antidepresivos en los usuarios. Servicio de Publicaciones, Universidad de La Laguna; 2011.

Neeley L. The Value of Storytelling in Public Health and Medicine. [Internet pdf] (Accessed 22 Feb 2017). https://www.isr.umich.edu/cps/events/Neely_20160613.pdf.

Think about an appropriate research topic to invite people to tell and share the histories (storytelling) of their experiences and actions when faced with difficult situations.

Some considerations on participatory methods and techniques

Data collection is just a component of the PAR process. In addition to participatory methods and techniques, the community's participation in the remaining study phases must be considered.

Most of these techniques can be combined, also with more traditional techniques. The choice of techniques will depend upon the objectives, the population and the optimal method to gather data and establish a more participative process. In effect, techniques should not be wedged into but adapted to the process of PAR.

It is crucial to understand that the use of less formal, more creative and imaginative techniques does not deter from rigour. Methods will be used for each of these techniques, for the recording of the information obtained, and for later analysis.

Another deceptively obvious aspect is the awareness that participatory techniques must to all intents and purposes be participative. The use of novel and different techniques does not guarantee a participatory process and might conceal the research team's directionality.

Words can be misleading and we might forget that we were already using an appropriate technique. We should nonetheless keep up to date with novel techniques, how they are used in other research sites and take into account how to build solid participatory techniques.

Information Communication Technologies and participatory methods and techniques

Information Communication Technologies (ICTs) are tools widely used by various sectors of the general population and carry thus great potential to generate reflection, participation and transformation. It is essential to explore opportunities, challenges, advantages and disadvantages derived from incorporating information technologies in participatory techniques.

Taking into account the objectives of the research and the study population, ICTs can be very useful for data collection. The on-line scenarios can be mimic marketplaces and spaces of interaction, observation, conversation and collection of information similar to off-line physical spaces. Many techniques described in this and previous chapters could be combined with the ICTs utilization, to collect data and to disseminate or visualise the projects.

- We have already mentioned some examples (virtual strolls using visualisation of maps or asset geolocation through websites). Also, videoconference systems to conduct interviews, messaging services such as WhatsApp to collect images for photovoice, generation of an interactive storytelling based on women's accounts and dissemination of these accounts as educational tool to explain the model of health determinants and the levels of

community interventions (Project The health centre is not the centre of health)

Source: http://www.merops360.com/cBalsells/WebMerops360/Visites_virtuals/El_Centro_de_la_Salud/El_Centro_de_la_Salud.html

➜ The PhD thesis of Dr. Soraya Calvo applied digital ethnography in order to describe the digital identity of teenagers from Asturias and to unravel their manner of expressing emotion and the relationships between peers in social networks. Taking into account all these concepts, a proposal emerged for a specific intervention on sexual education from a critical digital literacy approach, and to determine how to implement educational interventions in formal and informal settings. The final sample selected after providing information about the investigation and its objective consisted of 528 profiles or digital identities (403 in Instagram and 125 in twitter), which were followed by the two digital accounts created for the project. A process of digital immersion took place during 8 months to collect the information of all messages in the selected digital profiles through direct observation or via purpose-built software for automated observation. Images, texts, hashtags, emojis, links and likes were all analysed, up to 20,000 and over 2,700 messages in Instagram and Twitter, respectively. This information supplemented the information obtained via interviews and focal groups of teenagers, teachers and professionals.

Source: https://juventud.gijon.es/multimedia_objects/download?object_id=218833&object_type=document

Key concepts

- In essence, Participatory Action Research sets up procedures that aim to understand and transform reality through the active participation of the population, which cease to be the object of investigation to become the researcher.
- In addition to guarantee the participation of the community in the design of the study, participatory techniques must be used for data collection.
- Participatory techniques can be traditional (individual and group interviews) or more open and creative (photovoice, photo-elicitation, mapping party, world café, open space technology and storytelling), but should always facilitate the researcher role of the community.
- Techniques are simply tools to fulfil an objective. It is crucial for participatory techniques to be used to collect information following the objectives of the investigation and focusing on the transformative action of reality transcending research itself.
- Even the most creative techniques with artistic, playful and open components are used within a rigorous research framework.
- Crucially, the technique used should not mask the process of participatory action research, since the real ultimate goal is to transform reality, improve the empowerment and well-being of the community.

Annotated references

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Within Red Cimas, we can find a highly recommended text by Joel Martí on Participatory Action Research, structure and phases: http://www.redcimas.org/wordpress/wp-content/uploads/2012/08/m_JMarti_PARFASES.pdf

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>6

Analysis of qualitative data. Software programmes used in the analysis of narrative data

ÍNDEX

Concept of analysis and specificity of qualitative analysis

Data analysis is an essential and complex phase of qualitative research. Since it involves a myriad of methods and information generation techniques, we will need to work with very diverse empiric materials that range from transcription of texts from individual and group interviews to field notes, photographs, videos, drawings, literary texts, journalistic articles and letters. In addition, the data obtained in qualitative research are not numbers but discourses, observations and other documentary techniques such as videos and photos, though most of them are in narrative text format. If producing data for analysis is not particularly difficult, high quality data are only obtained through skilful and meticulous work.

The process of analysis consists in organizing, structuring, comparing and attributing meaning to the information obtained, thus transforming the "raw data" into "clean data" (systematic and manageable information) that facilitate the understanding of the phenomenon under study. According to Gregorio Rodríguez, qualitative analysis consists in "the manipulations, transformations, operations, reflections and verifications that we impose to the data with the aim to extract the relevant meaning related to a research problem". José Ignacio Ruiz Olabuénaga underlines that by means of the qualitative analysis "we try to generate conceptual interpretations of facts that are already there, we do not want to project results of possible manipulations of these data". Michael Quinn Patton explains that in qualitative research the real challenge is to make sense of an extraordinary amount of data, to reduce the volume of information, to identify significant patterns and to build a framework to communicate the essence of these data.

The main characteristics of the analytical process are flexibility, circularity, iterative and rigour; also, complexity, labour and feedback amongst the different phases. The analysis is a creative, iterative process that requires time since the materials contain large amounts of information with various possible interpretations. During this process we take into account the context where data originate from to be able to provide a truthful interpretation and to further evaluate the importance of these data in other contexts.

We should also highlight that information collection and data analysis happen simultaneously so that they can feed back on one another. In consequence, we must start the analysis process just after we have collected the first data so that the preliminary analysis of these first data improves the collection of subsequent data. The aim is to detect and correct shortcomings in the information obtained. In qualitative studies it is common that investigators who generate the information also analyse these data themselves. The analysis is a creative and dynamic process that requires the research team's direct experience of the context of the study and therefore cannot be outsourced. Since the analysis involves creativity and subjectivity, different investigators of the research team should carry out the analysis and reach a consensus (i.e. analytical triangulation).

The analysis strategy must be defined when we plan the study protocol. The plan of analysis must agree with the objectives of the investigation, the methodologies previously chosen, the data generation techniques and the data obtained. In Chapter 7 we will see that it is crucial to follow rigorous procedures dur-

ing the phase of analysis to be able to attain the objectives of the study and a reliable interpretation of the data.

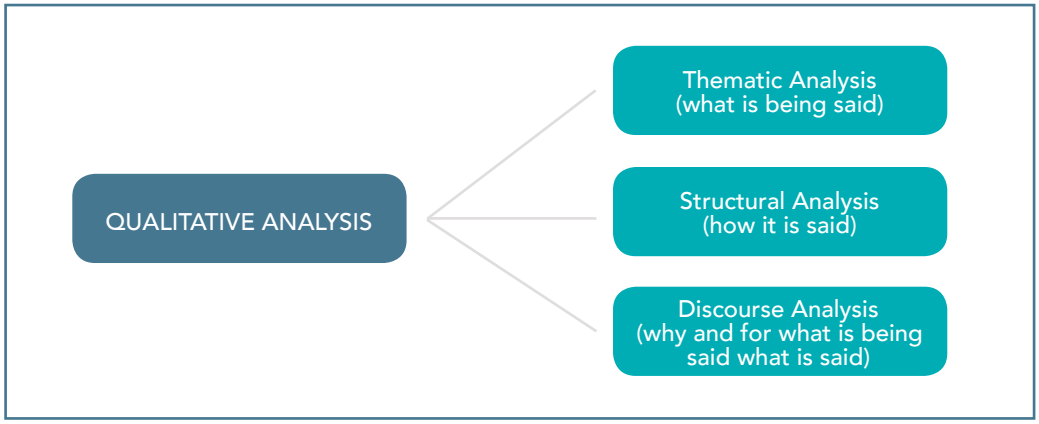
Qualitative data analysis is not straightforward. Think about which training is required as introduction to data analysis

Types of qualitative analysis

Qualitative analysis encompasses various theoretical approaches and procedures which should necessarily relate to the chosen theoretical approach and methods of the investigation. Each type of analysis addresses different objectives. The objectives of the research and the theoretical approach chosen will determine the most adequate type of analysis and the degree of interpretation of the data. According to Janice Morse, the analysis provides a continuum from the less (more descriptive) to the most interpretative (which aims to elaborate explanatory frameworks of the phenomenon and/or develop concepts and theories on the object of study).

There is no universally accepted classification of analysis. We will follow Fernando Conde and other authors like Manuel Amezcua, who focus on methodological approach and conception and treatment of language. According to their classification, there are three types of analysis: thematic, structural and discursive (See Figure 1).

Figure 1. Classification of analyses based on the degree of interpretation and the theoretical conceptions on language



Source: Authors own figure.

In content analysis and some versions of structural analysis, the meaning of words and expressions originate mainly from their literal meaning and/or from the grammar rules themselves. In contrast, other approaches to structural analysis and discourse analysis consider that the meaning of the language originates from its social and cultural use and the intentionality used by the different sets of actors when they utter these words.

In the next section we provide a brief description of these three types of analyses:

>> Thematic analysis

Thematic analysis emphasizes the meaning of the text and describes and/or interprets the thematic contents of the data ("what is being said"). The meaning of the words and expressions is mainly the literal meaning. The most evident dimension of language is emphasized: "what is being talked about". In brief, thematic analysis is based on language syntax. In the next section we will see that it starts by fragmenting the text and then the parts are integrated for a comprehensive understanding of the phenomenon. Some types of thematic analysis are relatively straightforward, which is why thematic analysis is usually chosen by health professionals in their first projects of qualitative research. Thematic content analysis is a broad term that encompasses different means and procedures; for instance, ethnographies, which are more naturalist and less interpretative than the Grounded Theory (developed by Barney Glasser and Anselm Strauss, 1967).

The Grounded Theory or method of the constant comparisons is very interpretative and aims to generate theories, concepts, hypotheses and propositions from the data of the empirical investigation: theoretical categories that originate from the data are formulated and the relevant relationships amongst categories are analysed. Grounded Theory highlights the discovery and development of the theory, and is not based on deductive reasoning supported by a previous theoretical framework or on any previous research. Analysis in Grounded Theory is dynamic and creative and based in two strategies: the constant comparative method and theoretical sampling (new cases are recruited based on their potential to expand the concepts and theories that are being formulated). According to Kathy Charmaz, the result of a Grounded Theory study is an analytical interpretation of the worlds of the participants and the processes that result in those worlds.

➜ Carmen de la Cuesta has published many studies on care using Grounded Theory. For instance, she conducted a study with the objective to describe the context of care of family members with severe dementia. After the analysis she describes a theoretical framework of the life of these carers: for them, life is not normal. Categories that describe the context of life of these carers are "restricted life" and "not having their own lives". These carers have got used to this way of life. Nurses can improve this situation. They can advise caregivers to reserve parcels of their persona life. Nurses are also authorized voices to promote and sensitize equitable family care practices.

Source: De la Cuesta, C. [Not a normal life: the context of family care in dementia]. Index de Enfermería 2011;20(1-2):41-45. [In Spanish]

>> Structural analysis

Structural analysis is also known as linguistic analysis. In structural analysis the meanings of the discourses can be found not only in what is said, but crucially, in the manner it is said. The emphasis here is

"how what's said is said". It is based on the internal structure of the language and aims to find its internal logic to access the meanings of the text. The aim is to capture the meanings by means of an internalist analysis of grammar and the linguistic structures of texts. According to Fernando Conde, structural analysis is based on the connotation and polysemy of language; it aims to find the underlying regulations and relationships in the significant expressions. For Steiner Kvale, a linguistic analysis studies the characteristic uses of language and the use of grammar and linguistic forms (active and passive voices, pronouns, temporal and geographical references, the implicit positions of speaker and listener and metaphors).

>> Discurse analysis

Discursive analysis is also known as the interpretative analysis of the uses of language because it looks for the pragmatic and contextual intentionality of language. According to Lupicinio Iñiguez and Charles Antaki, here the discourse is a group of language and speech practices that promote and maintain specific social relationships, i.e., language is the expression of the social phenomenon under study. Consequently, it aims to identify and to understand the communication process and the social construction of language to ultimately determine the "why and for what is being said what is said". There are different approaches to analysis within discourse analysis, but all of them try to comprehend the global, contextualized meaning without fragmentation. Only after this global interpretation are the data analysed in detail and by sections. Here the order of analysis is reversed. Some types of discursive analysis are: sociological discourse analysis such as the sociological school of Jesús Ibáñez; critical discourse analysis (heralded by the linguist Teun Van Dijk); and hermeneutic-dialectic analysis.

➜ An example of qualitative research with sociological discourse analysis is the study by Almudena Alameda and Álvaro Pazos that aimed to understand the meanings, categories and practices that general practitioners built around frequent attendance. To this end, in-depth interviews were carried out with these professionals and the discourses were analysed by means of a sociological discourse analysis from two points of view: 1) Particular, to reveal in detail how the participants experience objective conditions and the practices and reflexive relations they produce, with every contradiction and hesitation that appear when the subject constitutes the focus of attention; 2) Relational, to explain the networking of cases and to determine commonalities amongst cases.

Source: Alameda A, Pazos A. [Qualitative Research on the Conceptualization around the Frequent Attendance by Primary Medical Staff] Rev Esp Salud Pública 2009; 83:863-75. [In Spanish]

Taking into account the methodological perspectives and the different types of analysis, which analysis do you think is more in agreement with a phenomenological perspective? And with a socioconstructivist perspective?

Common first steps in qualitative analysis

All types of qualitative analyses have initial common procedures. In short, before starting the analysis as such the narrative data must be prepared and researchers must get to know these data in depth. These common first steps can be divided in two phases: 1. Phase of preparation of the textual corpus; and 2. Discovery or pre-analysis phase.

>> Phase of preparation of the textual corpus

The objective is to prepare the narrative data for the analysis. It includes:

> **Verbatim transcription of all data**. Most qualitative studies include textual and/or visual and auditory data. All these registers must be transcribed in full and in text format so that they can be analysed in detail. Depending on the level of detail that the research requires, the transcription will be naturalist (with great attention to detail toward pronunciation, argot, accents and silences) or will particularly focus on the contents of the information provided (eliminating noises, pauses and non-standardized accents). In most cases, transcriptions are verbatim (word by word) and meticulous to capture all key aspects for the interpretation of data such as emphasis, speed, tone of voice, timing, pauses, laughs and non-verbal communication. Table 1 shows some common punctuations used in transcriptions.

Table 1. Common transcription punctuation marks

Transcription	Conventions
(?;xmin: xseg)	Talk too obscure to transcribe. Minutes and second of the interview
Hhhhh	Audible out-breath
.hhh	In-breath
[	Overlapping talk begins
]	Overlapping talk ends
(.)	Silence, less than half a second
(..)	Silence, less than one second
(2.8)	Silence measured in 10ths of a second
::::	Lengthening of a sound
Becau-	Cut off, interruption of a sound
he says	Emphasis
=	No silence at all between sounds
LOUD	Sounds
?	Rising intonation
(left hand on neck)	Body conduct
[.....]	Notes, comments

Source: Bailey J. First steps in qualitative data analysis: transcribing. Fam Pract 2008;25(2):127-31.

The transcription process can be long and tedious but it is essential and must be carried out meticulously to avoid ulterior erroneous interpretations. In consequence, it is essential that the person in charge of the transcription has the adequate training and background. We would recommend that an additional person checks the transcription with the audio to fill in and correct when appropriate. In agreement with the criteria of data confidentiality, the names of the informants should not be transcribed. Instead, codes or names that the participants themselves have chosen or made up can be used.

> **Protection and anonymization of primary documents.** It is essential to have a security copy of the primary version of the data. In addition, data that identify the participants will be anonymized and masked.

> **Put together all the information obtained with the different techniques and prepare the data for reading.** A single textual corpus with all the information obtained from the various sources during fieldwork must be put together. The textual corpus are all the texts and hard copy images: it includes transcriptions, annotations and registers, reproductions of visual materials, previously written texts and existing documents. All these data will be assembled according to some criterion that defines the order of reading. This criterion will facilitate the differentiation between data and their systematization. The order of reading will be determined by the objectives of the research team. An example of order of reading could be age, starting with the interviews carried out in young people followed by those of older participants.

Despite not always getting all the credit it deserves, why is transcription a key process in qualitative research?

>> Discovery or pre-analysis phase

The researchers that carry out the analysis must be familiar with its contents to obtain a broader picture of the text and to understand its potential. For all analyses, we will have to:

> **Attentively read and re-read the texts.** The attentive and comprehensive reading and the visualization of contextualized data is a prerequisite in any analysis process. It is not possible to analyse the data without being familiar with them, reading it repeatedly, listening or visualizing. This applies to all data: complete transcriptions, field notes, quotes, audio data, videos and visual materials. Even though reading is second nature, we must underline that the text must be read attentively to be able to construct an interpretation afterwards. According to Fernando Conde, literal reading means to attribute the same value to all expressions. During the readings the researchers will use their creativity and reflexivity with the emergence of associations, hypothesis and relevant fragments of text; notes of the thoughts produced must be added to the text.

> **Formulate the preanalytical intuitions.** We will formulate a first list of intuitions, interpretations and ideas based on the reading and re-reading

of the texts. These are the first conjectures that explain fully the text, i.e., the first ideas that summarize what the informants said. These first intuitions result from what the text suggests based on culture and the manner in which the research team thinks and observes. Once the intuitions are defined we must go back to the text and read it again to clarify if the preanalytical conjectures organize the text coherently.

Thematic content analysis and its procedures

We have already mentioned that the thematic content analysis consists in analysing the contents that has been directly articulated and in interpreting its meaning. The procedures consist of fragmenting the textual corpus in units that will be rebuilt later on by means of creating, classifying, joining and organizing categories to ultimately build a unit that facilitates the global comprehension of the texts.

We will use the study by Maribel Pasarín et al. (2006) on the demand of emergency services for non-urgent health problems to show the different procedures of thematic content analysis (Tables 2, 4 and Figure 2).

