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# Critiquing the contested nature of aggregation in qualitative evidence synthesis: an examination of dominant views on Interpretivism

## DOCTOR OF PHILOSOPHY

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## *Declaration of authenticity and acknowledgement of authorship*

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## *Abstract*

This dissertation examines and explores the assumptions and debates associated with qualitative synthesis within the health sciences. My particular area of interest is the complexities arising from various techniques of qualitative synthesis currently emerging in the field of qualitative systematic review. More specifically, in this study I sought to assess the impact of the choice of theoretical constructs, methodological frameworks or methods on the nature of the findings when undertaking a qualitative synthesis. My intention was to examine the debates and conjecture surrounding claims made in relation to meta ethnography and meta aggregation as underpinning approaches to the systematic review of qualitative evidence, as these have attracted interest and polarised the opinions made of their proponents.

In order to achieve this a multi phase study was undertaken, where phase one included the identification of a high quality, published meta ethnographic review and the conduct of a comparator meta aggregative review. Phase two consisted of a comparison between the two reviews, with each phase necessarily consisting of sections that worked to clarify the steps and stages taken in the conduct and reporting of the research that formed the basis of this thesis.

The primary results of interest from this process were not the findings of the meta ethnographic review compared with the meta aggregative review, but the subsequent analysis of where and how differences originated. Interpretivism is the catch phrase of meta ethnography, yet it is by no means clear what is meant either by the originators; or by subsequent reviewers who have used the methodology but not explicated its philosophic foundations. Interpretivism is not a unified theory, it is instead a broad church; inclusive of many philosophical perspectives, specifically hermeneutics, phenomenology and symbolic interactionism.

The particular claims to interpretivism for ethnographic reviews was examined and found to be a superficial and inadequate representation of the methodology. Specifically, hermeneutic phenomenology has been found to be ontologically and epistemologically congruent with the methodology and methods of meta ethnography.

It also became evident that the methods-centric focus of meta aggregation has limited wider understanding of the methodology, leading to an incorrect association with integration. This

study maintains that the interpretive foundations of aggregative synthesis are found in Husserlian Transcendental Phenomenology.

This study suggests that the approach and purpose are the first two key points of decision-making. Therefore, reviewers interested in undertaking qualitative synthesis should first consider what approach is a good fit with their purposes before deciding upon a methodology. Within the 'interpretive philosophic' perspective, the two core philosophies [of hermeneutic phenomenology (with fusion of horizons), and transcendental phenomenology] are where we must look to understand both the differences between meta aggregation and meta ethnography and the strengths and weaknesses of each approach.

# Chapter 1: Introduction

## *The Study in Context*

This dissertation examines and explores the assumptions and debates associated with qualitative synthesis within the health sciences. My particular area of interest is in the techniques of qualitative synthesis currently emerging in the field of qualitative systematic review. While some methods have been established for years, others are more emergent; however, all are evolving and developing. Whilst this development occurs, several approaches in particular have been used in the conduct of systematic reviews of qualitative research that have risen to the fore in the published literature.

Meta aggregation (the first methodology explored in this study) has its roots in the health sciences. Its developmental history is grounded in philosophic perspectives that are claimed to have a good fit with the needs and expectations of evidence to inform health care decision-making. Meta aggregation is a method of systematic review that mirrors the processes of a quantitative review whilst holding to the traditions and requirements of qualitative research (it aggregates findings in to a combined whole that is more than the sum of the individual findings in a way that is analogous with meta analysis).

Meta ethnography (the second methodology explored) is grounded in primary research traditions from the social sciences. It was conceptualised as an approach to generating new theoretical knowledge related to sociological interests and does not seek to aggregate knowledge, but to interpretively generate new theoretical frameworks. The outputs of a meta ethnographic review do not bring together the existing research as much as they generate new findings that extend the theoretical assumptions of the primary research.

In spite of these differences both methods are now used widely across the heath and social sciences and a series of ambit claims to legitimacy have been made by various authors seeking to forward their preferred methodology. This has generally occurred through the publication of a review by way of an example of the strengths and utility of the methodology being promoted.

It is this juxtaposition of emergent methodology and associated ambit claims, along with the actual conduct of reviews that I was interested in exploring in designing and conducting this study. Specifically, my intention was to examine and understand the impact of methodological choices on the review product itself (i.e. the findings of the qualitative systematic review).

Methods have developed from different fields using different theoretical frameworks, yet defining the fit and appropriateness of specific techniques for particular theoretical perspectives (and in some instances, questions of significance to health care practice) has not been investigated, although there are ardent advocates for each approach.

The purpose of exploring this area of qualitative synthesis was to contribute to wider understandings of the methodological implications of particular approaches on the findings of qualitative reviews. It was also to compare and contrast the methods to clarify whether particular methods are more suited to different types of questions and theoretical frameworks.

### Specific question/statement of the research

What is the impact of the choice of theoretical constructs, methodological frameworks or methods on the nature of the findings when undertaking a qualitative synthesis?

### Extended examination of the question and identification of significance of the topic

The question was based on the assumption that there are core differences between the methods; that these differences relate to the methodology and theoretical constructs; and that these characteristics can be used to guide selection of a method of qualitative synthesis that impacts on the nature of findings generated through the synthesis.

## *The Systematic Review*

The need to investigate this area of inquiry arose out of the development of the systematic review and its now entrenched status as the gold standard of scientific reports to inform policy, practice and guideline development. Many countries now require a systematic review to demonstrate a gap in knowledge before competitive funding will be allocated to new primary research and this is just one indication of the ascension of systematic reviews (Triccoa et al., 2008). Systematic reviews have replaced the ubiquitous randomised controlled trial as the top

tier of evidence in most hierarchies or evidence tables as level one evidence. This is further demonstrated by the fact that most national agencies for guideline development (including agencies in Australia, Scotland, England, New Zealand, and many European countries) now list systematic reviews as level one evidence and randomised controlled trials as level two.

A systematic review is a piece of scientific research that uses existing literature (published and unpublished) as its source of data. Systematic reviewers develop an a-priori protocol to guide the conduct of their review. This, along with other features of the systematic review, contribute to their scientific validity and hence their position as level one-evidence. The protocol describes the review question and sets the parameters that the review will follow. This includes the types of participants and participant characteristics, the intervention of interest and what the comparator intervention is as well as a list of primary and (less often) secondary outcomes of interest. The review protocol also describes the methods by which the validity and reliability of studies will be assessed, how data extraction will be undertaken and what methods of synthesis will be used for the types of outcome data that are extracted.

## *Statistical* Synthesis

The origins of meta analysis as a method of statistical synthesis as it is now understood in relation to systematic reviews of previously published data arose from the work of Glass in 1970's (Glass, 1976). The development of the statistical method meta analysis facilitated an objective approach for transparently combining the findings of studies in an aggregation of the data (in effect it is the analysis of multiple existing analyses in to a single finding).

Meta analysis combines studies in such a way that the integrity of the individual study design (e.g. randomisation) is not broken. Rather, their results are aggregated in a way that engenders the resultant finding with greater authority than the individual studies. This aggregation has been described as the accumulation of knowledge, a phenomenon largely attributable to the positivist paradigm and distinguished from interpretivism that has a focus on the generation of new or emergent theoretical understandings (Noblit and Hare, 1988). Aggregation, then, is the bringing together of findings from two or more studies. Meta analysis is the aggregation of quantitative studies in such a way that the resultant finding represents the sum of the individual studies; and meta analysis within the context of systematic review enables aggregation to be undertaken in a transparent, auditable and comprehensive approach to bringing together a body of literature. This addresses weaknesses in existing traditional review methods related to

the reliability of how studies were summarised and how conclusions were generated; a process made more complex as the number of included studies rose and as the divergence of the results of individual studies is inevitably varied.

Until meta analysis was developed, the process of summarising results and drawing conclusions was largely a subjective determination made by the author and readers had little opportunity to investigate how those decisions were made. Therefore, establishing the validity of findings in traditional summative reviews of the literature was highly problematic. Smith, an associate and colleague of Gene Glass made the observation (often incorrectly attributed to Glass) that

"*The typical reviewer concludes that the research is in horrible shape; sometimes one gets results, sometimes one doesn't. Then the call is sounded for better research designs, better measures, better statistical methods—in short, a plaintive wish that things were not so complicated as they are*." (Glass, 1976) (pg 6)

The science of systematic reviews evolved within the positivist paradigm and while aspects and fine detail may be debated there is broad consensus that a systematic review can be identified by a particular set of characteristics. These, as Triccoa et al (2008) suggest in their analysis of published systematic reviews, tend to focus on minimising the risk of bias in the following domains:

- The development and adherence to an a-priori protocol to reduce risk of 'researcher influence particularly in relation to the results (performance bias);
- methods for the identification of literature to be assessed for inclusion (publication and citation bias);
- for how studies are selected for retrieval (selection bias); and
- how the quality of identified studies is rated or appraised; leading to a decision on whether they should be included or not (risk of assessment bias). (Triccoa et al., 2008)

These accepted conventions sit well within the positivist paradigm as they are objective measures with known impact on reducing the risk of bias. Crotty (1998) identified these distinctions in his foundational text on research in the social sciences by highlighting that the attributes of positivism are associated with objectivity. What we study from this perspective has meaning of its own and this meaning can be understood if our methods ensure the researcher

and the researched do not cross contaminate; if they use empirical methods of measurement; and if the line of inquiry is one that seeks to discover meaning rather than ascribe meaning (Crotty, 1998). In this way, Crotty draws out the distinguishing features of quantitative research and the focus on objectivity that forms a useful point of reference for consideration of subsequent developments in the conduct of systematic reviews in the critical and interpretive paradigms. While this acts to situate a reference point, there is no implication that one paradigm or methodology is somehow inferior or less empirical than another. It is important to note that it was not the intention of this study to focus on the comparative debates regarding the various perspectives on the validity of one paradigm in contrast to the other.

### *Qualitative or* textual *synthesis*

Whilst in the positivist paradigm the science of systematic review development appears to have broad scientific consensus (and whilst meta analysis, as a method of synthesis, has achieved from early in its development a degree of acceptance across large sections of the research community) the same cannot be said for the more recently emerging field of qualitative synthesis. The normative values ascribed to systematic reviews of quantitative data have varyingly been challenged, adopted, rejected, or transposed into analogous concepts and methods more attune to the nuances of the critical and interpretive research paradigms.

These understandings are explored further in the following chapter. However, one of the reasons for the lack of consensus regarding the core characteristics of qualitative synthesis is the attribute of linkages between epistemology, philosophy, methodology and method (pg 4-5) (Crotty, 1998). Crotty (1998) further suggests these linkages are not linear, nor are they singular as one may move between or across methodologies and apply multiple methods to various methodologies. The point this raises is that there is no particular unified understanding or position in the critical and interpretive paradigms. They are a continuum rather than a fixed position and this may, in part explain the divergence in the development of methods of synthesis of qualitative literature.

Outside the domain of individual, interest driven academia, the science of qualitative synthesis has been gaining ground across the not for profit sector. Globally, there are three not for profit organisations that focus on the conduct of systematic reviews as a source of evidence for practice. In addition to these three entities, the Centre for Reviews and Dissemination (CRD) out of the University of York in England is also associated with the conduct of systematic

reviews at a national level for the British government and as an international repository or library of systematic reviews. Thus the Joanna Briggs Institute (JBI), the Cochrane Collaboration, the Campbell Collaboration and CRD conduct, collate and disseminate reviews as a core part of their organisational missions.

Of these, the JBI has conducted stand-alone qualitative systematic reviews based on a defined methodology and method, with supporting software, since 2001. The Cochrane Collaboration is currently working on defining methodology and guidance for the review of qualitative evidence, although there is no supporting software. The Campbell Collaboration has aligned itself with the Cochrane Collaboration. The CRD updated its systematic review guidance in 2006 to include reference to qualitative data to be integrated alongside a quantitative review to assist in explaining, interpreting or implementing the quantitative findings. Thus, to date, the JBI is the only not for profit, international organisation that undertakes stand alone qualitative systematic reviews.

The origins and aims of these entities have influenced the direction and the approach taken for the conduct of qualitative synthesis. This in turn has had an impact on the rise of particular methodologies (meta aggregation, meta ethnography and mixed methods).

Although these organisations play a significant role in the not for profit sector with regard to methodological development and synthesis, it was not, in the conduct of this study, entirely possible to remove myself from the context of my work in order to undertake this study. While I have taken steps to protect aspects of the investigation and comparison of methods and findings (described in detail in the methods chapter), it is important to note that I have worked at the JBI continuously since 1996 and have been involved in methodological development during this time. However, as the following pages will illustrate, I have had a wide range of experience and exposure to lines of thinking and ways of doing systematic reviews and I am familiar with the philosophical and methodological reasoning across a number of approaches. Hence, while my synthesis work in the Institute has focused on meta aggregation, my role in the Institute has also given rise to opportunities to engage with other methodologies and to broaden my perspective on their contribution to knowledge.

I have contributed to methodological development in the science of meta aggregation, written guidance for reviewers seeking to use this methodology and taught internationally using this

approach with collaborators who have a particular interest in learning more about meta aggregation and how to undertake aggregative reviews, particularly in the health sciences.

My role in the Institute has also facilitated my learning regarding Cochrane approaches to the systematic review of effects of interventions in health care. Undertaking Cochrane training has influenced my understandings of what constitutes a systematic review, what the core elements are and how these should be applied if one is seeking to promote the rigour, quality and reliability of systematic reviews.

I have been a member of the Cochrane Renal Review Group for nearly ten years. Additionally, I have been an actively contributing member of a Cochrane methods group – the Cochrane Qualitative Research Methods Group (CQRMG) – for the past six years; have participated in the development of guidance for Cochrane reviewers wishing to use qualitative evidence; have delivered workshops with my fellow convenors of the CQRMG at Cochrane Conventions; and continue to contribute to Cochrane via these two groups.

The CQRMG guidance is not currently available publicly with only some chapters currently available from their website at http://www.joannabriggs.edu.au/cqrmg/tools.html (date accessed 25th Nov 2010) however the goal is to release the full guidance in 2011. The focus of the guidance though is not on meta aggregation; rather, it presents multiple options for synthesis with an emphasis on meta ethnography and interpretive, inductive approaches to the different aspects of the process for conducting a systematic review. Hence I have garnered a wide range of experience and participatory knowledge outside the direct application of meta aggregation as a method of qualitative synthesis.

Although I have other roles within Cochrane (including being the receiving editor for a Cochrane publication) these are, I believe, the core issues and activities that lend weight to the conduct of this study and my role as investigator. In addition to these contextual factors, specific steps are described in the methods section that were intended to preserve the necessary space between myself as a reviewer who has contributed to and used the aggregative approach and myself as a researcher conducting a comparative analysis of two approaches to qualitative synthesis.

The JBI commenced operations early in 1996, and a comprehensive 10 year history was published in 2006 describing much of the Institute's development (Jordan et al., 2006). There is

no need to repeat the details of that history in this dissertation, however, the origins of the Institute and its focus on methodology is important. Specifically reference should be made to the Institute's development of rigorous, reliable evidence for complex health care practices, particularly within nursing and the allied health professions. This represents an important factor in the developmental focus of the Institute's approach to qualitative synthesis.

Similar to Cochrane, the JBI was founded to engender a collaborative approach to the conduct of systematic reviews to inform health care policy and practice. Unlike Cochrane, JBI did not stop with the production and centralisation of systematic review storage, nor did it limit review questions to the positivist paradigm. Reviews were conducted with consideration of the needs of clinicians for evidence that informed complex, multi interventional problems rather than adopting Cochrane's focus on single interventions with a single control or placebo. In a paper published in Nursing Science Quarterly, Pearson and colleagues (2007) described the presumption that evidence must come from randomised controlled trials as a false premise and that in order to answer complex clinical questions a broader conceptualisation of what constitutes evidence was needed (Pearson et al., 2007).

For JBI, this broad conceptualisation meant the recognition and inclusion of qualitative research, text and opinion and economic data to address questions of feasibility, appropriateness, meaningfulness and effectiveness. The JBI conceptual model of evidence based health care gives preference to rigorous research over opinion but does not limit the definition of research to the positivist paradigm; rather, it also includes qualitative research and discourse.

With a broader, pragmatic and inclusive definition of evidence, the Institute was readily able to move forward on developing review methodology and methods for types of evidence across the positivist, critical and interpretive paradigms. However, there is a second important characteristic of the Institute's aims and mission that has impacted on the generation of evidence through systematic review.

In the words of Pearson, reported by Jordan et al (2006, pg13) the Institute began operations with an immediate and ongoing plan to provide the types of evidence that would directly inform practice, "…doing reviews, developing clinical guidelines and promoting implementation through education. It is now exactly as I saw it." (Jordan et al., 2006). This view of the Institute as an integrated, collaborative organisation has profoundly shaped the conceptual thinking and

pragmatic activities of JBI, and ensured that all aspects of its operations are focused on providing the types of evidence that are useful in clinical practice, particularly for nursing and the allied health professions. The Institute's conceptual model (Figure 1) aptly illustrates the link between systematic reviews, clinical practice improvement and patient outcomes. The types of research that can be used to inform systematic review questions are also clearly identified.

NOTE:
This figure is included on page 9 of the print copy of the thesis held in the University of Adelaide Library.

Figure 1: JBI Conceptual Model of Evidence Based Health Care.

It is from this conceptual understanding that the Institute's global collaboration has adopted an aggregative approach to the review of qualitative literature. The notion behind this was to match the ideology and traditions of qualitative research with the established international standards for quality and rigour in systematic reviews. It was a contentious decision. The resulting approach was not designed to reinterpret the literature as other methods of qualitative synthesis seek to do; it was to aggregate and bring together similar themes and concepts in order to generate specific recommendations for practice that could be utilised in guidelines and other aspects of evidence based practice.

Cochrane shares many similarities with JBI in regard to the production of reviews of effects, the international collaborative model and in being a not for profit organisation. Cochrane, although having a strategic focus on reviews of effects, has had a methods group for qualitative research since 1998. This group (the CQRMG) and Cochrane itself have their roots in quite different perspectives on the nature of qualitative research and how it could be utlised in research syntheses. The CQRMG is comprised of qualitative researchers who are embedded

in the critical and interpretive traditions with a focus on interpretivism. They are interested in the conduct of qualitative reviews that seek to generate new interpretations, treating existing published research as primary data, rather than to summarise (or aggregate) the literature.

Another key difference between the CQRMG and JBI is that the qualitative methods group in Cochrane did not begin with, or focus on, how reviews of qualitative data might inform clinical practice. Nor did Cochrane then have methods for integrating qualitative evidence in Cochrane systematic reviews, or software to facilitate such reviews. To date Cochrane still does not have these mechanisms in place and continues to place an emphasis on reviews of effects and the minimisation of bias in randomised controlled trials. This differing emphasis is a reflection of Cochrane's heritage as an organisation focused on collating trials of medical interventions and on the conduct of systematic reviews to further collate and form a repository of evidence related to the effects of interventions (although they also have interests in diagnostic and prognostic reviews). Primarily, Cochrane reviews have been reviews that compare single interventions with control or placebo comparators.

Cochrane, unlike JBI has had a singular focus in terms of its definition of evidence and has not moved extensively from this focus in the last ten years. Nor has Cochrane moved beyond the conduct and dissemination of reviews to look at implementation and this is a further defining characteristic of how Cochrane operates compared with JBI. Not undertaking implementation is in no way a limitation in Cochrane's operations; however, the review processes they utilise are not integrated with clinical systems and therefore are structured differently, being less centralised and less explicitly tied to methodology. For example, when reviewers submit a protocol for approval to the relevant Cochrane Review Group, each group provides feedback and guidance based on its own criteria, and Cochrane does not (to date) have centralised training or standards for training in its systematic review methods. These are practical and cultural differences of significance to this study as they shape the expectations of how and why both JBI and Cochrane operate.

The Campbell Collaboration is also a non-profit, charitable organisation that conducts and stores systematic reviews, however, its field is the social sciences, rather than the health sciences. Campbell was established by social scientists and members of Cochrane in order to systematically develop the evidence base to help people make well-informed decisions by preparing, maintaining and disseminating systematic reviews in education, crime and justice, and social welfare (accessed online Nov 25th, 2010,

http://www.campbellcollaboration.org/about_us/index.php). With regard to qualitative synthesis, Campbell is closely aligned with Cochrane and is waiting on Cochrane's guidance for qualitative synthesis.

The Centre for Reviews and Dissemination does not have the same status as JBI or Cochrane in terms of independent, charitable status but it has maintained a valuable repository of systematic reviews and also conducts reviews. Like Cochrane and JBI, the CRD undertakes methodological development and this distinguishes it from the Campbell Collaboration. From 2009 onwards, the CRD guidance for systematic reviews included a section on qualitative evidence. As with Cochrane, the emphasis was not on a particular approach but on outlining a number of approaches and how they could be used to inform or support quantitative reviews. Unlike Cochrane or JBI, the CRD library of systematic reviews includes records on all identified reviews and is not exclusive to a particular approach, although stand-alone qualitative systematic reviews are not included.

These, then, are the core organisational characteristics that have influenced much of the shape of the field of qualitative synthesis in the health sciences to date. These differences reflect differing yet complementary goals and different yet congruent foci in terms of types of evidence, types of reviews and particulars of approach to systematic review. The lack of uniformity in qualitative synthesis between these three organisations and how qualitative evidence can be used is not reflected in their approach to quantitative synthesis (in the case of quantitative synthesis there is a high level of congruity in approach across all three of the international, not for profit review organisations) yet it is characteristic of the nature of critical and interpretive research and how researchers in those fields operate. There is no clear preferred methodology and there is no clear consensus on whether particular approaches might be more or less suited to particular questions or information needs.

### *Summary of Methods*

With this contextual information in mind, this study sought to examine the methodologies of meta aggregation and meta ethnography from a methodological perspective and to assess the nature and utility of the findings. The approach to undertaking this research is described in the methods section. In essence though, to examine the question of methodology and findings as objectively as possible, an existing high quality meta ethnographic study was identified and the methods extracted without reading the results and findings. The review inclusion criteria were

then used to craft a protocol for a meta aggregative review and the methods and findings of both reviews were only compared and contrasted once the meta aggregative review was completed. This assisted in minimising the risk of influence between the two reviews. More detailed explanation and exploration of these processes are described in the methods chapter.

## *Assumptions, limitations* and *significance*

It is important to explain the choice of meta ethnographic review for comparison and why it was considered to be of high quality. The specific reasons the choice of meta ethnographic review were that it was developed as a methodological exercise to investigate the utility of meta ethnography in extending and informing the findings of quantitative reviews. The review was published in a peer reviewed, international journal and has since been widely used as an exemplar of meta ethnography. It is also used in the CQRMG guidance as an example of the methodology. The consensus in the qualitative synthesis community, particularly those with interpretive backgrounds, is that - of the available published meta ethnographic reviews - this is a robust, methodologically sound example.

In undertaking a meta aggregative review based on the criteria from the meta ethnographic review, some assumptions were made. The primary assumption was that the structure of the review question is directly transferable between methodologies when, in fact, there is no certainty that this is indeed the case.

A complete separation of methodology from work culture and perspective was not considered particularly useful. This is due to the fact that the JBI approach to aggregation grew out of a review focus rather than a primary research process - as with meta ethnography. However, this may be seen by others as a limiting factor. The contextual information provided in this section of the dissertation regarding the linkage between organisational characteristics and approach to synthesis is an attempt to make explicit the significance of work place perspectives as a strength rather than a limitation. However, I concede that some readers will take a diametrically opposed point of view.

A further potential limitation is the prior knowledge of the selected meta ethnography and the degree to which its findings may have influenced the aggregative review. It was concluded that a washout period would be a pragmatic approach to ensuring the findings of the one review did not influence the findings of the comparator review. To this end the methods were read in

detail, however the actual findings of the meta ethnographic review had not been read or re-visited since 2009. This timeframe (of approximately 16-18 months) was believed to have been a sufficient wash out period. These are the types of strategies commonly employed in critical and interpretive research where a researcher needs to bracket and should be familiar to most readers who have a qualitative background.

The significance of this study lies in part that it represents a new approach to the critique and evaluation of qualitative synthesis methodology. The literature is replete with examples of novel approaches or modifications of existing approaches to qualitative synthesis. In these instances the author of the approach provides the justification for both the methodology and the value and utility of the approach. This type of self-congratulatory evaluation may assist to further ones preferences but lacks rigour and is heavily reliant upon the author to provide the framework and necessary points of reference. However when one's point of reference is solely based upon one's own work, this detracts from the perceived objectivity of the evaluation. This study seeks to move beyond self-stylised evaluation by using a comparative process based on existing work that is recognised for its quality and reliability.

# Chapter 2: Background & review of related literature.

Research methods are loosely aligned with a particular methodology and paradigm in the field of qualitative research. This may have arisen from the nature of knowledge, as it is generally conceived in the qualitative field as ideographic where there is a level of engagement between the researcher and the researched, rather than the objectivity of the quantitative researcher. These characteristics highlight the need for qualitative researchers to be explicit about all facets of their research and how it was conducted. This includes the philosophical perspective utilised and details about their role within the research. The role of the qualitative researcher is more engaged with the participant and the process than in quantitative research where the emphasis is on degree of objectivity of methods, without any particular focus on describing methodology or exploring the influences of the positivist paradigm on the researcher or the research itself. Numerous authors within the qualitative paradigm have framed their position within qualitative synthesis against a process of comparing and contrasting the differences across the paradigms, a process that can be useful for clarifying differences between methods (Crotty, 1998, Streubert and Carpenter, 1999).

It is evident in the extant literature that qualitative researchers conceive of paradigms as emblematic of their ability to situate not only themselves but also their work in relation to knowledge generation. As Chin and Jacobs (1987) further assert, knowledge as subjective truth requires a researcher or author to explicitly state their chosen paradigm as it has implications for how a reader will understand the written word and how the methodology and methods will be read and understood (Chin and Jacobs, 1987).

This is no less appropriate in qualitative synthesis. Indeed, in 2007, Sandelowski and Barroso, although reluctant to create or promulgate rules for qualitative synthesis, posit that the first rule (if any should exist) is that the methods of synthesis should not violate the philosophic foundations (i.e. paradigm) of the approach used (Sandelowski and Barroso, 2007 pg XV). It is evident then that while synthesis is a different process to primary research, the principles and processes of qualitative synthesis must be sensitive to the core assumptions of the critical and interpretive paradigms.

One can extend Sandelowski and Barroso's statement to its logical conclusion - that conceptual clarity is required in the relationship between the framework or paradigm, the methodology and the methods as they apply to qualitative synthesis. Crotty is careful to note that, although broadly accepted positions regarding the qualitative paradigms can be stated, the critical and interpretive fields are far less linear than such positions tend to communicate (Crotty, 1998). What is often less clear in qualitative literature is what is meant by paradigm, where it comes from and what the association is with review methodology. This study set out to investigate these issues. As can be seen from the Figure below, the interpretive paradigm is not of itself a simple conception, but consists of three core philosophical perspectives that have over time been utilised as the basis of interpretive research methodology. Simply put, the notion of interpretivism is vague to the point of being misleading when one considers the role of schools of thought in the formation of a paradigm and in the influence exerted, therefore, on methodology and method.

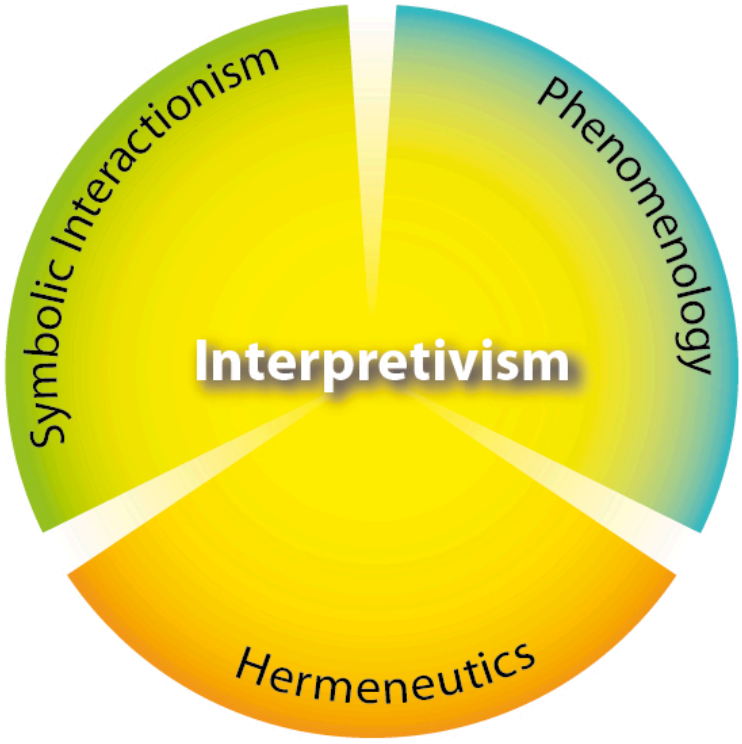



FIGURE 2: Conceptual Model of Paradigms and Philosophic Perspectives within Interpretivism

Therefore, paradigm is clearly a key concept in critical and interpretive research. This study relies upon the definition by Chin and Jacobs (1987) that describes a paradigm as a world view

or philosophic perspective which provides the structure on which the knowledge and theories of a discipline can be coherently organised. This definition is a relatively pragmatic and accepted position for how a paradigm can be conceived. Kuhn, often considered 'the father' of modern philosophy of science, identified a paradigm as a group of beliefs both about an area (i.e. science) and about the nature of knowledge in that area (i.e. scientific knowledge) (Crotty, 1998, pg35). Crotty reports that in Kuhn's line of thought all empirical inquiry is bound by the set of knowledge and beliefs that the researcher uses to make sense of how they structure their questions, methods and even beliefs (Crotty, 1998, pg35). Both definitions demonstrate the framing role that a paradigm fulfils in relation to inquiring and knowing.

Having situated the term paradigm it is useful to examine the two approaches that form the basis of this dissertation and to then critique, in more extensive detail, the current debates and issues that have risen to the fore in relation to qualitative synthesis. The main tension is whether or not qualitative synthesis should fit within the existing understandings and approaches to systematic review, or whether these approaches themselves should be reconsidered and adapted to fit with the principals and tenets of primary qualitative research.

In order to situate these issues, a brief overview of the two core synthesis methods is considered. The particular methods used in this study and how they integrate are described in detail in the methods chapter.

Meta ethnography was first developed and described by Noblit and Hare (1988), two social scientists working with a series of ethnographic studies who published their approach to synthesis in a short monograph. The authors describe it as a rigorous procedure for obtaining substantive interpretations from any set of ethnographic or interpretive studies; and an approach that would be of interest to social scientists, researchers, students and policy makers seeking to engage with qualitative research grounded in humanistic understandings of how the world is experienced (Noblit and Hare, 1988, pg10-11). The authors further situated the approach as being more about the interpretations that are generated than the process of analysis, although this is not meant to infer a lack of conceptual clarity in how the interpretive process is communicated through the synthesis. The authors appear to advocate the view that it is not a technical analysis of data, it is instead, an interpretive experience, guided not by explicit criteria, but by the experiences and knowledge of the reviewer. These implicit requirements of the reviewer appear to be largely where the authors expect rigour to be founded.

Meta ethnography is an inductive, interpretive approach to synthesis involving a series of reciprocal translations of qualitative studies using a constant comparative method to construct interpretive explanations. Noblit and Hare (1988) developed and published a seven-step process. Steps one and two relate to establishing the topic and references, with steps three to seven relating to synthesis. These are to:

1. identify an area of interest;
2. decide what papers are relevant to the interest;
3. read the studies;
4. determine how the studies are related;
5. translate the studies into one another (level 1);
6. synthesise translations (level 2); and
7. express the synthesis (level 3).

In addition to these steps, an underlying principal in meta ethnography is to determine the nature of the lines of argument across papers. This guides the decision to conduct either a refutational translation, a reciprocal synthesis, or a line of argument synthesis (level 2 synthesis). These forms of synthesis have been described as follows:

- Refutational synthesis occurs where studies are oppositional and should not be reciprocally translated;
- Reciprocal translation is the iterative translation of each individual study in to the concepts (terms) of the whole of all included studies
- Line of argument synthesis extends reciprocal translation by developing a new, inferential interpretation or theory.

As can be seen from this outline, the process described by the originators does not have a good fit with the process associated with a systematic review, particularly in relation to searching and identification of studies. Rather, it developed as a method of synthesis that has since been applied with varied approaches to the systematic review of literature. Conversely, the approach to meta aggregation, as conducted within the Joanna Briggs Institute, was developed as an analogous technique, adhering to the principals and processes of the systematic review of literature (Jordan et al., 2006).

The JBI approach requires reviewers to develop an a-priori protocol that includes the core requirements for a rigorous systematic review. These require the reviewer to specify their clinical question, the participant characteristics, the types of studies to be included, the specific primary outcome/s of interest, how the literature will be searched, how studies will be assessed for quality, and how data will be extracted and synthesised from the included studies.

Once the protocol has been completed, reviewers undertake a comprehensive and exhaustive review of the literature, seeking published and unpublished studies from electronic databases and other relevant sources, preferably with no limitations on included languages. The citations arising from the searching are then screened for retrieval, then those that appear to fit with the inclusion criteria are retrieved, subject to critical appraisal and included in the review if they are considered to be of sufficient quality.

Following inclusion, the relevant data is extracted. The data is extracted from each included paper, and once all papers have been extracted, the first phase of the synthesis is complete, that is extracting findings. The second phase of the synthesis is to generate categories that reflect groups of like findings. Once the process of categorisation is complete, a synthesis is created that reflects the range of categories. The synthesis in meta aggregation is one or more statements that provide direction and impetus for clinical practice.

As the approach is tied to the attributes of systematic reviews, meta aggregation has a focus on the internal validity of the methodology, minimising risk of bias in accordance with established domains (Triccoa et al., 2008). The approach therefore arises from a distinctly different basis when compared with the origins of meta ethnography, indeed, not only the basis, but as has been shown here, the end points are also different. Meta ethnography aims to provide a new theoretical interpretation from existing primary data, while meta aggregation seeks to pool and analyse existing data. It should be noted that the degree to which these distinctions impact on the results of reviews is yet to be established. However, it would be a falsity to suggest that one methodology has an ambit claim over the other with regard to its qualitative origins. Indeed, both methodologies have developed from work that sought to maintain and preserve the tenets and traditions of the qualitative paradigms. The methodological differences and distinctions are less clear than this quick methods overview suggests. As the following pages indicate, there is still no universal minimum set of standards for either the systematic review and synthesis or reporting of qualitative findings.

The normative values ascribed to systematic reviews of quantitative data have varyingly been challenged, adopted, rejected, or transposed into analogous concepts and methods more attune to the nuances of the critical and interpretive research paradigms. These understandings are explored further using the standard structure of a systematic review as it is documented and practiced by the Cochrane Collaboration Review Groups in order to assist with structural clarity.

## *Protocol construction*

It is broadly accepted that a protocol is one of the features of a systematic review that sets it apart from traditional literature reviews with their associated risk of bias. (There are a number of implicit assumptions that will impact on the benefits of a-priori protocol). The purpose of a protocol has been described as relating to transparency, avoiding reviewer "chasing" of ad hoc outcomes, auditabililty and avoidance of using the literature to support a particular line of argument and providing a clearly objective analysis of the literature. All of these criteria can be summed up as an attempt to decrease the risk of methods of convenience influencing what is done and hence what a review finds. Much has been written confirming these distinctions (Cooper et al., 2009, Krainovich-Miller et al., 2009). As Dixon-Woods (1997) has argued, a protocol is an attempt to minimise arbitrariness by making explicit the review process, so that, in principle, another reviewer with access to the same resources could undertake the review and reach broadly the same conclusions.

These are important and valid points, however the literature on protocols is dominated by quantitative reviews, and quantitative concepts. As described previously, the positivist paradigm seeks to maintain objectivity and a separation between researcher and researched. The critical and interpretive paradigms seek no such separation. Indeed, engagement and subjectivity are the normative values. What is the role then of a protocol for qualitative synthesis? On this the literature is rather quiet. However, published examples of qualitative synthesis provide some indications of the perspectives of the reviewers in relation to the use of a protocol. A qualitative review by Aagaard and Hall (2008) did not use a protocol, but did describe following Noblit and Hares (1998) methods, and reported on an ad hoc search strategy (Aagaard and Hall, 2008). However, the methods focused primarily on the synthesis, that is, only one part of the requirements of a robust protocol. By way of contrast, in 2007 Larun and Malterud provided a detailed description of the protocol that guided their published meta ethnography of "Identity and Coping with Chronic Fatigue Syndrome" (Larun and Malterud,

2007). Thus it is apparent that published meta ethnographic reviews vary in terms of whether a protocol was reported on; and the degree of detail reported on. Although it is difficult to comment in an informed way from the literature on the role of an a-priori protocol in meta-ethnography (an iterative form of synthesis), the use of a protocol is a feature of many published examples (although it was not within Noblit and Hares description of the method).

With meta aggregation, the use of an a-priori protocol has been documented as a requirement to be able to progress to the conduct of the review (TheJoannaBriggsInstitute, 2008). Published examples of meta aggregative reviews contain extensive and detailed descriptions of the protocol and criteria for the review. In a 2010 review of living with lymphatic filarisasis Enuameh, Abokyi and Adjei described in detail each step and stage of their review in the protocol (Enuameh et al., 2010). The detail included not only the steps they would take in the review, but also the decision-making processes between the reviewers. This approach is congruent with quantitative reviews as practiced by Cochrane Review Groups and documented in the Cochrane Handbook of reviews of effects (accessed online Dec 6th, 2010 http://www.cochrane-handbook.org/).

### *Question development*

In the context of systematic reviews, the question, as with primary research, is crucial to both the subsequent methods utlised and the types of resources that might be necessary. Evans and Pearson illustrated a further potential for qualitative questions, that is to inform humanistic understandings of how an effective intervention is experienced in a 2001 paper, thus there is also a complementary aspect that can be considered during question development (Evans, 2002). The processes associated with question development and underlying purpose may be significant, although there is a lack of evidence to date to support the view that the structure of the question may support either a meta aggregative, or meta ethnographic review. Hence, while there is consistency in the role of the question and the implications of good question development are clearly significant to the conduct of the review, its aims, scope and methods, the differences (or lack thereof) between review approaches have yet to be teased out and explored in any substantive detail. It is not the purpose of this study to answer issues related to question development, but to explore existing knowledge associated with question development across the two approaches in order to situate the debates before moving in to the specific methods in the following chapter.

Meta aggregation, as conceptualised within the JBI, and utilised across the Institute's international collaboration, includes a focus on both where questions come from and how they are structured. The goal of reviews is to respond to issues of global health (refer to Figure 1 in Chapter 1), a reflection of the Institute's focus on developing evidence and resources for best practice. The specific structure of questions in JBI meta aggregative reviews uses the mnemonic PICo (Population, phenomena of Interest, and Context). The need to clearly define the population remains a core issue when focusing on qualitative reviews. Wide or poorly defined population parameters make study selection decisions difficult and may lead to either a very wide review, with its associated workload issues, or a review that incorporates experiences where it is actually unclear whether or not they should be combined in the same synthesis. For example, an ethnographic study of traditional women's beliefs in Zanzibar in relation to maternal anaemia found particular beliefs regarding elements such as Iron that related to how the women saw themselves in their culture within the context of their spiritual selves, perceptions regarding food, traditional medicines and medicines (Sera and A, 2005). Such a distinct population may have many attributes that are congruent with attributes among other indigenous populations. However, the findings from a community in a developing country (as in the example above), with a particular set of beliefs will probably be incongruent with women from the USA where the routine practice is to take iron supplements (Yip, 1996).

Evans (2002) highlighted the pragmatic importance of question development, however the literature is cautious and unclear on whether disparate populations can be combined (Evans, 2002). The implicit values of the critical and interpretive paradigms are that reality is perceived from within ones worldview, rather than being objective (Streubert and Carpenter, 1999). Perhaps it is reasonable to conclude subjective realities from widely disparate populations are too broad and too different to be synthesised together. Therein lies the argument for clarity regarding the population characteristics of interest to the review.

In a meta aggregative review there is no intervention as is common in quantitative reviews that use the PICO structure. Rather there is an interest in a particular phenomena as experienced by the defined population. Thus the focus is not on the intervention itself, but on the meaning or experience of the intervention in interaction with the population.

The final element in the qualitative PICO is the context. That is, the particular frame of reference in which the population or the phenomena of interest is situated. The context may be geographic, cultural, socio-economic, or any other dimension of the human experience.

The initial description of question development by Noblit and Hare (1988) was far less detailed. It reflected an academic interest in topic selection by suggesting topic selection should be based on the question "how can I inform my intellectual interest by examining some set of studies?" (pg27) (Noblit and Hare, 1988). However, published examples of meta ethnographic reviews tend to be based on work relevant to the fields of social policy. A finding that suggests there is no real distinction between types of reviews in this phase of the review process, as both methods tend to be clearly associated with needs of specific populations within a defined context for a particular phenomena of interest, rather than driven by individual academic interests.

To date, although examples exist demonstrating how qualitative questions can inform quantitative review results, little progress has been made in advancing knowledge in the particulars of question design and development for qualitative systematic review. Consensus does not exist, although some authors have attempted to associate particular types of question structures with types of reviews. As Dixon-Woods and colleagues (2006) propose, a critical interpretive synthesis might be more amenable to a highly iterative process for question development. They suggest that the question itself is continuously refined up to completion of the review itself in response to reviewer input and the findings that arise from papers (Dixon-Woods et al., 2006). The authors also suggest that aggregative reviews might benefit more from a highly detailed, specific question. This is a strategy which has proven to be successful where the phenomena of interest is well specified and where the data itself (themes and metaphors arising from the research) is unequivocally arising from the research rather than being subject to extensive interpretation (Dixon-Woods et al., 2006).

## *Searching*

The questions related to searching in order to identify studies are more clearly differentiated than the approach to question development. Searching, as understood in the context of a quantitative review was described in the introduction as consisting of a series of key characteristics and linear, process driven steps, with an emphasis on being comprehensive and exhaustive. Much has been published on the topic of searching in relation to identifying qualitative evidence (primary studies). However, as will become evident, there is something of a disconnect between the discussions and debates in the literature and what is actually practice as evidenced by published qualitative systematic reviews.

Evans in a 2002 paper situated searching for qualitative reviews within the existing understanding of quantitative reviews and their requirement for comprehensive and exhaustive searching using a defined strategy (Evans, 2002). In the same paper, Evans also highlighted some of the challenges associated with searching, including poor indexing of qualitative terminology, identifying grey or unpublished papers not indexed in databases, the poor transferability of quantitative methods (such as search filters) to qualitative literature and the lack of a standard nomenclature for titles of published qualitative research among other issues (Evans, 2002).

The complexities that Evans raised have been investigated. Greenhalgh and Peacock (2008) published a report on how studies were identified for a systematic review that included 'complex' (qualitative and mixed methods) research (Greenhalgh and Peackock, 2008). The authors identified three sources of literature: the protocol (including hand searching and electronic database searching); snowballing (a term used to describe searching the reference list of studies identified from databases and other sources) and citation tracking; and 'personal knowledge' (consisting of not only the individuals knowledge but also their professional contacts, networks and opportunistic identification of studies). The authors reported that of the 495 reports considered for inclusion, 23% were known to the authors or their professional network and associates, while roughly 25% came from electronic database searching (the protocol driven component of the study). It was also reported that the majority of papers came from snowballing and following references of references. The authors concluded that formal protocol driven searching was of limited benefit in complex reviews and if relied upon would result in large numbers of studies being missed (Greenhalgh and Peackock, 2008).

What is interesting in this paper is the distinction between protocol driven searching and the two comparator methods of identifying literature. The authors do not oppose the use of a protocol driven strategy, but rather the authors argue for the use of multiple strategies. However, the authors define a protocol driven strategy as the use of database specific, structured and tested search strategies that draw on the key words and thesaurus terms of each included database. The definition of protocol driven searching used in this paper may not be a reflection of protocol driven searching as it is practiced in reality. Published systematic reviews tend to describe a three step search strategy that includes each of these techniques and these are documented a-priori within the review protocol. Thus the comparative techniques

Greenhalgh and Peacock (2008) describe as “protocol driven” are actually one of a series of steps that are commonly documented in systematic review protocols.

The findings of this paper have been used to raise the issue of whether comprehensive searching is required at all. In an online paper, Booth (2001) raised an argument for the use of data saturation to identify papers (accessed online, November 5th, http://www.leeds.ac.uk/educol/documents/00001724.htm). Booth goes on to argue that while the risk of bias may be a feature quantitative reviews seek to minimise as a priority, other concepts are more important in qualitative reviews. These include being systematic, explicit and reproducible as examples of important characteristics. However, the paper fails to acknowledge that these characteristics are associated with a decreased risk of bias in review method, hence the purpose of separating bias from the techniques to minimise it is unclear in this paper. Despite this, it does however illustrate the potential for confusion related to the terminology in the published literature when creating or extending a line of argument. For example Greenhalgh and Peacock (2008) discussed protocol driven searching versus alternate techniques, when in fact each of the techniques they described can and are normally included in a protocol. Booth (2001) supports conceptual saturation rather than comprehensive searching and defines rigour as having been accounted for if the reviewer had identified the major schools of thought, inclusiveness of perspectives (i.e. clinicians, consumers, other relevant stakeholders) and the use of complementary electronic and hand searching techniques.

What both Greenhalgh and Peacock (2008) as well as Booth (2001) fail to articulate is how these approaches feed into systematic review methods in accordance with an a-priori protocol. The Cochrane Collaboration describes the a-priori protocol as fulfilling several tasks. It is designed to ensure that the review authors have thought through their review, it facilitates communication with others and it reduces risk of bias (http://www.cochrane-net.org/openlearning/HTML/mod5-2.htm accessed online Nov 5th, 2010). The risk of bias, as described previously, is associated with ensuring transparency and reducing the likelihood that the reviewers might influence the results, particularly in relation to study selection and outcomes. The way to achieve this is to clearly document the steps and decision making processes that will be applied to the review. Thus, in effect, there is no reason why the search strategies that Greenhalgh and Peacock explored should not be incorporated into a protocol. This is a key strategy in how the Joanna Briggs Institute ensures risk of bias is reduced in

qualitative reviews. The Institute's Reviewers' Handbook describes searching as a three step process targeted at electronic databases, unpublished or grey literature and snowballing by screening and following links from the reference lists of included studies (The Joanna Briggs Institute, 2008). Additionally, the Institute subjects protocols to peer review and publishes protocols so they are available for public scrutiny and comment before the review is conducted. However, the underlying assumption in relation to searching that the Greenhalgh and Peacock paper demonstrates is that searching electronic database as a stand alone strategy is inadequate and needs to be part of a more comprehensive strategy. The published literature demonstrates that this is standard practice. Arendt (2007) analysed 38 search strategies in published meta analyses from psychology journals and found the majority used a combination of techniques (Arendt, 2007). What Booth concluded was quite different, advocating for a move away from comprehensive searching. Thus it is evident that the literature illustrates quite divergent views and understandings on what the protocol is used for and how it relates to bias.

Few authors have argued for saturation based searching and most advocate for a greater emphasis on how to get the best (most sensitive and specific results) from electronic databases. Taylor, Wylie, Dempster and Donnelly (2007) compared seven databases for sensitivity and precision (specificity) to quantitative and qualitative literature (Taylor et al., 2007). The authors found that not only did sensitivity and specificity vary, but that within their field (the social sciences) overlap between databases was no higher than around 40%. This result should raise concerns with the concept of saturation based searching, particularly if a limited number of databases are used, as it increases the risk of missing studies and therefore having gaps in the analysis. Published qualitative synthesis has tended to be more pragmatic than theoretical, with authors describing three step search strategies (Gately et al., 2008).

### *Study Selection*

Study selection has not been well addressed in the qualitative literature. The majority of literature on the topic of study selection involves actual descriptions of the processes that review authors used, with little analysis of methods. However most processes described use a minimum of two reviewers, while others used a group process. In a critical interpretive synthesis related to chronic illness, one author undertook initial screening (it is unclear who conducted the searches) but three of the listed authors were subsequently involved in discussions related to study selection (Gately et al., 2008). The development and moderation of the discussion was not described.

Dixon-Woods and colleagues, in a 2006 publication used a non protocol driven search process that was iterative with the development of their review (Dixon-Woods et al., 2006). While the process and decisions made were not described beyond stating that a "theory driven" process was used, the authors reduced a potential pool of 100,000 records down to 1200 records. One interesting facet of this paper was the authors' view that traditional protocol driven searching would have constrained the review and would have been less congruent with their theoretical approach. However, it was clear the processes used in their protocol for reducing the number of studies from 100,000 to 1200 papers was purposive, (i.e. the authors selected a sub set of papers that were seen to be 'best fit' with their developing question). If this was the case, the question is whether this was a real difference or an analogous process with more similarities than differences to the core principals of selection as is associated with aggregative reviews (where two or more authors screen papers for appropriate fit with their review question). What it most clearly leaves at risk is the ability to transparently demonstrate ones' decision making, the ability to communicate methods and to facilitate auditability of process. These concepts - of being systematic, explicit and reproducible - are advocated for in discussion papers regarding qualitative synthesis, but as these published examples have illustrated they seem difficult to implement in interpretive, iterative reviews.

The process of study selection in published meta ethnographic reviews shows similarities with authors tending to discuss the need for freedom and lack of constraint from conventional approaches; yet then using those same constraints as strategies to manage the volume of literature. By way of contrast, a meta ethnographic review on educational phenomena by Savin-Baden and Major (2007) not only applied a comprehensive search strategy, but when it came to study selection, adhered closely to the a-priori protocol and inclusion criteria to guide decision making. In terms of promoting reproducibility, auditability and transparency, although this was an interpretive meta ethnographic review, the authors clearly integrated the principals and traditions of qualitative paradigms with the systematic review process.

The meta ethnograpy by Campbell, et al (2003) is an oft cited example of the methodology in discussion papers, having been cited over 160 times since publication (Campbell et al., 2003). The authors sought to explicitly test Noblit and Hare's (1988) process on a 'larger' cohort of papers to determine the approaches suitability for larger numbers of papers. By consensus they purposively chose ten papers of which three were subsequently excluded. The purposive selection process was loosely based on a protocol that described a process for testing critical

appraisal as well as the method of synthesis. However, the protocol did not include the types of details one would associate with a systematic review in that there was no description of how searching was to be undertaken or what the inclusion criteria would be; essentially situating this meta ethnography as a pilot study, not a systematic review. The only comment the authors offered on selection was that it "…provoked some discussion within the research group." (Campbell et al., 2003). Although this paper bears no resemblance to the conventions and methods of systematic review as described in the introduction of this dissertation, this paper (as with the 2005 Greenhalgh and Peacock paper) has been used as a reference text by other authors positioning their perspectives on qualitative synthesis.

Meta ethnographic reviews on parenting programs (Kane et al., 2007) and on values associated with the unpaid care of older adults, (Al-Janabi et al., 2008) and discussion papers (Atkins et al., 2008) have all cited this paper by Campbell and colleagues in support of qualitative synthesis using the meta ethnographic approach. The lines of argument associated with the Campbell paper include use of a consensus based approach to selection, (Kane et al., 2007) purposively limiting study selection if more than ten studies have been identified (Al-Janabi et al., 2008) and discussing the role of instruments for appraisal or quality assessment (Atkins et al., 2008). What this further illustrates is that the discussions and debates regarding elements of the review process, including study selection, are by no means a reflection of the clarity and rigour one associates with the conduct of systematic reviews. There is a far greater propensity to not only bring the primary qualitative traditions in to the conduct of a review, but also to redefine aspects of the review process on the basis of being true to interpretivism. Contrastingly, even within a limited aspect of the review process (such as study selection) it is also evident that the oft-described 'constraints' associated with systematic reviews are sometimes rejected on the basis of being quantitative. However, reviewers utilise a series of constraints in an ad hoc fashion once they realise the often extensive size of the data set identified has pragmatic and resource implications. The ad hoc nature of how such constraints are applied should be of significant concern and interest to researchers considering the validity of the systematic review process. They may be of equal concern to users of such reviews as there is a loss of transparency in the process when ad hoc strategies are applied. There is a substantive need to understand the impact of such decision making not only the transparency and auditability of decision making but also on the findings of interpretive synthesis. However, this work has yet to be undertaken as published interpretive meta ethnographic reviews tend to include only an author driven evaluation of the utility of the approach.

While not all meta ethnographic reviews are interest driven or demonstrate ad hoc decision making, all meta aggregative reviews produced by the Joanna Briggs Institute and its international collaboration of over sixty centres world wide are based on a-priori protocols. While this does not guarantee all facets of the review process are described and documented, it does suggest that there is less scope and likelihood of ad hoc decision making with its associated potential to influence the nature and direction of the findings. An aggregative review on living with chronic complications associated with Lymphatic Filarisis in developing countries described the study selection process as being one where studies were expected to meet the a-priori inclusion criteria to be considered for selection. However, it was not clear whether one or all authors undertook this initial selection (Enuameh et al., 2010). That said, the authors did make it very clear that the decision to retrieve a study was contingent not on quality of the studies or based on concerns regarding the numbers of papers identified, but rather that all identified papers that appeared to meet their inclusion criteria were retrieved. Similarly, in an aggregative review of music therapy among palliative care patients (He et al., 2010) the a-priori protocol was the basis for study selection and all studies that appeared to meet the criteria based on title and abstract were retrieved in full for closer reading. Not all aggregative syntheses are this explicit regarding study selection. An aggregative review of the experience of being an adult ventilator dependent patient by Mu, Wang, Chen and Tsay (2010) did state that studies were considered for inclusion based on a-priori protocol driven criteria. However, the number of authors involved in selection, and how initial selection was undertaken was not reported in the published review (Mu et al., 2010).