The phases of thematic content analysis are:

>> Phase of preparation of the textual corpus

See section on "Common first steps in qualitative analysis".

>> Discovery or pre-analysis phase

Includes the abovementioned procedures ("Common first steps in qualitative analysis") as well as some specific of this type of analysis. This phase ends with the formulation of a provisional plan of analysis. The steps to follow in this phase are:

- **Careful re-reading of the texts until they are completely familiar to us** (See section on "Common first steps in qualitative analysis").
- **Write down the preanalytical intuitions** (See section on "Common first steps in qualitative analysis").
- **Write down an initial list of topics that come up in the text.**
- **Design a provisional classification of these topics, i.e., a provisional plan of analysis.**

>> Analysis Phase

Starts from the description up to the interpretation of the data. The objective is to create thematic categories based on the data and to segment the textual corpus by categories. Next, these categories must be assembled within an explanatory framework that generates concepts and theories in relation to the degree of interpretation of the research. The procedures of this phase are:

- **To create and codify quotes.** Consists in looking for segments of text that shed some light on the phenomenon of study, segments with meaning. These fragments of text with meaning to the research are known as quotes or units of meaning. After a quote has been identified, it is coded. To codify

consists in labelling each quote with one or more words (code) that are usually within the quote and that have some relation to the quote. The segments of text (quotes) of the whole textual corpus that refer to the same get the same code. Next, quotes with the same code can be grouped. It is advisable to use codes that are the least interpretative and as linked to the text as possible. In addition, the different codes must be at the same interpretative level and the group of codes created (code inventory) must include all textual data. Some of the quotes will not be related to the objective of study. These quotes will be qualified as miscellaneous and before closing the analysis they will be reviewed and included in the study if appropriate.

> **Elaboration of categories.** Category is a concept or meaning that originates from the stories and that offers an initial response to the research questions. The category assembles the codes of the same topic by affinity and constitutes a first level of interpretation. Categories refer, for instance, to hunches or perspectives on the topic investigated, to behaviours, opinions, places, actors, influence on an action, consequences and interactions between actors.

There are three approaches to the elaboration of categories: deductive, inductive, and mixed. Categories can be defined a priori by the research team within the conceptual framework of the study or based on other research on the same topic (close-ended coding). When emerging categories are being formulated while the analysis is being carried out we have an open-ended categorization. Finally, in a mixed categorization the researchers start with broad, pre-established categories that they then modulate and expand with the results that emerge from the analysis.

Table 2. Example of quotes and codes of the study on the demand of emergency services for non-urgent health problems

Quote or unit of meaning	Code
..."I planned to go to my GP because I had something in the urine, but at night I went to pee and it was completely red and I decided to go to A&E"... [M-64a, A&E Mar]*	Blood in urine
..."I could not breath and I thought I was having a heart attack..."[F-45a, A&E Figueres-La Jonquera]*	I could not breath
..."I'm not a doctor, first thing that go through your mind <maybe I have an infection and...> I don't know, I did not study, did not know..., there are things out there very... because now you hear all these things on TV, my goodness! There is so much out there. Then you become very worried..."[F-38ª,A&E Sant Pau]*	I did not know what I had

** Anonymous code of the participant. In brackets we can see if the person is male (M) or female (F), age and the A&E attended. A&E= accident and emergency department.*

Source: Pasarín MI, Fernández de Sanmamed MJ, Calafell J et al. [Reasons for attending emergency department. People speak out].Gac Sanit 2006;20(2):91-9. [In Spanish]

Table 3. Examples of quotes and codes from a study with the objective to identify current and future competencies (managers and technicians) for public health professionals in Catalonia

Quote or unit of meaning	Code
…"they must be able to communicate everything, to communicate to the population or to communicate to those above and below them, to everybody … [IPC4]*	Capacity of communication
…"to know the scientific method to identify evidence, they have to be able to read a scientific document and not only the conclusions, but understand this… discriminate the evidence"… [IPC 14]*	Knowledge of the scientific method
…"of course, competences in **IT, they don't have a clue of what databases are …simply impressive"… [IPC 5]*	IT Competences

**Anonymous code of the participant. IPC = interview of professional competence.*

***Information Technology, computer skills.*

Source: Rodríguez D, Berenguera A, Pujol-Ribera E et al. [Current and future competences for public health professionals]. Gac Sanit 2013;27(5):388-97. [In Spanish]

Authors like Josep de Andrés Pizarro advice for the categories to be exhaustive (all relevant information should find a place in one of the categories).

➜ For instance, the study of Maribel Pasarín et al. on the demand of emergency services for non-urgent health problems used emergent categories. In contrast, they were defined a priori in the study by Mª Ángeles Prieto and col. that aimed to understand the perception that non-professional carers of patients with terminal cancer, elderly with dementia and patients after major outpatient surgery have of the home care provided by the nurses of the health centres. In this study, the categories of analysis were dimensions of quality based on the SERVQUAL model: access, communication, courtesy, competence, responsiveness, security, tangibility and reliability. Finally, in the study on beliefs, attitudes and knowledge of patients about their condition (type 2 diabetes), Cristina Moreno and col. used mixed categories; the category catalogue was designed a priori in agreement with previous literature and the experience and interests of the research team and then expanded with the topics that had emerged in the discourses.

Sources: Pasarín MI, Fernández de Sanmamed MJ, Calafell J et al. [Reasons for attending emergency department. People speak out]. Gac Sanit 2006;20(2):91-9. [In Spanish]

Prieto Rodríguez MA, Gil García E, Heierle Valero C, Frías Osuna A. [The Perspective of Non-Institutional Caregivers Regarding Home Care in Andalusia. A Computer-Aided Qualitative Study]. Rev Esp Salud Pública 2002;76:613-25.[In Spanish]

Moreno C, Sánchez A, Feijo M et al. [Patients, beliefs, attitudes and knowledge of type 2 diabetes.] Enfermeria Clínica 2004; 14(6): 307-12. [In Spanish]

The following text is a fragment of the paper "Social inequalities in health: a proper concern of epidemiology" by Michael Marmot and Ruth Bell.
We suggest that you read this text, create quotes and codify them with the objective to find different concepts regarding the health distribution.

The distribution of health within countries follows a social gradient: people lower in the social hierarchy have lower life expectancy and higher risk of illness than those higher-up in the social hierarchy. The nature of social stratification varies in form and magnitude across countries but includes dimensions such as income, wealth, education, occupation, gender, ethnicity, and area of residence. The social gradient means that not only the poorest but the majority have worse health and shorter lives than the best off in society. There must be a concern for poverty, of course, but also for social inequalities across society. The steepness of the social gradient in health varies across countries and over time. Although social stratification may be an inevitable feature of societies, the fact that the slope of the health gradient is not fixed provides grounds for optimism and suggests two strategies for reduction in health inequalities. First, address the form and magnitude of social stratification by tackling gross inequalities in the distribution of power, money, and resources. Second, improve the conditions in which people are born, grow, live, work, and age, so position in the social hierarchy matters less for health.

Source: Marmot M, Bell R. Social inequalities in health: a proper concern of epidemiology. Ann Epidemiol. 2016;26(4):238-40

- **Assemble categories in broader categories.** Different levels of categories can be defined according to their interpretative level: from categories basically linked to the raw data (less interpretative) to more interpretative categories that result from assembling several less interpretative categories. Categorisation is like the index of a book with chapters (more interpretative categories) and subsections within these chapters (less interpretative categories).
- **Internal and in-depth analysis of each categories**. We must fragment the textual corpus (the whole text) by categories and minutely analyse each of them. At this point we analyse characteristics, dimensions and trends.
- **Create an explanatory framework.** After each category has been analysed, the relationship between them and their directionality must be determined, i.e., the whole must be reconstructed from each part until we can

formulate hypotheses and generate an explanatory framework.

>> Phase of relativization, verification and contrast of the findings and formulation of the explanatory framework

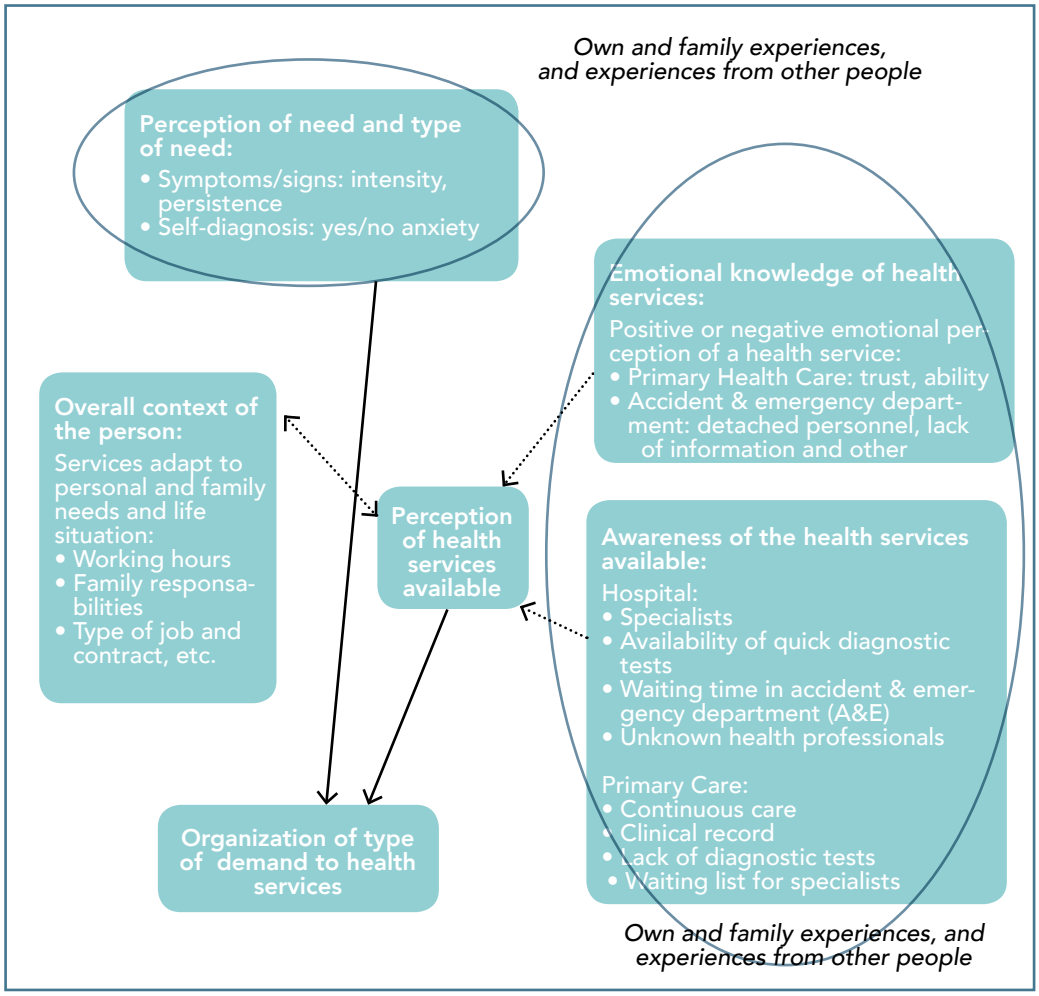
In this phase we compare the findings of the analysis with the original data to check if despite the transformations the results correspond to the original textual corpus. In addition, we must verify that the constructed theoretical framework has the explanatory value attributed by the analysts. Depending on the result of this phase, we might need to reformulate the explanatory framework. According to Josep de Andrés Pizarro, some of the common processes to validate the conclusions are as follows: comparison with other theoretical frameworks; critical exchange with other research teams and comparing results with other studies that use different methods. Some authors like John W. Creswell also recommend the member checking: soliciting participants's views of the credi-

Table 4. Example of coding and categorisation of the study on the demand of emergency services for non-urgent health problems

Code	Categories of first interpretative level	Categories of second interpretative level	Categories of third interpretative level
Toothache	Objective/non-objective symptoms	Perception of symptom	Perception of need
Headache			
Blood in urine	Known/unknown symptoms		
I could not breathe			
One eye hurt	Severe/non severe symptoms		
…			
It was the herpes	Clear self-diagnosis	Self-diagnosis: presence/absence	
It was diarrhoea			
I thought it was the heart	Location of the symptom in the body		
I did not know what it was	No self-diagnosis		
…			

Source: Pasarín MI, Fernández de Sanmamed MJ, Calafell J et al. [Reasons for attending emergency department. People speak out].Gac Sanit 2006; 20(2):91-9. [In Spanish]

Figure 2. Explanatory framework of decision making when the need for emergency clinical care is perceived



Source: Pasarín MI, Fernández de Sanmamed MJ, Calafell J et al. [Reasons for attending emergency department. People speak out].Gac Sanit 2006; 20(2):91-9. [In Spanish]

Different categories emerged: symptoms, whether or not self-diagnosis was involved, perception of needs, awareness of the health services available, and the overall context of the person. Symptoms generated feelings of failing health and thus initiated care seeking. Self-diagnosis determined perceived need and the type of care sought. People contrasted their self-perception of need with their own opinion about the health services available. The decision to go to one or other service was made as a result of this contrast, but the individual's family, work, and social situations also played a part. Informants were more familiar with the service provided by the emergency department than with that provided by primary care. Time consumption also figured heavily in decision making.

bility of the findings and interpretations during analysis. There is controversy in this aspect because if the results are very interpretative, it is possible that participants cannot recognised their views in these results. What can be done is to send to each participant a summary of the most relevant content of the technique in which each of them has participated. This strategy could be of them either feedback or verification. On the other hand, it is always recommended to send back the final study results to all the informants.

All qualitative analyses must conclude with the final report of the results. Writing up is not a phase apart from the rest: here the analysis is reviewed and we should choose a writing style adapted to those that will read the study.

The presentation of results should focus on action and change. Therefore, a strategy of dissemination of results must be planned. Also, the communication of results must be understandable and pleasant for the target audience. The results are presented as a narration and structured in agreement with the analysis and should respond to the objectives of the investigation. In particular, the study will show the most significant results since they constitute the real contributions to the topic under research. The results do not include numbers or proportions; however, it is advisable to include fragments of quotes or observations to illustrate the analysis. In qualitative research it can be difficult to distinguish the results from the discussion. In consequence, some journals accept the joint presentation of both sections.

Which audiences should targeted for the dissemination of the results of a study? Which formats should be used? For instance, in the study on the demand of emergency services for non-urgent health problems, how would you plan the dissemination?

The results and the analysis procedures must be clearly stated in spite of the restricted word count allowance in scientific journals. We sometimes find articles that bullet point the type of analysis and do not explain the particulars. Analysis procedures should be clearly detailed: sequence and progress, number of researchers involved, activities allocated to each of the investigators and strategies put in place to guarantee the rigour and quality of the data obtained. It is recommended for the analysis to be available for the people that request it. Some journals accept it as online supplementary material.

Sociological discourse analysis and its procedures

We have already mentioned that the sociological discourse analysis looks for the pragmatic and contextual intentionality of language, since language is interpreted as an expression of the social phenomenon under study. It is therefore an attempt to identify and understand the process of communication and the social construction of language within this process. The stories reflect the social agreement on "how things are" and show the interests, conflicts and contradictions in society. In consequence, this analysis is ideal to study social and political institutions, organizations, group relationships, structures and processes.

The sociological discourse analysis aims to capture the global and contextualized meaning of the textual corpus; only after this general comprehension do we analyse the text in detail and by sections. In discourse analysis, the whole amounts to more than the direct sum of the parts and the analysis starts by attempting to understand the whole text.

Fernando Conde, a sociologist expert in this type of analysis, points out that the sociological analysis of the texts aims to find their underlying structure and simultaneously to register the discourses based on these texts within the space of the social relationships where the research informants are found. The sociological analysis also aims to highlight the pragmatic intentionality of the interviewees. Therefore, the individual discourse is relevant because the participants represent a specific role-social position: who talks, who do they represent and how do they talk because of who they represent.

Write an objective for study where the data are best analysed by means of sociological discourse analysis

According to Fernando Conde, there are four basic procedures for the sociological discourse analysis:

- Determination of discursive positions and fractions
- Creation and analysis of symbolic configurations
- Analysis and interpretation of semantic configurations
- Formulation of discourse

In this type of analysis, the word "discourse" refers "to the results" constructed by the researchers that conduct the analysis based on the transcriptions. We must remember that these four procedures are carried out after those common to all analyses are completed: phase of preparation of the textual corpus and phase of discovery (see section on "Common first steps in qualitative analysis").

To facilitate the understanding of the procedures involved in the sociological discourse analysis, we present an analogy with the development of a film (see Figure 3). Moreover, we will provide examples based on a qualitative study that aimed "*to describe the concept of health prevention and identify levels of knowl-*

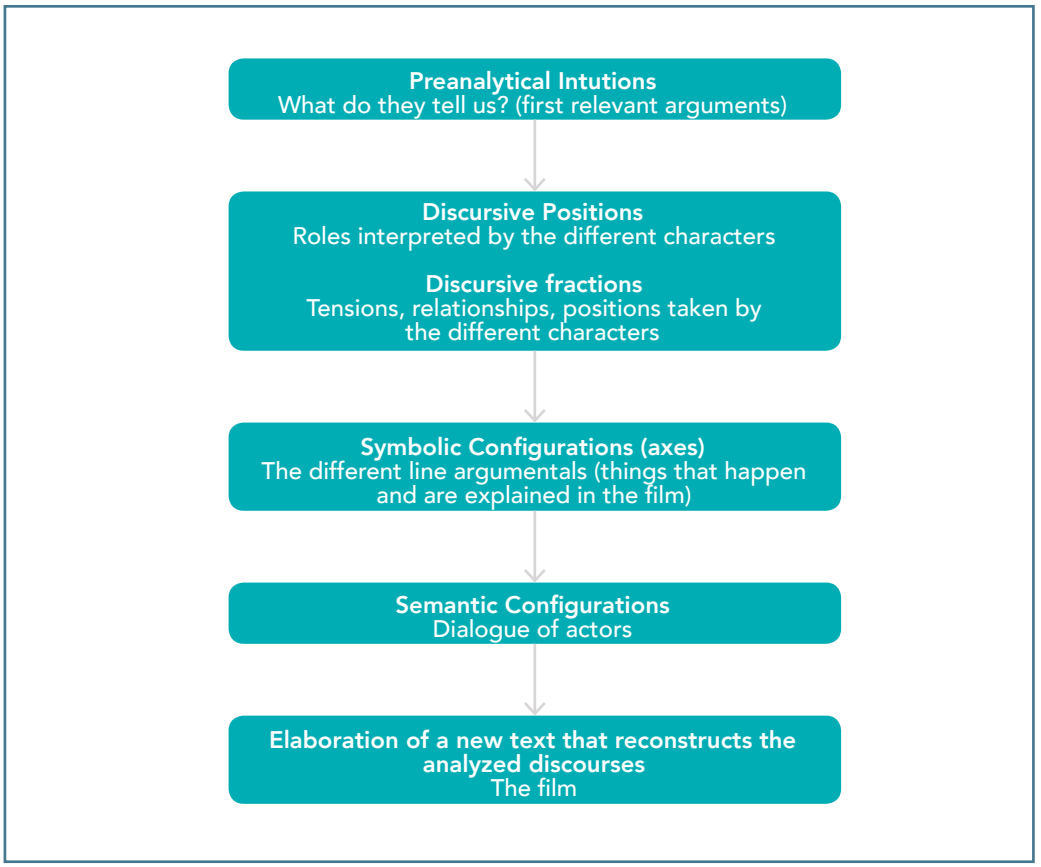
edge, perceived benefits, barriers and practices of early detection of breast cancer among native and immigrant women from low-income countries, of different social classes, aged between 40 and 69 years, which live in the city of Barcelona." The principal researcher of this study was Rosa Puigpinós-Riera.