While there is a lack of discussion and debate in the literature on study selection, published reviews suggest that meta ethnography as an approach tends to be used in a highly flexible, iterative way that does not rely upon use of a-priori documentation of decisions. The process of selection appears to be attuned to the perceptions of the review teams based largely on facilitating the management of data (or more specifically the reduction of the number of papers). In contrast, it can be seen that meta aggregative reviews rely on an a-priori protocol where study selection is based on pre-determined criteria. One can reasonably conclude that the number of papers included is less open to manipulation in this approach, however, whether or not such a difference has an impact on the reliability, validity and extent of the findings does not appear to have been investigated.

## *Appraisal*

While the literature is relatively quiet with regard to study selection, critical appraisal or methodological assessment is a highly contentious and debated topic. The views and positions held often present as polar viewpoints, with some taking the position that qualitative synthesis is an approach to systematic review analogous to quantitative review, while other viewpoints range on a continuum that extends from complete rejection of appraisal, to acceptance of more inductive forms of quality assessment. The views and debates extend not only to what, if any, process should be used, but also what nomenclature should be associated with the process. The rhetoric extends from the pragmatic to the prosaic, with some authors 'accused' of 'borrowing' terminology from quantitative review while others have referred to the "…*arsenal of the quantitative camp [that] pepper qualitative ground like so many cluster bombs*" (pg 95) (Jones, 2004).

Attree and Milton articulate a range of benefits associated with qualitative systematic reviews in relation to public health policy needs, particularly in relation to establishing the values and perspectives of participants; arguing that this is a well established purpose of qualitative synthesis (Attree and Milton, 2006). They go on to suggest that the specific purpose of appraisal is to ensure the findings of reviews are drawn from good quality research. They state that this is a defining distinction between systematic and non-systematic or traditional reviews of literature and that it is a process that determines the trustworthiness of the findings of the review. Attree and Milton (2006) claim to have sought a middle road with regard to critical appraisal. They advocate a process whereby appraisal represents a balance between comprehensive lists of criteria for establishing quality, and the meaningfulness and simplicity of use (Attree and Milton, 2006). Whether or not their resultant checklist has the flexibility to be used more widely remains in question, given their instrument was created for a particular review question after they had considered and rejected other checklists. The authors assessed research papers according to the degree to which the elements of the published paper had either none or few flaws on a scale of four levels (up to significant flaws) that raise serious questions about the validity of the findings. What is clear is that utility as described by Attree and Milton (2006) does not represent a middle road in terms of the methodological and ontological debates regarding the role of appraisal. The authors clearly support the role of appraisal and present a pragmatic approach for how to conduct checklist appraisal while being sensitive to the traditions of the critical and interpretive paradigms. The authors highlight that

there is no gold standard criteria for appraisal of qualitative research, either in terms of criteria that matter most, nor in terms of how to apply the process (whether that be the use of checklists to screen and exclude or include, or as a technique to promote deeper engagement with the paper).

The diversity of opinion is extensive and in part the characteristics of qualitative research lend themselves to this diversity. Development of an appraisal instrument was based on meeting their particular purposes in undertaking the review (Attree and Milton, 2006). This is an interesting distinction whereby an appraisal instrument was developed based on the purpose of the review rather than on pre-determined standards. It seems congruent with the notion that, unlike quantitative research that has definitive characteristics associated with risks of bias (where studies that minimise risk and increase control are naturalistically considered higher quality), qualitative research sits on a horizontal continuum and hierarchies are contentious. Barbour and Barbour (2003) by way of contrast situate their argument in the context of "…cautioning against simply importing templates developed for the systematic review of quantitative work…"(Barbour and Barbour, 2003). In this way, the authors appear to situate themselves as having both expertise in qualitative review and synthesis, set up their paper as being inherently in the interests of qualitative synthesis, and alternate views on appraisal as being inherently simplistic, mechanistic transfers from the quantitative paradigm. On this basis, the authors forward their particular model, which takes what the authors describe as "a creative engagement" with the literature. From this point on, the paper appears to lose all sense of cohesiveness as the model for creative engagement is far broader than appraisal and relies upon a series of unproven assumptions. To illustrate, the model begins with literature searching that is wider than the use of a single electronic database. The authors suggest many qualitative reviewers are guilty of relying upon a single electronic database, yet, as this dissertation has already shown, the science of searching for qualitative papers has a comprehensive body of science to underpin multiple search strategies and this is a widely accepted approach to searching for qualitative literature. The key difference is that this model advocates for purposive sampling based on conceptual relevance as opposed to comprehensive and exhaustive searching, where purposive sampling includes first person accounts, novels and newspaper reports among other sources. While creating a line of argument that situates purposive sampling within the interpretive domain and hence appropriate to qualitative synthesis, neither these, nor other authors to date, have demonstrated that purposive sampling is either better than comprehensive searching, or even

whether it is more appropriate in terms of epistemology. Hence there is neither a clear, practical or a theoretical foundation for the authors' assumptions with regard to searching.

The core focus of the proposal appears to be associated with seeing searching, evaluation and synthesis as iterative and intertwined processes. This, the authors argue, is more attuned with qualitative research and less likely to lead to the imposition of quantitative processes and templates that risk alienation of the data and loss of context. This, the authors somewhat optimistically put forward as a 'model' that lends itself to a critical approach to the evaluation and synthesis of qualitative literature. If anything, this paper is a clear indication of the lack of consensus that exists in the qualitative community around whether a systematic review is a systematic review regardless of ones paradigm, or whether there should be wholesale change to how reviews are conceptualised and implemented when qualitative literature is the focus of the review.

While some authors have taken a deliberately exploratory approach to the debates and discussions, (Barbour and Barbour, 2003, Barbour et al., 2007, Jones, 2004) there is nonetheless a unifying factor in that the majority of authors are seeking to work through and grapple with the fundamental questions related to a process associated with identifying risk of bias (appraisal in quantitative reviews) and whether such a process could or should fit in a way that is sensitive to the critical and interpretive traditions. Dixon-Woods, Shaw, Agarwal and Smith (2004) have previously raised some of these issues and sought to generate a form of appraisal based on generic features of qualitative research (Dixon-Woods et al., 2004). As with other theorists in this field, the authors highlight the continuing challenge of appraisal of findings due to the highly interpretive nature of qualitative research being reliant upon subjective judgements (Dixon-Woods et al., 2004). This challenge is again illustrated by the frequently cited prevalence of methodologically poor studies that contain insightful, thick and rich descriptions, while conversely, studies that are methodologically strong may have less interpretive findings and hence be largely descriptive. Dixon-Woods and colleagues advocate for a middle road that is to use a minimalist checklist as a series of prompts (Dixon-Woods et al., 2004). These include deciding whether the research question is clear, if the question is suited to qualitative inquiry and, in terms of methods, whether sampling, data collection and analysis were well described and appropriate for the research question. For the findings, the authors suggest considering whether they are sufficiently supported, whether the conclusions are integrated with the findings and whether the findings represent a useful contribution. This

paper highlights the difficulty for qualitative researchers in deciding what types of questions relate to validity and reliability in primary qualitative papers as there is no distinction between utility and process in these questions. Although not the intent of this study, further work is needed to seek consensus on the purpose of appraisal and whether the focus should be on methodological validity or on transferability.

An important aspect of these considerations is therefore to identify appraisal processes that relate to study validity as compared with those that focus on transferability. Of the plethora of appraisal instruments that have been opportunistically developed for qualitative synthesis, few appear to match the quality assessment with impact on the review findings. Harden (2008) presents the process and findings of a study to investigate the impact on a review when studies are either included or excluded from the synthesis on the basis of their methodological quality. In phase one, studies were allocated according to a matrix whereby studies could be classified as either high quality and low contribution, high quality and high contribution, low quality and low contribution or low quality and high contribution. The source data was sixty-two studies from across five reviews. Although the findings were complicated, several conclusions were identified and presented. These included that although some lower quality studies did contribute to the findings of qualitative synthesis, the contribution was described as providing little benefit to the overall synthesis. By way of contrast, high quality studies that provide rich description were found to be crucial to the overall synthesis. This is one of very few available studies that provides evidence in relation to the role of quality assessment in relation to qualitative synthesis. In particular, the perspective on quality consisted of three core domains (quality of reporting, sufficiency of rigour in data collection and analysis and the extent to which the findings represented the voices and experiences of the study participants). The fact that these domains have been associated with internal validity informs a case for use of critical appraisal where the purpose is to establish the internal validity rather than the transferability of the findings.

The theoretical developments established by Cohen and Crabtree (Cohen and Crabtree, 2008) were the basis of an evaluation of appraisal instruments in a recent publication in order to undertake a theory driven comparative analysis of three qualitative critical appraisal instruments (Hannes et al., 2010). The criteria for selecting appraisal instruments included that; they are applicable in a germane sense to qualitative methodologies; they have been used recently in qualitative systematic reviews; they are available online to the public for free; and

they have been developed by an institution or organisation rather than an individual (where commitment to evaluation and development of the instruments could be more reasonably expected to be ongoing).

Three instruments met these criteria, the Critical Appraisal Skills Program (CASP) tool, the Qualitative Assessment and Review Instrument (QARI) Appraisal tool from the Joanna Briggs Institute, and the Evaluation Tool for Qualitative Studies (ETQS). These instruments were graded according to degree of fit using a constant comparative technique under the following domains, theoretical frameworks, appropriateness of research design, process for data collection, data analysis, reporting of findings, the context of the research, impact of investigator, believability, ethics, adequacy of conclusions and value/implications of the research. The authors concluded that, while the three instruments were readily available and had some similarities, that the CASP instrument was the least sensitive to validity, particularly internal validity. The ETQS instrument was accompanied by the most detailed and explicit user instructions and guidelines and the Joanna Briggs Institute (QARI) instrument demonstrated the highest degree of 'fit' with the domains associated with quality assessment in critical and interpretive research. The JBI instrument does not focus on the findings of primary qualitative research in terms of their depth or thickness of description, instead it is focused on coherence, or congruency between the core elements of primary qualitative research. These include congruity between methodology and philosophical perspective, methodology and the research question, methodology and methods, methodology and analysis and representation of the data. The final questions evaluate whether: the researcher has located themselves theoretically or culturally; the researcher has addressed the question of their influence on the research; participant voices are adequately represented; the research is ethical; and the conclusions drawn appear to flow from the analysis or interpretation of the data.

The literature on appraisal is replete with issues and complexities, commencing with the lack of any unified starting point as there is no single paradigm, or fixed starting point within the critical and interpretive research traditions. In addition to this, there are varying views on whether appraisal has a place or not and on what approach should be taken, with wide variation in opinions. Many authors suggest a key barrier to appraisal of qualitative research is that the findings are enmeshed with a particular theoretical perspective and these only become clear with deep engagement with the paper. This is believed to complicate appraisal as no one instrument can reasonably incorporate criteria for all qualitative approaches. What has not

been clearly established is whether the findings themselves need be appraised or, indeed, whether they are indicative of quality, although some preliminary work has been undertaken in this field (Harden et al., 2004). Certainly, some authors have advocated that insightful, or thick, rich findings may arise from poor quality qualitative research, in the context of qualitative systematic reviews. Others have not used critical appraisal but not provided any indication of the rationale while acknowledging that included studies were flawed (Garcia et al., 2002). For example, Barbour and Barbour (2003) asserted that many influential papers would not have been included in reviews if inclusion were based upon checklists in order to highlight their concerns with the nature and process of applying appraisal criteria. There was though, scant evidence for this rationale (Barbour and Barbour, 2003).

The debates continue and are likely to do so for the foreseeable future. The characteristics of qualitative researchers has been concisely described; qualitative scholars are a diverse community; if able to be characterised by any traits, it is both a distrust of mainstream thinking and scholarship and a mutual rejection of qualitative theorising that is not of ones own school of thought (Schwandt, 2000). However, while the debates continue, qualitative reviews are undertaken using a range of methodologies and in each instance reviewers are confronted by decisions regarding critical appraisal. The response to this in meta ethnographic reviews has varied from use of appraisal as a way of engaging further with individual papers without using criteria to filter out papers of poor quality, or filter in papers of high quality (Noyes and Popay, 2006) right through to a more detailed analysis of papers where the quality assessment was instrumental in whether or not a paper was included. Meta ethnographic reviews have a level of variation in how appraisal was conducted when compared with meta aggregative reviews (in which appraisal using a checklist based on methodological congruity is standardised practice).

## Study Inclusion

Inclusion in quantitative systematic reviews has been closely associated with critical appraisal, particularly in association with reducing the risk of biased findings having an influence in the review. This has been highlighted by numerous authors (Attree and Milton, 2006, Dixon-Woods et al., 2004, Hannes et al., 2010, Harden et al., 2004). There are a number of significant issues that arise in the consideration of study inclusion that extend beyond the use of a particular appraisal instrument, or quality cut off scores, although these are also legitimate questions that warrant further consideration. The discussion regarding study inclusion implicitly includes

discussion of study exclusion and both aspects have been discussed with varying degrees of detail in the literature.

The challenge with writing about study inclusion is that most published qualitative syntheses do not actually report what was involved; how it was undertaken and what key decisions were made; the basis on which those decisions were made; and implications for the review and subsequent synthesis. The literature tends to move quite quickly from 'appraisal' to 'synthesis' and is primarily distinguished by the lack of detail on criteria for inclusion and exclusion. That may suggest that inclusion is highly integrated with appraisal, has been largely ignored, or, as other literature suggests it is not bound to quality appraisal. The disconnect between appraisal and inclusion correlates with the rise of iterative, interpretive synthesis and appears to be a phenomena associated with the influence of interpretivists on review methodology. The lack of detailed reporting on inclusion is typified in the Bristol Medication Career study that utilised inclusion and exclusion screening questions (Malpass et al., 2009). The questions related to context more than quality. For example establishing whether the paper used qualitative research methods, whether it was relevant to the meta ethnographic review and establishing if the participants and their experiences were relevant to the review. None of these directly correlate with study quality and this is a trend across meta ethnographic reviews. As further evidenced by Downe (2008) who highlights that the current debates continue to focus on three core areas, these being philosophic perspective, quality appraisal and method of analysis (Downe, 2008). Quality appraisal, Downe concludes, is probably linked with inclusion, but the methods and reasons behind decisions are extensively divided and polarised, leaving review authors with choices that need to be clearly documented (Downe, 2008).

In such positions, appraisal (as discussed in the previous section of the background) is about engagement with the paper rather than whether or not to include the paper. Despite this disconnect in the literature, auditability and transparency are increasing drivers of qualitative synthesis (Downe, 2008). The challenges associated with determining inclusion based on criteria have been previously addressed (Sandelowski and Barroso, 2002b). Highlighting, in particular, that even if a standardised approach was taken, that in and of itself is no guarantee that reviewers would interpret and apply them with consistency or agree on which items a paper has met. Nor would it make necessarily ensure that the reasoning behind particular decisions is made explicit or identify whether or not particular criteria should be considered more crucial than others in the decision to include or exclude a particular paper (Sandelowski

and Barroso, 2002b). Walsh and Downe have highlighted that the synthesis of flawed studies is likely to result in a flawed synthesis, illustrating that the complexity of the issues involved in inclusion does not obviate the reviewer from giving them due consideration (Walsh and Downe, 2006).

In spite of these challenges, the rationale for establishing quality is clear and at the very least should be used to identify fatal flaws that form the basis of decisions regarding inclusion or exclusion (Dixon-Woods et al., 2004). Interestingly, moving beyond these generalisations remains highly problematic as the methodological literature does not proceed to investigate how these questions are implemented in the process of determining inclusion other than to acknowledge that philosophic differences (i.e. whether one is interpretive or a constructionist) influence perspective and hence the decisions that reviewers will make. This leads to the question, what have qualitative reviewers reported in published reviews?

In a meta ethnographic review of coping with Chronic Fatigue Syndrome, Lillebeth and Malterud (2007) used an unspecified checklist to appraise papers. Studies were reportedly excluded for failure to meet the criteria to the authors satisfaction, however within the text no further information was given on which criteria or why they were the nominated criteria (Lillebeth and Malterud, 2007). There was no table of excluded studies that could be referred to and this highlights a further challenge for qualitative review authors. Attempting to fit a full review report within the requirements of many journals is problematic at best and impossibility at worst. The richness of textual data that makes a qualitative review useful may be confounded by the limitations associated with publication. A meta ethnographic approach was also adopted for a review on decision making in Total Knee Replacement surgery (O'Neil et al., 2007). However, in this review which cited Noblit and Hare (1988) and referred to other meta ethnographic reviews that also used quality screening to determine inclusion, the report explicitly describes the decision to not undertake any form of quality assessment and makes no reference to any considerations regarding inclusion or exclusion.

How then does this contrast with the meta aggregative approach? In a review examining the phenomena of anxiety in patients undergoing breast cancer treatment, highly detailed inclusion criteria were described (Ching L et al., 2010). These included the types of studies, detailed patient characteristics related to types and stages of cancer and cancer treatment; and gender and age limits were also applied to studies. The types of characteristics identified by the authors are reasonably consistent with those from meta ethnographic reviews, in that an

"interest" is identified that commonly includes these contextual factors such as types of studies and patient characteristics. While this meta aggregative review used explicit appraisal criteria, how these were related to inclusion was not described beyond a generic statement. The excluded studies list contained the rationale for exclusion, and from this list only one paper was excluded on methodological grounds. The rest were excluded on the basis of not being a good fit with the stated inclusion criteria. This seems to suggest that inclusion in a meta aggregative review is not the technocratic utilitarian process that Nobilt and Hare (1988) were so keen to avoid but as with other forms of qualitative synthesis, relies upon reviewers making judgments regarding the inclusion of studies. What meta aggregative reviews seek to do, however, is enhance the transparency and auditability of these processes, taking the invisible and making it explicitly clear and visible (TheJoannaBriggsInstitute, 2008).

### *Data Extraction*

If distinguishing between appraisal and inclusion creates a somewhat artificial delineation, then distinguishing between extraction, synthesis and presentation of the data represents an even more complex and less clearly defined structure. Extraction and synthesis are difficult to separate, particularly in relation to interpretive reviews that use an iterative process whereby the reviewers develop their synthesis in the process of extracting papers. It is less problematic in meta aggregative reviews that include two phases of extraction, both of which precede synthesis. However, both meta ethnography and meta aggregation are characterised by having defined processes and definitions of the nature of what is extracted and how the data is managed.

The broader perspective on data extraction is that the data to be extracted should inform the review and respond to the question. How data is defined, identified and extracted then becomes the focus and these points vary depending on ones perspective and expectations. The first question under consideration then is 'what constitutes data?' The answer to this question is contingent upon ones perspective or positioning.

Sandelowski and Barroso (2007) have written extensively on qualitative synthesis and on this issue of data and data extraction. As with Noblit and Hare (1988), Sandwelowski is not a technocrat seeking to derive process driven methodology. In the 'Handbook for Synthesizing Qualitative Research' co-edited by Sandelowski and Barroso (2007) state their perspective is iterative and dynamic rather than technical in the sense of Habermas perspective on technical

forms of knowledge (Sandelowski and Barroso, 2007). They go on to suggest that not only is flexibility of methods required, but that confronting the debates is a necessity if one is to preserve "the qualitative research attitude of reflexivity and critique and the emergent nature of qualitative research design." (pg xvi). The authors are thus positioned to some degree in the interpretive paradigm and their work on data and data extraction reflects this position.

In a 2002 paper, the same authors investigated the notion of qualitative findings (Sandelowski and Barroso, 2002a). The working assumptions were that findings could be removed from a report without decreasing their qualitative validity or integrity and that data (defined as empirical data collected through research) is closely attached to findings. Thus a thematic analysis might lead to the emergence of a particular theme (finding), and the theme itself is illustrated and supported by quotes from the study participants (empirical data). Findings in this context were described as the integrated discoveries researchers developed, most commonly presented as declarative or conceptual themes, models or theories (Sandelowski and Barroso, 2002a). The problems or challenges then raised by the authors included how variability in study quality can make identifying findings difficult. Many studies illustrated the confusion between volume of description and thickness of description, leading to lengthy reports with little thematic analysis and a plethora of empirical text. A further challenge that reviewers will be familiar with is the lack of standardised structure for qualitative primary study reports, with findings often located across different sections of a report, or having no clear boundaries between the different elements of the report (Sandelowski and Barroso, 2002a). Other problems raised in this thought provoking analysis included misrepresentation of data as findings; misuse or hyper-selective use of participant quotes that do not accurately fit the conclusions the author has drawn; unclear use of the term 'theme' when the data that support the theme are uncertain in terms of depth or true representativeness. These wide variations in the definitions and representations of data are, the authors assert, a result of the beliefs the researcher brings with them. Sandelowski and Barosso (2002) concluded that conceptual clarity and consistency should be of primary interest if the research product is to inform health care policy or practice.

With these considerations in mind, meta ethnographic reviews have tended to follow closely the methods espoused by Noblit and Hare (1988). These methods do not clearly articulate the whys and wherefores of data extraction. As illustrated previously in the background, this correlates with phase three – reading the studies. The recommended process to undertake this is use of notational reading and re-reading that leads to the identification of relevant interpretive

metaphors. Additionally, attention to detail is encouraged with regard to the accounts and how they inform the topic of interest. In terms of detail, this is scant, relying instead on the reviewer to derive their own methods, not an unreasonable assumption for qualitative primary researchers who most likely have familiar models for working with textual data. However, it does then place increased onus on the reviewer to ensure that their methods and decision making are sufficiently clear and transparent for audit purposes.

In a meta ethnographic review on the meaning of home for older adults living in long term care, included studies were read repeatedly and relevant metaphors themes and concepts were duly documented in a table created by the author (Moloney, 2010). In addition to metaphors, the authors also extracted limited data on the participants, however this contextual data (Sandelowski and Barosso''s 'empirical data') did not appear to carry through to the synthesis or conclusions. Transparency of methods is problematic in this example as the reader of the review is unable to determine whether or not all themes were extracted, or whether limited purposive extraction was undertaken. Similar problems are readily identified in other ethnographic reviews. Cooke, Mills and Lavender (2010) developed a line of argument synthesis on women's reasoning with regard to childbearing and advanced maternal age. The authors included no detail on how data was extracted, managed, or even what data was extracted. As with many reviews and as indicated in the general literature, there is a tendency to focus on the big questions such as extent of searching, critical appraisal and methods of synthesis, with a subsequent lack of detail on no less important aspects of reviews such as data extraction. The variability between published meta ethnographic reviews is further demonstrated by Purc-Stephenson and Thrasher (2010) who developed and utilised standardised forms on which the two reviewers independently extracted key themes, concepts, metaphors and ideas (Purc-Stephenson and Thrasher, 2010). The authors also explicitly stated that they also extracted information about the study setting, methodology and participants to provide context for the emergent synthesis. In terms of auditability and congruence with expectations of transparent decision-making in systematic reviews, the example by Purc-Stephenson and Thrasher clearly demonstrates that meta ethnographic reviews can be congruent with accepted scientific convention (Purc-Stephenson and Thrasher, 2010).

An aggregative review on the experience of self care sought to integrate and summarise the experience of engaging in self-care activities as reported by individuals and/or their families (Godfrey et al., 2010). The authors used a modification of a standardized instrument and

collected detailed data from each study. This data included, but was not limited to, methodology, method, the phenomena of interest, the study setting, geographic location, cultural perspectives, demographics on the participants, method of data analysis and a summary of the author's conclusions. It appears this level of extraction is rare in meta ethnographic reviews, but does facilitate engagement with the paper and is supported by Sandelowski and Barroso's (2002) argument for the extraction of contextual/empirical data to support the extraction and synthesis of findings.

In the JBI approach to aggregative review, this empirical extraction represents the first stage. The second stage is to read and re-read the papers and extract all findings. This is a complete extraction that requires the reviewer to identify all themes and metaphors, not just those specific to their particular interests. This is an important distinction of meta aggregative reviews. Synthesis does not commence until all findings have been extracted, hence there is no 'leading' toward particular findings across studies as the process is linear not iterative. As the findings are extracted, relevant participants quotes are concurrently extracted. In the review by Godfrey et al (2010) the data extraction sheet included space to extract participant quotes that informed each theme. These are not necessarily concordant quotes that purposively support the overall question. Divergence is expected and accommodated during the extraction phase.

In the absence of participant quotes to support a theme or metaphor, other data can be extracted. One challenge related to transparency is how readers identify whether or not a participant quote is an appropriate fit, or in other words, how direct the relationship is between the theme and the actual voices of participants. There tends to be a lack of transparency in qualitative reviews with regard to choice of participant quote or other supporting data and how they relate to a particular theme. In an aggregative review on the other hand, each extracted finding is given a rating that reflects the degree of fit between the participants' expressed experiences and the study authors themes. These levels of 'credibility' increase the transparency associated with choices made by reviewers when extracting data from primary studies. The JBI Reviewers Handbook (The Joanna Briggs Institute, 2008) defines these three levels of credibility as follows:

- Unequivocal
- Credible

- Unsupported

Unequivocal findings are those where the participant quote has a clear and unarguable association with a theme. A credible rating is used where themes have some association with the participant quotes, but are clearly interpretive extrapolations, while unsupported quotes are those that arise from non participant text or where the participant text does not offer confirmation or support for the authors theme. Aggregative reviews, as practiced by the JBI and its collaboration have a high degree of correlation and adherence to this level of transparency and auditability.

## *Synthesis*

The literature on synthesis tends to focus on the benefits or contributions of qualitative synthesis as compared to quantitative synthesis, or in relation to gaps in knowledge that are not readily amendable to quantitative synthesis (Harden et al., 2004). Harden and colleagues (2004) in reflecting on a qualitative synthesis in the field of public health situated their review topic by its ability to gather data not able to be subject to quantitative analysis. The authors highlighted that health policy requires more than knowledge of what works or of what effect a policy might have as policy processes and outcomes can be informed by a better understanding of the views or experiences of people (consumers) who may be impacted. The second basis on which the authors forwarded the role of qualitative synthesis was in relation to its methodological rigour – by means of association with quantitative systematic review (Harden et al., 2004). The rigour, validity and transparency of quantitative systematic review has, as this case illustrates, often been used as the basis for inferring a similar level of rigour, validity and transparency in qualitative synthesis. The wide variation in methods suggest the representation is flawed, particularly as there is currently very little in the way of consensus as to whether qualitative reviews should follow the germane pathway of quantitative reviews and, as has been seen, concepts related to quality remain contentious and unresolved for qualitative literature and methods.

There has been a trending change in how synthesis is represented in the literature. A critical interpretive synthesis on access to healthcare exemplifies this change (Dixon-Woods et al., 2006). These authors did not draw on the authority of conventional systematic review methods, nor did they seek to situate qualitative synthesis as a complementary, gap-filling handmaiden to quantitative synthesis. Instead the authors clearly situate the review as an entirely new

structure, developed in response to inadequacies in traditional quantitative methods (Dixon-Woods et al., 2006). This paper specifically indicated that the area of focus was one that needed a new type of evidence developed, not an estimate of effect, nor a summary of qualitative experiences to fill a gap in the implementation of a policy. Instead the authors positioned the purpose of their synthesis as being specifically intended to generate mid level theory. While this suggests a transition over time in thinking with regard to the position of qualitative synthesis as a science in and of its own right, the lack of consensus in the field as previously highlighted continues to date. In describing their methods, the authors of this paper again fall back to making comparisons with quantitative synthesis once they start to talk about methods.

The approach (critical interpretive synthesis or CIS) is not of particular interest to this study. However, the focus on mid level theory and the general claim of interpretivism as the basis for the methodology is also comparable with meta ethnography. The authors also illustrate one of the problems associated with nomenclature within meta aggregation. The approach to CIS is described as 'interpretive' and other methods that are not categorised as interpretive are classified as aggregative, with specific mention of meta analysis and reviews that summarise empirical data. The problem with these simplistic labels are that what is meant by interpretive is unclear in a field characterised by diverse opinions and methods; as well as the fact that it polarises the notions of synthesis, effectively filtering them down to being either interpretive, or a simple aggregation of numeric data. These overly simplistic descriptions ignore goodness of fit with systematic review methodology and fail to account for qualitative methods that do not aim to generate mid level theory (mid level theory generation is the purpose of interpretive synthesis) (Barbour and Barbour, 2003). Meta aggregation as a qualitative method of synthesis is one example of an interpretive method that does not seek to generate mid level theory. It is an interpretive approach to the development of practice theory rather than mid level theory. As such, its methods of synthesis are markedly different, yet distinctly interpretive. The distinction between the generation of different levels of theory is not well represented in the literature. Practice theory in relation to qualitative synthesis is poorly understood outside the aggregative method and the dominant focus on a rationale for synthesis is the generation of mid level theory. The word aggregation though, has been described as a 'tainted' term, one associated with quantitative methods and therefore in the interpretive paradigms one that is seen as less than, rather than different to, other interpretive methods (Dixon-Woods et al., 2006).

As with the papers by Harden (2004) and Dixon-woods (2006), very few qualitative synthesis papers look at paradigm beyond a general statement related to the 'interpretive' approach. In a paper evaluating the synthesis of qualitative research, the critical operational differences in methods, particularly the operational aspects of the methods in the protocol have been highlighted (Barbour and Barbour, 2003). However, as with other authors, their critical evaluation of qualitative synthesis fell short of delving in to a specific paradigm. What their paper contributed was that it raised the issue of how a researcher approaches a project – indicating that ones paradigm has more of a role in determining what methodological approach would be chosen than the question itself. Thus preference for methods guides selection of approach, rather than being guided by the question. One aspect of the comparative analysis described in the next chapter seeks to identify whether the review question (which has received large amounts of attention in the literature) is as significant a factor in the direction and results of qualitative synthesis as has been assumed previously. The methods chapter describes in detail the phases and processes for establishing baseline data (systematic review methods and findings) and in the second phase, for how these will be compared.

# Chapter 3: Methods

The aim of this study was to analyse and critique the methods and outcomes associated with the research question, "*What is the impact of choice of theoretical constructs, methodological frameworks or methods on the nature of the findings when undertaking a qualitative synthesis?*" The comparative technique reported involved a multi phase design where phase one included the identification of a high quality, published meta ethnographic review and the conduct of a comparable-comparator meta aggregative review. Phase two consisted of the comparison of the two reviews and each phase necessarily consisted of sections that assisted to clarify the steps and stages taken in the conduct and reporting of the research that formed the basis of this thesis.

## *Introduction*

A thesis with a qualitative focus usually has two chapters related to methods; these being the methodology chapter and then the more specific methods associated with the research. The methodology chapter is where a researcher situates themselves theoretically and gives a detailed report on which paradigm their research is situated in and the particular methodology it is based on. There is wide variation in how a methodology is interpreted and then applied as a research method in the qualitative domain, and further variation regarding how a research method is interpreted and applied to a question (Crotty, 1998). The researcher then must clearly articulate their interpretation and application in order to ensure the reader is aware of their decision-making and therefore the overall perspective informing their approach. A thesis with a quantitative focus tends to only have a methods chapter, as the assumptions regarding the positivist paradigm are well established. Quantitative methods all fit within the positivist paradigm and the objectivity associated with quantitative research belies the need to articulate ones paradigm or philosophical perspective and their influence on the research (although some would argue this is not the case, that argument is not relevant to the focus of this study).

This dissertation presents a single methods chapter. The work described is about qualitative methodologies, but is not based on a particular qualitative methodology. Nor is it quantitative in the traditional sense of developing experimental methods to objectively test a hypothesis. The chapter consists of several key sections, each of which reports on different phases of the research. The first section presents a technical overview of the two core methods for qualitative synthesis that are the focus of this inquiry, while the second section provides the detailed

description of the methods for phase one and the third section gives the detailed description of the methods for phase two of this study.

The background considered an extensive overview of the debates and points of conjecture related to both review methods, but did not provide detailed technical reporting of the methods; it compared both meta aggregation and meta ethnography against the generic process of systematic review. The specific technical processes associated with meta aggregation and meta ethnography are described here, then in the third section of this chapter, the methods by which these approaches were applied to synthesis are described in detail.

## *Technical Overview of Meta-aggregation*

It is important to situate this study within the correct context. Meta aggregation is not an approach to qualitative review that is universally understood and accepted to mean one particular methodology. While numerous authors have written about aggregation and aggregative methods, some have done so from a quantitative perspective, where aggregation represents the counting of frequency with which particular qualitative terms arise in the papers included in the review (Noyes, 2010). Other authors have suggested that aggregative reviews are a good fit with papers that have thin descriptions rather than interpretive papers with rich or thick thematic descriptions, leaving aggregative synthesis to papers with what has been described as 'clearly grounded findings' (Ring et al., 2010).

Meta aggregation in the context of this thesis is an approach developed by the Joanna Briggs Institute and utilised by the Joanna Briggs Collaboration. There is a particularity to the JBI approach, its development and the aims and purposes as conceived by the Institute that needs to be understood in order to provide the right frame of reference for the following sections of this dissertation.

The development of meta aggregation as an approach to qualitative synthesis began around 1998, lead by Pearson and including a wide array of health science professionals and academics (Jordan et al., 2006). The process commenced with a series of meetings of qualitative researchers and academics from around Australia to discuss the potential for developing a system to facilitate qualitative synthesis using a series of Delphi like meetings. Eventual consensus was reached on an approach and, subsequently, spawned a software system to facilitate an approach to qualitative synthesis analogous to the methods of

systematic review that had gained international acceptance across the Cochrane Collaboration and other agencies. The motivation for this development was to generate evidence for practice in a systematic, transparent and robust way to ensure the evidence represented the best available information to support and inform decision-making (Jordan et al., 2006). The term 'evidence', although traditionally associated with quantitative findings was expanded by the Institute to include empirical findings from any reliable primary research (quantitative or qualitative) and in the absence of empirical findings, discourse, text and opinion. This paradigm shift in acknowledging what constitutes evidence facilitated the development of aggregative qualitative synthesis and enhanced the ability to undertake reviews that asked complex questions that went beyond cause and effect type questions associated with quantitative reviews. The intent behind the aggregative methodology was always associated with the process of conducting a systematic review and that the findings arising from qualitative reviews would be used to inform practical decision making rather than seek to generate new theoretical understandings (Jordan et al., 2006).

For these reasons, the following description of methodology for meta aggregation is founded on the approach taken by the Joanna Briggs Institute and follows the process of synthesis as illustrated in the background.

## Review team composition and topic identification.

## Planning the review

Systematic reviews are a substantive undertaking and require pragmatic consideration of available resources. This includes not only how papers will be synthesised, with analytic method being only one of many points for consideration. Reviews involve human as well as technical and material resources and planning a meta aggregative review should include consideration of all three. Aggregative reviews in the health sciences can address a wide array of phenomena, therefore, reviewers need to identify whether particular clinical knowledge and expertise should be included in a team based approach. Although teams are not required in an aggregative approach, it is usual to have a minimum of two reviewers undertaking elements of the review process and conferring to review and agree on decision making points within the review process.

While systematic reviews generally require a minimum of two people, there is not always a formal requirement for those people to have undertaken training in the methods they are using. This is the case for example in Cochrane where there is no requirement for potential reviewers to have undertaken training. The Cochrane Qualitative Research Methods Group has convenors who conduct qualitative synthesis training in a range of methods for reviewers within and external to Cochrane who are interested in qualitative synthesis. However, the Joanna Briggs Institute has a formal requirement that the nominated Primary reviewer must have undertaken JBI training in the conduct of systematic reviews if the intention is for the review to be recognised formally by the Institute (The Joanna Briggs Institute, 2008). If no such intention has been considered, there is no requirement regarding training. However, the training does ground reviewers in the methodology and processes of qualitative synthesis using an aggregative approach and is useful preparation to facilitate shared understandings of key points of methodology between reviewers, particularly those aspects that require two reviewers to work independently, such as critical appraisal.

### Protocol design for aggregative reviews of qualitative evidence

## Title of Systematic Review Protocol

Although a range of mnemonics have been described for different types of review (and research) questions, a variation of the PICO mnemonic, as described in the background can also be used to construct a clear and meaningful title for an aggregative review. The PICo mnemonic incorporates the Population, the phenomena of Interest and the Context.

The title of the protocol should be sufficiently descriptive and reflect core elements of the PICo. If a phenomena of interest with specific cultural, geographic or other specific features is to be examined this should also be included in the title. This guides the reviewers in developing the criteria and when the review is published, creative titles might sound more interesting, but tend to be vague or misleading, making it harder for people to find the review report if it is published. The PICo mnemonic can provide potential readers with a significant amount of information about the focus, scope and applicability of a review to their information needs.

## Background

The background should describe and situate not only the phenomena of interest under review but also include the population and context. The background is not a traditional area of focus in systematic reviews, but in JBI reviews has always been considered an important component of the review for setting the scene by providing sufficient detail on each of the mnemonic elements to justify the conduct of the review and the choice of the various elements such as the phenomena of interest and specific population characteristics that the review seeks to focus on (The Joanna Briggs Institute, 2008). Given the capacity for qualitative reviews to address questions where complex or multifaceted interactions occur, it is considered important to detail all aspects of the experience and its parameters (The Joanna Briggs Institute, 2008).

## Question

The review question guides and directs the development of the specific review criteria and methods. Clarity and specificity in the review question assists in developing a protocol, facilitates more effective communication between reviewers and provides a structure for the development of the full review report. The review objectives must be stated in full. The question is followed by inclusion criteria that operationalise the review, describing what will be done and how it will be done (The Joanna Briggs Institute, 2008). This includes types of population characteristics that are deemed to be necessary and relevant in papers that are retrieved, study designs, the specifics of the phenomena of interest and the context. Since the inclusion criteria are the guidelines for how the review will be implemented, they also include the process for critical appraisal, data extraction and data synthesis and presentation.

Question development is not an arbitrary or ad hoc process, questions must not only meet an information need, they must reflect certain attributes. Questions need to be well thought out in terms of what information need is to be met and what elements will best respond to the information need. If the reviewers are not experts in the topic area and across the literature in that field then question development should be conducted in conjunction with a scoping review of relevant literature to identify whether a knowledge gap exists, what its characteristics are and what aspects of question development can be informed from the literature (The Joanna Briggs Institute, 2008).

## Criteria for considering studies for this review

### Population

The term population is used but not to imply that aspects of population pertinent to quantitative reviews (such as sampling methods, sample sizes or homogeneity) are either significant or appropriate in a qualitative review. Rather, appropriate description of the population of interest includes characteristics of relevance to the knowledge gap and what is known about the relevance of the phenomena of interest (The Joanna Briggs Institute, 2008). To illustrate, consider the phenomena of living with a colostomy. There are likely to be differing lived experiences for young women with Celiac Disease as compared with older adults with bowel cancer. Defining the population includes this level of consideration to fully inform the systematic investigation of the individual's experiences or meanings associated with the phenomena of interest.

### Phenomena of Interest

In the above example, the phenomenon of interest is young women's experiences in relation to living with a colostomy where those young women have Celiac Disease. The level of detail ascribed to the phenomena at this point in protocol development may vary with the nature or complexity of the topic. It may be clarified, expanded or revised as the protocol develops. Changes to elements of the protocol based on emerging learning from scoping of the literature, or discussions with experts in either methodology or topic are appropriate up to the point where the review is to be commenced.

### Context

Context in terms of inclusion criteria relates to a series of specific considerations. Context may include, but is not limited to, consideration of cultural factors such as geographic location, specific racial or gender based interests, detail about the setting such as acute care, primary health care, or the community as they relate to the experiences or meanings individuals or groups reported in studies. Context itself is a core principal associated with qualitative synthesis; the context is important because of the accepted association between the person and subjective truth of experiences of particular phenomena. In discussing the perspectives of positivism, constructivism and structuralism, particularly within a constructionist perspective, knowledge and therefore, meaning, itself, it is argued arises from the interaction between a

person and a phenomena of interest (Crotty, 1998). The context therefore is the nexus of where the individual and the phenomena of interest meet and guides the development of social meaning and is highly significant in terms of how the review informs readers.

**Outcome**

Within aggregative reviews, there is no explicit requirement to state a particular outcome (The Joanna Briggs Institute, 2008). The purpose of outcomes in quantitative reviews is to provide an objective indication of the intended results the review will look for. However, in an aggregative review, the phenomenon of interest encapsulates the outcome within the expression of the phenomena. The specifics of meaning or experience cannot be stated a-priori as these only emerge through the synthesis and, if expressed in general terms, they would essentially repeat the phenomena of interest. An outcome of interest may be stated (this may relate to, or describe the phenomena of interest), or this section may reasonably be left out of the protocol.

## Types of studies

The types of studies to be included will depend on the nature of the question. Qualitative reviews may have a particular paradigm of focus; they may be critical, interpretive, or combine both. An interpretive review would focus on papers that report on social meanings individuals apply to a phenomena of interest, while a critical review might explore issues of power or emancipation and a review that includes studies across paradigms would seek to bring these perspectives together. Aggregative reviews commonly include all forms of qualitative research; they may also include mixed methods papers and program evaluations, as well as other designs where there is a qualitative element within the primary study (TheJoannaBriggsInstitute, 2008).

## Search strategy

As discussed in the background, searching represents one of the more contentious areas of debate. The perspective on searching within aggregative systematic reviews is that international sources of evidence; even particular nuances of local context should be identified through rigorous and comprehensive searching. The protocol records the full and detailed strategy that will be used to identify all relevant research. This should include databases that

will be searched and the search terms that will be used. In addition to this, it should also specify what research methods/methodologies will be considered for inclusion in the review (eg. phenomenology, ethnography) and the years within which searching across databases extended back from the time of the search (TheJoannaBriggsInstitute, 2008). The search strategy is not only intended to be comprehensive, but also exhaustive in that identification of the widest possible pool of relevant papers is the goal.

Within aggregative systematic reviews the search strategy applied to electronic databases is described as a three-phase process beginning with the identification of initial key words, followed by analysis of the text words contained in the title and abstract and of the index terms used to describe relevant articles. The second phase is to construct database specific searches for each database included in the protocol and the third phase is to review the reference lists of all studies that are retrieved for appraisal to search for additional studies.

Additional search resources and processes for unpublished or grey literature and contact with experts as well as hand searching of specific relevant journals should also be clearly documented a-priori in an aggregative review. The search strategy should also describe any limitations to the scope of searching in terms of dates, resources accessed or languages. As was argued in the background, the validity of aggregative systematic reviews relies in part on access to an extensive range of sources including, but not limited to, electronic databases for literature searching.

## Assessment criteria

The purpose of comprehensive and exhaustive searching is to attempt to identify the broadest pool of relevant studies as is possible. Aggregative reviews then focus on ensuring the process for study selection to include in the review is transparent, auditable and based on criteria that readers of the review can verify. The questions and debates regarding validity have been raised and investigated in the background chapter. An aggregative review using the JBI approach bases study selection on the decisions two reviewers make and attempts to increase the level of transparency through use of an explicit checklist focused on assessing papers internal validity. The appropriateness of the checklist for determining internal validity was explored in the background section. The checklist is a 10 item list and reviewers must discuss and document a-priori how the items will be applied, whether cut off scores will be used, or whether particular items will be weighted more highly than others. Thus the checklist is not an

arbitrary surrogate decision maker, but it does provide a transparent indicator of the decision making process.

As discussed in the background, critical appraisal is a contended aspect of the review process. While aggregative reviews include critical appraisal, the process, items in the checklist and terminology are based on concepts and language that are sensitive to the tenets of critical and interpretive research. Thus while appraisal in general is often described as facilitating the objective assessment of internal and external validity, in an aggregative review, appraisal facilitates reviewer assessment of dependability (reliability) and credibility (internal consistency).

Critical appraisal in JBI aggregative reviews consists of ten questions that focus on:

- Congruity between philosophical position adopted in the study, study methodology, study methods, representation of the data and the interpretation of the results;
- the degree to which the biases of the researcher are made explicit; and
- the relationship between what the participants are reported to have said and the conclusions drawn in analysis.

These elements relate to:

- Congruity between philosophical position adopted in the study, study methodology, study methods, representation of the data and the interpretation of the results;

In terms of congruity between the philosophical perspective and research methodology, while not all qualitative papers explicitly describe a particular philosophical position, it is possible to discern or infer whether the authors have adopted a constructivist approach or otherwise. The reviewer then considers whether (or the degree to which) the philosophic perspective and methodology are an appropriate match.

Similarly, as with the other elements of the appraisal instrument, the reviewer is seeking to establish whether or not the study showed internal consistency; whether or not the methodology and method (approach to data collection) were dependable and credible and, to a lesser degree, whether or not the findings were transferable (external validity) (Hannes et al., 2010).

- There is a statement locating the researcher culturally or theoretically.

This statement reflects the nature of qualitative research, where rather than the objective assessment of truth practiced in positivism, the researcher is engaged with the researched. This is not a limitation in qualitative research, it enriches the resultant knowledge by bringing in to the findings and conclusions elements of the researcher's cultural or theoretical perspective. This though needs to be stated in the research report for transparency.

- The influence of the researcher on the research, and vice-versa, is addressed.

Influence is an extension of one's cultural or philosophical perspective. Given this influence is expected, this criteria is used to establish whether or not the researcher has acknowledged their role and how their beliefs and perspectives influenced the research.

- Participants and their voices are adequately represented.

This criterion concerns the relationship between the findings reported and the views or words of study participants (The Joanna Briggs Institute, 2008). This is an important question from the perspective of an aggregative review as aggregative reviews seek to summarise and synthesise, rather than reinterpret. Publication in mainstream hardcopy journals includes word limits that often create challenges for qualitative researchers seeking to clearly document their methodology, methods and results. As the results are interpretations of lived experiences of particular people, it is important that the authenticity of their accounts can be verified and this is best done by examining whether or not the participants voices are included and representative of the reported themes.

- The research is ethical according to current criteria or, for recent studies, there is evidence of ethical approval by an appropriate body.

The nature of qualitative research is to deeply engage with individuals or groups in seeking to elucidate their experiences. No qualitative research should be spurious and ethical approval is indicative of potential benefit that supports the conduct of the research.

- Conclusions drawn in the research report do appear to flow from the analysis, or interpretation, of the data.

In an aggregative review one wants to ensure there is congruity between the conclusions and the data in order to verify the authenticity of the researchers findings. In appraising a paper appraisers seek to satisfy themselves that the conclusions drawn by the research are based on the data collected; rather than representing extrapolations by the investigators leading the study.

Critical appraisal is formally recognised as an important and integral part of the validity and scientific rigour of systematic reviews using the aggregative approach. The aggregative approach rests on both the need for standardisation of process to facilitate quality monitoring and the view that evidence to inform health care practice should be subject to critique of its reliability and congruency. This requires reviewers to make decisions regarding at what point a study is considered appropriate for inclusion, or whether it should be excluded; however, the specifics of this decision making process rest with the reviewers and may vary between reviews depending on the nature of the topic, focus of the review, or theoretical perspective of the review authors.

## Data extraction

Data extraction in the literature is focused on text as data, what constitutes relevant data and the processes used to identify and extract it. Meta aggregation relies upon a two-phase process for data extraction. The first phase is a general extraction of the particulars of the citation, the specifics of the methodology and methods, the settings of the study and the phenomena of interest studied. It also includes the cultural and geographic context and general demographic data of the participants, the methods of data analysis, the authors' conclusions regarding their findings and may include comments by the reviewer on aspects of the study or its findings.

The second phase is the extraction of the findings of each individual paper. Findings in meta aggregation are defined as the themes and metaphors created by the authors of the included primary research studies. These are distinct from the background sections of primary studies and also distinguished from the conclusions authors may have drawn. While the literature debates what constitutes data, what approaches should be applied and even in which sequence studies should be read and extracted (a significant issue for interpretive reviews where saturation is sought) JBI meta aggregative reviews take a comprehensive approach to the literature, hence reviewers are expected to extract findings from all included papers.

The two-phase process ensures that the context specific nature of the research is not lost as might occur in extraction where only the findings relevant to the question were extracted. Once the themes (findings) have been extracted, categorisation is undertaken and once categorisation is complete, one or more synthesised findings are developed. The three steps occur in a linear process where the prior step is completed before the subsequent step is commenced. This is a fundamental distinction between aggregative reviews (guided by the a-priori question and protocol) and more interpretive approaches where one is guided by themes as they emerge and may revisit papers to further extract additional textual data and follow newly developing lines of theory emerging from the analysis.

As described above, the findings that are extracted are the themes or metaphors developed by the primary research authors through their analysis of the data emerging from their research methods. Although a hierarchy of evidence is not relevant to qualitative studies (particularly a hierarchy based on risk of bias as is the normal expectation of a quantitative hierarchy), findings in qualitative or mixed methods research can represent the expressed experiences of the participants to varying degrees. In an aggregative review, as undertaken through the Joanna Briggs Institute, there is the ability to indicate the degree of interpretation associated with each individual finding that is extracted. The Institutes Handbook defines these levels of credibility as three tiers of trustworthiness associated with the degree to which the findings represent the data:(TheJoannaBriggsInstitute, 2008)

- Unequivocal – where the findings are well supported by participant quotes or extracts that leave no room for doubt that the finding is directly observed or reported and subsequently not open to challenge as to whether the theme or metaphor has arisen from the data.
- Credible – where findings are reasonably aligned with the participant's reported experiences, but where some interpretation by the research author is evident. Credible findings are described as including logical interpretations and may be subject to challenge as to the degree that they represent the voices of the research participants.
- Unsupported – is used to describe findings where, as the review author, one is unable to identify a textual connection between the research authors findings and the expressed experiences of the research participants.

The auditability of how findings are graded is enhanced by the requirement that each finding be accompanied by a direct quote from a participant recorded in the paper that informs the particular finding. Thus readers of the review are able to identify findings that are considered most robust, or credible and assess the decision for themselves, rather than relying on the interpretive expertise of the qualitative review author. Unsupported findings are considered, therefore, to only reflect the author's perspectives and while they are extracted, in an aggregative review, such findings are not included in subsequent steps of the synthesis. The labelling of findings is a form of measurement that gives an indication of the degree of authenticity of the research papers' findings; where authenticity is not related to the reviewers interpretation, but to the degree of reliability of the representation of the findings in the primary research included in the synthesis. The process to identify all findings and determine their level of credibility often requires review authors to read and re-read each paper multiple times. However, this is not iterative in the sense that ethnographic reviews are iterative. The goal in an aggregative review is to extract all relevant findings from each paper. This tends to be undertaken in a sequential fashion as there is no implication related to which paper to start with in a review that does not seek thematic saturation.

## Data synthesis

The extraction and grading of findings (unequivocal, credible or not supported) is conducted concurrently, hence the second phase of extraction is also the first phase of the synthesis.

The second phase of the synthesis is categorisation. The protocol describes a process whereby findings are identified and extracted, then combined based on similarity in meaning. There is no particular designation for the term 'similarity in meaning', therefore the review authors can apply their understanding and interpretive expertise and experience to the process of categorisation. The primary guidance in relation to categorisation is that all credible or unequivocal findings be included, none that are unsupported be included and no single finding should constitute a single category (The Joanna Briggs Institute, 2008).

The purpose of this guidance is not to restrict reviewers to particular interpretations, but to ensure that they are based on evidence that has arisen from the data rather than abstractions from the researcher; or alternate data from published papers, such as the authors conclusions, or opinions where the participants voices can not be recognised.

To create categories the reviewer reads and re-reads through all the findings and creates a statement that is inclusive of two or more findings, while retaining the core underlying meanings of each finding that is subsumed into the category (TheJoannaBriggsInstitute, 2008). Similar to the way in which findings are accompanied by a participant quote, or other textual support, categories have a supporting textual description. At this level of analysis the description is developed by the review author, not extracted from the paper, and may be either an explanation, or an enhancement of the category.

Creating synthesised findings is the third step in the synthesis process for an aggregative review. At its most basic level, a synthesised finding is a statement that encompasses two or more categories. However, this basic description does not do adequate justice to the hidden complexity of working with words as data to craft aggregative synthesised findings from potentially diverse categories. This is a process dependent on the skills, expertise and insightfulness of the reviewer. By this stage they should be intimately aware of the themes and metaphors that were extracted from the paper and how they relate to the categories. Synthesised findings do not seek to establish new theoretical constructs, they are derived from the evidence with the express purpose of informing best practice. As such, a synthesised finding will not only encompass the meanings and intent of the included categories, it will be structured in such a way as to provide guidance for decision making relevant to the review question. It is the synthesised findings that provide the transferability in an aggregative synthesis.

## Developing recommendations

The purpose of reviews conducted through the Joanna Briggs Institute using the aggregative approach is to make qualitative evidence (that is both credible and dependable) accessible in practice. Thus an aggregative review is not complete when the synthesis is complete. The synthesised findings need to be developed into a series of recommendations for practice. The strength of recommendations arsing from an aggregative review is that they represent the primary data (i.e. literature, rather than the nuances of belief or preferences associated with an interpretive approach). To facilitate clear communication regarding the credibility and dependability of recommendations, each is given a grade of recommendation based on the nature of the evidence they have been developed from.

NOTE:
This table is included on page 58 of the print copy of the thesis held in the University of Adelaide Library.

Table 1: The JBI Grades of Recommendations

## *Technical Overview of Meta ethnography*

While it can be seen that the development of meta aggregation was explicitly a qualitative conceptualisation of the process for systematically reviewing and summarising evidence, meta ethnography has distinctly different origins. The method was developed as a form of thematic synthesis for a limited set of ethnographic research papers and the remit for its development was to explore new theoretical understandings of a particular cultural context. Certainly the approach has become increasingly aligned with systematic review methodology over time. However, perhaps because of its alternate origins, it has a differing structure and, conceptually alignment with the principals and processes of systematic review are less clear and more contested.

This section follows the structure of meta ethnography as developed by Nobilt and Hare (1988), rather than attempting to fit the approach into the systematic review methodology. As seen in the background section, most of the debates regarding understandings of systematic review methods are in relation to meta ethnography. As yet there is no consensus on the degree to which it should align with review methods as compared with primary qualitative research methods. While numerous reviews have been published using an ethnographic approach, they are variable in terms of the actual methods used.