>> Determination of positions and discursive fractions

When the first analytical intuitions have been generated, researchers need to extract the basic discursive position of the informants. It is the analysis of the social position of the informants (who speak and in whose name they speak) and to determine the different discursive fractions (the different positions on the subject at stake) that exist within groups.

➜ For instance, in the study on prevention of breast cancer, the discourses of the interviewed women took place in different sociocultural and historical contexts, which resulted in distinct discursive fractions based on family status

Figure 3. Analogy between procedures of sociological discourse analysis and development of a film



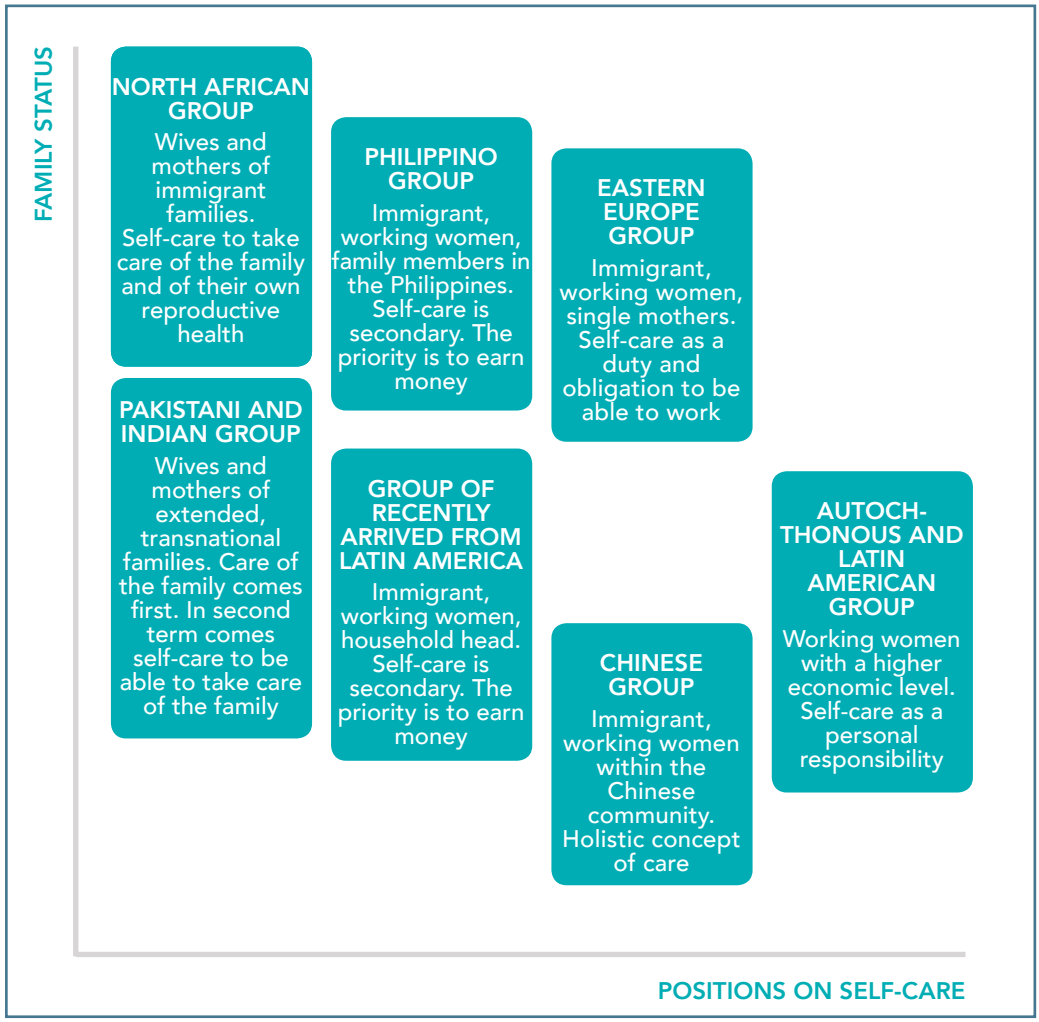
Source: Adapted from Rosa Puigpinos-Riera.

and on the position in relation to self-care (see Figure 4). ●

>> Creation and analysis of symbolic configurations

Consist in generating a global interpretation of the text based on objectives, to organize the whole discourse and to link it with the context. To this end, we need to identify the tensions and the axes-dimensions that organize the whole text, which unravel based on: 1) what is being said and the context; and 2) the objectives of the investigation.

Figure 4. Positions and discursive fractions in the study on prevention of breast cancer



Source: Puigpinós-Riera R, Rodríguez-Arjona D, Pons-Vigués M, Fernandez de Sanmamed MJ. [Knowledge, attitudes and perception on early detection of breast cances in women living in Barcelona from different cultural backgrounds. Perceived barriers and facilitators] Barcelona: Agència de Salut Pública de Barcelona, 2013. [In Catalan]

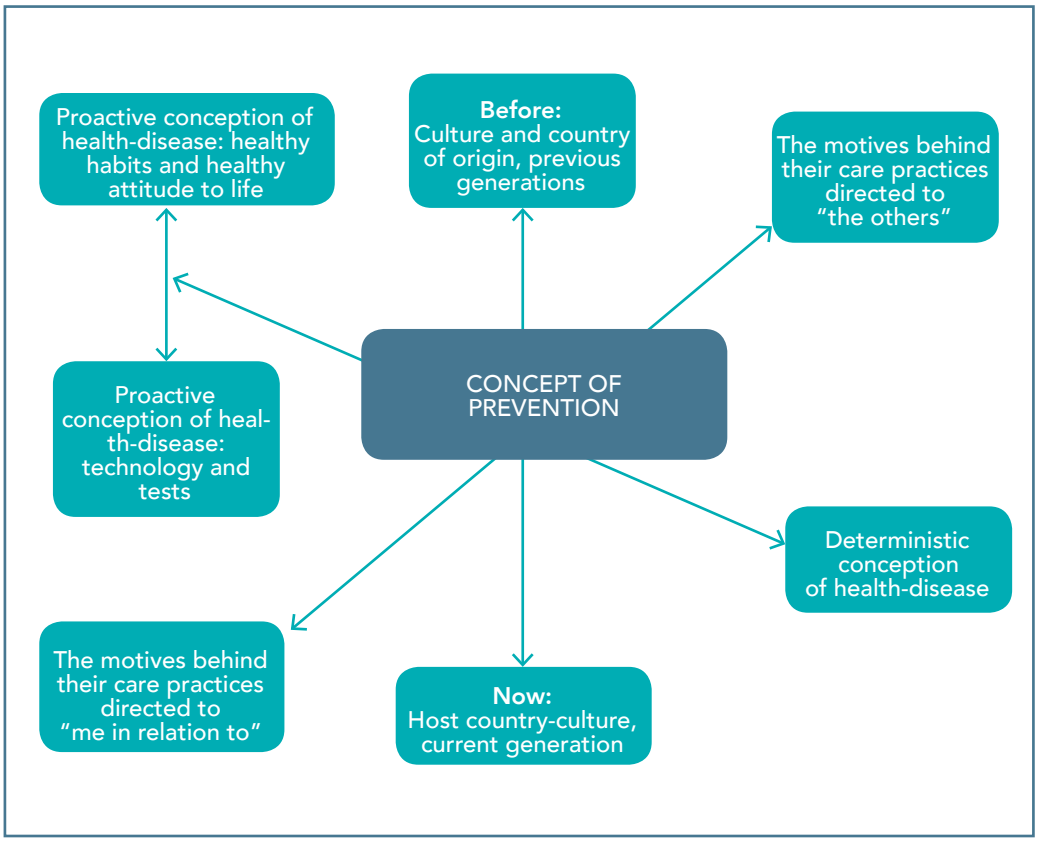
➜ Three different axes determine the discourse of the participating women in the study on prevention of breast cancer (see Figure 5):

- Before and now in the various cultural communities
- The rationale behind their care practices focusing "toward the others" or "me in relation to"
- A proactive versus a deterministic conception of health-disease. ●

>> Analysis and interpretation of semantic configurations

At this point of the process, we need to conduct an internalist analysis of the texts that lack context, to look for terms with the ability to attract text and organise it. These terms are known as semantic attractors and an analysis of these attractors must be done indeed. It is an analysis of the parts to fill in the context of the previous axes.

Figure 5. Axes of symbolic configurations in the study on prevention of breast cancer



Source: Pons-Vigués M, Puigpinós-Riera R, Rodríguez D et al. Country of origin and prevention of breast cancer: beliefs, knowledge and barriers. Health Place 2012;18(6):1270-81.

➜ In the study on prevention of breast cancer some semantic attractors were: immigration, health, prevention, breast cancer, health system and prevention programme. ●

>> Elaboration of the discourse

In the previous steps the research team has obtained the structure of the discourse. Now they have to write a new text that reconstructs the analysed discourses, i.e., an explanatory report that includes the data that have been analysed and interpreted. Similarly to the thematic content analysis, the sociological discourse analysis includes also a final section on verification and contrast of findings, which we will discuss in detail in next chapter (Criteria of rigour and quality in qualitative research).

➜ In the study on breast cancer prevention researchers concluded that the concept of prevention is a cultural construct influenced by socioeconomic level, place of origin and the migration process, which can be either barriers or facilitators in breast cancer prevention. The values and beliefs of immigrant women evolve as they get to know the host culture. Age (young), coming from urban areas, a high socioeconomic level and the value of prevention in their countries of origin facilitate access to preventive services. In conclusion, place of origin, socioeconomic level and migration are key factors that intervene as barriers or facilitators in prevention.

Sources: Pons-Vigués M, Puigpinós-Riera R, Rodríguez D et al. Country of origin and prevention of breast cancer: beliefs, knowledge and barriers. Health Place 2012;18(6):1270-81.

Puigpinós-Riera R, Rodríguez-Arjona D, Pons-Vigués M, Fernandez de Sanmamed MJ. [Knowledge, attitudes and perception on early detection of breast cances in women living in Barcelona from different cultural backgrounds. Perceived barriers and facilitators] Barcelona: Agència de Salut Pública de Barcelona, 2013. [In Catalan] ●

Software programmes in the analysis of qualitative data

Software programmes can contribute to systematization and optimization of the procedures that constitute the analysis of qualitative data. These programmes do not alter the quality of the analysis, nor the analysts' creativity or plurality of analysis or the essential characteristics of qualitative methodology (flexibility, reflexivity and inductive reasoning). The generic name of these programmes is Computer-assisted Qualitative Data Analysis Software (CAQDAS), and there are many currently available to analysts. The use of these programmes is progressively becoming commonplace. The CAQDAS facilitate the organization, storage and management of large amount of qualitative data and support the analysis process (for instance, coding, creating categories, selecting texts when the map of categories is completed and connecting categories) (see Table 5). For many investigators, CAQDAS is useful to increase precision, transparency and agility as well as to carry out a more systematic, comprehensive and creative analysis. However, no computer programme can replace analysts in the analysis and interpretation of data.

However, CAQDAS are not essential to achieve a comprehensive and rigorous analysis of qualitative data. The programmes are just another tool, and they are not equally relevant for all types of analysis. For instance, they are very useful for some types of qualitative analysis based on coding (thematic content analysis and Grounded Theory), can be used to develop common elements of analysis prior to a more detailed analysis (organization and data management tasks) and are

Table 5. Main functions of qualitative data software

Organization of work
Management of different types of qualitative data
Segmentation of documents
Coding
Facilitating search in documents
Search and retrieval of codes
Hypertext and hypermedia systems (as a way to organize and link information between different data)
Object assembling
Conceptual maps or semantic networks
Support the writing of final reports on results
Teamwork

Source: Pujol E. [Software in qualitative research] In Calderón C, Conde F, Fernández de Sanmamed MJ, Monistrol O, Pons M, Pujol E, Sáenz de Ormijana A. [Introduction to Qualitative Research. MSc of Research in Primary Care]. Barcelona: SemFyC. Universidad Autónoma de Barcelona. Fundació Robert; 2015. [In Spanish]

Table 6. Qualitative data analysis software

	Sofware	Type of data
Proprietary software	Atlas-Ti	Textual data, digital video, audio and graphs
	MAXQDA	Textual data
	Nvivo	Textual data, digital video, audio and graphs
Free and low cost software	AnSWR	Textual data
	TAMS analyser	Textual data
	ELAN	Audio-visual data
	Transana	Audio-visual data
	Weft-QDA	Textual data
	Aquad 7	Textual and audio-visual data

Source: Authors own table.

less applicable to other types of analysis (for instance, discourse analysis, in which CAQDAS are only useful at the end, for semantic configurations). In some cases, the research team will be able to complete the study with a word processor and manual analysis, without resorting to any specific programme. For instance, CAQDAS are not needed after having interviewed a small number of people. The use of CAQDAS for analysis should be decided after the design of the analysis plan and only by researchers with sufficient knowledge of analysis of qualitative data.

Computer programmes significantly reduce manually cutting and pasting selected text fragments and thus save time. However, the time of analysis does not solely relate to the use of a software programme but on the amount of information, the type of analysis and the experience of the research team in analysis and in the use of these ancillary tools. When mechanic tasks are accelerated, there is more time for the research team to invest in the conceptual and theoretical reflections of the data, interpretation of results, formulation of theories and explanatory frameworks and other decisions that constitute the analysis as such.

Some CAQDAS provide statistics on the proportion of text codified in a specific code and the number of times that a specific code has been used. In our experience, counting events and stressing those more frequent while ignoring isolated incidences and formulating and testing hypothesis does not work in the analysis of qualitative data. The use of statistics such as word count can give a false idea of objectivity and distracts from the essential aspect of the qualitative investigation, which is an in-depth knowledge and interpretation of the phenomenon under study. Moreover, the use of statistic methods is linked to sampling and analytic designs characteristic of quantitative methodology that are not used in qualitative research. However, they could be useful to identify codes that appear only in some documents/participants or to identify discrepancies among the same participant (contradictory codes).

There are various types of CAQDAS. Table 6 shows some of the better known proprietary and free programmes. Most include free trial versions in their web pages and multimedia and text archives so that transcription and field notes can be incorporated. The choice of software package will depend on the format of the data, the analytical approach and the requirements of the researchers (i.e., the programme must adapt to the researchers, not the other way round).

In next chapter we will discuss the crucial topics of ethics, rigour and quality in qualitative research.

Key concepts

- Qualitative studies provide a large number of discourses that are presented as a narrative text.
- The process of analysis consists of organizing, structuring, comparing and attributing meaning to the information obtained.
- By means of the analysis the narrative texts ("raw data") are transformed into systematic, manageable information ("clean data").
- The diverse theoretical perspectives and methods in qualitative investigation are related to how the analysis of the data obtained will be carried out.
- The most common analyses in health sciences based on degree of interpretation and of language treatment are: thematic content analysis, discourse analysis and structural analysis.
- Each analysis has its own specific procedures.
- Thematic content analysis stresses the syntax of language and highlights the meaning of the text, the description and/or interpretation of the thematic contents of data ("what do we talk about"). It uses systematic procedures for coding, categorizing and classifying the most important topics of a particular text.
- Discourse analysis, with a more interpretative approach, develops methods to get closer to the intentionality and the more general meaning of the text. It aims to understand the general meaning of the text before undertaking a more detailed analysis.
- The transcription of data from the various data collection techniques is a crucial step that can affect the interpretation of the data.
- General and specialized computer software programmes have been developed to support the process of qualitative analysis. They are particularly useful for data organizing, to prepare the texts and to determine categories.

Annotated references

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>7

Rigour and quality criteria in qualitative research.

Bioethics principles applied to qualitative research

ÍNDEX

In previous chapters we have revised the key aspects of qualitative methodology and the phases involved in a qualitative research project. In this chapter we will examine the rigour and quality criteria that should be applied to increase the validity of studies. After that we will talk about ethics criteria.

Firstly, we will revise the most important aspects related to the evaluation of quality in qualitative research, followed by a description of rigour criteria. Finally, we will discuss the ethical aspects that all research projects should observe.

Main aspects of the debate on evaluation of qualitative studies

Scientific research must always aim to be accurate and to obtain valid results so that knowledge advances and can be applied to specific contexts. If a research project is not valid it means that it is not true, that it lacks quality and credibility. If the studies cannot offer valid results they will not be able to support correct political, health and educational decisions.

To achieve quality and validity the research team must take into account aspects that support their findings and that guarantee that the appropriate steps to achieve results as close to reality as possible have been followed. Similarly to other research projects, qualitative studies are evaluated. However, two characteristics complicate the generalization of quality criteria in qualitative research:

- **Plurality** of disciplines, methods and theoretical-methodological perspectives. Plurality is one of the main obstacles to a universal classification of quality evaluation criteria.
- The intrinsic **flexibility** of qualitative methodologies render them difficult to protocolisation.

Different trends address the need for evaluation of qualitative studies: firstly, those who argue that the same criteria to evaluate quantitative research should be used; next, those who believe that specific criteria for qualitative research should be established; and finally, those who consider it impossible to establish any general criteria since each study has its own theoretical framework and methodological procedures.

With all these trends in mind, different initiatives have tried to establish quality standards in qualitative studies. As a result, in addition to the manuals that guide the research process, we also have now criteria for quality evaluation. In any case, having an instrument to evaluate quality, but without knowledge of qualitative research, is useless. You need knowledge of qualitative methodology to assess quality by using checklists.

Carlos Calderón (2009) suggests three independent dimensions that are nonetheless interrelated: the first and most basic are the *quality criteria*. This dimension is directly linked to the intrinsic characteristics of qualitative research. It encompasses **methodological adequacy, relevance, validity and reflexivity.** The second level

refers to the *research process*, where the quality criteria translate into techniques and procedures that guide the phases of research for good research practice. Lastly, Calderón suggests *writing up*, that is the moment when the results of the investigation are reflected in an article or communication. Writing requires specific formats to adequately disseminate the results to the target audiences. This manual does not discuss the dimension of writing up and dissemination.