Conceptually, Noblit and Hare (1988) forwarded particular views of meta ethnography. While the term meta ethnography may create the sense of identification with meta analysis as developed by Glass (Glass, 1976) the authors highlighted that the intent to synthesise empirical studies was the only similarity. The first assertion was that meta ethnography was developed as a technique for creating new interpretations from secondary data (Noblit and Hare, 1988). The second assertion foundational to meta ethnography was the emphasis on constructing interpretations rather than technical analyses. The authors related "technical interest" to Habermas' conceptualisations of domains of human interest (where technical knowledge is seen as related to instrumental action, knowledge directed by rules and associated with empirical investigation regarding what should or should not be done (accessed online Dec 22, 2010, http://physicsed.buffalostate.edu/danowner/habcritthy.html)). Thus it can be concluded that the authors were focused on authenticity and interpretivism rather than explicating a process for aggregation of knowledge (Noblit and Hare, 1988). While the authors have grounded their approach in interpretivism, the stimulus and development arose from a policy need and was grounded in the traditions of the social sciences (both Noblit and Hare are social scientists).

The historic development of meta ethnography arose from policy changes in the United States of America that led to "mixed" or desegregated, interracial schools. A series of schools had been purposively selected, on the basis of being good examples of desegregation for participation in a series of ethnographic studies. These studies sought to better understand the political and social dynamics of desegregation, and how schools considered successful examples adapt and deal with all aspects of school life. The resulting studies did not provide the level of insight needed by the funding agency, who then sought a method by which the disparate findings could be brought together, hopefully providing a clearer and more meaningful result than could be achieved from four separate studies.

These foundational insights are what underpin the methodology of meta ethnography. While the following description can be understood from a process driven perspective the authors, in their text, were keen to highlight that the contribution to knowledge "…is essentially interpretive rather than methodological."(Noblit and Hare, 1988). The intent in focusing on interpretation rather than technical or methodological process was to avoid shifting in thinking away from a focus on understanding interpretations and emic, holistic descriptions.

The first step described in the process is the identification of an interest that might be amendable to further qualitative investigation. Cues as to what constitute an interest include exploring phenomena within their context, exploring 'how' or 'why' type questions. The parallels with the tenets of critical and interpretive research are clearly embedded in these origins for meta ethnographic inquiry.

The second phase - that might be seen as analogous with searching in an aggregative review - is to determine what is relevant to the synthesis. The target audience of the completed synthesis (Noblit and Hare, 1988), it is argued, determines relevance; not an a-priori comprehensive and rigorous identification of the body of literature relevant to the topic. The interpretive approach is thus about ensuring the synthesis represents the requests or requirements of the requesting agency, rather than to be representative of the literature. The authors highlight that comprehensive and exhaustive searching would require justification before it should be applied to meta ethnography (Noblit and Hare, 1988). Comprehensive and exhaustive searching, it is asserted, is associated with generalisations such as those arising from meta analysis. Indeed, the authors suggest exhaustive searching would allow generalisations, but that unless there were strong reasons for doing so, these would produce "trite results" (pg 28) (Noblit and Hare, 1988). The authors further highlight that the focus of meta ethnography is on translations of one study into another rather than on developing generalisations from aggregation of literature. Such generalisations, it was posited, would be unacceptable to an interpretive researcher, although it needs to be noted that these assumptions were not based on any investigative reasoning. The distinctions between a generalisation as an aggregation of concepts (that would be unacceptable) and a generalisation arising from interpretation of the synthesis (that is acceptable) are not clearly delineated, defined or explained. This reflects the authors' desire to focus on interpretation rather than technical knowledge, but is somewhat confusing as the concept 'translation' in Noblit and Hares work is the translation of one study into another; not the translation of findings from one population to another, the second being the a common understanding of translation associated with qualitative synthesis, the former being a step in the process of synthesis in meta ethnographic reviews.

The third phase in meta ethnography is to read the studies that have been decided upon. Very little information is provided on the reading of studies. It is described as a careful, often iterative process that occurs in conjunction with planning the synthesis (Noblit and Hare, 1988). Noblit

and Hare (1988) suggest notational reading, where the reviewers record the interpretive metaphors as they read, giving particular attention to the details of each account. This phase may require repeat reading of papers. However, where to start, what process to use and how these decisions may influence the synthesis are unclear.

The notational reading in phase three becomes the basis of phase four that is to determine how the studies are related. This may be decided by sorting papers into groups, but it is up to the review team to establish which groups and on what basis. Once this has been decided, phase five (translating the studies in to each other) is pursued. Phase five follows the considerations of how the studies relate in phase four and therefore the relationship between studies may take one of three forms of synthesis:

1. Reciprocal translations occur where one ethnographic study is broadly similar to another and each case can be translated into a similar case. Specifically Noblit and Hare are talking about the themes and metaphors from one study being iteratively translated into the themes and metaphors of another similar study, a process that continues until all similar themes and metaphors have been reciprocally translated. The complexity, and hence the need for expertise in this process, is in determining which metaphors from which study best represent the core interest of the overall topic, or the end users information needs. The core requirement being that the studies can be added together, i.e. metaphors from one study can be incorporated into another study rather than requiring the development of new metaphors that take a new direction, or that do not readily encompass one another (Noblit and Hare, 1988).
2. The second approach is referred to as refutational translation. This applies to cases that cannot be brought together as the themes and concepts from the one paper are incongruent with the other paper. The findings therefore represent a form of rebuttal or critique directed at the findings of the other paper. Refutational cases, it is asserted, are characterised by metaphors that are divergent or non reciprocal and hence cannot be translated into one another (Noblit and Hare, 1988). The authors spend considerable time exploring the nature of explicit and implicit refutations and their broader meaning in a social context. How this actually becomes a part of the review is less than clear as the examples given are limited. The process and ideology seems strangely incongruent with the interpretive paradigm where multiple realities are expected, accepted and not seen to be in competition with one another. The point of

difference in one example is based on perspectives of differing populations. Two researchers who had published research using an ethnographic approach (one to study a group of students, the other to study a group of teachers) examined each others work, and disagreed, not with the accounts in each others work, but with the interpretations presented arising from each others work. However, this level of distinction does not persist, with a subsequent example being two papers, one on childhood in Samoa, and one on childhood in the United States of America (Noblit and Hare, 1988). Why such disparate papers were brought together is unclear and seemingly at odds with their view regarding generalisations. A study involving a larger sample than two papers, chosen deliberately to illustrate refutations, might change the perception of non reciprocal concepts by expanding the pool of available concepts. It may also be interesting to explore whether it relates to papers as a whole, to specific themes or metaphors within papers, or both, but that is outside the scope of this thesis.

3. The third form of synthesis available to the reviewer using a meta ethnographic approach is known as 'line of argument' synthesis. It is described as an inferential, or theory generating process, that asks what can be extrapolated about the whole of a phenomena by what has become known about its parts. The authors suggest that this can be considered analogous with grounded theory. A wide range of descriptors are said to characterise line of argument synthesis, including that it is emic, it is structured according to linear time frames as a reference point, it is comparative and all encompassing of all included studies, how they relate and the specific context associated with the inter-relation between the studies. Line of argument synthesis can follow either an inferential approach (described above), or a constant comparative approach (analogous with grounded theory) (Noblit and Hare, 1988).

Phase five, as described above, represents second order translation It is the emic, interpretive process whereby identified concepts are translated into one another. Phase six represents a higher order synthesis than the translation of one like concept into another. Synthesis of translations is a third level of synthesis where the existing translations are able to be interpretively brought together in a new way that redefines what the differing translations say. The translations themselves are anchored to the themes and concepts in the papers. This sixth phase is the process by which a "line of argument synthesis" as described above is developed (Noblit and Hare, 1988). This description though possibly belies the complexity of interpretive synthesis and more needs to be written on this element of the synthesis.

The final phase is described as expression of the synthesis. Noblit and Hare (1988) posit that this can be performed with written words, poetry, acting, video, or music. Indeed they suggest the intended audience of the synthesis be involved in the creation of symbolic forms of expression of the synthesis (Noblit and Hare, 1988).

Translation is at the heart of meta ethnography. The phases as described here are not considered to be linear, process based steps, but iterative explorations that seek to develop explanatory social theory. It is apparent that the originators were more interested in developing theory than defining the process. This is evident in the lack of detail in the process, a position considered an important attribute that avoids mechanistic development of technical knowledge (Noblit and Hare, 1988). Translation includes not only themes and metaphors that are likely to have arisen from the primary ethnographic synthesis, but also terms that are not well defined such as “organisers” and “concepts”. This clearly allows substantive creative freedom in the synthesis and indicates that meta ethnographic synthesis is less concerned with being anchored to the research participants experiences than it is with facilitating new thematic developments.

### *Phase one methods*

In phase one of this study, the core processes were to identify a high quality meta ethnographic review and replicate the criteria through an aggregative review. This description belies the complexity involved where there is no existing consensus regarding what constitutes ‘quality’ in qualitative synthesis and where opinions on fundamental questions of what constitutes a ‘qualitative’ synthesis are also divided. As discussed in the background, opinions vary widely depending on where one situates themselves in relation to interpretivism, with some suggesting the methods of systematic review should be maintained, while others suggest primary qualitative methods (such as saturation) be applied in lieu of accepted ‘quantitative’ standards. Despite these discussions and debates, more qualitative syntheses in the health sciences are conducted using the framework of systematic review than are not, although the degree of adherence to the systematic review method does indeed vary. The background also illustrated this variance between the discourse and the practice of qualitative synthesis.

Establishing quality is far more challenging and less associated with conventions than within the positivist paradigm. An additional challenge in identifying a meta ethnographic review for this study was that quality needed to be established without a close reading of the full review.

This was important in order to avoid undue influence of the findings from the meta ethnography when conducting the meta aggregation. Ideally, there would be some general consensus in the qualitative review community that the selected ethnographic review was a high quality review, although given the disparate opinions, it is not likely that the whole of the community would agree on one review or its particular interpretation as reflecting their perception of quality. The issues that needed to be addressed were how to 'blind' myself to the findings of the ethnographic review, how to define quality, extract the inclusion criteria, identify gaps in the criteria and methods and respond to those gaps without further reading of the ethnographic review.

Blinding myself to the findings of the ethnographic review was a core concern. Interpretive research cannot be undertaken objectively in a way that distances the researcher from the researched. Hence exposure to the findings and conclusions of the ethnographic review would have raised significant questions about the independence of the aggregative review and the degree of influence on how the aggregative synthesis unfolded. This would have nullified the intent to compare not only the process but also the findings for each method of review. Therefore, once potential reviews were identified, no further reading of the review was undertaken until some assessment of quality could be established. In particular I explicitly avoided close reading of the findings, discussion or conclusions. This was not problematic as increasing numbers of qualitative reviews are published with clear outlines delineating the different sections of the report, enabling a reading of the inclusion criteria without crossing over in to the findings, discussion and conclusions of the report.

Although the Joanna Briggs Institute has an appraisal instrument that evaluates the quality of primary qualitative research there is no accepted instrument that performs a similar task for qualitative reviews. In the absence of accepted standards for quality; consensus was adopted as the guiding principal for deciding which meta ethnographic review to use as the basis of the study. Being a convenor in the Cochrane Qualitative Research Methods Group, as well as having an ongoing role in the teaching and conduct of qualitative reviews for the Joanna Briggs Institute facilitated the identification of relevant reviews and deciding which review to use. The primary filter applied to selection was that it needed to be based in the health sciences, not the social sciences. In terms of consensus regarding quality, I relied upon the opinions of the CQRMG rather than input from JBI or its collaboration. The CQRMG convenors are largely based in the UK and Europe, [the group has existed since the early 2000's] and is reasonably

"across" the literature on qualitative synthesis. While the group has been developing guidance for Cochrane reviews to include qualitative findings, one particular meta ethnographic review has been used in workshops and referenced in the group's ongoing work. That review was therefore selected purposively for this comparative study. Its selection may engender some criticism from interpretivists who disagree with qualitative synthesis itself, or with synthesis having a resemblance to quantitative review processes. However, within the CQRMG and wider health science literature, this review has been cited, discussed and utilised as an exemplar of meta ethnographic reviews and this was considered a reasonable basis for selecting it for this particular study.

The next step in the process was to extract the review question and inclusion criteria as these are what operationalise the review. The published review was one of two core papers by the review author's; the second was a companion paper discussing the challenges associated with differing phases of the review and the approach taken throughout. Careful reading of these two papers identified both the review question and the inclusion criteria. The inclusion criteria consisted of the phenomena of interest, the population, the types of studies and the context (although the PICo mnemonic described in the background chapter of this thesis was not used in the ethnographic review). There were gaps in the published data with regard to both the inclusion criteria and methods and the section on search terms was ambiguous and unclear. These gaps were addressed by contacting one of the authors, explaining the research project and seeking further information. There was no clear question, rather the review had a stated aim, that was to '*understand the factors considered important by patients, caregivers and health care providers in contributing to TB medication adherence*' (Atkins S., 2010, Munro et al., 2007).

With these criteria and the aim extracted, a meta aggregative review was undertaken, using the criteria of the meta ethnographic review and applying them within the framework of meta aggregation.

The methods for meta ethnography are particularly different to those of meta aggregation. Although the methods have been extracted and reported in this section of the thesis, this was done after the meta aggregative review was completed. The rationale for splitting the timing of extraction of criteria and methods was that meta ethnography is an iterative process whereby the different stages of the review may be conducted simultaneously with the development of findings. As stated previously, the core issue was to avoid undue influence from the findings of

the meta ethnographic review prior to the conduct of the aggregative review. This was achieved by avoiding reading the findings, discussions or conclusions of the ethnographic review and by avoiding reading papers that used the findings of the review.

In summary, the steps undertaken in this section of phase one were to identify an ethnographic review, establish its quality and congruency with meta ethnographic methods and identify the question or objectives and inclusion criteria. These were then confirmed with a member of the original review team and replicated in an aggregative review while avoiding exposure to the findings of the ethnographic review.

### Meta Ethnographic Methods

The following outlines the methods of the selected meta ethnographic review. The phases of meta ethnography have been used as sub headings to clearly illustrate the degree to which this review "adhered" to the meta ethnographic approach. The relevant analogous terms from systematic review methodology have also been included in brackets to show the degree of fit with review methods.

## Getting started, identifying the interest (Aim / Review Title)

The aim of this systematic review of qualitative studies was to understand the factors considered important by patients, caregivers and health care providers in contributing to TB medication adherence. Two phases to this step, that of defining the focus of the review, then locating relevant studies were undertaken (Atkins S., 2010, Munro et al., 2007). For the focus, the authors determined that papers would need to report on use of a qualitative methodology (although qualitative itself was not defined) and the phenomenon of interest reported in studies be specific to informing adherence, concordance or compliance with Directly Observed Shortcourse Therapy (DOTS) therapy.

## Deciding what is relevant to the interest (Inclusion Criteria, Searching and Appraisal)

The review focused on qualitative findings that would inform the design of interventions to improve adherence to TB treatment across a range of settings. The inclusion criteria required the identification of explicitly qualitative research methods in papers that addressed adherence

to curative or prophylactic TB treatment and described adherence from the perspective of patients, caregivers or other stakeholders.

Population:

Health care workers, patients or care givers working across a range of settings in any country

Intervention/interest:

The experience of Directly Observed Therapy as it related to potential barriers and/or facilitators of adherence to therapy.

Types of studies

Studies from any health discipline, or theoretical tradition from the critical or interpretive paradigms were included. Mixed methods studies that included a qualitative component were also included. Studies must have addressed adherence or non-adherence associated with preventative or curative TB treatment via Directly Observed Therapy, or self administered therapy. Published and unpublished studies in the English language were sought. Time and funding did not permit the inclusion of non English language papers.

Databases searched included:

- PsycINFO 1972- Feb 2005
- ERIC 1966- Feb 2005
- Academic Search Premier 1965- - Feb 2005
- Health Source: Nursing/Academic 1985- - Feb 2005
- ScienceDirect 1964-- Feb 2005
- Social Science full text 1983-- Feb 2005
- Social science citation expanded, social science citation index, arts and humanities citation index 1975-- Feb 2005
- Medline 1966-- Feb 2005
- CINAHL 1982-- Feb 2005
- Pre-CINAHL Current -- Feb 2005
- EMBASE 1966-- Feb 2005
- PapersFirst 1993-- Feb 2005

- Pubmed-- Feb 2005

The search for unpublished studies included:

- Dissertation abstracts 189-- Feb 2005
- Sociological abstracts, social services abstracts, PAIS international 1963-, 1972-, 1980- 17

Initial Key Words included:

Tuberculosis AND (adherence OR concordance OR compliance)

This phase (deciding what is relevant to the interest) consisted of four components. The inclusion criteria as described above, determining the search strategies (also described above) followed by study selection and appraisal of identified studies. The paper did not describe these as separate steps and in practicality, study selection commences during searching (i.e. only citations considered to have relevance to the review question and criteria are collected for closer screening).

In this meta ethnographic review, searching identified 7814 papers, and based on title and abstract, 2162 citations were collected for closer reading. From these citations, 626 full papers were retrieved and of these 66 were considered for inclusion, the rest being considered to not meet the inclusion criteria. Abstracts or full copy of the remaining papers were again screened and a further 19 papers were excluded, leaving 47 papers to be considered for inclusion. Inclusion was based on consensus of two reviewers, with 44 papers being included at the final count (included citations listed in Appendix I).

Quality assessment, or critical appraisal, although considered contentious was undertaken in this review using a modification of an existing instrument. The process as described in a parallel paper was undertaken to facilitate understanding of the strengths and weaknesses of individual papers rather than as a basis for inclusion or exclusion from the analysis. The authors argued against excluding papers based on appraisal when there was no clear consensus on what the determinants of quality are in meta ethnographic reviews (Atkins S., 2010, Munro et al., 2007).

## Reading the studies

In meta ethnographic reviews, reading and extraction are often described as iterative activities, although this is also the routine experience of aggregative qualitative reviews and, indeed, often reviews of quantitative papers where there is a need to confirm data, double check demographic characteristics and scrutinise reported results. Thus although the process based description may be described in a series of linear steps, the practice may vary without causing undue risk to methodological integrity of the review process. In this particular meta ethnographic review, reading the studies consisted of becoming familiar with the context and details of each study and the identification and extraction of themes and metaphors. Extraction was undertaken using a standardised form that included the methods, quality, ethical procedures, as well as the themes and context of each paper. Data extraction was cross checked by four authors and found to be congruent. Extraction of themes was not based on identification of direct quotes from research participants or the study authors. Instead the review authors decided to summarise, hence what was extracted was the review authors interpretive perspective on what the individual studies contained.

## Determining how the studies relate

Reading the studies should give reviewers a good grounding in the overall nature and direction of the literature and facilitate this step of determining how the studies relate to each other. In particular, this process is based on the identification of themes (themes are also referred to as constructs). Meta ethnography includes first order themes (voices and descriptions from research participants) and second order themes (the voice and descriptions of the researcher/author); third order themes are developed by the reviewer as part of the meta ethnographic analysis.

The authors developed a table that displayed the themes (first and second order constructs) across all included studies and was used to condense themes into a smaller and more manageable number of categories. The authors reported that iterative thematic development (translating studies in to each other as they are read) was not possible due to the large number of papers and the disparate nature of the themes identified in the primary studies. This process was somewhat unclear in that the primary paper reporting the review methods and results suggested the categories were developed from first order themes separately to second

order themes (Munro et al., 2007) while the supporting paper suggests all themes were identified and concurrently categorised (Atkins S., 2010).

## Translating the studies in to each other

Translation, as described in section one of the methods and background chapters, can be reciprocal or refutational. In this review examination of the themes suggested reciprocal translation. This was achieved by arranging papers chronologically, then iteratively comparing and condensing categories from the second paper into those of the first, paper, then those of the third paper into the categories from the first two. This cycle was repeated until all categories had been translated in to each other. To validate the process, translation was undertaken independently by two authors (Munro et al., 2007).

## Synthesising the translations

Translation was undertaken based on the tables of first and second order themes and the categorisation that the authors had developed as a translation of the primary studies from the step 'determining how the studies relate'. Each member of the review team independently developed a synthesis by looking for linkages between the primary studies data in order to develop a framework of translations and interpretations (Munro et al., 2007). These frameworks or models were then jointly discussed and [It is interesting to note that wide variation was found between the models generated from different team members based on professional perspectives and paradigm] merged to form hypotheses that would inform the developing 'line-of-argument' synthesis.

## Expressing the synthesis

Expression of the synthesis in this review was based upon dissemination of both the hypotheses and the model that had been generated. These were developed in diagrammatic form and published in journals as well as via conference proceedings and presentations.

## Meta Aggregation Methods

## Review title

The factors considered important by patients, caregivers and health care providers in contributing to TB medication adherence: a meta aggregative review

## Review question/objective

What are the barriers and facilitators to TB medication adherence as experienced by patients, carers and health care workers?

## Inclusion criteria

## Types of participants

The participants of interest to this review included adults who were either health care workers, patients or care givers across the range of health care delivery settings in any country.

## Types of intervention(s)/phenomena of interest

The phenomena of interest was the experience of DOTS (Directly Observed Treatment Short course) therapy, particularly from the perspective of adherence or non adherence. This interest may have been reported from the perspective of the health professional, health care worker or patient.

## Types of studies

Studies from any health discipline, or theoretical tradition from the critical or interpretive paradigms were included. Mixed methods studies that included a qualitative component were also included. Studies must have addressed adherence or non-adherence associated with preventative or curative TB treatment via Directly Observed Therapy, or self administered therapy.

Published and unpublished studies in the English language only were sought. Time and funding did not permit the inclusion of non English language papers.

## Search strategy

The search strategy aimed to find both published and unpublished studies. A three-step search strategy was utilised in each component of this review. An initial limited search of MEDLINE and CINAHL were undertaken followed by analysis of the text words contained in the title and abstract, and of the index terms used to describe article. A second search using all identified keywords and index terms was then undertaken across all included databases. Thirdly, the reference list of all identified reports and articles were searched for additional studies. The databases to be searched included:

- PsycINFO 1972- Dec 2010
- ERIC 1966- Dec 2010
- Academic Search Premier 1965- - Dec 2010
- Health Source: Nursing/Academic 1985- - Dec 2010
- ScienceDirect 1964-- Dec 2010
- Social Science full text 1983-- Dec 2010
- Social science citation expanded, social science citation index, arts and humanities citation index 1975-- Dec 2010
- Medline 1966-- Dec 2010
- CINAHL 1982-- Dec 2010
- Pre-CINAHL Current - Dec 2010
- EMBASE 1966-- Dec 2010
- PapersFirst 1993-- Dec 2010
- Pubmed-- Dec 2010

The search for unpublished studies included:

- Dissertation abstracts 189-- Dec 2010
- Sociological abstracts, social services abstracts, PAIS international 1963-, 1972-, 1980- 17

Initial keywords to be used were:

- Tuberculosis AND (adherence OR concordance OR compliance)

The search strategy identified 13554 citations across all included databases for the time periods indicated in the search strategy. Each citation and, where available, the abstract was read and compared with the inclusion criteria for the review. Where it was not possible to determine a citations relevance, the details were retrieved and full papers obtained for closer reading. The following table indicates the breakdown of numbers of studies identified per database, and the number of citations retrieved for further consideration.

| Data base and dates | Results | Retrieved |
|---|---|---|
| PsycINFO 1972- Dec 2010 | 121 references | 43 |
| ERIC 1966- Dec 2010 | 9 – Boolean<br>150 "tuberculosis" | 0<br>4 |
| Academic Search Premier 1965- - Dec 2010 | 473 references | 40 |
| Health Source: Nursing/Academic 1985- - Dec 2010 | 194 references | 0 – lots of duplicates from other databases though |
| ScienceDirect 1964-- Dec 2010 | 14501 results, first 1000 searchable. Then filtered to ti, ab, mesh 400 (1400 searched) | 19 from first 1000 and 6 from 400 after filtering to title, key word, abstract |
| Social Science full text 1983-- Dec 2010 | 308 references | 2 – both duplicates |
| Social science citation expanded, social science citation index, arts and humanities citation index 1975- - Dec 2010 | 1619 references | 14 |
| Medline 1966-- Dec 2010 | 2,620 references | 59 |
| CINAHL 1982-- Dec 2010 | 610 references | 18 |
| Pre-CINAHL Current - Dec 2010 | Included with Cinahl search | |
| Dissertation abstracts 189-- Dec 2010 | 168 documents found, 1, 43, 72, 86, | 4 |
| Sociological abstracts, social services abstracts, PAIS international 1963-, 1972-, 1980- 17 | 138 references | 12 |
| EMBASE 1966-- Dec 2010 | 3642 references | 26 |
| PapersFirst 1993-- Dec 2010 | 14 references | |
| Pubmed-- Dec 2010 | 2088 references | 17 |
| Subtotals | 13554 | 264 |

Table 2: Dates searches, and references per database

From the above table, it can be seen that 264 references were retrieved for further consideration. This included citations where it was unclear from the title or abstract whether the paper was relevant to the review question and criteria. These were imported to bibliographic reference management software and duplicates were screened for. Initially, 82 duplicate studies were identified, a further 19 duplicates were identified by more detailed reading, note taking and comparison across the studies.

Therefore a pool of 163 citations were read in detail to establish fit with the review question and inclusion criteria. On closer reading, 60 of these were found to meet the inclusion criteria and were imported into JBI-QARI for critical appraisal, data extraction and synthesis. As studies were read the reference lists were also scanned for additional citations, six further papers not identified in the electronic search were included through reference checking. During data extraction, it was found that several were actually duplicates, removal of these and of studies that on appraisal were not found to meet the quality criteria resulted in a total of 56 studies, 31 included (listed in Appendix II), and 25 excluded (see Appendix III).

## Assessment of methodological quality

Qualitative papers selected for retrieval were assessed for methodological validity prior to inclusion in the review using standardised critical appraisal instruments from the Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI) (Appendix IV).

No disagreements arose between reviewers; hence referral to a third party or extended discussion between reviewers was not required. It should be noted the role of the secondary reviewer was limited to appraisal only. Review of the appraisals, decisions regarding inclusion and all other aspects of the review were undertaken by the primary reviewer. While the meta ethnographic review used a modified version of the CASP instrument (Appendix V), more recently, it has been found that the CASP instrument has poor predictive capabilities for determining internal validity when compared with both the JBI appraisal instrument and an alternate instrument (Hannes et al., 2010).

Whilst appraisal requires the reader to identify the philosophic perspective, methodology, methods, as well as statements regarding the researcher's position and influence, determining these characteristics was problematic and sometimes required a degree of inference. Very few papers reported a philosophic perspective and those that did tended to be phenomenological

studies using a Heideggerian approach. The majority of papers stated they were qualitative and used a form of 'thematic' analysis without declaring a particular methodology, but on further reading it could be established for some papers that the methodology was based on concepts akin to grounded theory. This does not infer that by extension the authors intended to use a grounded theory approach, thus these were characterised as "generic qualitative" in the assessment stage. Mixed methods papers were the most challenging both to appraise and to extract as qualitative methods were very poorly reported (if at all) and qualitative data was often used as a tokenistic 'crutch' for the statistics that tended to dominate such papers. Appraisal in the presence of poor or incomplete reporting was challenging. One risk was that exclusion of papers over methodology may result in the review being criticised for potentially rejecting papers that may have contained thick descriptions. This issue is discussed in the background section of this dissertation and although work has shown that poor quality papers tend to provide minimal depth and hence no substantial contribution to a qualitative synthesis the perception persists within sections of the qualitative community (Harden, 2008).

Outcomes of the appraisal process are reported in the results chapter, and tables of included and excluded studies have been documented in the appendices. There was a high level of congruency between the appraisals, suggesting that the concepts in the PICo were sufficiently defined as to enable independent appraisal to draw similar conclusions with regard to papers and how the appraisal criteria were to be actioned.

## Data collection

Data were extracted from papers included in the review using the standardised data extraction tool in the Joanna Briggs Institute Qualitative Assessment and Review Instrument JBI-QARI (Appendix VI). The instrument captures an extensive amount of important contextual data from papers, including the methodology, methods, phenomena of interest, the setting of the research, the geographical and cultural context, details about the participants, methods of analysis and the conclusions raised by the authors of each study. The extraction of this data helped with situating the context of each paper and how papers were categorised after this extraction of general data gave a reliable indication of how themes and categories would be structured within the final synthesis. Although this was not formally tracked, it was a persistent observation that warrants further investigation.

The second and final phase of data extraction is also the first phase of data synthesis in meta aggregation - the extraction of findings from the included studies. Findings are the themes or metaphors developed by the primary study authors through their thematic analysis and are usually (but not always) located in the results section of qualitative studies. With each finding, a participant quote is also extracted to further inform context and demonstrate authenticity. Deep and careful reading is required. This is to ensure that all findings in a paper are identified as journals have widely varied requirements in terms of reporting and structure of qualitative papers. Some findings were readily identified as they were presented as sub headings in the results. Others were less clearly portrayed, with repeated reading required in order to confirm what were themes and metaphors and what was descriptive prose. These findings are analogous with second order constructs in meta ethnography and varied widely in terms of degree of thematic development. Mixed methods papers with no clear qualitative methodology tended to be characterised by very thin descriptions, which appeared to show very little thematic development. At the opposite end of the scale, phenomenological studies that used an explicit philosophical framework tended to have thick, rich descriptions that were clearly grounded in the experiences of the study participants. Between these two was a large body of studies, many ethnographic papers and 'generic' thematic analysis papers, that were highly descriptive and very thin on interpretation. Not all themes are created equal. However, the aggregative approach is founded on full extraction, rather than purposive, or saturation based methods. Therefore all themes related to the review question were extracted regardless of whether they appeared to support a particular position or provide a contrary perspective.

## Data synthesis

The final two stages in developing a synthesis using meta aggregation were firstly to assemble the findings and categorise these on the basis of similarity in meaning. These categories were then subjected to a meta synthesis in order to produce a single comprehensive set of synthesised findings that can be used as a basis for evidence-based practice.

In order to generate the categories several working documents were created, partly drawn from JBI-QARI. A list of all findings (including the relevant participant quotes and page numbers) was exported from JBI-QARI and each finding was coded. A table with multiple columns was then created, with a row for each finding. Findings with similar meanings were then recoded to share the same identification and physically grouped together using MS Word. The grouping of

findings assisted in the development of categories that reflected the essence of the findings. In this process, the immediate availability of participant quotes was invaluable for guiding the categorisation of themes and metaphors. The findings themselves are reported in the results section. However, given there were 125 findings, each with a supporting quote, the use of JBI-QARI and tables to track and manage the data was instrumental to the conduct of the synthesis.

In order to ensure the categories contain the required depth to convey the aggregated meanings, the reviewer develops a statement of meaning for each category. These assisted to define the scope and, conversely, the boundaries of each category, as well as providing a transparent audit trail of how the concepts within each of the categories were defined. Data collection (I discovered retrospectively) provided the depth of context that guided the framework for the synthesis. As findings were categorised, the grouping of findings became clearly related to the particular sources, such as patients, members of the community and health workers. This is reported in further detail in the results chapter. The 125 findings were condensed to 15 categories, each with a statement of meaning that captured the intent and depth of the findings and participant quotes.

The table used to group findings and develop categories was then expanded to include a column for mapping of synthesised findings. This showed a clear link between the extracted findings, the categories and the development of the synthesised findings. As described in section one of the methods, a synthesised finding is more than a summary statement arising from the aggregation of multiple categories. It is a practice theory. Practice theories have a defined scope and are useful for guiding and informing within particular contexts. They provide frameworks for intervention, as well as contributing predictive validity with relation to health care practice and patient outcomes (http://en.wikipedia.org/wiki/Nursing_theoryaccessed online 24th Feb, 2011). The imperative for synthesised findings to maintain the context of the literature from which it is drawn is associated with the nature of practice theory – it is intended to guide and direct practice and to lead to specific outcomes. Such intentions need to be grounded in the evidence, rather than in a theory generated by researchers moving away from the primary data. This is particularly so in the health sciences where impact on practice, patients, consumers and wider society needs an evidence base to demonstrate its safety and validity.

In this review, the synthesised findings developed naturalistically from the categories and, again, demonstrated the same framing that was identified through the initial extraction. The full findings, categories and synthesised findings are reported in the results chapter.

## *Phase two methods*

As was discussed in the background, the general focus of methodological literature in the field of qualitative synthesis is based on pragmatic reflection on particular projects using a preferred methodology. These papers usefully identify and define issues and insights within a particular methodology and contribute to debate and discussion on topical issues pertinent to the approach that has been used. Such debates have not always been reflected in the practical application of a methodology, but have none the less been a useful part of the conceptualisation of methodology, creating scope and opportunity for review authors to follow alternate paths and thus generate further impetus for new theory regarding methodology.

The limitations of such articles are rarely discussed. The decision to use a particular approach is rarely given the level of consideration commensurate with the significance of the choice, or the factors that influenced the choice. The tendency to identify an approach as 'interpretive' and therefore fit for purpose is broad and non specific, loaded with assumption on the part of the review author and requiring even greater levels of assumption of the reader as to what 'interpretive' means. More specifically, it is unclear what the philosophic perspective, the ontological and subsequent methodological assumptions are that a reviewer brings with them when describing an approach as 'interpretive'. This appeal to interpretivism then, is a generalisation which largely ignores the assumptions regarding the 'fit for purpose' of particular approaches and influence of ontology and paradigm within particular approaches. The lack of comparative studies also intuitively places the authors preferred approach in a privileged position, not through scientific merit, or the critical examination of aspects of methodology against some external standard, but through the lack of a robust comparator against which to test one's assumptions.

## *Conclusion*

The first section of this chapter explored the technical, descriptive processes of meta aggregation and meta ethnography. The purpose was to clearly situate each methodology in

relation to a broader context, a context that would allow each to be considered on its merits against a common standard, rather than against my personal perspective or judgments.

The second section of this chapter described the detailed methods applied within each methodology in relation to the exact same question and inclusion criteria. Where gaps existed in the published meta ethnographic review, contact was made with an author to clarify those gaps. This section showed how each methodology translated into the specific methods and requirements of systematic review and demonstrated both goodness of fit with review methodology as well as some of the more challenging issues that remain unresolved with regard to synthesis science in both approaches.

The third section describes the process undertaken for the comparative analysis. Throughout this thesis, there has been consistent reference to use of the common framework for a systematic review. The scientific justification for applying the methods of systematic review (with its 'quantitative' origins) to qualitative review has been made; indeed the broad methods have been shown to have ready applicability to interpretive synthesis and to provide the necessary level of transparency and auditability required for valid reporting.

Until recently, there have been no comparative studies that examined one methodology in relation to another and no studies that comprehensively dealt with how qualitative synthesis fits within the schema of systematic review using the step wise process of systematic review methodology. This thesis therefore provides one of the first studies to both compare methods against the same question and criteria and also to compare against a common standard, rather than the author's preferences and experiences. A recent dissertation compared and contrasted two methods of qualitative synthesis (Garside, 2008). However, there were some significant differences between the study by Garside and this study. The most significant difference being that Garside's study was a comparison using meta ethnography and meta study, additionally, the reviews used two different questions and different inclusion criteria. Thus the comparison was of a less direct nature than intended in this thesis. However, as with this study, the dissertation made the comparisons against the common framework of systematic review methodology as has also been described in this thesis (Garside, 2008).

The comparative analysis in this study was intended to achieve several interrelated aims. The primary aim was to compare each approach against the germane methods of systematic review, examining the strengths and weaknesses of each individually. However, the intention

was not to attempt a deconstruction of approach. It was, rather, to look constructively at how each approach fitted with systematic review methods and begin to explore the origins of each methodology in order to better understand their roots and what might constitute appropriate purpose in choice of methodology. This was also intended to enable new recommendations to be developed for each methodology that could be considered a genuine contribution to methodological knowledge. To some extent, the intention was also to compare one methodology with the other.

Again the framework chosen was that of systematic review and this enabled clear comparisons that afford a more objective analysis than was typified by studies reported in the background that discussed single methodologies without any form of comparator.

Some readers will take the view that the germane process of systematic review is in itself a quantitative process and therefore not an appropriate framework for qualitative data or approaches. However, as was demonstrated in the background, such criticism is not supported by reviewers to the extent that it is forwarded by those seeking to develop analogous qualitative steps. Nor in fact has it been demonstrated that the core steps of systematic review are factually quantitative processes. Therefore, the framework for this phase of the study is based on the structure of the systematic review and consist of an examination of approach, purpose, protocol, question, searching, appraisal, extraction, and synthesis, presentation, and platform. By including the approach, this thesis was able to investigate the assumptions often implicitly applied in the generalisation associated with the moniker ‘interpretivism’.

As will be seen in the following chapter, taking a fit for purpose approach has enabled more than a constructive critique of each methodology. Findings reported in the results chapter also illustrate how both approaches could be enhanced either conceptually, theoretically or practically in order to be more congruent with their own ontological roots.

# Chapter 4: Results

## *Introduction*

This chapter consists of two key sections based on the structures described in the methods chapter. Section one of the methods chapter described, in detail the technical processes of meta aggregation and meta ethnography. These steps are not repeated in this chapter, rather, in section one the review methods for the specific questions and their results are reported in order to maintain and convey the contextual nature of decision making in qualitative synthesis. The focus in this thesis has now moved from the general to the particular in order to illustrate how the methods used in this thesis have resulted in the types of findings and methods of reporting the findings. This chapter then is focused on the outputs from section two and three of the methods chapter, reporting on the actual reviews, and the comparative analysis.

## *Phase one results*

It needs to be acknowledged that in presenting the results of the meta ethnographic review, it is the available published data that has been used. This consists of two articles published in open access journals. Open access journals tend to have greater capacity for full disclosure due to less restrictive limits on word counts, and by drawing on both the review and supporting publication I have attempted to further ameliorate the limitations of working with secondary synthesised data. Contact was made with one of the authors via email on several occasions to seek clarification or confirmation on points of methodology that were unclear in the published reports.

### Meta ethnography results

As described in the previous chapter, 66 papers were considered for inclusion following comprehensive searching, screening against the inclusion criteria, and critical appraisal. Of these, 19 were considered duplicates, or failed to meet the inclusion criteria, finally 44 papers were included as three further papers were considered lacking in qualitative description of either methods or results (Appendix I).

The output from this meta ethnographic review was a theoretical model (see Figure 3) that showed the secondary themes (developed by the review authors, not extracted from primary studies) and how they related to each other. The framework itself is shown in bold, while the

arrows indicate the relational direction between factors from different systems and contexts.

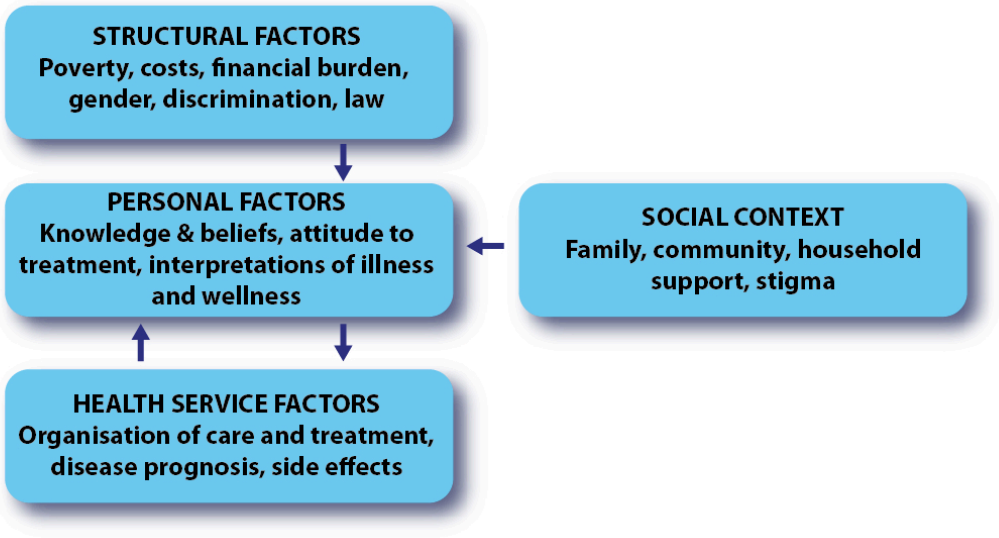



**Figure 3: Theoretical Model of factors affecting adherence; recreated from Munro et al 2007** (Atkins et al., 2008, Munro et al., 2007)

This model was derived from the combined theorising of each individual author involved in the review. It arose from the six themes derived from the included study authors interpretations, in conjunction with a further eight themes from participants within the included primary studies.

The themes from this review were around access to services, the individuals perceptions of TB, discordance between financial needs and health and wellness needs, the impact of knowledge, law, the individual's life, adverse and side effects of medication and broader society (inclusive of family, local community and broader community).

The themes were categorised and supporting extracts from the included papers were used to illustrate the link between the themes and the experiences and perceptions of the primary study participants. Multiple examples of participant voices were included for some themes, however, as a comparison of thematic analysis is not the central purpose of this thesis only one illustration has been extracted for each theme.

Organisation of treatment and care for TB patients

> "*A dirty place can affect the psychology. It makes people loose heart and feel unenthusiastic about continuing treatment.*"

Interpretation of illness and wellness

> *"…When I feel better, I don't take the tablets. Only when I feel pain."*

Financial burden of TB treatment

> *"We cannot remain out of a job for long. As soon as we feel better we would like to go to work…if I cannot earn, my whole family will suffer."*

Knowledge, attitudes, and beliefs about treatment

> *"He believed that he should always use the expensive tablets and not the tablets from [the healthcare facility]. The…tablets were not correct with the problem inside, and the colour of the tablets doesn't look right."*

Law and immigration

> *"Because the nurse tells us that here they have a record of people who have TB, and when they go to apply for a job it shows up on the record they have TB and it was untreated, they need [the completion record] for the job."*

Personal characteristics and adherence behaviour

> *"How would someone who starts drinking early in the morning visit the clinic? Some patients consume alcohol daily. They would rather decide to interrupt their treatment, than discarding their drinking habit."*

Side effects

> *"…Unpleasant metallic taste in his mouth…asked if a non-vegetarian diet would improve this problem. He was laughed at by the [provider] along with a number of others in the clinic and some personal remarks were made…he finally left treatment."*

Family, community and household influence

> *"I arrive early in the morning so that people could not see me. I used to conceal my illness from people….People think that we are the filthiest people…it was really difficult to accept that I have TB."*

The review authors concluded that while an individual may want and intend to adhere, factors at the structural level may compel them to be non-compliant with treatment. The pressures on adherence were multiplied when social stigma and poverty further shaped the individuals perception of themselves within the broader framework of their life and family priorities. The review authors were careful to avoid labelling individuals based on their perceived level of motivation. Rather the review findings were used to advocate for consideration of how triggers such as poverty or social stigma might affect the individual on a case by case basis. Health services, including the individual health professionals, were also found to be influential on the individual TB patients perspective and willingness to adhere. However, health professionals were also under pressures that were found to adversely affect their own practice and adherence of TB patients.

From these reflections, the authors advocated that policy and practice give acknowledgement to patient autonomy and move toward patient centred methods of treatment. Awareness of the pragmatic and psychosocial influences of poverty were also recommendations put forward in conjunction with a series of hypotheses that arose from the third order interpretation in the review. These included the following statements

- Increase the visibility of TB programmes in the community, which may increase knowledge and improve attitudes towards TB
- Provide more information about the disease and treatment to patients and communities
- Increase support from family, peers, and social networks
- Minimize costs and unpleasantness related to clinic visits and increase flexibility and patient autonomy
- Increase flexibility in terms of patient choice
- Increase the patient centredness of interactions between providers and clients

The above statements are analogous to the recommendations for policy and practice arising from a meta aggregative review. In meta aggregation, the primary purpose of the review is to generate evidence to inform policy or practice. This meta ethnographic review extended

beyond both the remit established for meta ethnography, as well as most recent meta ethnographic reviews which, while aiming for a third order interpretation, rarely provide additional specific recommendations for policy or practice (Noblit and Hare, 1988). However, this reviews findings do demonstrate that meta ethnography can be used to inform policy and practice when there is an explicit intent to construct the results to fit this purpose.

## Meta aggregation results

The meta aggregation was informed by the same question, the same inclusion criteria and same search strategies and sources of literature (the same electronic databases) as the meta ethnographic review. This thesis therefore represents the first comparative analysis of its kind, enabling a direct comparison of methods and findings without the need to juxtapose from divergent data. The methods of the meta aggregative review have been reported in the previous chapter. As with the ethnographic review, this section will focus on the results and how they were generated. This is necessarily a descriptive process, with the comparative analysis forming part two of the results chapter.

The synthesis of data in the meta aggregation lead to the development of four synthesised findings. As described in previous chapters of this thesis, synthesised findings are more than a general statement that reflects two or more themes. Synthesised findings are also intended to provide direction for policy or practice. The intent of conducting a meta aggregation is to generate not only knowledge, but direction. Statements include a weighting based on the strength of the evidence they are derived from and are worded as declamatory statements that indicate the direction of an action, rather than express a thematic or theoretical position. The synthesised findings are not presented in a particular order or sequence and each is accompanied by a summary statement developed by the reviewer that further facilitates bringing the context into each synthesis. The data from primary studies was very clearly related to four domains; that of the health professional, the patient with TB, the wider community and the health care system as evidenced over the following pages.

As presented in the previous chapter, the search identified 264 potential papers. Of these 163 were considered in more detail, with 101 duplicates being removed. With removal of duplicates, a pool of 56 studies were considered to fit the inclusion criteria, of which, following appraisal 31 were included (Appendix II) and 25 were excluded (Appendix III).

The following QARI view graphs were derived from the methods for aggregative synthesis as published in the JBI Handbook for Systematic Reviews. That is, each study was read and examined to identify the themes and metaphors arising from the authors analytic approach. Each theme or metaphor (defined as a 'finding' in the aggregative approach) was then extracted, with an accompanying quote or illustration. Wherever possible, the illustrations were direct quotes from participants in the primary study. When all findings had been extracted across all papers, these were read and examined to identify similarity with other findings. Similar findings were then grouped in to higher-level categories. A category being an overarching statement that appropriately represents the meaning and context of two or more findings. The final level of synthesis is the generation of 'Synthesised Findings', which, as discussed previously, are aggregations of two or more categories.

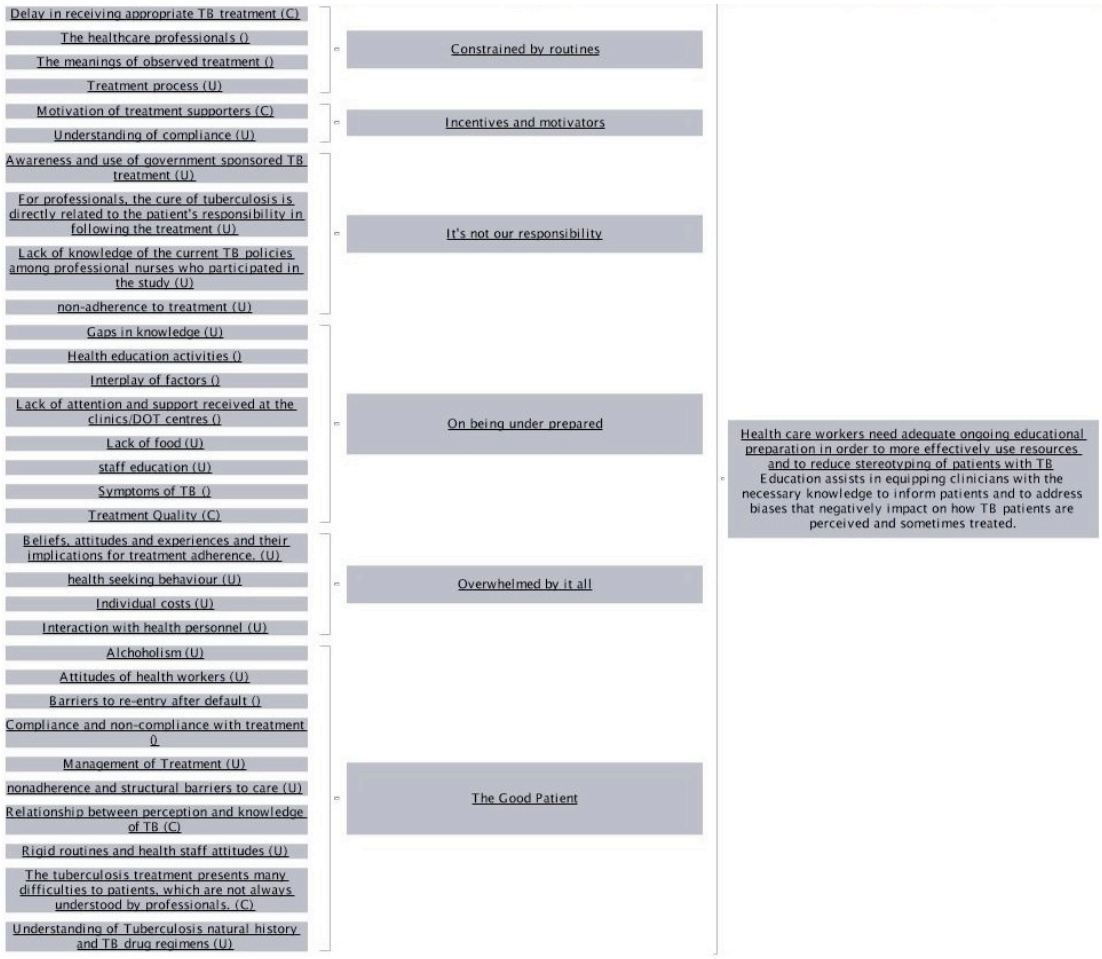



Figure 4: QARI view graph of Synthesised finding 1

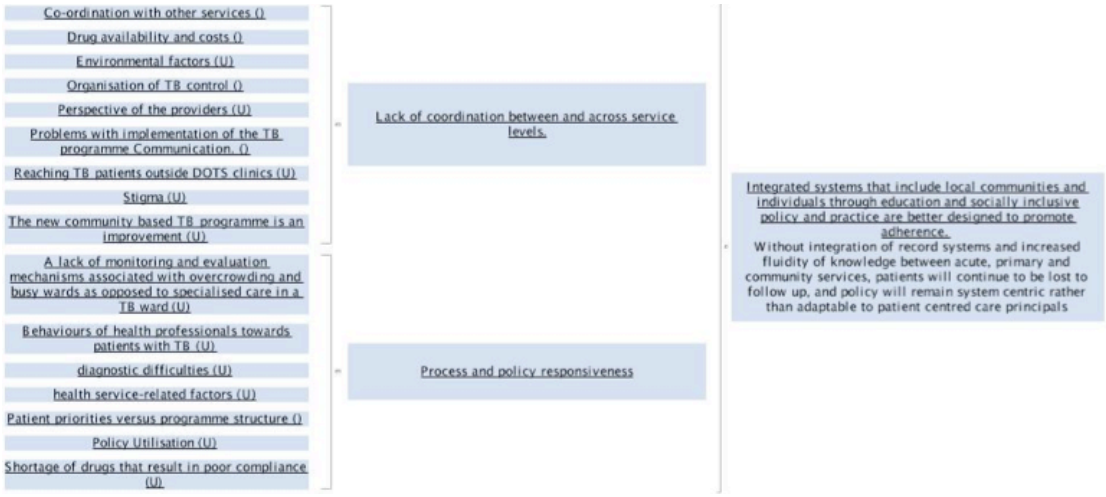



Figure 5: QARI view graph of Synthesised finding 2




Figure 6: QARI view graph of Synthesised finding 3

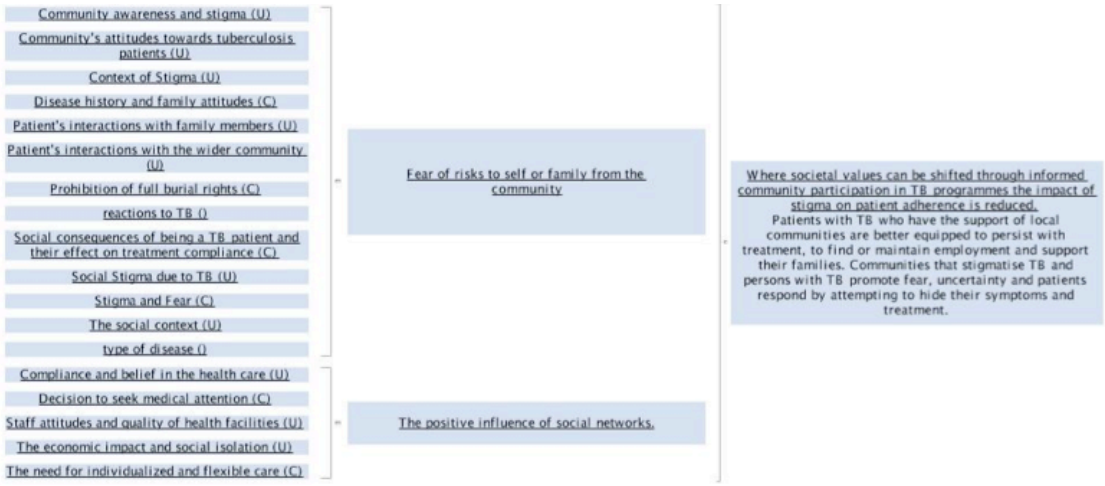



Figure 7: QARI view graph of Synthesised finding 4

The synthesised findings, the categories they arose from and, the related findings are recorded in the above figures. The illustrations that are associated with each synthesised finding are detailed below.

Synthesised Finding 1:

Health care workers need adequate ongoing educational preparation in order to more effectively use resources and to reduce stereotyping of patients with TB

> Illustration: Education assists in equipping clinicians with the necessary knowledge to inform patients and to address biases that negatively impact on how TB patients are perceived and sometimes treated.

Synthesised Finding 2:

Integrated systems that include local communities and individuals through education and socially inclusive policy and practice are better designed to promote adherence.

> Illustration: Without integration of record systems and increased fluidity of knowledge between acute, primary and community services, patients will continue to be lost to follow up, and policy will remain system centric rather than adaptable to patient centred care principals.

Synthesised Finding 3:

Since patients balance adherence within the greater context of their beliefs and life priorities, non-adherence does not imply rejection of treatment.

> Illustration: Patients with TB are under duress from intrinsic and extrinsic factors that influence their health and treatment seeking behaviours. Intrinsic factors include poverty, knowledge and beliefs while extrinsic factors include work, family and practical problems that prevent adherence such as ancillary treatment costs and travel.