This conceptual distinction is important to avoid confusion between quality evaluation criteria (credibility, transferability, consistency, confirmability) and procedures and techniques to achieve the quality of the studies (the detailed description of all occurrences throughout the investigation, triangulation or comparisons between techniques or between members of the research team, or the discussion of preliminary results with informants).

Criteria to evaluate quality in qualitative research

From the first debates on quality evaluation in qualitative research, different proposals have been put forward. Most of these proposals share two key ideas: 1. The quality evaluation criteria must be specific to qualitative research and; 2. The influence of the different theoretical-methodological perspectives must be considered. On the whole, the criteria must correspond to the theoretical-methodological framework of qualitative research.

In 1985, Egon Guba and Yvonna Lincoln were the first to classify quality criteria for qualitative studies. The criteria were as follows:

- **Credibility**: Is the extent to which results reflect the reality of the phenomenon under study. The gold standard here is the agreement between participants. The findings must be plausible and reflect as accurately as possible the reality studied. Credibility is known as internal validity in quantitative research.

- **Transferability**: Degree of applicability of the results of an investigation to other contexts, i.e., to what extent the results of a context, situation and specific people can be extrapolated to other contexts. To evaluate transferability it is crucial to accurately describe the context of the investigation.

  Transferability is based on the characteristics of the context and people investigated and NOT sample size. This criterion corresponds to external validity in quantitative research.

- **Consistency**: Also known as auditability and dependency, is the stability of data when we reproduce the investigation, i.e., if the research is done again it is expected the results will be similar and never opposite. Exact results can never be obtained again in qualitative studies, but we may ensure consistency of the results. Consistency is the reliability of quantitative studies.

- **Confirmability**: Is the acknowledgement of the influence of the research team in the process of investigation and its impact on the results obtained. Absolute neutrality from researchers is not an aim, since we are aware that everybody has their own particular

gaze on reality. However, the awareness of these values in relation to the phenomenon we want to study must be noted so that it does not modify results. Confirmability is also the compromise of each investigator to reveal their point of view and to explain the impact of her subjectivity on the results. Confirmability is the objectivity of quantitative research.

The Table 1 compares the criteria of Egon Guba and Yvonna Lincoln with those used in quantitative research.

Although still valid, the quality evaluation criteria in qualitative research suggested by Guba and Lincoln have been improved with new additions and clarifications. Amongst the most useful classifications we find that of Nicholas Mays and Catherine Pope and Carlos Calderón's. The concepts are very similar in all classifications, even in those cases that use different nomenclatures.

In the Table 2 we compare the classifications of Nicholas Mays and Catherine Pope with that of Carlos Calderón, which we will examine next.

Nicholas Mays and Catherine Pope suggest 7 criteria versus the 4 of Carlos Calderón. However, the concepts are essentially the same. Let's review these criteria following Carlos Calderón with practical examples:

- **Methodological and theoretical-epistemological appropriateness:** This is the most important criterion in qualitative research and the starting point in the evaluation of quality. Before evaluating if the research has proceeded adequately and with rigour, we should question the objective of research, if qualitative research is the best suited to respond the queries of the investigation and if the design and proceedings correspond to the chosen methodology. In this appropriateness process the theory has a key role, since it lays the ground to the guidelines that will link design with methodology and epistemological aspects. In brief, this criterion refers to the adequacy between research question and the chosen methodology and methods; moreover, it emphasizes the relevance of theory in research.

Table 1. Comparison between rigour and quality criteria suggested by Guba and Lincoln for qualitative research and those used in quantitative research

Qualitative research	Quantitative research
Credibility	Internal validity
Transferability – Applicability	External validity
Consistency – Auditability – Dependence	Reliability
Confirmability – Neutrality – Reflexivity	Objectivity

Source: Mendizabal N. [Flexible design components in qualitative research]. In Vasilachis I, (coord). [Qualitative research strategies]. Barcelona: Gedisa; 2006. [In Spanish].

CASE EXAMPLE

Will a qualitative paradigm respond these questions and achieve the objective of the investigation?

Is the chosen theoretical perspective adequate (socio-constructivism, phenomenology)?

Does the article specify the theoretical model of the research? Is there any model or theoretical framework on the study subject that can guide the investigation (model of determinants of health, model of job insecurity)?

➜ A study by Victoria Porthé et al. (2009) aimed to describe job insecurity in irregular immigrants in Spain and its relationship with health. In a context of increasing immigration in addition to the financial crisis, a growth in the number of irregular immigrants was expected; also, those immigrants would work in conditions not regulated by the labour market, only by informal agreements between employee and employer.

Up to that point, studies only addressed punctual characteristics of working conditions in legal immigrants; there was hardly any on irregular immigrants. Literature indicated that immigrants are particularly vulnerable to job insecurity, have more temporary contracts and work in the sectors that traditionally have the worse working conditions (hotels, services, building). However, scant evidence on the job insecurity of immigrants existed, much less for those without residence permits. Faced with these issues, a qualitative model was chosen, based on the theoretical model developed by Marcelo Amable (2006) on the con-

Table 2. Comparison of quality criteria in qualitative research as suggested by Mays and Pope versus those of Calderón

Nicholas Mays and Catherine Pope (2000)	Carlos Calderón (2002)
Relevance	Relevance
Clarity of research question	Methodological and epistemological appropriateness
Appropriateness of the design	
Adequate description of context	Validity
Appropriateness of sampling	
Correct collection and analysis	
Reflexivity	Reflexivity

Source: Mays N, Pope C. Qualitative research in health care. Assessing quality in qualitative research. BMJ 2000 1;320(7226):50-2.
Calderón C. [Quality criteria in Qualitative Research in Health: notes for a necessary debate]. Rev Esp Salud Pública 2002;76: 473-82. [In Spanish].

cept of job insecurity in Spanish workers. This concept constitutes a complex construct with the following 6 dimensions: 1) Job insecurity; 2) Empowerment; 3) Vulnerability; 4) Salary scale; 5) Social benefits; 6) Real capacity to defend and demand working rights.

Source: Porthe V, Benavides FG, Vazquez ML, et al. [Precarious employment in undocumented immigrants in Spain and its relationship with health]. Gac Sanit 2009;23(Supl 1):107–114. [In Spanish]

> **Relevance:** We can find this criterion in most evaluation proposals. According to Calderón, it implies two aspects: firstly, relevance and novelty, i.e., the transcendence of research findings for the understanding of the phenomenon under study within its context; secondly, the validity of the study beyond the particular context of the investigation, i.e., the capacity to transfer the findings to contexts other than the study's. Transferability here, according to Lincoln and Guba, is not the representativity of results according to statistics; in contrast, it depends on the extent of abstraction/profundity of data, achieved after the interpretation of the phenomenon plus the description of circumstances and context where the study has been developed. If we have a good and detailed description it will be more possible to transfer the results to similar contexts, adding relevance to the results. The more interpretive the results are, the more transferability they will have. But the more descriptive and more contextual, the less transferable.

CASE EXAMPLE

What does this research contribute to the understanding of the phenomenon?

Are the results relevant for the participants and investigators in the context of the study?

Are they important in other contexts?

➜ We will continue with the example of job insecurity in irregular immigrants. The field work was conducted between September 2006 and May 2007. The study took place in four Spanish cities with a high prevalence of immigrants: Madrid, Valencia, Alicante and Barcelona. A theoretical sampling was defined based on the Spanish definition of immigrant. Inclusion criteria were as follows: immigrants that had lived in Spain for at least one year; countries of origin: Colombia, Ecuador, Romania and Morocco; irregular immigrants (no residence permit); at least 3 months of work experience (temporary labourers were excluded); some knowledge of Spanish. The final sample included 44 irregular immigrant workers who participated in 4 focus groups and 21 individual interviews. Country of origin: Romania, 19; Morocco, 15; Ecuador, 8; Colombia, 2. Gender proportion was similar: 23 women and 21 men.

Some results obtained related to job insecurity as perceived by the irregular immigrants were: high job insecurity; total lack of empowerment since they do not have legal protection as workers; high vulnerability due to their irregular immigrant status; insufficient income; lower pay than their peers; complete lack of labour rights and no power to demand better working conditions; and finally, long working hours and at an accelerated pace. While they reported that they had not suffered from any severe illness, they attributed some physical and mental issues to their condition of irregular immigrant and job insecurity.

Source: Porthe V, Benavides FG, Vazquez ML, et al. [Precarious employment in undocumented immigrants in Spain and its relationship with health.] Gac Sanit 2009;23(Supl 1):107–114. [In Spanish]

> **Validity:** Evaluates the truthfulness of results, i.e., that the findings of the study reflect the reality of the phenomenon under study. Validity evaluates the creative and rigorous process of the various phases of the investigation to verify that the results can be shared with people not related to the investigation. According to Guba and Lincoln, it is the credibility and auditability of results, and it requires rigour in the design and information collection, as well as in the interpretative process of analysis and validation of results. In relation to this analytical process, Calderón attempts to achieve an "interpretative complicity", a process that would involve the participation of the audience in the process of creative interpretation.

CASE EXAMPLE

What procedures have been used to generate information?

Which type of analysis and analysis procedures have been used?

Is there enough detail in the description of the context and the process of the investigation?

➜ Continuing with the example of job insecurity in irregular immigrants, the article includes a description of each phase of the investigation, with a justification of each step undertaken. For instance, in the sampling section the authors explain that during fieldwork, when they started to look for participants, some criteria were too restrictive for an adequate access to the sample and thus they modified them. One of this criteria was time of residence in Spain. In the initial design this time was at least 12 months; after the first contacts to find informants, they realised that the time was usually under one year, so they modified this criterion to 3 months of working experience.

Semistructured interviews and focus groups were conducted in the four cities using similar interview guides. As specified in the published article, participants were given all necessary information. The interviews and focus groups were recorded for ulterior transcription. A content thematic analysis was carried out; Atlas-ti was used for the analysis of data. The authors explain that the information was separately analysed according to nationality and gender, and the hypotheses of the theoretical model on job insecurity were compared with the findings of the study on job conditions as reported by the irregular immigrants.

Coding was carried out based on the central categories of the model of job insecurity, such as empowerment, together with categories emerged from the data as the analysis proceeded (for instance, working experience). Different triangulation strategies were used to guarantee data quality and the conclusion of the study: triangulation of data originated from different sources, triangulation of methods and triangulation between the different researchers.

Source: Porthe V, Benavides FG, Vazquez ML, et al. [Precarious employment in undocumented immigrants in Spain and its relationship with health.] Gac Sanit 2009;23(Supl 1):107–114. [In Spanish]

> **Reflexivity:** In Chapter 3 we learned that Linda Finlay explains that reflexivity implies careful thinking, the conscious self-knowledge of the research team that allows the analysis and evaluation in the results of the investigation of the influence of subjective positions-responses and intersubjective dynamics. Reflexivity encompasses three dimensions: self-reflexivity; reflexivity on the relationship investigator-participants/the self-conscience of the researcher's own approaches to the investigation; and reflexivity on the events happening throughout the investigation.

This exercise of self-critical conscience must be iterated throughout the investigation. Carmen de la Cuesta explains that reflexivity must pervade the whole process of research, from the moment the research question is born until writing up the final report; moreover, all team members must participate in this process. With reflexivity, the members of the research team retrace their own steps to re-examine the three dimensions. Reflexivity must also exist in qualitative research as an intrinsic characteristic of human behaviour in social interaction.

The research team tries to understand how they influence the research and integrate their subjectivity on the development of the study, since the beliefs, values and personal interests of the investigators influence decision making and the results of the investigation.

The basic idea is that the knowledge generated in a qualitative study is built from the decisions and interactions with the social world during the investigation. When we acknowledge the intersubjective character of the construction of knowledge we must next critically examine our effect on the studies and the impact of the interactions with the participants. We thus highlight the positioning of the research team in relation to the phenomenon under study and guarantee the consideration of ethical aspects as essential components in the evaluation of qualitative research, not only throughout the investigation but also in relation to its justification and applicability.

CASE EXAMPLE

Is it specified that the research team has been reflecting on all events occurred during the investigation?

Have the hypotheses of the research team been verified?

Is the impact of researchers on research analysed?

➜ The article by Porthé et al. shows the concern of the investigators for the working conditions of irregular immigrants, since as a collective they are ignored by the establishment. A continuous reflection process takes place founded on different aspects. On the one hand, this process is seen in the baseline theoretical framework of the research (job insecurity model) to investigate the object of study and to respond to its objectives. On the other hand, reflection is also apparent in the justification of the methodological decisions chosen in each phase of the research (from flexibility in the selection criteria to the approach to informants, how to proceed with the interviews and groups and the analysis).

The positioning of the research team on the migratory process and immigration is not specified. If they defined it at the beginning of the study, they do not

show it in the article. This is a crucial aspect, since it can influence the whole research process and its results. If it was not defined a priori it could constitute a limitation of reflexivity.

In relation to recording the interviews, the article mentions the possible effect of the research team on the informants: Some immigrants were opposed to being recorded, but when they learned about the justification of the need for recording all of them accepted.

Source: Porthe V, Benavides FG, Vazquez ML, et al. [Precarious employment in undocumented immigrants in Spain and its relationship with health.] Gac Sanit 2009;23(Supl 1):107–114. [In Spanish]

Imagine that we carry out some research with patients in our own surgery:
Would there be any problems of validity?

During a research on the use of emergency services (Pasarín MI, Fernández de Sanmamed MJ, Calafell J, Borrel C, Rodríguez D, at al. Gaceta Sanitaria. 2006;20(2):91-9. [Reasons to choose A&E services: the opinion of the population]) the initial objective was "To understand the reasons why some people attend A&E services with a health problem that could be solved in primary care"; however, after initiating data collection this objective changed "To understand the factors that lead a person to choose A&E versus primary care services when faced with the perception of need of immediate health care (urgent-non severe)".
What do you think of this change? Which rigour and quality criteria were considered? How could this change affect the investigation?

During a research on patterns of use of a health service or of adherence to a specific treatment we have considered as relevant factors age group, gender and socioeconomic level of participants, and have thus designed the samples and data collection techniques according to these variables. However, during the investigation we realise that religious beliefs emerge strongly and unexpectedly in the discourses of participants.
What do you think should happen with the sample design after these findings?

>> EPICURE

EPICURE, by Brynjulf Stige et al, is another quality assessment proposal for qualitative research. The authors believe that the general checklists and the common criteria applied to research are not adequate for qualitative investigation, due to its plurality of traditions. Thus, they propose to evaluate the qualitative studies with common criteria relevant to the different perspectives and based on the acknowledgment of the various disciplines and theoretical approaches. The proposed acronym is based on the premise that reflexivity is central in qualitative research, so it encourages the dialogue between researchers and participants and researchers and reviewers during the evaluation process. This proposal encompasses two dimensions in the acronym, EPI and CURE, as shown in Table 3.

Next we will examine in detail each dimension of quality evaluation suggested by Brynjulf Stige et al:

> **Engagement:** Motivation and compromise of investigators with the phenomenon under study. Since the experience and subjectivity of researchers are part of the study, the research team impacts on and is affected by the investigation. The research requires the researchers' previous understanding of the phenomenon, contextual sensitivity and a compromise of **reflexivity** to avoid confusion between researchers' preconceptions and results. In relation to this compromise, the following questions must be asked:

- Motivation and prior understanding of the phenomenon
- Research team's access to and involvement in the field during the investigation
- Ability to establish connections and to reflect
- Possibility to experience the context during some time to achieve contextual sensitivity

> **Processing:** In relation to generation of data, organization, analysis and preserva-

tion and publication of results. It requires precision, attention to detail, systematic work and reflexivity on the context. The following questions must be asked:

- Is the focus of investigation clear enough (theoretical, objective)?
- How has the material been processed, systematized, analysed and presented?
- Are the positioning and perspective of the research team clear enough?

> **Interpretation:** Represents the formulation of meanings through pattern identification and the rigorous and detailed description of the contexts to understand the experiences. Interpretation is very important during the process of analysis and requires reflexivity on preconceptions and on the guiding theoretical framework.

It is important to consider that more multiple interpretations can emerge and why some interpretations are more relevant to a specific study objective.

> **Critique**: Evaluation of strengths and limitations of the study. We consider here two basic elements: on the one hand we have self-critique, i.e., a critical and reflective approach to the positions and perspectives of researchers (compromise with the research, processing and interpretation of information); on the other hand, social critique, which includes traditions such as critical theory or feminism. Power and privileges are put into question and it is understood that the research must contribute to the "empowerment" of the study subjects and to social change.

> **Usefulness**: Is the value in relation to implementation, the contribution to an improved knowledge of the phenomenon under study, and its applicability in everyday life. The following aspects are considered:

Table 3. EPICURE system for the evaluation of quality in qualitative research

E	**E**ngagement	Items that evaluate the capacity of researchers to generate knowledge based on engagement, research procedures and interpretation-analysis of data.
P	**P**rocessing	
I	**I**nterpretation	
C	**C**ritique	Items related to reflection-self-critique, the challenge of researchers to assume the consequences, the practical uses of the investigation, the appropriateness and ethics of the study.
U	**U**sefulness	
R	**R**elevance	
E	**E**thics	

Source: Adapted from Stige B, Malterud K, Midtgarden T. Toward an agenda for evaluation of qualitative research. Qual Health Res 2009;19(10):1504-16.

- Cultural and social conditions of the study setting
- Usefulness in real life
- Usefulness to participants, professionals, agencies and managers

> **Relevance:** Contribution of the study to the progress of disciplines and originality of perspectives. The following aspects are considered:

- How does the study fit within current knowledge?
- Is it original and adequate to develop new knowledge?

> **Ethics:** This principle evaluates the integration of ethical values (autonomy, justice, beneficence and non-maleficence) and good research practice into the activities and reflections of the research team. The following aspects should be assessed:

- Respect for participants
- Reflection on the consequences of the investigation
- Ethical aspects of methodology: Relationship between investigators and participants; Is the diversity of perspectives of participants taken into account?

The quality review suggested by EPICURE must follow the principle of reflexivity. When the assessment concludes, the letters of the acronym EPICURE will be capital if the criterion is highly observed, and lower-case if the quality of that criterion is low. Other options require to decide which criteria are essential to label a study as high, medium or low quality.

➜ For instance, in a systematic review conducted by Luis Rajmil et al., the au-

How can you trust the results of a specific investigation to truthfully reflect the participants and their context?
How can you determine if the results of a specific investigation can be applied to other contexts?
How can you determine if the results of the investigation can be replicated with the same or similar participants in the same or similar context?
How can you stablish the extent to which the results of the investigation are determined by the participants and conditions of the investigation and not by the prejudice, motivations, interests and perspectives of the researchers?

thors considered that four elements (P, I, U, R) were essential to assess the studies as low or medium risk of bias (ePIcURe). When one of these elements was lacking the research was considered at high risk of bias.