Synthesised Finding 4:

Where societal values can be shifted through informed community participation in TB programmes the impact of stigma on patient adherence is reduced.

> Illustration: Patients with TB who have the support of local communities are better equipped to persist with treatment, to find or maintain employment and support their families. Communities that stigmatise TB and persons with TB promote fear, uncertainty and patients respond by attempting to hide their symptoms and treatment.

These four synthesised findings arose from the aggregation of categories, which in turn represented the aggregation of findings (themes and metaphors) from the primary studies. Table 3 shows each category and its explanatory summary for each synthesised finding. This table was used in conjunction with JBI-QARI to facilitate the development of the synthesised findings and enabled coding and comparison of findings throughout the thematic analysis process.

**Synthesised Finding 1:** Health care workers need adequate ongoing educational preparation in order to more effectively use resources and to reduce stereotyping of patients with TB

| Categories | Illustrations |
|---|---|
| The good patient | Is characterised based on level of education and income. Additionally, the ability to listen, follow rules, adhere, accept responsibility and adapt to clinic requirements are traits of a good patient. |
| Constrained by routines | Health care workers often wanted to deviate from guidelines to meet an individuals needs but were prevented either by colleagues, lack of clear policies or immediate access to needed resources |
| Its not our responsibility | The patient needs to come to the clinic, the patient needs to arrive on time, and wait if necessary. If any problems occur, these are the patients fault. |
| Overwhelmed by it all | |
| On being under prepared | Relates to the very real issues of a lack of knowledge and a lack of available policies and guidelines for practice, as well as the lack of resources (including medications and foods) patients need. The unavailability of educational resources impacts heavily on health care workers sense of preparedness. |
| Incentives and motivators | Helping people to cope with TB and ease symptoms from taking medication by providing food |

**Synthesised Finding 2:** Integrated systems that include local communities and individuals through education and socially inclusive policy and practice are better designed to promote adherence.

| Categories | Illustration / meaning |
|---|---|
| Process and policy responsiveness | Policy dictates how treatment should occur, but fails to identify that individual needs and circumstances impact treatment success or failure. |
| Lack of coordination between and across service levels | Clinic and medication access is predicated on communication and resource distribution between the differing service levels. Varying levels of drug availability, diagnostic services, follow up requirements hinder patient service provision. |

**Synthesised Finding 3:** Since patients balance adherence within the greater context of their beliefs and life priorities, non-adherence does not imply rejection of treatment.

| Categories | Illustrations |
|---|---|
| TB, self efficacy and loss | TB is associated with pervasively negative stereotypes that substantially hinder self efficacy. |
| Psychosocial, physical and economic needs can overwhelm. | Fundamental human needs can overwhelm the intent to adhere. |
| Negative influence of social stigma and fear. | When society is perceived as judge and jury, individuals with TB become invisible and loose vital support networks. |
| 'Adherence' occurs within a 'life needs framework' | Adherence is one of many priorities, including basic life needs (food, employment, family). These require people with TB to 'flexibly' prioritise treatment against other high pressure needs. |
| Changing tensions between beliefs and knowledge in decision-making. | What is known empirically may differ what is believed. Decision-making moves between belief and knowledge. |

**Synthesised Finding 4:** Where societal values can be shifted through informed community participation in TB programmes the impact of stigma on patient adherence is reduced.

| Categories | Illustrations |
|---|---|
| The positive influence of social networks | Where wider social networks knew about TB and treatment, positive engagement was readily identifiable |
| Fear of risks to self or family from the community | Keeping a TB diagnosis secret was considered important for social status, employment prospects and to protect self and family. |

**Table 2: Categories and Illustrations**

Each of these categories arose from the aggregation of two or more findings. A full list of findings extracted from each paper is provided in the appendices to this thesis, there are too many to list within the text and maintain readability (see Appendix VII for a full list of findings, by Category). In JBI-QARI, each finding is accompanied by an extraction that represents the participant's voices and these are graded according to levels of credibility based on how congruent each theme is with the 'voices' that inform or illustrate them. The levels of credibility were described and discussed in the methods section. The synthesised findings in a meta aggregation are intended to guide practice, the grades of recommendation (also described in the methods section) provide readers with a measurable indication of the strength ('certainty' in analogous qualitative terms) of association between the synthesised finding and the primary study evidence it was drawn from. Applying the grades of recommendations according to the standardised guidelines from JBI results in four key statements that address professional

practice, patient needs, community perspectives and health system management, each with a rating that indicates the strength of the underlying literature as follows:

1. Education assists in equipping clinicians with the necessary knowledge to inform patients and to address biases that negatively impact on how TB patients are perceived and sometimes treated. (Grade B)
2. Integrated systems that include local communities and individuals through education and socially inclusive policy and practice are better designed to promote adherence. (Grade A)
3. Since patients balance adherence within the greater context of their beliefs and life priorities, non-adherence does not imply rejection of treatment. (Grade B)
4. Where societal values can be shifted through informed community participation in TB programmes the impact of stigma on patient adherence is reduced. (Grade B)

### *Phase two results*

A comparison of the two reviews are first presented in Table 4 and show how the essential structures of each approach compare. The outline from Table 4 then forms the basis of a critical comparison across both approaches. As indicated in the second section of the methods chapter, many assertions have been made and numerous approaches suggested for the analysis of qualitative reviews. However, as with many aspects of this field, there remains no consensus on quality either conceptually (what it means), or pragmatically (how one measures it).

The question of what constitutes a reliable approach to comparison is a broad one, fraught with complexities of language and how it is crafted in the qualitative world; how ontological and epistemological perspectives inform differing viewpoints and perspectives depending on where one situates themselves. The risk in addressing this comparison is in attempting to address the whole of a process as a pragmatic exercise while potentially ignoring the epistemological stances and explicating the linkages to the underpinning theories. Such an undertaking risks an outcome more aligned to Habermas's notions of technical knowledge (Noblit and Hare, 1988); they would describe it as mechanistic, perhaps technically correct. Noblit and Hare go on to suggest this would lead to work that was somehow lesser or incomplete because of its adherence to technocratic rules (Noblit and Hare, 1988). Comparison then is more than steps in a process (as all such steps are guided by something that forms the basis of construction).

Aspects of comparison may include factors that are outside the process of conducting a review such as auditability, trustworthiness, credibility, believability, richness of description, and replicability. These, though, have tended to be used from within a particular epistemological position and therefore infer quality from the perspective of the commentator without necessarily representing a consensus on either how the concept was interpreted or how it was applied. Thus comparisons may either be considered technical and criticised for taking a utilitarian perspective, or if analysed from within a particular epistemological perspective, as being necessarily limited by that context. However, some stand must be assumed and then defended. As indicated in the background, this dissertation is structured around the processes associated with a systematic review and this section of the results follows the same process.

| Component | Meta aggregation | Meta ethnography |
|---|---|---|
| Approach | Pooling of themes based on conceptual congruency modelled on accepted methods for systematic review. | Synthesis and Interpretation of themes. |
| Purpose | To inform policy or practice from findings grounded in extant literature | To generate higher order analyses or new research questions. |
| Protocol | A-priori, detailed, peer reviewed | Detailed, unclear if a-priori, |
| Question/Aim | Established as part of the a-priori protocol using PICo structure | Established from gaps in a quantitative review. Unclear if a-priori |
| Searching | Comprehensive and exhaustive. Electronic databases, specialist journals, grey literature, relevant health professionals, and reference lists of included studies | Electronic databases, reference checking, contact with experts |
| Appraisal | Critical appraisal using standardised instruments and requiring reviewer training | Modified and piloted an existing instrument. A-priori decision to not exclude any papers on the basis of quality. |
| Extraction | Standardised fields for data extraction. Multi phase extraction focused on themes or metaphors | Iterative extraction of first and second order constructs. Translation of one study in to another. |

| | | |
|---|---|---|
| Synthesis | Aggregation based on similarity in meaning and anchored by the primary study data | Reciprocal leading to line of argument as highest order synthesis |
| Presentation | Textually rich data in table format. Recommendations for policy and practice | Conceptual model plus list of factors considered likely to improve adherence. |
| Platform | Software platform for reference management, appraisal, extraction and synthesis | No software support |

**Table 4: Summary of comparative framework.**

## Approach

The importance of identifying 'approach' has been highlighted with the suggestion that the steps in a review are guided by principles embedded within a particular epistemology and ontological tradition (Schreiber et al., 1997).

Meta ethnography is commonly situated as an interpretive approach (Al-Janabi et al., 2008, Atkins et al., 2008, Campbell et al., 2003) yet this informs us no further with regard to where on the continuum of critical and interpretive methodologies meta ethnography sits (and as Crotty indicates it's a very diverse field (Crotty, 1998), or how the reviewers perspective influences the methods involved and the decision making related to the methods to conduct an ethnographic review. The interpretive paradigm is used as a broad moniker in the case of meta ethnography; yet it is difficult to anticipate that any other paradigm would be a good fit for any approach that seeks to identify themes and analytically bring them together into a reduced number of higher order findings. Thus while descriptive of the broad purposes of the approach, 'interpretivism' may be equally applied to all qualitative review methods.

Meta ethnography was chosen for the comparator review precisely because of the approaches association with interpretivism. The review itself was based on identified gaps in knowledge from a quantitative review and actively sought to respond to those gaps by translation of first and second order themes in to one another. In the published review report, the association was made between improving treatment outcomes and a better understanding of explicit factors thought to be barriers or facilitators of adherence through qualitative research. The authors

described the role qualitative research fulfils in enhancing and interpreting the findings of qualitative research (Atkins et al., 2008, Munro et al., 2007). The approach is synthesis centric and this is in keeping with the tenets of meta ethnography, which began as a method of synthesis, not a method of systematic review. This characteristic will be returned to subsequently due to the interrelated nature of many aspects of qualitative systematic review.

Within meta aggregation, the approach arises from the accepted conventions of systematic review within the health sciences. Although developed through a series of think tank sessions by a group of academics grounded in the critical and interpretive paradigms, aggregation could probably claim to be the least understood approach of any of the qualitative synthesis methodologies. The association of the term aggregation with quantitative concepts (such as meta analysis, or counting of qualitative concepts) has caused considerable confusion in the qualitative community. However, as an approach to qualitative review, it is highly developed and conceptually clear, with robust definitions for all aspects of the review process and again, sits within the interpretive paradigm.

The challenge in establishing whether particular claims of 'interpretivism' are factual or not is that many published qualitative reviewers do not fully address what perspective, what epistemological position and ontology they are operating in. The primary review paper by Munro et al (2007) identified meta ethnography as an approach that "…can assist in the interpretation of findings of single studies; help explain variation or conflicts in study findings; enable the development of new theories; and help inform the design of new interventions" (Munro et al., 2007). Proponents of meta aggregation, likewise, do not consistently include a clear statement on the epistemological perspectives associated with the approach. As described in the methods section of the handbook for aggregative synthesis "Findings will be pooled…through assembling the findings and categorising these findings on the basis of similarity in meaning. These categories will then be subjected to a meta synthesis in order to produce a single comprehensive set of synthesised findings that can be used as a basis for evidence-based practice." To arrive at categories, and then synthesised findings, is necessarily an interpretive exercise. Yet, as discussed in the background section of this dissertation, there are substantive differences in understandings of the terminology and methods. It may be that these differences arise from the approach itself, as philosophic perspective has a significant impact on methodology in the critical and interpretive paradigms.

The question of approach is clearly associated with interpretivism; it is profoundly influential on the review methods; and the results of this study suggest that the debate itself is more parochial than pragmatic given both approaches are situated in the interpretive paradigm. Meta ethnography was not designed as an approach to systematic review. As such the review and companion paper used in this comparative analysis indicate some of the challenges in moving from an inductive method of synthesis toward a systematic description of methods commensurate with expectations of systematic review reports. Conversely, if greater clarity of methodology (as distinct from method) were included in meta aggregative review reports, the uncertainty regarding whether the approach is situated in the interpretive paradigm would largely be resolved. The interpretive research paradigm arises from a series of highly developed philosophical perspectives and qualitative research methods are associated with particular schools of thought and particular philosophical perspectives that inform the methodology.

Phenomenology, which is a widely accepted methodology for qualitative research, began as a philosophical perspective, a way of perceiving the essence of the world, before it was applied as a methodology for investigating and understanding the lived and experienced perspectives of others.

Although not attributed as the originator of the term 'phenomenology'; Husserl as a philosopher was the definitive father of philosophical thought on phenomenological understanding (Bell, 1990). Husserl considered phenomenology to involve the systematic structure that enabled reflection on and analysis of the phenomena which appear in acts of consciousness. By this, Husserl meant that the actions and experiences of another could be discovered and understood in an empirical form (De Boer, 1978). Inspired by Kant and Descartes, Husserl drew on Descartes views of conscious awareness as a foundational basis from which knowledge can develop and as such the epistemology of Descartes became the philosophy of Husserl (Crotty, 1998).

Husserl's perspective on phenomenology, rooted in intentiality, suggests that a phenomena can be understood through the mind of the one who is experiencing (and is aware of that experience). Yet, in keeping with Descartes before him, Husserl believed that in order to know something, one had to begin by rejecting one's own conscious perspective on a phenomena of interest in order to truly perceive the essence of it. Husserl maintained this essence was obtainable through awareness of conscious experiences and this required discounting or

bracketing out ones own judgement. By the end of the first decade of the 20th century, this understanding was described as 'transcendental phenomenology', the core of which was to develop knowledge in an unbiased way, not prejudiced, or influenced by self or outside factors, but instead, illuminated by the particulars of intentional consciousness of the phenomena of interest (Crotty, 1998).

By way of contrast, Heidegger developed a philosophy of thought that was based on existence, not on consciousness (Dreyfus and Hall, 1992). His view was that existence was central to being in contrast to Husserl's (Descartes or more accurately, Kantian inspired) consciousness as central to being. Heidegger did not seek the separation or bracketing that Husserl advocated, indeed Heidegger supposed that to understand experience necessitated self awareness (Faulconer and Wrathall, 2000). Heideggerian thought included hermeneutics as a basis of interpretation (Crotty, 1998). This moved philosophy in radical new directions, away from its kantian roots. This difference of opinion on the role of being and existence forms the basis for two lines of thought and, latterly, two methodologies for phenomenological research: one (Husserlian) based on bracketing and rationality, the other (Heideggerian) based on existence and engagement between researcher and researched. These lines of inquiry will be further explored in the discussion chapter.

It seems plausible that approach has a particular bearing on whether the methodology adheres to the tenets of systematic review. This is investigated further in this chapter by examining the processes (or steps as they are referred to in meta ethnography). However, approach is more of a methodological (philosophic perspective and/or theoretical framework) indicator than a methods (process based) indicator. The relationship between methodology and adherence to review process, while influenced by approach, may not be predicated entirely on approach, although a closer examination of the following steps will show the degree of association more clearly. The concept of approach as a core or central distinguishing feature will be further examined in the discussion chapter.

## Purpose

The purpose in conducting the meta ethnographic review used in this comparative analysis was multifaceted. This study found there is the purpose that is germane to reviews regardless of methodology, in addition to purposes specific to the meta ethnographic approach to synthesis.

Systematic reviews aim to bring together and synthesise data in order to, from the accumulated body of knowledge, arrive at a more comprehensive understanding of a phenomena than is otherwise possible through an individual study. The meta ethnography in this thesis was situated around this purpose, with the authors reporting working from a gap in existing knowledge "*to draw useful lessons from this literature…by synthesising the findings of these studies*" (pg1231) (Munro et al., 2007). The authors further asserted that systematic synthesis can provide more complete knowledge than is able to be drawn from individual studies alone. Further attributes associated with systematic synthesis (which appears to be analogous to systematic review) include assisting in interpretation of findings from individual studies, explaining variation or conflicting primary study findings, facilitating the development of new theory, informing design of new interventions and identifying gaps in the extant research literature (Munro et al., 2007).

How the particular purposes were fulfilled was more particular to the approach (methodological perspective). They were fulfilled though the identification and synthesis of first and second order themes into a higher, third order synthesis. The translation of themes into one another in the development of a reciprocal translation does not infer higher order development, but as the reviewers extend the reciprocal translation into a line of argument synthesis, the specific purposes of meta ethnography as discussed in the background and methods chapters have been fulfilled. This contribution is particular to the approach. In this case, the contribution was to generate a higher order analysis to conceptually model the factors related to adherence. This indicates the purpose was more than to summarise the existing body of literature on the topic in order to establish a collective, 'what we now know;' as compared with fragmented knowledge arising from individual research papers. The authors indicated that this was the case by describing how new hypotheses were generated from the higher order synthesis. These hypotheses were akin to new research questions, as yet untested.

By way of contrast, the meta aggregative review was conducted with the intent to establish a collective 'what we now know' enabling the development of recommendations for practice by adhering to, rather than extending from, the pooled findings of individual studies. As with the meta ethnography, the germane purposes of systematic review were fulfilled. These are referred to as germane as they relate to intrinsic characteristics of systematic review, including the generation of recommendations for practice [rather than to synthesis which can be interpreted as being a qualitative analytic process]. What does not come out in the purposes of

a meta aggregative review is the generation of new mid level theory; instead, recommendations for practice take the form of practice theory. Practice theory, unlike the mid level theory that meta ethnography seeks to develop, has both its origins and its end purpose in informing and improving practice and therefore patient outcomes. These then are particular purposes of meta aggregation.

Evidence for this assertion can be found in how the goals of synthesis are described in the protocol for a meta aggregative review where the review outputs are described not in terms of their thickness of description or intended theoretical domains, but in how they inform practice. The JBI Reviewers Manual guidance on meta aggregative reviews illustrates that the aim of synthesis is to produce a single comprehensive set of synthesised findings that can be used as a basis for evidence-based practice. The language associated with this description is notable. The findings are described as a set of comprehensive statements and their purpose is to be used as the basis for evidence based practice. Comprehensiveness conveys the sense that these findings are both robust as well as representative of the methods and primary data included in the review. The statement regarding use of the findings is a very clear representation of the purpose of meta aggregation, that is, to contribute to evidence based practice. This does not imply, or require, that every meta aggregative review be focused on phenomena of interest arising from clinical practice, but rather that the basis for practice in the health sciences is equally found in policy as it is in professional practice. Thus a meta aggregative review can be intended to inform policy or practice by contributing to aspects of evidence-based practice. How this purpose translates into action will be addressed in more detail in the sections on synthesis and presentation.

## Protocol

The protocol and in particular, the a-priori protocol, is considered the cornerstone of systematic review in terms of its validity as a method that seeks to limit risks of bias. Adherence to a protocol in systematic review has the same connotations as adherence to a protocol in primary research. As such deviation from protocol has a net negative association with quality and reliability.

The protocol structure in the meta ethnographic review is detailed and clear both in structure and depth of detail related to the steps and stages in the conduct of a meta ethnographic review. The detailed description of the core concepts and definitions that formed the inclusion

criteria were unambiguous and of sufficient depth as to convey the types of studies of interest, methods of searching and the processes for quality assessment and synthesis. There is no consensus regarding whether meta ethnography requires a protocol, an a-priori protocol, or indeed (apart from the synthesis stage) what should be addressed and how it should be described. This presents challenges for review authors undertaking an ethnographic review as outside the synthesis stage it is an approach noted for variation, interpretation and adaptation. This particular meta ethnography takes a highly literal interpretation of the role and structure of a protocol for a systematic review. The companion paper provides further practical insights into some of the challenges in implementing a comprehensive approach to meta ethnography.

According to the review authors the main challenges associated with establishing the boundaries and processes of the review arise due to a lack of standardised methodology for aspects of the review process (Atkins et al., 2008, Munro et al., 2007). These included questions such as how extensive a search strategy is required, how to apply criteria to decisions regarding inclusion, or where and how to start extraction and how to manage data as it is extracted.

However, what is clear is that the authors carefully constructed a protocol and it formed the basis for how the review progressed and was reported in the literature. Given the variation of opinion and methods for conduct found across meta ethnographic reviews on these issues, the uncertainty is unsurprising, further highlighting the benefits of full and clear reporting as was the case with this review.

By way of contrast the meta aggregative approach has clearly defined requirements for each stage of the review and there is international consensus on how these stages should be described and implemented. Aggregative protocols can be peer reviewed precisely because there is a defined methodology that continues to be developed by consensus through experience rather than the diverse approaches that have to some extent seen divergence in how meta ethnography is understood and applied. The protocol is not changed iteratively as the review progresses and communicates to readers that a comprehensive and exhaustive search strategy was planned; that critical appraisal was used as a quality filter and conducted by two independent reviewers; and that data extraction was performed against standardised field requirements. While it may be assumed that standardised data extraction may limit the scope for what is extracted, and the depth of context that is extracted this did not prove to be the case and will be discussed further in the relevant section of the results.

The protocol for an aggregative review is a-priori. That is, the particulars related to the phenomena of interest, the participants and methods are stated in advance and the intention is to adhere to these. This requires considerable awareness of the field of inquiry and/or of the meta aggregative process. The protocol can be changed, but this requires explanation and re-submission for peer review. Therefore spurious changes are discouraged, while those deemed necessary in light of problems with the review are fully documented. While the a-priori approach may be seen as limiting, particularly in the presence of an iterative methodology, meta aggregation overcomes this problem by being grounded within the themes arising from the included literature. Rather than seeking to generate a higher order synthesis that requires a new direction it takes its direction from the literature as themes are extracted and brought together.

## Question/aim

As was discussed in the background, the question in a systematic review is the substantive source of direction for the review. Some authors have suggested it can be either 'anchor' (i.e. tie the review to a particular direction), or act as compass (pointing to a general exploratory direction). However, perhaps the question can be more than either or.

The aim in the meta ethnographic review was particular. It was intended to respond to identified gaps in the knowledge related to adherence. In the language of analogy, this then was question as engine, rather than anchor or compass, driving the review forward in response to an identified information need. The specifics of the question were developed through examination of a Cochrane review of effects. The broad characteristics are representative of the classical structure of a question; the population and phenomena of interest were stated (phenomena of interest being analogous to the intervention in a review of effects). The aim clearly stated the intent to include qualitative studies, while the participants were described as being inclusive of patients, health care workers and caregivers. The phenomena of interest was to identify factors to promote adherence to TB therapy using the DOTS approach. While this reflects broad rather than specific directions, it clearly indicates that the aims in a meta ethnographic review can be both conceptually clear and responsively pragmatic and able to be more than an exploratory starting point for a qualitative journey.

As described in the methods section, the meta aggregative review used the same criteria. The aims extracted from the ethnographic review were not as detailed as an aggregative review

would have normally required, as the context was not described. Aggregative reviews use a modified PICO mnemonic to structure the question (or aim). In an aggregative review that was not seeking to replicate the inclusion criteria, the aims would have been described in more detail. However an assumption was made that the meta ethnographic review was focused on adults to the exclusion of children. The phenomena of interest was clearly described, but the context was unclear, yet could have been used to clarify the boundaries of the review. For example, if it were ascribed to patients with a confirmed diagnosis of TB, that would eliminate studies where clinical diagnosis was not confirmed by smear tests. The context is useful to readers when used to communicate the scope of a phenomena, or particulars such as geographic or cultural perspectives. With this ethnographic review, while specifying a context may have increased the clarity regarding how the phenomena of interest was conceptualised, it would be difficult to make any claims regarding the impact on the review overall, particularly given that the aggregative review did not test the construct of the aims by incorporating information not present in the ethnographic study.

## Searching

Searching is one of the more contentious areas of qualitative synthesis and the core issues of contention have already been discussed in the background. As with the other methods related data, the search strategy from the ethnographic review was replicated in the aggregative review. Only the dates were varied to account for potential new papers published since the ethnographic review was completed. The raw data is illustrated in Table 5 showing the breakdown of papers identified per database, including duplicate studies.

| **Data base and start date of search** | **Aggregative (Dec2010)** | **Ethnographic (Feb2005)** |
|---|---|---|
| PsycINFO 1972 | 121 | 53 |
| ERIC 1966 | 9 – Boolean<br>150 “tuberculosis” | 6 |
| Academic Search Premier 1965 | 473 | 205 |
| Health Source: Nursing/Academic 1985 | 194 | 141 |
| ScienceDirect 1964 | 14501 results, first 1000 searchable. Then filtered by ti, ab, mesh 400 | 149 |
| Social Science full text 1983 | 308 | 29 |
| Social science citation expanded, social science citation index, arts and humanities citation index 1975 | 1619 | 889 |
| Medline 1966 | 2,620 | 1772 |

| | | |
|---|---|---|
| CINAHL 1982 | 610 | 321 |
| Pre-CINAHL Current | Included with Cinahl search | |
| Dissertation abstracts 1890 | 168 documents found | 57 |
| Sociological abstracts, social services abstracts, PAIS international 1963-, 1972-, 1980-17 | 138 references | 17 |
| EMBASE 1966 | 3642 references | 2349 |
| PapersFirst 1993 | 14 references | 12 |
| Pubmed | 2088 references | 1813 |
| Reference checking/recommended | 9 references | 1 |

**Table 5: comparison of "hits" in database searches. Meta ethnographic review timeframe concluded in Feb 2005, aggregative review in Dec2010.**

As can be seen from the above comparative table, the searching for the meta aggregative review identified substantially more citations than the ethnographic review search. Of the identified and retrieved citations for the aggregative review, 209 had been published either in 2005 or more recently. Therefore the timeframe seems the most plausible explanation for the difference as the topic of TB adherence continues to attract a high level of research interest. Although this represents a large number of studies, the Boolean strategy was perhaps more likely to be sensitive to qualitative papers given the use of the terms adherence, concordance and compliance (these being terms that have applicability to qualitative perspectives). Many early studies on DOTS related to efficacy of medications, and epidemiology of disease (quantitative concepts) and very few early qualitative studies were found, (of the fifty eight studies retrieved for appraisal, only three were from the 1980's and none were earlier than 1986). Another difference was in the number of Masters and PhD theses that were identified and included. The meta ethnographic review cited nine, while the meta aggregative review did not include any in the synthesis, although several were screened and rejected on appraisal. In keeping with the structure of a review report, quality assessment was considered next.

## Appraisal

In discussing appraisal or assessment of quality, direct comparisons between the two reviews were not possible. As discussed previously, there are substantive differences not only how quality is conceptualised, but also in the validity of appraisal and its core purposes between the two approaches. In meta ethnographic reviews quality assessment is the preferred term (appraisal often being considered overly associated with quantitative measures of quality).

The ethnographic review specifically recorded the decision that no studies would be excluded based on quality. However, two reviewers independently evaluated each study using a checklist. The decision to not exclude papers based on quality was attributed to two factors: the methodology, as developed by Nobilt and Hare (1988) did not consider appraisal or exclusion based on quality as congruent with their methodology; and the authors also referred to research that showed poorer quality primary research studies tended to contribute less to the overall findings. Where this occurs, the authors were concerned that 'weighting' in favour of higher quality studies might be a concern. The lack of consensus on how to appraise in meta ethnographic reviews was also raised as a concern (Atkins et al., 2008, Munro et al., 2007).