Source: Rajmil L, Fernandez de Sanmamed MJ, Choonara I, et al. Impact of the 2008 Economic and Financial Crisis on Child Health: A Systematic Review. Int. J. Environ. Res. Public Health 2014(11):652846.

Procedures to guarantee quality and rigour during qualitative research

To attain the quality criteria of qualitative research we must take into account the following procedures (we will include comments on published articles to illustrate them):

> **Description of the research phases and systematic development of the investigative process:** One of the key elements to guarantee rigour in qualitative research is the detailed and systematic explanation of each phase of the research process. Firstly, we must explain how and why we have chosen the phenomenon of research and how the objectives of the study have been determined to justify the need and interest of the research we want to undertake. Next, we must explain and justify the chosen theoretical framework of the investigation and the whole design of the study. The characteristics of the context and study areas and the positioning of the research team in relation to the phenomenon must also be enumerated and explained. The sampling design and the criteria used to select participants must be explained and justified.

During field work all contexts and steps relevant to data collection must be explained in detail. The strategy followed during the analysis phase must also be itemized. To guarantee the transparency of the analytical process the textual data and analysis procedures must be available to other members of the research team.

This complete description of all phases of the study adds credibility and transferability, since it explains the procedures followed and therefore facilitates the reproduction of the same study or the application of the results obtained in other similar contexts.

➜ A description of the phases and methodological decisions taken was formulated in a study conducted to identify current and future competences of public health professionals and those required for the future by the managers and technicians of public health in Catalonia. The study was based on the experiences and perspective of public health professionals from various disciplines. For instance:

- The study, phenomenon of study and definition of objective were justified explaining that a literature review had not found qualitative studies that identified the competences of professionals based on their own experiences. The authors highlighted the need

to understand these competences, in particular those required for the future in their own context. In addition, this objective was consistent with the will to better define the competences of public health professionals by those that work in the different geographical areas of Catalonia.

- The choice of theoretical framework originated from the review of the literature related to different theories on professional competence. Amongst the different definitions of professional competences we highlight that of Epstein and Hundert, which states that «professional competence is the everyday use of communication, knowledge, technical ability, reasoning, emotions, values and reflection toward the development of daily tasks for the benefit of the population and the community ». These authors believe that competences are dynamic, vary according to context and can be developed. Different countries and institutions have their own definition of professional competences in public health professionals.

- An adequate contextualization of the study was carried out; the phases of research and how they were conducted were adequately described.

Source: Rodriguez D, Berenguera A, Pujol-Ribera E, et al. [Current and future competencies for public health professionals]. Gac Sanit 2013; 27(5):388-97. [In Spanish].

> **Verification:** Is the reflective corroboration of the results of the analysis in each phase checked against the explanatory framework constructed with the data and the interpretation of these data. The research team returns to the data with the explanatory framework and looks for inconsistencies, contradictions, exceptions that either confirm or contradict the results (within the analysis and the data) and is open to change the constructed explanation. As we saw in other sections of this book, we have different processes to verify our results: comparison with other theoretical frameworks; critical exchange with other research teams and comparing results with other studies that use different methods. Some authors like John W. Creswell also recommend the member checking: soliciting participants's views of the credibility of the findings and interpretations during analysis. There is controversy in this aspect because if the results are very interpretative, it is possible that participants cannot recognise their views in these results. What can be done is to send to each participant the transcript or a summary of the most relevant content of the technique in which each of them has participated. This strategy could be of them either feedback or verification. On the other hand, it is always recommended to send back the final study results to all the informants.

➜ To illustrate verification we will examine the study by Mariona Pons-Vigués et al. with the objective to describe the concept of prevention and to identify the level of knowledge, perception of benefits and barriers as well as the practices in early detection of breast cancer in autochthonous and immigrant women between 40 and 69 years of age in Barcelona. The article explains that in addition to analysis triangulation, which was carried out by four researchers, a process of validation of results was conducted. The analy-

sis of the information obtained from each cultural group was sent to the cultural mediators or to some informant of the group to review the interpretation of the investigators reached after the analytical process. This verification contributed ideas and nuances that were added to the findings of the study and improved the overall results.

Source: Pons-Vigues M, Puigpinos-Riera R, Rodriguez D, et al. Country of origin and prevention of breast cancer: beliefs, knowledge and barriers. Health Place 2012;18(6):1270-81.

> **Triangulation:** The objective of triangulation is to increase the validity of the results by means of contrasting different aspects of the process from different points of view-gazes. The different types of triangulation respond to the different phases of the study where this contrasting is applied:

- **Triangulation of methodologies and methods:** Is used to obtain different perspectives of the phenomenon under study through the combination of different methodologies (qualitative and quantitative) when appropriate; and/or through more than a theory or theoretical perspective; and/or through the use of different methods. This type of triangulation is used to complement results.

- **Triangulation of data:** Uses several sources of information, informants and/or techniques; the contact with different informants contributes data that can be compared to confirm results and/or add new information. Triangulation of techniques is the use of different data collection techniques (observation, discussion or focus groups, individual interviews and analysis of documents). With triangulation of techniques we can approach aspects of the phenomenon of study that could remain hidden with the use of a single technique.

- **Triangulation of researchers/analysts:** In qualitative research there is always a research *team*, i.e., the study is carried out by various researchers. A team with people from different disciplines is recommended to offer different approaches and points of view. In the phase of analysis, when different members of the team analyse the same data and evaluate results, team coordination is particularly important to achieve an interpretation as accurate as possible. The presence of a multidisciplinary research team encourages reflexivity and enhances the validity of results.

➜ In the article on the competence of public health professionals, triangulation was used during analysis to increase the validity of the investigation. This study was carried out by means of a descriptive thematic content analysis based on the transcription of information obtained in the interviews and the annotations, using Atlas.Ti and Nvivo since the analysts were experienced in this type of software; the agreement of the analysis carried out with these programmes was verified. The analysis of information reached discourse saturation. The coding of transcriptions and the allocation of text units to each analysis category of the first interviews was carried out by means of triangulation amongst 3 researchers of the team to guarantee the reliability of the process. The remaining interviews were analysed by the researcher that carried out the field work according to the plan of analysis established from the triangulation of analysts of the first interviews.

Source: Rodriguez D, Berenguera A, Pujol-Ribera E,et al [Current and future competencies for public health professionals]. Gac Sanit 2013; 27(5):388-97. [In Spanish].

- **Field notes:** We have already mentioned the need to keep record of all procedures and steps of the research process; this is the purpose of the field notes. It is very important for the research team to collect and share all the information related to the investigation and the field work throughout the investigation. In addition to field work, the field notes will include information on protocols followed, decisions taken, changes made, the process of accessing and contacting informants, the meetings of the research teams, any other type of incidences and descriptions of the context. All the information contained in the field notes will support the description of the investigative process, the analysis and the writing of reports and articles.

  Field notes support **reflexivity**, both self-reflexivity and reflection on the processes of the investigation. An ethnographic approach to taking field notes improves the accurate description of the context and consequently relevance-transferability.

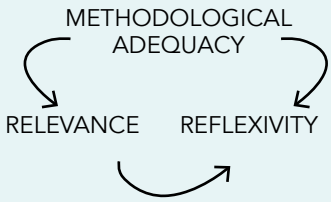
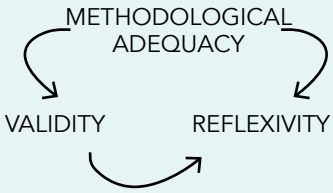
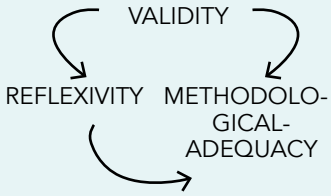
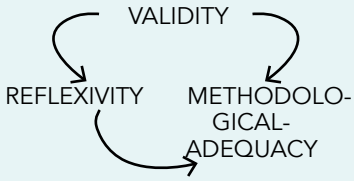
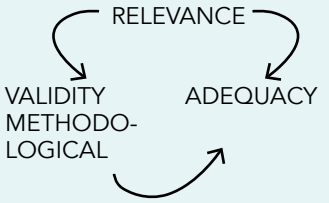
Figure 1 shows a summary of the interconnections of the three dimensions of quality in qualitative research. The first column includes the criteria for quality evaluation in qualitative research (methodological adequacy, relevance, validity and reflexivity). The central column shows the procedures to be followed in each phase of qualitative research, to guarantee the rigour of the study and to increase its validity. The third column includes the sections where you can find rigour criteria in papers or reports.

In addition to all these criteria mentioned above, it is important to determine the trustworthiness of the qualitative research. A strategy proposed by several authors for establishing the trustworthiness of the qualitative results and adding methodological rigour to the research is the development of a research audit trail. An audit trail is a transparent description of the research steps taken from the beginning of a research project to the development and reporting of findings. It includes records about what was done during the research process. The audit trail enables readers to understand the research team logic followed from the original raw data to the emergent findings. These steps retract readers on how the research team came to their final conclusions, adding integrity to the analysis.

Lincoln & Guba (1985) cited Halpern's (1983) categories for reporting information when developing an audit trail. These categories are outlined in Table 4 below, which also provides examples of data on each element.

To conclude this section on quality and rigour in qualitative research, we will mention the guidelines and checklists with the criteria to evaluate the quality of this type of research. These checklists have been created by request of editorial committees, researchers and readers. Checklists have contributed to improve systematization and to expand the acceptance of qualitative methodology. In any case, having an instrument to evaluate quality, but without knowledge of qualitative, research is useless. You need knowledge of qualitative methodology to assess quality by using checklists critically or otherwise they can become counterproductive. Appendix 6 includes the references of some of these guides.

Figure 1. Interconnection amongst dimensions of quality in qualitative research

Criteria of evaluation of quality	Rigour criteria in research	Sections to find rigour criteria in papers or reports
	BASIC INITIAL QUESTIONS Question / objectives of research Justification of qualitative methodology Background and starting points Relevance of the project Ethical requirements	Background / justification ↓ Throughout the paper
	DESIGN AND METHODOLOGICAL STRATEGY Adequacy of theoretical perspective / methods / techniques Context of investigation / Audiences Flexibility Iteration/circularity	Throughout the paper ↓ Participants and methods
	COLLECTION OF INFORMATION Selection / recruitment of informants Interaction researcher / participants Saturation Validation techniques	Participants and methods ↓ Results
	ANALYSIS OF INFORMATION Methods of analysis Iteration/circularity Consistency / discovery Description / theoretical construction Interactive complicity Validation techniques	Results ↓ Conclusions / discussion
	FINAL PHASE OF RESEARCH Novelty and importance of contributions Applicability / generalization Internal consistency/ external consistency Comprehension Limitations / suggestions of new pathways	Participants and methods ↓ Throughout the paper

Source: Calderón C. [Assessing de quality of qualitative health research: criteria, process and writing]. Forum: Qualitative Social Research 2009;10(2), Art.17. [In Spanish].

Table 4. Categories for reporting information when develop an audit trail

Audit trail element	Examples
Raw data	Transcripts, audio data, videos, documents, photographic data, field notes, survey results, etc.
Data reduction and analysis products	Condensed notes and summaries, transcript notes, emerging concepts, quantitative summaries.
Data reconstruction and synthesis products	Structure of categories (themes, definition and relationships), findings and conclusions (interpretations and inferences), a final report with connections to the existing literature (on concepts and interpretations).
Process notes	Methodological notes (procedure, design, rationale), criteria of rigour notes (authenticity, trustworthiness).
Materials relating to intentions and dispositions	Inquiry proposal, reflexivity and personal notes, and expectations.
Instrument development information	Pilot work, interview and survey development of questions, report drafts, or feedback notes.

Source: Adapted from Lincoln & Guba, 1985. Khalil, H. Organise the 'messiness' of qualitative analysis: demonstrating the audit trail in NVivo. The NVivo Blog. QSR International. 2013. Available at: http://www.qsrinternational.com/nvivo/nvivo-community/blog/audit-trail-in-nvivo

Ethical principles in qualitative research

>> Introduction. Origin of the postulates of bioethics

The basic ethical principles relate to universal values. The ethical considerations in medicine originate from 1945, when at the end of World War II the atrocities of Nazi clinical experimentation were brought to light. The Nuremberg Code was signed in 1947, and in 1948 the Universal Declaration of Human Rights.

In 1964, the World Medical Association presented the Declaration of Helsinki. The Declaration has been modified on several occasions since. In Europe and North America the Declaration of Helsinki is the gold standard for all the regulations related to bioethics and health research. The basic principles of the Declaration are:

- The right of the patient to make an informed decision whether or not to participate in a clinical trial
- Potential risk for participants must be carefully assessed and considered acceptable
- Vulnerable patients should not participate in a clinical trial if they cannot benefit from the investigation

In 1974, the United States Congress entrusted the *"National Commission for the Protection of Human Subjects of Bio-*

medical and Behavioural Research" with the creation of some basic ethical guidelines to guarantee the rights of the people that participated in research studies. This resulted in the Belmont Report, published in 1978, which included three basic ethical principles:

- Respect for persons
- Beneficence
- Justice

A year later Tom Beauchamp and James Childress added the principle of non-maleficence.

Since then the 4 principles of bioethics (autonomy, beneficence, non-maleficence and justice) are well established, as well as the distinction between medical practice and research. Later on, Dr. Ezequiel Emanuel applied these 4 principles of bioethics and of clinical practice to research.

>> Classic principles of bioethics

Ethics in health research has been typically linked to randomized clinical trials of drugs. It must be underscored, however, that the principles of bioethics must regulate *all* research involving human beings. Similarly, Clinical Research Ethics Committees were initially established to regulate clinical trials. Increasingly, their approval is required in all types of studies and to qualitative research by extension.

Reflection on the ethical implications of qualitative research is still underdeveloped. Inés Barrio-Cantalejo points out that in the past it was believed that qualitative research was intrinsically ethical, precisely because of the lack of visibility of possible effects on participants. With the expansion of qualitative methods in health research, the awareness that words and observation can also be harmful has brought to light the need for ethics in this type of investigation. In conclusion, the four basic principles of bioethics, namely autonomy (information, understanding, voluntary participation), beneficence, justice and non-maleficence provide an ideal framework both for qualitative and quantitative methodology.

What are those four principles of bioethics?:

- **Autonomy:** Is the capacity of people to reflect on their own personal aims and to act according to their own decisions. All individuals must be considered autonomous and those with a compromised autonomy have the right to protection. Intimacy, anonymity and confidentiality must be particularly guaranteed in those studies with small samples. Autonomy implies respect for the people, their dignity and decisions. In turn, the research team feels obliged to inform and to respect the autonomy and will of individuals, to request informed consent and to maintain confidentiality. For instance, concealed observations and those deceitful with regard to the objective of the study clearly do not observe this principle. Volunteer participation is a legal right.
- **Beneficence:** Implies the moral obligation to act in benefit of others, to heal injuries and to promote wellbeing. It is a private principle and cannot be legally penalised. Research must produce relevant results that contribute to

the social or personal benefit of participants. Beneficence relates to the obligation to obtain the utmost wellbeing of participants, maximising benefits and minimising risks (positive risk-benefit balance).

- **Non-maleficence:** It is the classical *primum non nocere* of medicine, i.e., research cannot harm and must always consider potential risks to prevent them. Risk/benefit should be carefully evaluated. Non-maleficence includes not killing, not causing pain, suffering or disability. It is crucial to take into account that words and/or observation can be the cause of maleficence. Non-maleficence is a public principle and if not adhered to it can be the cause of prosecution.

- **Justice:** Refers to the equitable proceedings of the investigation with regard to the distribution of burden and benefits. The criteria to know if an act or procedure is ethical from the point of view of justice is to evaluate if it is equitable, i.e., the rejection of all forms of discrimination. It is also a public principle regulated by law. It prevents researchers from exploiting vulnerable persons and excluding candidates that could benefit from participating in the study. Power-based relationships between participants and researchers/gatekeepers/funding bodies must be avoided at all costs.

When conflict amongst ethical principles arise, Non-maleficence and Justice (public and compulsory) prevail over Beneficence and Autonomy (both private).

>> Bioethical principles expanded

We have already mentioned the work by Ezekiel Emanuel. Emanuel expands the classification of the 4 classical principles of bioethics and describes 7 basic principles that guarantee ethics in research (Table 5).

- **Social and scientific value:** Before starting any study, we must make sure that it will be useful and will have some individual or social benefit. Relevance is the first criterion to evaluate; if the objective is irrelevant research should not be conducted, it would in fact be unethical to do so. Without relevance there is no point in evaluating scientific validity or any other criteria. Research should target aspects that contribute to improve the health and wellbeing of people and society and understanding.

- **Scientific validity**: Research must strictly follow a methodology that guarantees its validity. In qualitative research, the method, subjects and contexts selected must be the best suited to the objectives of the investigation. In addition, the results must be disseminated. Even if in qualitative research the knowledge acquired cannot be generalised because of the relevance of the context, it should be transferable to other similar contexts. It is crucial to debate-ponder on how the participants are reflected in the results, i.e., if results reflect what participants really expressed *versus* what the researchers expected them to say.

- **Fair subject selection**: The selection of participants must be equitable with respect to the distribution of burden and benefits and must not discriminate any subject that fulfils the inclusion criteria. It is important to obtain relevant information from all groups that can better supply this information and not only from the more accessible. Indeed, the strategy followed for the recruitment

Table 5. Ethics criteria as suggested by Emanuel for medical research and their concordance with the principles of bioethics

Emanuel Criteria	Principios de la bioética
Social value	Beneficence, justice (in particular in publicly funded studies)
Scientific validity	Beneficence, non-maleficence, justice
Fair subject selection	Justice, non-maleficence
Favourable risk-benefit ratio	Non-maleficence, beneficence, justice
Independent review	Justice, non-maleficence, beneficence
Informed consent	Autonomy, non-maleficence
Respect for human subjects	Autonomy, non-maleficence

Source: Addapted from Emanuel EJ, Wendler D, Grady C. What makes clinical research ethical? JAMA 2000;283(20):2701-11.

of informants must be clearly stated, as well as the inclusion and exclusion criteria. We must be able to transfer the results of the investigation to the highest number of people possible. Particular attention must be paid to discriminatory selections of informants. For instance, the selection of vulnerable *versus* privileged subjects, men *versus* women, adults *versus* elderly, Caucasians *versus* minorities, or the avoidance of studies of children and pregnant women.

> **Favourable risk-benefit ratio**: Researchers must assess possible harm to subjects and avoid unnecessary interventions. Before the start of the study it is important to verify if valuable information can be obtained without the participation of human beings. The benefit of participants must be a priority. The questions for the research team before the onset of the investigation must be:

- What will this research contribute to?
- Are the foreseen risks acceptable? Is it still worthwhile to continue with the project?
- When risks are foreseen, we must consider if we can obtain the same results without recruiting people for the study
- Is it worth conducting this research? Who will benefit from the study?

If we decide to proceed once these questions are answered, we will need to consider the following:

- The possible risk of discussing certain matters with the participants. Consider that recalling certain topics might increase the emotional vulnerability of participants.
- Qualitative research has an additional risk since it recalls the experiences

and perceptions of participants. This aspect can confuse patients by thinking that the study are psychotherapy sessions, for which the research team is not qualified. It is therefore crucial to make clear to participants what the role of the person that conducts the research is and what they should expect from the investigators. Be careful not to create false expectations.

- Another important aspect to take into account is the careful interpretation and dissemination of results, so that participants are adequately portrayed. Thus, it is recommended to give them the results back so as to confirm the interpretation of the research team. Whenever the samples are very small, it is advisable to protect the identity of the participants, in order to respect anonymity and confidentiality.

- The interests of the informants prevail over the interests of the investigation. It is therefore mandatory to publish a declaration of conflicts of interest of the research team so that they never interfere with the investigation.

> **Independent evaluation:** Currently every qualitative study must be assessed and approved by an independent Clinical Research Ethics Committee (CREC). The members of the committee therefore must have the capacity to evaluate any type of research, since the methodologies used in a study are part of the assessment.

> **Informed consent**: Is not only a basic ethics criteria but also a legal requirement by the laws that regulate research in most countries.

- Confidentiality: Anonymity of the people that participate in the investigation must be always kept and guaranteed. Any action that may identify informants and people they refer to in their discourses must be avoided. Anyway, you cannot always guarantee the maintenance of confidentiality. An example of this would be the Healthtalk.org website which shows the videos of the interviews. In order to be able to publish these interviews, consent has been requested to the interviewees.

- Full information: Participants must be specifically informed that qualitative studies are open; they also must be informed of the objective of the investigation and of the procedures that will be adhered to guarantee data protection and confidentiality, data management and who will have access to the data. On occasions, omitting information can be justified so as to obtain only high quality information that can benefit participants. However, we believe that full information should be given on the objectives and procedures that will be used and always avoid lying.

- Verify that all information has been understood and obtain informed consent: In qualitative and quantitative research written informed consent is considered the most adequate. How to inform when the object of research are groups and communities?

  For instance, during a study on social movements within a district we cannot ask everybody's consent, but we should request it from social and organization leaders.

- Voluntary participation: The participants must know their right to voluntary participation as well as the possibility to withdraw from the study at any point.

- Competence: Verify that the subject of research has decisional competence. To participate in the study, the person must have full mental capacity to understand what he/she is accepting and be able to make an informed decision. When competence is compromised (intellectual disability, mental conditions that affect competence, being under age) the decision must be taken by a carer or legal representative.

> **Respect for the participants**: The following aspects must be protected:

- Intimacy: Qualitative methodology enters the intimate sphere of people, that of body image, physiological functions of the body, religious, political, moral or sexual thoughts and beliefs.

- Confidentiality: The research team must ensure that the procedures that guarantee data protection are in place (anonymity, custody of personal and collected data, confidentiality in data management and in data access).

To analyse and evaluate ethical aspects, the pros and cons of a decision must be carefully deliberated; a reflective analysis of the main factors involved is mandatory. To deliberate is to decide wisely. According to Diego Gracia, it involves weighing the factors that intervene in a particular situation to find the optimal or least harmful decision. The objects of deliberation are those decisions that offer several possibilities in order to find the most adequate. It must be taken into account that not everybody agrees on what is the most adequate path to be followed. Indeed, after cautious deliberation two different people might reach two different conclusions and will follow therefore diverse courses of action.

It is necessary to make well thought and deliberate decisions from the start. However, the flexibility that characterizes qualitative research is fundamental, since you do not know for sure if you have taken into account all the ethical aspects that may appear when you start the project. There must be a special sensitivity to situations of vulnerability that may affect participants throughout the research process, especially when dealing with sensitive issues. Therefore, the starting decisions can be modified during the research due to the methodological flexibility that allows qualitative research. Table 6 shows the phases of an ethical deliberation, and they have to do with the flexibility of the method that allows qualitative research.

Besides, to tackle the possible effects that research may cause to the participants, it is necessary to address the researcher's vulnerability. Two important aspects to take into account are the physical safety of the research team (e.g., when they are conducting data collection at participants' homes or in marginalized communities) and the psychological impact (e.g. to be in contact with people who have hard or difficult situations, stories, etc.)

Since rigour and ethics are essential and involve all phases of any investigation, these aspects require planning and reflection by all researchers from the beginning of the research project and must be maintained throughout the research process.

We have now reviewed all phases of qualitative research. Now it's your turn to put them into practice!

Table 6. Deliberation and analysis of ethical cases

Data collection (context, situation, position of the research team, values).
Identification of possible problems and ethical conflicts (there is usually more than one), known as "ethical dilemmas".
Evaluate the conflicts in agreement with the 4 principles of bioethics.
Evaluate possible courses of action: different possibilities when faced with the problem and consequences. What will happen if I take this course of action in this situation? And if I take a different one? Our prediction of what will happen if we implement one or another course of action can modify our choice.
Implement the most cautious course of action (in ethics no "good" decisions exist; only careful and deliberated decisions).

Source: Gracia D. [Moral deliberation: the method of clinical ethics]. Med Clin (Barc) 2001;117(1):18-23. [In Spanish]

➜ Example of a case of ethics: "those fussy health professionals"

A research team is validating a structured psychiatric interview carried out via phone call. They need 100 patients with a diagnosis of mental disease; these patients will be contacted by the research team, which will carry out the interview to be validated. In addition, a phone conversational interview will also be carried out to evaluate how people accepts this type of research.

Patients are selected from primary health care. The investigators ask 30 health professionals from different Primary Health Care Centres of Catalonia to select 5 patients with mental conditions each. Two of the selected health professionals demand the following guarantees to participate: 1. Prior approval of the study by an ethics committee; 2. That the research team requests permission from their Health institution for their own participation in the study; 3. That it is them, as health professionals of the patients chosen, that talk to the patients and request informed consent prior to be contacted by the research team.

The research team believes that these two health professionals are too fussy. What do you think? ●

Comment

This research team has not taken care of the three premises that these health professionals demand to participate in the study. Clearly, the investigators have not even considered the basic ethical principles.

- Firstly, to request approval by a Clinical Research Ethics Committee ensures the independent evaluation of the project. Moreover, it is a universal mandatory requirement for the evaluation and approval of research projects. An independent evaluation confers validity to the research and guarantees the observance of the bioethics principles of Autonomy, Justice, Non-maleficence and Beneficence. In addition, the objective of this research is to interview patients with a known mental condition (more specifically, they need to validate a structured psychiatric interview). In these circumstances, the potential harm to patients due to their participation in this study and their vulnerability must be very carefully evaluated.
- On the other hand, the health professionals request the approval of the Health institution where they work and which guards the personal data of the patients, for their collaboration in the study. This requirement reflects the respect of these health professionals toward the Health Institution and toward the confidentiality of clinical data.
- Finally, these health professionals that are asked to collaborate suggest that they should contact the patients in the first place to explain the study, ask for their participation and request the informed consent. This shows a high level of respect toward these patients: firstly, in relation to their sense of intimacy and confidentiality; secondly, in relation to the choice of these patients whether to participate in the study (they ask for their approval to let investigators access their clinical data after explaining the aims of the study, asking for their participation and having requested them to sign the informed consent form). To be treated with respect is a right of all people and a key element for researchers to obtain the trust of participants.

Exercise of ethical reflection in the two following cases. Reflect on the ethical conflicts that emerge from these two cases and the extent of observance of the principles of bioethics.

> CASE 1. Notification of withdrawal of article for appropriation of authorship and making up data.

Papers. Revista de Sociologia must withdraw one article, and notify the social sciences scientific and academic communities that this article individually appropriated collective authorship and made up data. After receiving a complaint by the excluded authors, the study of the case by the Editorial Board has concluded that the author appropriated individually the data, fieldwork and part of the text and ideas generated by some of his former pupils during course work for a subject within the degree of Sociology of an Spanish University . The author multiplied by three the original sample and the absolute frequencies therefore also falsifying data. These violations have been confirmed by the signer of the article.

Point 10 of our "Regulations of the process of selection and publication" of originals specifies that: "When verified Papers. Revista de Sociologia will make public the following scientific misconducts: plagiarism, falsification and invention of data, individual appropriation of collective authorship and duplication of publication". The Team and the Editorial Board will remain vigilant to avoid these practices and to publicly denounce them.

> CASE 2. Unexpected risks for participants as a result of the investigation

One study wanted to investigate the experience of living with the Human Immunodeficiency Virus (HIV) to understand the process of construction of a new vital phase after the diagnosis. A qualitative study based on the Grounded Theory with information generated by mean of 32 semi-structured interviews was conducted. The study was approved by the pertinent Clinical Research Ethics Committee.

The analysis identified a central category ("Living in constant suffering") that emerged from the interaction of 4 secondary categories: I need help; Institutionalized life; Our forced personal and social universe; and Uncertain reality.

There were occasions when interviewers came out profoundly affected by the suffering discourses of participants. In addition, some participants reported extremely negative feelings and suicidal thoughts. As a result, the research team requested the assistance of the Clinical Research Ethics Committee toward recommended procedures in such cases.

Key concepts

- A unique set of rigour criteria valid for all types of studies is difficult to establish due to the flexibility and plurality of disciplines and theoretical-methodological approaches in qualitative research.
- Qualitative research requires its own criteria of evaluation, different from those of quantitative research.
- Currently, methodological and epistemological adequacy, relevance, validity and flexibility are the rigour criteria more broadly used.
- A detailed description, verification, triangulation, field notebook and a multidisciplinary research team are all procedures to guarantee rigour in the investigation.
- Some authors fear that uniformization and a surplus of regulations in the evaluation of qualitative studies end up causing excessive rigidity, since each study has its own theoretical framework and methodological procedures. There is some controversy about it.
- The Helsinki Declaration and the Belmont Report are the gold standard of ethics postulates; Emanuel is the gold standard in research ethics.
- No investigation, qualitative research included, is intrinsically ethical.
- In research, the end never justifies the means; the four universal principles of bioethics must always be part of the investigation.
- Autonomy, beneficence, non-maleficence and justice are ethics criteria that must be taken into account throughout the investigation.
- In case of conflict between ethical principles, Non-maleficence and Justice (public and compulsory) prevail over Beneficence and Autonomy (considered private).
- Ethical deliberation implies taking into account all aspects that intervene in a particular situation and evaluating all possible courses of action to find the most adequate.

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> Glossary

Analytical triangulation: Triangulation as a technique of confrontation and comparison of the analysis of data carried out by different analysts with the objective to enhance the credibility and confirmability of the study results.

Autonomy: Is the capacity of individuals to set their own goals and to act according to the decisions taken. It is one of the bioethical principles that implies that every person must be considered as an autonomous being and that people with compromised autonomy have the right to be protected.

Beneficence: It is one of the bioethical principles that refers to the moral obligation to act in benefit of others.

Biographical techniques: They are a type of technique to obtain data in qualitative research; in a broader sense, they could constitute its own methodological corpus that would encompass conversational and documentary techniques. Also known as life histories, oral history and life stories.

CAQDAS: Abbreviation of Computer-Assisted Qualitative Data Analysis Software. Computer programmes created to facilitate the procedures involved in the analysis of qualitative data and enhances the accountability.

Categorization: Process during the analysis of textual data to generate concepts with a certain interpretative level (categories) that respond to the objectives and to assemble by similitude the codes on the same topic within the defined categories. Three methods can be used to build categories: deductive, inductive and mixed.

Checklists: They are lists of "to do things" to avoid forgetting essential aspects of the job at hand. In research they are a reminder of all the fundamental aspects of the research process and contribute to guarantee coherence and rigour.

CINAHL: Acronym of "Cumulative Index To Nursing and Allied Health Literature". CINAHL is an electronic database that requires subscription. It includes books, PhD Thesis, minutes of meetings, educational software, audio-visual materials and circa 500 journals (some with full text).

Clinical queries in PubMed (methodological filters): Tools that facilitate finding different types of studies (treatment, diagnoses, aetiology and prognosis). We can choose a broad selection that includes the most relevant works and some noise **(broad, sensitive search),** or a more restricted selection that includes only the most relevant work, though risking losing some studies of interest **(narrow, specific search**). In order to apply these filters, the topic search with "AND" and the filter of interest should be combined.

Coding: It is a technique in the content analysis process. Coding consists of labelling each quote with a name (code) that summarizes what the segment of the text marked as a quote is about.

Community-based participatory research (CBPR): It is a collaborative research approach that acknowledges community as an equal partner throughout the research and action process. This approach is designed to ensure and establish structures for participation by communities affected by the issue being studied, representatives of organizations, and researchers in all aspects of the research process to improve health and well-being trough taking action, including social change.

Conceptual framework: Group of concepts, assumptions, theories and beliefs that support the design of qualitative research. It is built by the research team based on their experience, the review of the literature and the approach to the subject of study (pilot study or previous investigations). It is particularly useful to orientate and focus the study design and the interpretation of data.

Confidentiality: Systematic protection of the information provided by research participants so that this information is only accessed by the people in the research team.

Confirmability: It is concerned with establishing that the participants, the context of the enquiry, and motivations and perspectives of the research team have determined the findings of a study. It implies a compromise of the research team to reveal the position from which the investigation has been carried out and to explain the impact of their subjectivity on the investigation process and on the results obtained.

Consistency: Refers to stability of the data and results of an investigation in case it is reproduced; also known as dependability.

Credibility: Rigour evaluation criterion in qualitative research on the correspondence between the results and the reality of the phenomenon under study. Credibility is one of the specific terms covered by broader term trustworthiness, and is closely aligned with confirmability. It assesses whether the study findings make sense. Are the findings credible and meaningful to participants of the research and to the readers? Is the picture depicted authentic?.

Critical perspective: A theoretical approach of qualitative research that considers that the phenomena are built by social, political and cultural values and by power relationships and aims to question, critique and change society.

Data collection techniques in qualitative research: Specific procedures to collect information. There are 3 basic types of information collection techniques: conversational techniques, observational techniques and documentary techniques.

Data record: Data collection during fieldwork. The record of information can be done in different ways, such as video or audio recording, written field notes, etc.

Deductive knowledge: Scientific method that aims to obtain knowledge from prior premises and hypothesis. Deductive reasoning works from the more general to the more specific. It begin with thinking up a theory about a topic of interest and then narrow that down into more specific hypotheses that can be tested. Deductive reasoning is narrow in nature and is concerned with testing or confirming hypotheses.

Descriptor: Term of the documentary language (controlled) that lacks variability, synonyms and polysemy, chosen to represent the contents of a document. It is used to search and retrieve information. The descriptors that refer to a particular topic are presented orderly in the thesaurus.

Discourse analysis: Analysis of qualitative data also known as "interpretative analysis of the uses of language" because it looks for the practical and contextual intentionality of language.

Discussion group: Data collection group conversational technique in qualitative research. It aims to reproduce a social sit-

uation and to collect the intersubjective dynamics generated within the group. Specifically prioritizes the interactive and conversational component.

Documentary techniques: Type of data collection technique in qualitative research. It consists of the identification, collection and analysis of documents related with the event or context under study.

Epistemology: Philosophical assumptions on the nature of the world (ontology) and assumptions-presumptions of how the world can be understood constitute epistemology. It includes how reality can be known; the relationship between object and subject; and the characteristics, fundaments and assumptions that influence the process of knowledge.

Ethical deliberation: It is a process of consideration of the factors that intervene in a specific action or situation to try and find the optimal or less harmful solution. It is not always possible to reach consensus on a particular course of action. After the deliberation two people might reach different conclusions and consequently, they might choose different courses of action.

Ethics: Philosophical study of moral judgements, critical and rational reflection on morals. Morals are the everyday experience of adherence to values, principles and rules through which we judge acts as correct/incorrect. In ethics reflection is essential since the intentionality that guides the acts is a key element for moral philosophy.

Ethnography: This term refers to the theories and practices mainly within the field of anthropology that is concerned with the study of culture, characterised, particularly in social anthropology, by a long tradition in the use of observational methods. It is one of the major theoretical perspectives of qualitative research. The aim of this type of research is to observe and obtain in as much detail as possible, the meanings behind people's daily activities and the emphasis is on developing a description of these activities.

Ethnomethodology: Theoretical perspective of qualitative research based on the assumption that the social rules of interaction can capture the meanings-constructs of the groups on the phenomenon under study. Ethnomethodology, together with ethnography, is a perspective within the field of interactionism.

Fairness: A bioethical principle that refers to the equality of the research in the distribution of both burden and benefits.

Field notes: Notes taken by the research team during field work. In observation they are written in the field notebook and are the basis of the textual corpus that will be analysed later on. In other information generation techniques it is useful to write down everything that occurs during the research process.

Field work: Phase of qualitative research that refers to the period and how information is generated and registered on the field.

Filters: Option to limit/restrict a search in accordance with characteristics such as language, type of study, age group, gender, date of publication, etc. Available in Medline and other databases.

Focus group: Data collection group conversational technique in qualitative research. It is a semi-structured interview with a number of participants that aim to explore an issue. Even though it is devel-

oped within a group, the focus is on the discourse's individual point of view.

Grounded Theory: Type of analysis devised by Barney Glasser and Anselm Strauss also known as the constant comparisons method. It is a very interpretative analysis that aims to generate theories, concepts, hypothesis and propositions based on the data of your own empirical investigation.

Group interview: Data collection conversational technique in qualitative research where a group is controlled by an investigator-moderator with the objective to create a situation where the group members can express their discourse freely and spontaneously while they keep working on the subject under investigation.

Hermeneutics: Theoretical perspective of qualitative research based on the assumption that the experience is in itself an interpretative process. The purpose is to interpret the experiences explicitly taking into account their social, cultural and historical context.

Idiographic generalization: Generalization built for and from individual cases, based on the integration of particular cases (Cross-Case Generalization).

Impartiality: Refers to the research team's attitude of willingness to listen and to discover to the others and their point of view, not based on prejudice or personal judgment and opinions.

Indexing (in databases): Process of assignation of descriptors that describe the conceptual contents of a document to facilitate its retrieval.

Inductive knowledge: Scientific method that aims to obtain knowledge from data collected and formulate hypotheses, general laws and theories from particular cases. Inductive reasoning works moving from specific observations to broader generalizations and theories.

Informed consent: Is the permit voluntarily given by the participants of an investigation. The informed consent implies full understanding of the personal risks and benefits of the research.

Interactionism: Theoretical perspective that comes from sociology. The aim is to understand social life through the activities, human interactions and social roles of the persons, since they reflect the meanings-constructs of the group.

Interview: Data collection conversational technique in qualitative research. It is a conversation or dialogue between the investigators with one or more participants with a particular purpose and designed for social investigation.

Interview guide (topical guide): Group of broad questions on the thematic areas that need to be approached during the conversational techniques of information gathering.

Key words (in databases): Terms of natural language that can be used in the search for information. Key works are frequently and wrongly considered synonyms of descriptors.

Logical operators (for searching in databases): Particles (**AND-**intersection**, OR-**addition**, NOT-** exclusion) that indicate logical operations between concepts. Used in searches by means of automated information retrieval systems.

Major topic: Major descriptor. Main subject of an article.

Mapping party: It itself acts as a boundary object that enables actors from different social worlds to co-produce the Map through interact with each other and negotiating the meanings of mapping, the mapping data and the data itself. The Mapping party is an identity-building process help to understand mapping as an embodied activity with emotional, cognitive and social repertories.

MeSH: Medical Subject Headings. Thesaurus that translates the terms of natural language into the documentary language of PubMed.

Methodology: Group of strategies and theoretical tools used to apply the assumptions of the chosen paradigm for the investigation. Each paradigm has its own set of tools that refers to the theories, concepts and tools developed by a specific discipline.

Methods: Specific templates that organize and describe the approach to the object of study. The methods encompass all operative aspects and activities that facilitate access to understanding the phenomenon under study.

Mixed methods: Comprise different procedures to combine, mix and integrate methodologies of quantitative and qualitative investigation into a single investigation design.

Non-maleficence: Corresponds to the classical *primum non nocere* of medicine. It is a principle of bioethics that states that research cannot cause harm and must always prevent it.

Observation: In qualitative research it is a technique of data gathering that consists in systematically and attentively observing how a social phenomenon unravels without distorting nor modifying it.

Open space technology: It is a way of organising a meeting that allows a diverse group of participants to work on a complex and real issue. Participants decide the agenda and what is to be discussed rather than having a fixed agenda or speakers in advance. The process works best if representatives from 'the whole system' are in the same room; that is, all the different professional, political and community stakeholders.

Opportunistic sampling: Type of sampling where the previous theoretical construct does not exist or is extremely weak and where the selection of contexts and/or informants is carried out following criteria explicitly pragmatic such as simplicity and feasibility of contacts, access or the specific interest of a group.

Paradigm: Theoretical ways of viewing and knowing the world. Ensemble of theoretical assumptions used by the research team to understand-interpret the phenomena and reality in the context of a particular society. The paradigm reflects the scientific collectives' understanding of the world and of themselves.

Participatory action research (PAR): It is based on the assumption that the people construct their own reality, and that the communities where they live have their own historical, social and cultural development that transcends, precedes and continues the research process. It seeks to understand and improve the world by changing it. At its heart is collective, self-reflective enquiry that researchers and participant's undertake so they can understand and improve upon the practices in which they participate and the situation in which they find themselves.

Participatory methods: It include a range of techniques and activities with a com-

mon thread: enabling ordinary people to play an active and influential part in decisions which affect their lives. This means that people are not just listened to, but also heard; and that their voices shape outcomes. Researchers, community members, activists and donors all use PMs. Because respect for local knowledge and experience is paramount, the result is interventions that reflect local realities, often leading to better supported and longer lasting social change.

Phenomenology: Theoretical perspective of qualitative research based on the assumption that meanings are built through the subjective experiences of the person in her everyday life and that they are the result of her learning and socialization processes. Phenomenological studies examine human experiences through the descriptions provided by the people involved. The goal of phenomenological studies is to describe the meaning that experiences hold for each subject.

Photo-elicitation: It is a participatory method based on the idea of inserting a photograph or other visual images as stimulus into a research interview. This is an ideal method of qualitative research for those who are naturally visual learners. It was first introduced by the American anthropologist John Collier when he decided to use a new interview technique in order to address themes that researchers found difficult to explore by means of surveys or conventional in-depth interviews.

Photovoice: It is a participatory method-technique coming out of Community-based participatory research and Participatory action research, defined as "a process by which people can identify, represent, and enhance their community through a specific photographic technique". Participants use photography to document the features they think that are related to a particular community issue, and to inform social action.

Preanalytical intuitions: During the analysis of narrative data, preanalytical intuitions are the first conjectures that explain the text globally, the first ideas that summarize what the informants want to transmit.

Precision (when searching databases): Proportion of relevant information retrieved when looking in a bibliographical database.

Public involvement in research: Research being carried out 'with' or 'by' members of the public rather than 'to', 'about' or 'for' them. This includes, for example, working with research funders to prioritise research, offering advice as members of a project steering group, commenting on and developing research materials, undertaking interviews with research participants.

Qualitative analysis: Consists in organizing, structuring, comparing and attributing meaning to the narrative information obtained, thus transforming the *raw data* into *clean data* (systematic and manageable information) to understand the phenomenon under study.

Qualitative data: Empirical materials obtained during qualitative research. The data can be manifold: field notes, photographs, video, drawings, literary and journalistic texts, letters, transcriptions of individual and group interviews, etc.

Quotes: In narrative data analysis, quotes are the segments of text with meaning or that explain something about the phenomenon under study.

Reflexivity: Linda Finlay defines reflexivity as careful thinking, a conscious self-knowl-

edge of the research team that can analyse and evaluate the influence of the subjective positions-answers, intersubjective dynamics and the research process on the results of the investigation.

Relevance: Level of significance of the investigation findings to better understand the phenomenon under study.

Research questions: Represent uncertainties of the research team on the object of study; the investigation aims to solve-find total or partial answers to these uncertainties.

Sample pertinence: Validity criterion of the sample in qualitative research that evaluates if the sample design contributes the best data to the objectives of the study.

Sample sufficiency: Is the other criteria of sample validity in qualitative research. It evaluates if the amount of information obtained is "reasonably" complete, and rich to answer the objectives of the study.

Saturation: During information gathering, it means that the data collected are considered sufficient, when researchers realise the exhaustion of new data generated by the different participants and/or data sources. Saturation means that the sample is sufficient and that we can halt the process of information collection.

Search engines: Internet information search tools that identify the information contained in databases of publications previously indexed.

Syntesis of qualitative studies: In social sciences it is the process of analysis and combination of results of different qualitative studies, i.e., the integration of different types of narrative analyses into a new synthesis of knowledge. Some authors call this process Meta-synthesis or Meta-aggregation.

Socioconstructivism: Theoretical perspective of qualitative research that understands that the meanings are socially and collectively generated. It is a sociological theory of knowledge that applies the general philosophical **constructivism** into the **social**. Here, the discourse is a construct that generates the multiple meanings-realities of the groups-collectives-society.

Special queries in PubMed (methodological filters): Includes a specific category for qualitative research, within the group PubMed Health Services Research (HSR) Queries Methodology Filters.

Storytelling: It is an informal and appreciative way of collecting information about people's own experience of successful projects or activities, their own skills and achievements and what they hope for. Sharing and valuing different stories of past achievements is engaging and energising. People gain confidence: what we did once we can do again. They learn what they already know and see how they could apply it to their current situation.

Structural analysis: Analysis of qualitative data based on the meanings of the discourse being not only and not mainly found in what is being said but rather, in the way it is being said. It is also known as linguistic analysis.

Study objectives: Knowledge that the investigation aims at. The objective of the investigators is achieving the study objectives.

Thematic content analysis: Analysis of qualitative data that focuses on the

meaning of the text and on describing and/or interpreting the thematic contents of the data ("what is being said").

Theoretical approach: Refers to the various currents of thought and theoretical-methodological backgrounds that integrate the foundations of qualitative research and that express the diversity of the disciplines that use qualitative research. The research team applies a theoretical approach to the data collected and this is coherent to the research aim and is applied in the analysis and generation of results.

Theoretical sampling: Sample design based on a theoretical, conceptual outline linked to that of the study and that defines the typologies or profiles of the sampling units (contexts, informants, events).

Thesaurus: Dictionary of terms (descriptors/documentary language) usually structured hierarchically.

Transcription: Transformation of video or audio material into a written text.

Transferability: Validity criteria in qualitative research that refers to the degree of applicability of the results of the investigation in contexts different from that of the investigation.

Triangular group: Data collection group conversational technique in qualitative research with no more than three people under investigation. It is defined as a symbolic and social mediation space between personal interviews and discussion groups. In a triangular group participants are less protected by the impersonal screen of the socialized discourse of discussion groups. At least, the triangular group works as a group beyond having a different dynamics and personal experiences of the participants have more punch than the most common discussion groups.

Triangulation: The objective of triangulation in research is to increase the validity, credibility and confirmability of results. It aims to confront different aspects of the investigation process from different angles-gazes: triangulation of methodologies, theoretical approaches, of informants, techniques, analysis, etc.

Triangulation of techniques: Strategy to guarantee the rigour, credibility and confirmability in the collection of data of qualitative research. It involves comparison of data obtained by means of different information collection techniques within the same investigation.

Truncation search terms: Applied to a search term it consists in just keeping the root of the word, getting rid of the ending and substituting it by a wildcard (in PubMed the truncation symbol is an asterisk -*-). As a result, all terms that contain the root are selected. To search for all terms that begin with a word, enter the root followed by an asterisk (*), the wildcard character.

Validity: In research it refers to the fidelity or veracity of results, i.e., validity is the best possible approach to reality that a proposition or the conclusions obtained in an investigation can have.

Verification by the participants: Procedure used to guarantee the rigour of the research by which participants are presented the preliminary results of the investigation so that they can validate and return them to the research team with comments.

World Café: It is a participatory technique for patient and community en-

gagement in research prioritization. The World Café is a simple yet powerful conversational process for fostering constructive dialogue, accessing collective intelligence and creating innovative possibilities for action, particularly in groups that are larger than most traditional dialogue approaches are designed to accommodate.

>Wordsearch

1. Which type of group interview emphasizes the individual's point of view of the discourse, "to listen as a group, to talk as in an individual interview"?

2. Which type of relationship between the research team and the context is based on the assumption that social knowledge is obtained by sharing the actions of the people and that it is observing "from within" that researchers can share the meanings?

3. Which type of qualitative analysis highlights "*What is being said*", i.e., emphasizes the meaning of the text and the description and/or interpretation of the meaning of the words and literal expressions?

4. What is the name in the qualitative analysis of data of the process of labelling relevant segments of text that respond to the objectives of the study?

5. Which type of sampling selects informants following typologies conceptually defined?

6. What is the most adequate type of study when the research team wants to know more information on phenomena poorly understood?

7. Which procedure to guarantee quality and rigour in the process of qualitative investigation consists in increasing the validity of results by comparing different aspects of the research taking into account different points of view or gazes?

8. Which is the theoretical-methodological perspective where the research team aims to capture the meanings, the essence of the everyday experiences and selects participants that have experienced them first-hand?

9. What is the name of the technique that aims to look carefully and systematically at the development of a social phenomenon without distorting nor modifying it? This technique is closely linked to the constructivist perspective.

O	B	S	E	R	V	A	T	I	O	N	C	P
R	F	R	P	J	A	T	E	O	T	T	O	H
E	O	D	W	A	T	H	X	L	R	A	N	E
M	C	O	L	Y	E	E	P	S	I	X	T	N
I	U	A	H	G	O	O	L	U	A	D	R	O
C	S	W	A	F	R	R	O	R	N	E	C	M
T	G	R	E	L	I	E	R	K	G	M	R	E
A	R	Y	I	E	C	T	A	M	U	O	O	N
T	O	M	O	X	O	I	T	I	L	F	T	O
I	U	L	U	I	O	C	O	S	A	E	I	L
V	P	P	E	B	R	A	R	O	T	R	C	O
C	O	D	I	N	G	L	Y	R	I	C	I	G
S	T	H	E	M	A	T	I	C	O	A	D	Y
A	D	M	S	O	O	P	O	R	N	L	A	U

>Wordsearch Solutions

1. Which type of group interview emphasizes the individual's point of view of the discourse, "to listen as a group, to talk as in an individual interview"? FOCUS GROUP

2. Which type of relationship between the research team and the context is based on the assumption that social knowledge is obtained by sharing the actions of the people and that it is observing "from within" that researchers can share the meanings? EMIC

3. Which type of qualitative analysis highlights "*What is being said*", i.e., emphasizes the meaning of the text and the description and/or interpretation of the meaning of the words and literal expressions? THEMATIC

4. What is the name in the qualitative analysis of data of the process of labelling relevant segments of text that respond to the objectives of the study? CODING

5. Which type of sampling selects informants following typologies conceptually defined? THEORETICAL

6. What is the most adequate type of study when the research team wants to know more information on phenomena poorly understood? EXPLORATORY

7. Which procedure to guarantee quality and rigour in the process of qualitative investigation consists in increasing the validity of results by comparing different aspects of the research taking into account different points of view or gazes? TRIANGULATION

8. Which is the theoretical-methodological perspective where the research team aims to capture the meanings, the essence of the everyday experiences and selects participants that have experienced them first-hand? PHENOMENOLOGY

9. What is the name of the technique that aims to look carefully and systematically at the development of a social phenomenon without distorting nor modifying it? This technique is closely linked to the constructivist perspective. OBSERVATION

O	B	S	E	R	V	A	T	I	O	N	C	P
R	F	R	P	J	A	T	E	O	T	T	O	H
E	O	D	W	A	T	H	X	L	R	A	N	E
M	C	O	L	Y	E	E	P	S	I	X	T	N
I	U	A	H	G	O	O	L	U	A	D	R	O
C	S	W	A	F	R	R	O	R	N	E	C	M
T	G	R	E	L	I	E	R	K	G	M	R	E
A	R	Y	I	E	C	T	A	M	U	O	O	N
T	O	M	O	X	O	I	T	I	L	F	T	O
I	U	L	U	I	O	C	O	S	A	E	I	L
V	P	P	E	B	R	A	R	O	T	R	C	O
C	O	D	I	N	G	L	Y	R	I	C	I	G
S	T	H	E	M	A	T	I	C	O	A	D	Y
A	D	M	S	O	O	P	O	R	N	L	A	U

> Appendix

Appendix 1. Web pages, blogs and twitter accounts related to qualitative research

Web page / Blog	Description	Link
IIQM: The Qualitative Research Blog	A Monthly Bulletin Supporting the Qualitative Community at Large	https://iiqm.wordpress.com/
FORUM Qualitative Social Research	FQS is a peer-reviewed multilingual online journal for qualitative research. FQS issues are published tri-annually	http://www.qualitative-research.net/index.php/fqs
Blog British Medical Journal: Helping doctors make better decisions	Comment and opinion from The BMJ's international community of readers, authors, and editors	http://blogs.bmj.com/bmj/
Qualitative research guidelines project	Project to develop a website that will be useful for people developing, evaluating and engaging in qualitative research projects in healthcare settings	http://www.qualres.org/
A better NHS: Exploring the relationships between doctors and health policy	Most of posts are about the relationships between General Practitioners and patients and how health policy impacts on that. I am also a NIHR (National Institute for Health Research) in Practice Research Fellow studying moral development in medical education and clinical practice and I use the blog to test my ideas which will be used to inform my research	https://abetternhs.wordpress.com/
Healthy Skepticism	Help reduce harm from misleading Health information	http://www.healthyskepticism.org/global/
No Free lunch	Health care providers who believe that pharmaceutical promotion should not guide clinical practice	http://www.nofreelunch.org/
A country doctor writes	Notes from a doctor with laptop, a housecall bag and a fountain pen	https://acountrydoctorwrites.wordpress.com/
The Ultimate List of Nurse Blogs and Social Media Accounts to Follow	The blogosphere is booming with passionate and entertaining nurse bloggers	http://thenerdynurse.com/2015/02/the-ultimate-list-of-nurse-blogs-and-social-media-accounts-to-follow.html

Web page / Blog	Description	Link
The BMJ opinion	Richard Lehman's journal review	http://blogs.bmj.com/bmj/2015/08/27/richard-lehmans-journal-review-27-august-2015/#more-35052
The sociological review	The sociological review introduced readers to the sociological dimensions of unlikely subjects such as fairy tales, pilfering, monarchy, motorcars, flying saucers, fruit machines, phrenology and the novels of John Berger	http://www.thesociologicalreview.com/blog/
Healthtalk	healthtalk.org provides free, reliable information about health issues, by sharing people's real-life experiences. You can watch people sharing their stories about cancer, autism, motor-neurone disease, pregnancy, drugs, depression and much more	http://www.healthtalk.org/
LiveMinds	Tips and inspiration for global qualitative research. Featuring independent industry expert Tom Woodnutt, regular submissions by guest bloggers and useful case studies	https://liveminds.com/blog
Illume Stories	Trend spotting from the consumers' world, sharing and comparing trends across emerging markets	https://www.illumestories.com
Qualitative Research Cafe	A blog by Sandra Mathison discussing about interpretive and critical research approaches	http://blogs.ubc.ca/qualresearch
Sociological Images	The site is designed to encourage all kinds of people to exercise and develop their sociological imagination by presenting brief sociological discussions of compelling and timely imagery that spans the breadth of sociological inquiry	http://thesocietypages.org/socimages/
The Art of Conversation	A blog by Kevin McLean is about qualitative research, with a behavioural flavour, focusing on communications	http://www.theartofconversation.net
In the Moment	A blog by dscout featuring interviews with thought-leaders and also research-to-research studies	https://blog.dscout.com

Twitter	Description	Twitter account
Trisha Greenhalgh	Professor of Primary Care, University of Oxford	@trishgreenhalgh
Qualitative Research	A leading International Journal for Qualitative Methods across Social Sciences	@QRJCardiff
TQR	An online journal and community dedicated to qualitative research since 1990	@T_Q_R
Narrative Healthcare	Twitter account of Irene Göttgens & Corine Jansen	@narrativeworks
CQ	Network of qualitative researchers that promote the practice, teaching and development of critical qualitative health research	@CriticalQual
Narrative Medicine	The Program of Narrative Medicine at Columbia University is the leader in narrative best practices and team-based healthcare	@NarrativeMed
BMJ patient Editor	Trying to get patients' voices to doctors' ears. Part of the BMJ patient partnership initiative	@BMJPatientEd
HERG	Health Experiences Research Group. Disseminating much of our qualitative research via healthtalk	@healthalkorg @OxPrimaryCare
Cochrane QIMG	The Cochrane Qualitative and Implementation Methods Group. Methods of systematic review & synthesis of qualitative research	@CochraneQual
IIQM	International Institute for Qualitative Methodology (IIQM) is a collaborative hub for those who seek, use, and advance qualitative research and inquiry	@theIIQM
CERQual	Assessing Confidence in the Evidence from Reviews of Qualitative research – the CERQual Approach	@CERQualNet
QuinteT	Research group interested in integrating qualitative research into Randomized Control Trials and developing interventions to optimise recruitment	@QuinteTBristol
IJQM	The peer-reviewed, interdisciplinary, open access journal of the International Institute for Qualitative Methodology (IIQM) published by SAGE	@IJQMonline
MQHRG	McGill Qualitative Health Research Group	@mqhrg
CQ	Network of qualitative researchers that promote the practice, teaching & development of critical qualitative health research	@CriticalQual

Appendix 2. Guideline for the design of a qualitative research project

We propose a guide which outlines the different phases of qualitative research. Though the term phases suggest sequential stages which would oppose the intrinsic circularity of qualitative designs, they are in fact practical reminders of what needs to be done. Phases are not supposed to follow a strict order but these can overlap because they are done simultaneously.

Phases of qualitative research

Phase 1: Transformation of the original idea into a research project
- Collection of information
- Questioning what is known
- Demarcation of the object of study
- Formulation of study questions-objectives
- Definition of conceptual framework

Phase 2: Contextualization and approach to the object of study
- Analysis of specific documents
- Familiarisation of the research team with the field
- Interviews with key informants

Phase 3: Preparation of planned design
- Decisions on methodology and methods
- Sample design and selection of contexts and informants
- Data collection techniques selection
- Identification of topics and preparation of data collection guides
- Decisions on analysis strategy
- Preparation of the research team to enter the field: ethical aspects, type of investigator-subject of research approach and other. Planning dissemination of results: audiences and aims
- Timeline of the research project

Phase 4: Field work
- Pilot guides
- Summoning informants
- Planning data collection techniques
- Data collection
- Onset of data transcription

Phase 5: Reformulation of the investigation: Emergent design
- Carrying out first analyses
- Reformulation of research questions
- Modification-adjustment of methods and strategies
- Amplification of data collection techniques to specific contexts
- Timeline adjustment

Phase 6: Generation of results
- Revision or follow-up of data transcription
- Analysis of information
- Writing preliminary report

Phase 7: Formulation of results and conclusions
- Writing up of final report
- Conclusions of the study

Phase 8: Dissemination of results
- Preparation of different manuscripts according to audiences and objectives
- Presentation of the study to the different audiences

Source: Adapted from Calderón C, Fernández de Sanmamed MJ. Qualitative research in primary health care. In: Martín Zurro A, Cano Pérez JF. Primary health care. Concepts, organization and clinical practice. 7th edition. Barcelona: Elsevier España S.L.; 2014 [In Spanish]

Appendix 3.
Theoretical-methodological perspectives in qualitative research

Perspective	How are the meanings constructed?	What does the investigator want to understand?
PHENOMENOLOGY	Through the subjective experiences of the person in his/her everyday life, which are the result of his/her processes of learning and socialization	The "meanings-constructs" that the person uses in his/her everyday life to give a meaning to the world, since his/her actions depend on these "meanings-constructs"
HERMENEUTICS	Through the individual experience of events and relationships, explicitly taking into account the social, cultural and historical context	Dilthey. Affective-mental empathy/ identification with the "other" (Feelings/beliefs/values)
		Gadamer. Agree with somebody by means of the language
INTERACTIONISM Understanding of social life through the activities, interactions and social roles of subjects, since they express the "meanings-constructs" of the group within its context	ETHNOGRAPHY Actions respond to these meanings and can be shared studying the activities of the actors when they interact	Social activities allow us to capture these cultural meanings-constructs of groups or specific communities
	ETHNOMETHODOLOGY By means of the social rules of interaction in everyday actions	The social rules of the interaction allow us to capture these meanings
SOCIAL CONSTRUCTIONISM	Meanings are social and are collectively generated. The discourse as a construct generator of multiple meanings-realities of the groups-collectives-society	By means of the study of the collective generation of meanings, through language and social interaction. Language and interaction as producers of social meanings
CRITICAL	Phenomenon are constructed by social, political and cultural values and by power relations and are oriented towards questioning, critique and social change	Historical realism: approaching reality from the social, political and cultural values

Source: Adapted from Pla M. [Investigación cualitativa y participativa en ciencias de la salud]. Diploma de

How does the investigator understand?	Role of investigator	Level of interpretation and participation	Most appropriate techniques
Interpreting discourses (constructions of second order)	Asks, looking for the details and clarity. Does not participate, "observes" the discourse. From outside: ETIC attitude	From the detailed description of the lived experiences to the most interpretive methods like Grounded Theory	Individual interviews
Unit investigator-subject of research	Self-transposition into the other's being	Interpretive method	Interviews
Hypothetical, circular interpretive process where the meaning of the text is projected as a whole	Translator of language. It is used in therapeutic context, as a means of language interpretation. ETIC attitude		
Putting yourself in the place-context of the other and examining the conception of the other. Is the most naturalist perspective	Reproduces with high fidelity the world as perceived by others. From within: EMIC attitude	Descriptive method with different interpretive levels	Observation Interviews
Studies real aspects (performances) as indicators of a subjacent social pattern (rules)	Interpreter that enters the context as a virtual participant. Relativist implication. Semi-EMIC attitude	Methods with different interpretive levels	Observation Interviews
Works with practical intention and the internal meaning of language. Creates generative, interpretive theories of the culture and of the social meanings that might or won't question prevailing cultural assumptions	Interpretation of culture. Attitude generally EMIC but can also be ETIC	Interpretive method. Participative methods: PAR (Participatory Action Research)	Emphasized in group interviews
Proposes generative theories with the capacity to question the dominant assumptions of culture	Interaction subject (investigator)-subject (subject of investigation), with special emphasis in the critique and transformation of social structures and the dialogic	Method more or less interpretive. Participative methods: PAR	Emphasized in group interviews and in observational techniques

Posgrado de la Universitat Autònoma de Barcelona; 2002. [In Spanish]

Appendix 4. Materials to prepare and carry out individual and group interviews

>> Individual interviews

See section on individual interviews in Chapter 4.

It is crucial to remember that we must contact the informant beforehand and agree on the place, date and time of the interview. We must prepare the guide of the interview and all the materials required.

Basics to carry out the individual interview

MATERIALS
Recorder video camera and batteries (check that devices are in working order before participants arrive)
Informed consent forms
Chairs
Pen
Refreshments
Interviewer's paperwork
Thank you gift

Just after the interview or no later than the day after, the interviewer will write a summary of the topics discussed during the interview. In addition to the summary of the interview contents, it will include all the information concerning the interview: place, date, duration, interviewer and participant.

The interviewee will be identified with an anonymous code and the personal characteristics will be specified. This document will not contain the real name. The next table shows a template that includes all these aspects.

It is essential to have a back up copy of the recordings and to store them in a safe place using password. If in paper, it should be kept under lock and key. These recommendations can be applied for individual and group interviews.

Template of the summary of individual interviews

INDIVIDUAL INTERVIEW
PARTICIPANT

Code*	Gender	Age	Occupation	…	…

Date and time:
Place of interview:
Interviewer:
Duration:
Contact person:
Recording: Yes/No
Informed consent form and voice rights: Yes/No
DESCRIPTION OF PLACE, IMPRESSIONS AND CONDITIONS OF INTERVIEW (unlimited space)
SUMMARY OF THE CONTENTS OF THE INDIVIDUAL INTERVIEW (unlimited space)

** Create an anonymous code or a fictitious name for each informant.*

>> Group interviews

See section on group interviews in Chapter 4.

We will need to contact all informants beforehand and agree on the place, date and time of interview. We will need to prepare the interview guide and all the materials required, as shown in the next table.

Basics to carry out the group interview

MATERIALS	PEOPLE INVOLVED
Recorder, video camera and batteries (check that devices are in working order before participants arrive) Informed consent forms Pens Refreshments Cards with names Chairs Documents needed for the moderator and the observer Thank you gift (for users only)	Participants Moderator Observer

** We suggest you video record group interviews to facilitate ulterior identification of informants and to observe non-verbal communication.*

During the group interview the observer will analyse each participant and the interaction between informants and will make notes on the events as they develop. The proposed guide includes all these aspects.

Guide to observe group interviews

GROUP INTERVIEW	
Group meeting n°	Date:
Place:	Time:
Moderator:	Observer:

DIAGRAM OF PARTICIPANTS AND DESCRIPTION OF PHYSICAL CONTEXT (OBJECTS AND PEOPLE)

PARTICIPANTS AND CHARACTERISTICS (NOTES BASED ON PARTICIPANTS' PRESENTATIONS)

N.°	Name	Age	Gender	Occupation	...	...
P1						
P2						
P3						
P4						
P5						
P6						
P7						
P8						
P9						
P10						

NOTES (UNLIMITED SPACE). Write about: different positions of the participants, if any of them speaks more or less, incidents that happen in the group, etc.

Template of the summary of group interviews

GROUP INTERVIEW

PARTICIPANTS

Code*	Gender	Age	Occupation	…	…

Place:

Date and time:

Moderator:

Observer:

Duration:

Contact person:

Recording: Yes/No

Informed consent form and voice rights: Yes/No

DESCRIPTION OF PLACE, IMPRESSIONS AND CONDITIONS OF INTERVIEW
(unlimited space)

CONTENTS OF GROUP INTERVIEW (unlimited space)

** Create an anonymous code or a fictitious name for each informant.*

Appendix 5.
Guideline for an observation exercise

You must carry out a descriptive-ethnographic observation. You must observe and annotate what you observe as suggested next in the fieldnote.

The following Table includes possible **contexts** and **focus of observation** and **signs** for the notes. Remember that the notes of the observer are the narrative data that will be analysed, therefore the notes must be taken following the template in the next page.

Context of Observation	Focus of observation	Signs for the observation notes
Waiting room Meeting points of students Hospital entrance and surrounding areas Library Formal meetings at work Master class Cafeteria and others	To describe Stage (context, place, set) People (who's there, attire, roles) Activities and interactions (what are they doing, who comes and goes, interaction amongst people, attitudes, topics of conversation, verbal and non-verbal communication)	" " Textual quotes ' ' Approximate quotes <>Jargon (…) Interpretations, opinions and feelings of the observer ---- Time partition

Example, fieldnotes from a student's observation of a small group of children during physical education's class

Time: 11,30 am, May 9, 2017
Length of observation: 30 minutes
Setting: Public School Gym

Observer: SS
Role of observer: Non participant

Objective of investigation: Assess the quality of physical education that children receive in public schools

Objective or Focus of observation*: description of place

Diagram of observation:

Observation (differentiate the interpretations of what is being observed using another typeface, parentheses, etc ...):

11,30 am
Children are in first grade, they are between 6 and 7 years old.
Observation is in the school gym. It's a large space of about 200 m2 with big windows that offering plenty of light, because curtains are drawn to one side of the windows *(it seems that some children are upset with the sun that gives them in the face because they keep making faces and covering it whit their hands).*
At the entrance of the room to my right, in one of the walls, there are a number of hangers where children leave tracksuit' jackets *(I think these hangers are too high for these children, and some of them must to ask for help to the professor)*. In the same wall there is a door leading to a small glazed area, where I can see stacked plastic boxes. Rxxx, the professor, told to me that they stored in those boxes basketballs, soccer and volleyball, as well as different objects for games they do during classes: "in there we have a lot of different kind of balls for the sports we do during the year ..."
At this moment, on the bottom wall, there are cornered some gym objects like buck or horizontal bar, *(I understand these objects are for older children gym exercises, and those children who are now in the gym could not use it)*
In my left wall there are some varnished wood trellises and below them there are plenty of mats. Children are standing in the middle of the room placing some of these mats, 9 in total, in rows of 3. Mats are clean and quite new; they are not damage *(I supposed they just bought it, because it is the end of the school year. Maybe it happens because they know we were going to make an observation).*
At the end of the mats line there are a wooden bench. Rxxx says to me "when they are ending exercises they sit in the bench. In this way they do not bother to their peers and may look to the other students and learn from them. "
...
You can continue...

Comments, incidences:
Some children came and ask me who I was, although the teacher had already previously explained it to them also telling they should concentrate on the class and not in the observer.
In this observation I only have written notes and nothing has been recorded on video.

** The focus is the aspects that will constitute the centre of this observation to obtain information on the objective of the investigation.*

Appendix 6. Checklists' resources

We add some links which contain some structured checklists for the evaluation of qualitative research and guidelines on what to evaluate and what to include in a qualitative manuscript.

- **RATS:** It includes 4 items: **Relevance**; **Appropriateness** of qualitative methodology; **Transparency** of procedures; and **Soundness** of interpretive method approach and results.

  http://www.equator-network.org/reporting-guidelines/qualitative-research-review-guidelines-rats/

  http://bmjopen.bmj.com/content/suppl/2012/01/12/bmjopen-2011-000138.DC1/BMJ_Open_IMG_Physician_Migration_RATS_Checklist.pdf

- **COREQ:** Guideline to evaluate reports and articles of qualitative studies. Includes 32 items for evaluation.

  https://academic.oup.com/intqhc/article-lookup/doi/10.1093/intqhc/mzm042

  http://www.equator-network.org/reporting-guidelines/coreq/

  Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care 2007; 19(6):349-57.

- **ENTREQ:** Guideline to evaluate the synthesis of qualitative studies in health.

  https://bmcmedresmethodol.biomedcentral.com/articles/10.1186/1471-2288-12-181

  Tong A, Flemming K, McInnes E, Oliver S, Craig J. Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. BMC Med Res Methodol 2012;12:181.

- **Critical Appraisal Skills Programme (CASP):** Guidelines for the systematic review of reports of qualitative studies. Includes 10 items.

Critical Appraisal Skills Programme

Contents	Questions
Screening questions	1. Was there a clear statement of the aims of the research? 2. Is a qualitative methodology appropriate?
Design	3. Was the research design appropriate to address the aims of the research?
Recruitment	4. Was the recruitment strategy appropriate to the aims of the research?
Data collection	5. Was the data collected in a way that addressed the research issue?
Reflexivity	6. Has the relationship between researcher and participants been adequately considered?
Ethics	7. Have ethical issues been taken into consideration?
Data analysis	8. Was the data analysis sufficiently rigorous?
Results	9. Is there a clear statement of findings?
Value of research	10. How valuable is the research?

Source: National Collaborating Centre for Methods and Tools (2011). Critical appraisal tools to make sense of evidence. Hamilton, ON: McMaster University. Available at: http://www.nccmt.ca/registry/view/eng/87.html

>> Further resources

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for Reporting Qualitative Research: A Synthesis of Recommendations. http://www.mmcri.org/deptPages/core/downloads/QRIG/Standards_for_Reporting_Qualitative_Research___A_990451.pdf

Harden A, Garcia J, Oliver S, Rees R, Shepherd J, Brunton G, et al. Applying systematic review methods to studies of people's views: an example from public health research. J Epidemiol Community Health 2004;58(9):794-800.

Malterud K. Qualitative research: standards, challenges, and guidelines. Lancet 2001;358(9280):483-8.

Sandelowski M, Barroso J. Reading Qualitative Studies. IJQM 2002;1(1):74-108.

Clark JP. *How to peer review a qualitative manuscript.* In *Peer Review in Health Sciences*. Second edition. Edited by Godlee F, Jefferson T. London: BMJ Books; 2003:219-235

Appendix 7.
Guideline for the critical appraisal of qualitative studies

>> Identify and assess

- The object of study/phenomenon and the research questions
- The justification of the study and the relevance of the problem. Is the study relevant? Do the authors explain the justification for the study?
- The aims of the research. Are they clearly stated?
- Is qualitative methodology the most appropriate to achieve the aims of the research?
- Is the study well set within its geographical, social and time context?

>> Analyse and evaluate the methodology, methods, sampling and recruitment strategy

- Analyse the theoretical framework, the theoretical-methodological perspective and the four elements of methods (level of interpretation, type of study, relationship of the research team with the context, and level of participation of the actors)
- Which type of sampling was chosen?
- Was the sample chosen relevant to the objective of the research?
- Where and how were the informants of the study recruited? Who recruited the informants? How was the research explained to the participants?
- Do the authors specify if somebody refused to participate in the study? Why?
- Is the description of informants comprehensive enough?
- Did they achieve data saturation? How?
- Was the sample modified during field work? Why?

>> Identify and analyse the data collection techniques

- Are the data collection techniques sufficiently described?
- Were these techniques the most suitable to respond to the study questions?
- Where were the data collected? Why did researchers choose that setting?
- How were the data registered (tape recorder, notebook, visual recording)?
- Were the planned data collection techniques modified during data collection? Why?

>> Identify and assess data analysis

- Does the study include a comprehensive description of the strategy and type of analysis?
- Does the study specify the type of analysis planned (i.e., content analysis, discourse analysis, grounded theory)?
- Are the analysis procedures described in detail? Does this methodology correspond to the type of the study and the planned analysis?

- What steps were taken to check the credibility of results? Did more than one investigator analyse the data to increase reliability? Did participants provide feedback on the findings?

>> Critical appraisal of results and conclusions

- Are the results clearly presented? Did the research team select those most relevant to the objectives of the investigation?
- Are there enough data to justify the results? Are the verbatim transcripts correctly labelled (do they include the participants' codes and other essential identifiers)? Are the transcripts relevant to the topic in question?
- Discussion of the evidence. Is the discussion of the available evidence for and against the reasoning of the research team well balanced?
- The results of the study, are they transferable to similar populations or other populations? Does the study underline the key conclusions? Do the conclusions originate from the analysis of data?
- Are the limitations and strengths of the study indicated?
- Do the authors discuss the relevance and the implications of the study for action and change?
- Do they point at further research within the same field?

>> Assessment of ethics and rigour

- Evaluate relevance, epistemological and methodological adequacy, validity and reflexivity in the study
- Look for the procedures used to guarantee rigour (for instance detailed descriptions, triangulation, verification by participants and search of negative cases)
- Was the interrelationship between investigators and participants taken into account? Did the research team analyse its role and that of the research process in the study, its influence and possible biases?
- Was the influence of the setting where the data were obtained analysed?
- Were the ethical aspects of sample selection being considered? How was the voluntary participation in the study guaranteed?
- Analyse if confidentiality was guaranteed, if informed consent was obtained and if the potential consequences of the results were taken into account
- Was the research approved by a clinical research ethics committee?

Source: Adapted from

Critical Appraisal Skills Programme. CASP Qualitative Checklist [Internet]. 2017. [cited at 22/11/2017] Available at: http://www.casp-uk.net/casp-tools-checklists

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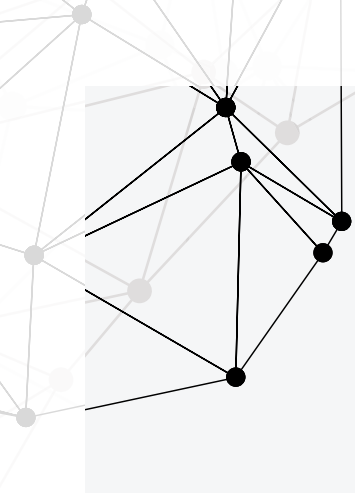

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