This issue of potential weighting was expanded upon. Limitations associated with publication may have led authors of primary qualitative studies to minimally document their methods. It was suggested that such papers did not necessarily reflect poor quality research. There were forty four papers included in the meta ethnographic review. This did not include any duplicates, and the a-priori decision to not exclude any papers based on methodological flaws may have contributed to a review of this size. By way of contrast, fifty-eight papers were imported into JBI-QARI for appraisal. There were no theses that passed appraisal and overall, twenty-two were excluded either on the basis of being duplicates or for poor quality.

## Extraction

As with appraisal there are distinct differences in data extraction. However, data extraction in meta ethnography is iterative and concurrent with synthesis. Yet, there are particulars that, as with the other steps reflect the distinct philosophical differences between meta aggregative and meta ethnographic reviews. Although it forms part of the synthesis process there is a phase of meta ethnography that has parallels to data extraction in meta aggregation.

The extraction of themes and metaphors from the included papers commenced with a particular paper that was read to identify the first and second order concepts. These were extracted into a standardised data extraction form. Although meta ethnography is geared toward the interpretation of thick, rich data, publication itself acts to filter both the context and thickness of description (which is problematic for this approach to synthesis). In spite of this limitation the definitions for first order and second order themes are well constructed and clearly understood to consist of the voices of the primary study participants and the primary study authors. Primary themes tended to be extracted from the results sections, while it was

reported that second order themes tended to be identified and extracted from the discussion sections. In practice, this is not necessarily clear, with the authors reporting that all the published data was based on the primary study authors interpretations. Notably, data extraction was conducted by multiple authors on a number of studies as validation of the extraction of all studies by one of the authors. This was described as a process of piloting the extraction, where one author would check extractions and confirm that the team had similar shared understandings of what the relevant data was and to what extent it should be extracted. The process bears many similarities to data extraction in quantitative reviews and it is unclear from the published review or the companion paper why this approach was taken with what is an acknowledged interpretive process.

The technicality, or process, was similar for the meta aggregation. The definition of a theme has long been established and has been found to be robust to any primary qualitative methodology that includes thematic analysis. The themes were readily identified from studies that used formal headings such as “results”. Studies that lacked a structure required deeper reading in order to confirm what the themes were. Many studies reported the themes as sub headings in the results section and were readily extracted to the standardised proforma in the JBI-QARI software. The only stage of a JBI aggregative review that requires the input of an independent second reviewer is appraisal. Data extraction is an acknowledged interpretive process that does not require the confirmation of a second reviewer. The data extraction in the aggregative review reflected the dual processes described in the background. First there was the extraction of the study characteristics and the context in the form of data about the setting, the participants and the phenomena of interest. The second extraction is of the themes plus supporting quote or illustration from the text. These were extracted directly in to the software, and each finding was allocated a level of credibility based on how congruent the theme was with the accompanying textual illustration (usually a quote from a research participant). The process of extraction was not contingent on selecting a particular paper as the starting point, nor was extraction of subsequent papers contingent on the particular themes of the preceding paper. However, repeated reading was required of the majority of papers to ensure a solid understanding of the themes, how they related to the broader context of the paper, and to determine the categorisation of fit between the themes and illustrations.

## Synthesis

The first stage of synthesis is to identify the themes and metaphors, commencing with one study. Munro et al (2007) raised several questions with regard to extraction. These ranged from the quandary of determining which study to start with; challenges in extraction of first order concepts (themes or metaphors spoken by the primary study participants) from publications that already consist of extracted data; differentiation between first and second order concepts; descriptive studies that provide very little interpretation (second order concepts); the limitation of extracting 'bites' of data and the associated risk of loss of context; and the potential influence of the primary study authors philosophic or theoretical background on findings.

These concerns represent a curious blend of perspectives. The first study chosen is highly influential in that the themes and metaphors extracted form the basis of what comes next, (i.e. subsequent papers are extracted into the themes and metaphors of the first paper). It is a pivotal influence for which there is no guidance or consensus related to which type of paper should be started with. The authors selected the oldest paper as their starting point, which referring back to the analogy of 'anchor' or 'compass' does seem to situate the process as having a fixed point of reference This raises questions as to the possible benefits or risks of saturation based searching, where there is an incomplete dataset to begin with. This also ties in with the risk of skewing that was discussed in the section on appraisal, as papers of higher methodological quality are more likely to be indexed in databases clearly and correctly, thus more readily identified through searching. The tendency of this phase of the process, selecting an anchoring study for extraction would seem to increase the risk of skew in favour of more rigorous studies, a state the authors were intent on avoiding.

The second challenge involved in extraction was that extraction is intended to be iterative, exploratory concurrent with the emerging synthesis and contextually rich, drawing on thick descriptions. However, all these principals hinge on the depth and quality of reporting in primary studies and are therefore outside the control of the reviewers. On this basis, the lack of clarity and certainty regarding processes for extraction seem to result in contradictory logic, such as attempting to avoid skewing the results toward quality studies by deliberately including poor quality studies.

The meta ethnographic synthesis clearly followed the approach established by Noblit and Hare (1988). The authors were careful to describe in as much detail as possible each of the steps

involved, including how studies were related to each other, how first and second order themes were translated into each other and how, subsequently, a line of argument synthesis was developed from the reciprocal synthesis of themes and metaphors. One substantive divergence from the original methodology was that the large number of papers and variation in themes between papers meant translation of one study into another was too difficult to achieve. The authors instead undertook a thematic analysis in order to develop a smaller set of categories from which the reciprocal translation was based. Each step of the process involved the authors engagement with the papers to immerse in and gain a deeper understanding of the context. This engagement was continuous throughout the synthesis. Although the procedure for moving to a higher order synthesis was talked about by Noblit and Hare (1988) and has been used in meta ethnographic reviews since, it is essentially an interpretive process for which there is no clear description of process. The reviewer must draw on their interpretive skills, knowledge and experience to reach through the context of individual papers and bring them together in a new synthesis. This engagement between the reviewer and the research mirrors the primary qualitative approach, where researcher and researched influence each other and the findings reflect this interaction. In the case of meta ethnographic reviews the findings, in the form of a line of argument synthesis, drew upon both the context and findings of the included studies. Meta ethnography, however does not seek to describe what the literature says, rather the interpretive skills of the reviewer (or review team) are used to construct new meanings. This then is where the meta in meta ethnography comes to the fore. It is the reviewers interpretive skills, through engagement with the included studies that enables the higher order synthesis. The conceptual model described in the first section of the results was a part of the synthesis and a part of the presentation of the data.

The model was developed with input from each member of the review team who independently crafted illustrative linkages between the translations and authors interpretations. Each team members' model was then discussed and a new model based on the mind map that arose from discussions was developed. By way of contrast, the meta aggregative review produced a synthesis with markedly different characteristics, using markedly different processes.

The synthesis in the aggregative review was constructed not as a hypothesis or mid level theory, but a practice theory. The intent was to generate evidence to improve practice and patient outcomes. Hence the synthesis was a series of declamatory statements that adequately represented the primary data. Findings that form the basis of recommendations for practice

arising from aggregative synthesis were allocated a level of credibility and the subsequent recommendations were also graded according to the strength of the literature they came from. The needs of practice demand transparency when communicating evidence for practice and this includes the nature of the data and strength of the findings. This process illustrates a distinct difference between meta aggregation and meta ethnography that will be expanded upon in the discussion. The distinction is that in meta ethnography, the interpretive process defies objective assessment of the primary studies and of subsequent grading of the review results.

The results in phase one of this chapter illustrated both a textual difference in the results and in how they are worded. In addition to this textual difference the degree of transparency and linkage to the primary data was explicitly different. The emphasis was on representation of the data, not on the reviewers interpretive or theory generating skills. Thus the findings are clearly grounded in the literature instead of seeking to extend from the literature into a higher order synthesis.

## Presentation

The meta ethnographic review drew upon traditional strategies for dissemination. These included development of the conceptual model and publication of the review report plus companion paper and conference presentations. The authors indicated that these forms of presentation made it difficult to communicate the full scope and complexity of the findings. The meta aggregative review resulted in a table that included all the findings (with their level of credibility), the categories they were reduced to and the synthesised findings that represented the expression of the categories. This all in one approach ensures the connectedness between the primary data and the outputs of the review and overcomes the complexities associated with communicating where and how particular synthesised findings were developed. Publication and presentation will be used as strategies for dissemination.

## Platform

The final area of note in the comparison was whether there was a software platform to support the conduct of either review. There is no such support for meta ethnographic reviews and reviewers therefore develop or modify resources, such as data extraction sheets, coding sheets, appraisal instruments, tables of findings or diaries and records of themes and how studies relate to each other for their own purposes. This is a process that will hardly be novel to

qualitative researchers and may be useful from the perspective of encouraging further engagement with each included paper. By way of contrast, when undertaking an aggregative review, there is a software platform (JBI-QARI is a software platform, not a method of review) that standardises many of the steps in the review process. This standardisation is facilitated by having a consensus on the methods, key definitions and the sequence in which they are undertaken. The absence of a platform does not necessarily hinder meta ethnographers and may increase the reviewers capacity to engage deeply with the literature. The JBI-QARI platform focuses the interpretive process on the papers in a way that limits the influence of the reviewer and due to the consistency with which such reviews are undertaken, facilitates critique of the review as well as providing a transparent, audit trail of decision making.

# Chapter 5: Discussion

The structure of the discussion chapter focuses on the processes of the systematic review utilised in the previous chapters. However, the interpretive methods of qualitative synthesis must be positioned in accordance with relevant philosophical and ontological perspectives. There are three core branches of interpretive philosophy that assist in positioning the field of knowledge appropriately. These are hermeneutics, symbolic interactionism and phenomenology. Two of these in particular can be closely aligned with the review methodologies under examination in this thesis. By revisiting and establishing the alignment between these perspectives and qualitative review methods it is possible to make a series of recommendations that aim our depth of understanding about the philosophic origins and to increase the rigor of methodology in light of their congruency with particular philosophic perspectives.

## *Philosophy*

Interpretivism is the catch phrase of meta ethnography, yet it leaves one wondering what they mean by interpretivism. It is by no means clear what is meant either by the originators Nobilt and Hare (1988), in their monograph as the phrase 'interpretive' is used without any further context. Subsequent reviewers who have used the methodology have not explicated its philosophic foundations further. This is somewhat unusual in that primary research in the critical and interpretive paradigms is generally criticised if it does not give an ontological and epistemological account to justify what tradition it is from and what the philosophic influences were on the generation of knowledge. For example, papers included in the ethnographic review that formed the comparator for this thesis were categorised based on quality of reporting of methodology and cited studies that have shown that thick descriptions tend to come from 'better quality' primary studies. Given that authors tend to highlight the interpretive nature of meta ethnography, it seems more than a little curious that so little has been done to identify what is meant by 'interpretive' in a meta ethnographic review. Such an oversight could be considered a failure of internal validity, but may also reflect that authors primary challenges in undertaking an ethnographic review are in clarifying the processes and methods. The review by Munro et al (2007) does describe many limitations and challenges experienced in attempting to clarify what the general descriptions by Noblit and Hare actually require when applied within the context of a systematic review. Yet, important questions remain unanswered; such as 'what are the philosophic tenets that lead to the development of an iterative,

interpretive methodology so significantly different from meta aggregation? The two methods of review share some key similarities (such as requiring an interpretive approach, relying solely on qualitative literature and being used to review literature related to health care questions and concerns), yet answers to this and other questions must be considered in order to demonstrate the internal validity of either approach, a point that will be returned to later in the discussion.

Despite substantive similarities, as can be seen from the results chapter, once one begins to compare methods rather than headings, they diverge substantively, and once one compares the findings, the divergence is remarkable in its scope. Given these differences (not withstanding the common framework provided by the systematic review) it seems philosophic perspective is more important than tends to be given credence by the simplified statements regarding 'interpretivism'. The results chapter, particularly the section on 'approach'; highlighted gaps between 'doing' and 'thinking' as they relate to the implications of philosophical perspective on methodology, a limitation of both methods.

One must also remember that meta ethnography arose from the social sciences and therefore has somewhat different philosophic influences when compared with the health sciences. These differences and their implications do not appear to have been rigorously investigated or considered by interpretive reviewers to date when undertaking reviews in the health sciences.

Interpretivism, as stated in the results section of this thesis, is not a unified theory. It is instead a broad church, inclusive of many philosophical perspectives, each of which follows particular assumptions and lines of thought. These lines of thought have become methodologies, each with distinctive characteristics that maintain the conceptual clarity. These have been identified as hermeneutics, phenomenology and symbolic interactionism (Crotty, 1998). Before focusing on the particular line of thought it is useful to overview each perspective within the interpretive paradigm in order to better illustrate why general claims of 'interpretivism' are inadequate. Figure 8 assists to illustrate the depth of complexity inherent in interpretivism when one attempts to consider it as a unified school of thought.

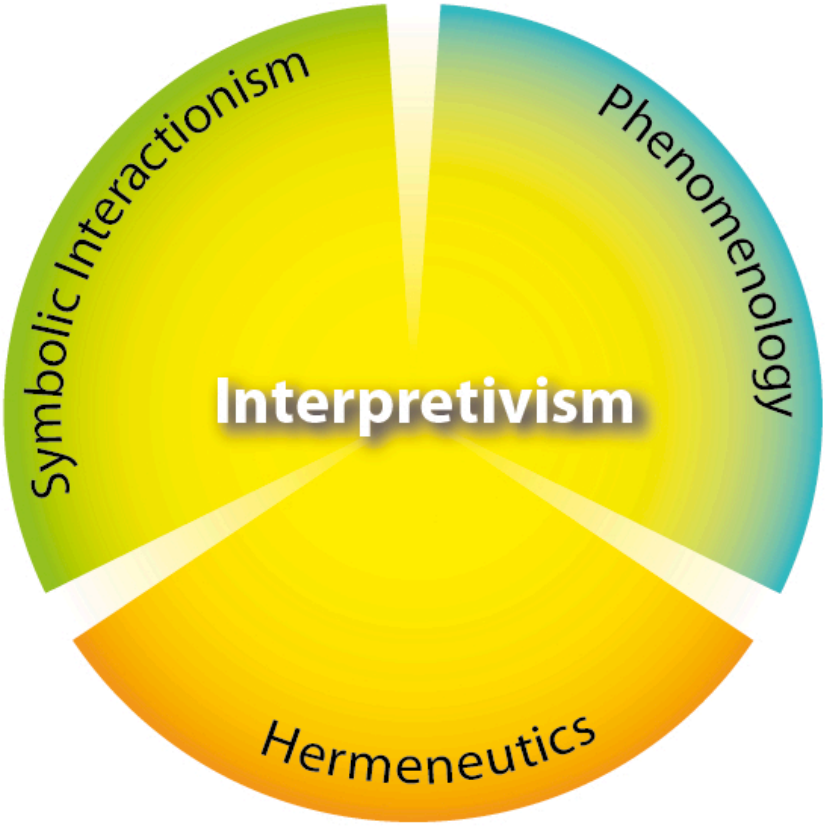



**Figure 8: Conceptual model illustrating the overarching paradigm of interpretivism and the specific schools of philosophy that both emerge from it, and constitute the parts of the whole**.

## Symbolic interactionism

Symbolic interactionism arose from the work of pragmatist philosophers of the early 20th century and was based on three core tenets. These were:

- That humans act in accordance with the meanings they ascribe to things they interact with
- That meaning itself is socially constructed, and
- That meaning is modified and interpreted by the individual when they interact with things

Symbolic interactionism requires one to 'take on the role of others' (pg 74) (Crotty, 1998). This is a telling phrase that requires a level of engagement in order to both see ourselves as social objects and therefore be free to see others within the same context. Crotty relates this to game theory where meaning is subjective, and always associated with what persons ascribe to their

actions. Meaning is therefore linked with action from the individuals perspective in this approach. As a form of inquiry, symbolic interactionism seeks to draw the researcher into the 'researched' persons meanings. The interaction is achieved if the researcher, using the tools of common understanding such as language and shared behaviours and experiences is able to walk in the persons shoes.

Symbolic interactionism is clearly an interpretive social perspective that requires immersion on the experiences of others. From this we can gather that the meanings that others attach to experiences or phenomena of interest can be understood by orientating ones self to the perspective of the person through the use of symbols. Without this orientation of self to other, there is no subjective engagement and without experiencing the symbolic perspective one is unable to attribute the meaning that otherwise arises from language, from other social constructs. This focus on interpretive, social meaning is the key as to what methodologies would be a good fit for this philosophic perspective. As Crotty (1998) indicates these include ethnography, phenomenography, ethnomethodology, anthropology and grounded theory. These have their philosophic basis in symbolic interactionism and their particular methods (although not the focus of this thesis) can be understood in light of their philosophic perspective (Crotty, 1998).

## Hermeneutics

The second 'tree' emanating from the interpretive perspective is hermeneutics. As with Symbolic Interactionism, there are distinctive philosophic perspectives, which in turn impact on how particular methodologies work within the interpretive paradigm. The methodologies in turn guide particular methods that are congruent with the methodology and philosophic perspective.

Hermeneutics has been described as the set of rules, theories, principals and methods of analysis in order to understand the meanings within text (originally, religious texts) (Crotty, 1998) In everyday terms, hermeneutics is based on the assumption that language is a reflection of our realities and hence the way things are perceived or understood can be reached through analysis of the written text (Crotty, 1998).

The history of hermeneutics, as with many schools of philosophical thought can be traced to ancient Greek culture (religious hermeneutics has Judaeo-Christian influences) where texts were read, shared and analysed based on a process of examining the parts for their congruency with the whole. This was not therefore a mystical, invisible reaching for the stars

based on superstition (philosophy was counter cultural to superstition), but a rational process that allowed constructive criticism of text based on its literal sense (i.e. criticism in the sense of engagement, rather than objective analysis). A second school of thought was that the written word was more of a gateway to the spiritual or allegorical than literal (a somewhat metaphysical perspective). Both schools of thought though considered the parts of a text in light of its whole and this is the underlying basis of hermeneutics (Crotty, 1998).

The philosophy of Hermeneutics raises practical issues for the methodology, with some assumptions seeming counter intuitive to interpretivism. Working with text is not the same as working with or observing people in order to establish meaning from the interaction. There is a remoteness to hermeneutics that has practical implications (although the philosophy makes an explicit association between text and meaning). There is a link between the reader and the text. It may arise from the interaction of reading, the relevance or significance of the text for the reader, or the context that the reader associates with the text (Crotty, 1998). Context, within this frame of reference, goes some way to explaining the interpretive linkage, as who the reader is and how they read contributes to the development of an understanding that is deeper than, or extends beyond, the authors original meanings. The meanings that are arrived at will necessarily reflect different ways of both reading and interpreting. Some consider a free for all perspective of reader as interpreter as being central, while others suggest a lack in structure gives the reader too much influence (being 'too liberal' as Crotty described it) (Crotty, 1998). The criticism that the reader should be less of an influence than the meaning intended by the author, is not a new concern and is one that qualitative synthesis methodologists will recognise as the ontological debates are somewhat reflective of those between meta ethnography and meta aggregation; both are necessarily interpretive, but one has more restrictions that seek to focus on the texts (primary studies), while the other is more 'liberal' and relies more deeply on the interpretive skills of the reviewer.

In spite of these similarities in lines of argument (the background chapter explores and illustrates how reviewers as compared with theorists have interpreted and applied methods), it is not at first to hermeneutics that this thesis is pointing. Hermeneutics, as presented here in somewhat simplistic terms, is about the meanings readers bring to texts. Systematic review, which is about the reading of studies, seems congruent with this perspective; but there is a third philosophic perspective that takes into account that studies (particularly in the health sciences) are about people and their experiences. Phenomenology.

It is in phenomenology that this thesis purports the philosophic basis of both meta ethnography and meta aggregation can be found. Phenomenology began with the two protagonists that this thesis will focus on, but its roots were seeded in neo-kantian philosophy in which Hegel described it as *"…the science describing the development which natural phenomenal consciousness undergoes by way of science and philosophy toward the absolute knowledge of the Absolute*."(pg24) (Kockelmans, 1967). Husserl formalised phenomenology as the study of consciousness as it relates to objects or phenomena of interest. Moving away from objective study Husserl proposed that understanding could be founded upon our conscious experience of the world (meta physics by way of contrast is founded on the subconscious experience, and is not a central tenet of this thesis). It is important to consider Phenomenology as philosophy before considering its influence on qualitative synthesis methodology.

## Husserlian Phenomenological Philosophy

The reputation Husserl had for rigour has been attributed to his background in Mathematics. However, it is more likely that he was influenced by Brentano (Brentano was both a scientist and a psychologist), a *Privatdozent* in the University of Vienna who taught him the theory of science and was therefore influential in "the doctrine of proposition-in-itself, of an idea-in-itself, and of truth-in-itself that Husserl was later to use in developing a theory of universals for himself."(Welch, 1941). Brentano imposed on Husserl the idea that philosophy must be scientific and must involve rigorous discipline and strict rules of inquiry. These were founding beliefs that helped Husserl conceptualise his philosophies. His first publication 'Logical Investigations' centred on differences between meaning and object, between the act of consciousness and a phenomena of interest. The phenomena was conceptualised as a pure essence, untainted by perspective or supposition or even intuition as these all imply influence and Husserl was interested in getting back to the very foundations of thought (Kockelmans, 1967). The positioning of Husserl's philosophy has been framed in numerous ways. The line of thought it intuits are extensively addressed in the literature; the basis has been concisely summarised by McKenna (1982) as:

- The perception of a thing is necessarily inadequate, since its perception through adumbrations or appearances.
- Because of this inadequacy, any perceived thing could be inactual, which means that the perception of a thing is a believing or doxic consciousness.
- Whatever *could* be inactual and is on hand, is on hand through consciousness.

- Therefore, any perceived thing is on hand through consciousness, and
- The world is on hand through consciousness.

What McKenna describes in these five statements is Husserl's intent to get to the essence of a thing and by essence he means the thing itself, not my 'perception' of it, not the 'socially constructed meaning', or the objective, positivist stance. Husserl's view of essence transcends positivism. He referred instead to essence as being wholly outside of our experience or cognition. In neo-Kantian terms, Husserl's transcendent thought recognised the a-priori existence of a phenomena of interest. McKenna (1982) went on to describe the purpose of Husserl's argument as being to demonstrate that consciousness is what constitutes the world and that through transcendental phenomenological thought the world as-it-is could be known. It was a drive to identify meaning as particular and unique to the thing or phenomena of interest in such a way that transcends the inductive or deductive self as part of knowing (McKenna, 1982).

Transcendental phenomenology involves methods that Giorgio suggests should be analytic and descriptive to be in keeping with requirements for rigorous science (accessed online 10/3/2011; http://www.phenomenologyonline.com/inquiry/3.html). The methods have become familiar in the health sciences as research methodology as well as a mode of philosophic inquiry. Given the disparate range of interpretations and perspectives on Husserlian phenomenology, what follows is necessarily the exercise of a particular perspective and is 'a' position, not 'the' position. With this caveat in mind, the concepts and processes that Husserl developed, when reduced to their minimum, may look like the following:

Bracketing: (epoché) is not the suspension of ones own beliefs; but a twofold process that involves divesting ones self of any ontological commitment related to the particular interest, also described as a neutral position. The second phase is to include within the brackets whatever pertains to the essence of the thing-as-itself (McKenna, 1982).

Reduction a method for gaining intuitive access or for revealing primary presuppositions that are evident as they are, and unable to be further reduced or clarified (Kockelmans, 1967, McKenna, 1982).

| | |
|---|---|
| Inner essence | (eidos) the features achieved through reduction of non-essential characteristics down to a common variation or essence (Kockelmans, 1967). |
| Intuition | (Sachlage) essential features of the meaning being sought make themselves aware through intentionality (Kockelmans, 1967, Welch, 1941). |

The framework for Husserlian philosophy is then based around identification of essence, through a process of bracketing and reduction. These allow the true conscious experience to be intuitively established through interpretation and without undue influence of self interacting with the meaning.

The difference in perspective and positioning between Husserl and Heidegger was a substantive one. The rejection of Husserlian thought by Heidegger has been somewhat poetically described as overcoming the inevitable misinterpretation of the nature of reality "…*for when we step back and try to get an impartial, objective view of things, the world, so to speak goes dead for us – things loose the meaningfulness definitive of their being in the everyday life-world*." (pg5) (Guignon, 1993).

This perhaps sets the scene for the differentiation between Husserlian and Heideggerian thought. Husserl focused on consciousness, seeking the objective essence of consciousness. By way of simplified contrast, Heidegger focused on what 'being' means in an experiential sense, seeing being human as integral with the world we live in, to the point that knowledge must be considered in light of our awareness of self (Magee, 1998). Phenomenological research reflects this line of thought, as Crotty illustrates, suggesting new or confirmatory meanings emerge as we re-visit our experience of a phenomena of interest (Crotty, 1998).

## Heideggerian Phenomenological Philosophy

A somewhat briefer look at Heidegger's phenomenological perspective will satisfy the need to situate the comparison between the two reviews and to indicate that the claimed association between phenomenology and both forms of review has a plausible foundation. This section then will focus on two primary concepts of Heideggerian thought, that of Dasein and of hermeneutics.

While Husserl had an interest in consciousness, Heidegger's primary interest was in 'being'. For Heidegger, the question of being was the core question, and he described being (Dasein) as human existence, of being in time. Being, or human existence has been metaphorically described as "*the horizon in which something like being in general becomes intelligible* (pg5)"(Guignon, 1993). In focusing on being as 'the core thing' Heidegger moved entirely away from Cartesian thought regarding dualism. Instead Dasein brought together the whole of life experience into an existential, subjective unfolding, or revelation of life as story (Guignon, 1993). According to Guignon (1993), Dasein consists of three elements or characteristics:

| | |
|---|---|
| Facility | Sits within a context, not outside or removed from context. |
| Discursiveness | What we perceive or 'do' is based on interpretations founded through shared language. |
| Knowing | Is the tacit embodiment of life awareness. |

Our lives, from Heidegger's perspective, are a hermeneutic circle. What we see, think, feel and what we experience is real, is Dasein, is the essence of life, albeit un-revealed without study. There is no additional purer essence. The application of objective study will not reveal a higher state of knowing, or a more real reality. Heidegger believed that our conscious lives with their meanings and experience were the core of 'being'. This remarkable reconceptualisation of philosophy raised the subjective moment to the level of primacy – where Kantien philosophy had placed identification of essence on the pedestal of thought, Heidegger is said to have declared reality to be essence (Guignon, 1993).

Being then in Heidegger's world was the antithesis of Husserl's 'Logic and Reason'. Phenomenology as conceptualised by Husserl would not do, a new phenomenology was called for, one that recognised that 'being' (in the sense of transcendental subjectivism) could be found through our sense of understanding within the context. This was not a subtle difference, but a shift of cataclysmic proportions and philosophy, from the 20th century onwards has been changed. The differences in summary form are illustrated through the three following points (Guignon, 1993):

1. Self-understanding is not necessarily authentic awareness, there is a fallibility to intuition that an objective and transparent 'ego' does not authenticate.

2. Bracketing the 'world' is neither feasible, or desirable; objects 'of' consciousness, risk becoming objects 'in' consciousness, thus blurring the distinction between what transcends and what merely is.
3. The concepts of 'viewing' or 'intuition' and 'occurrent' for Husserl were part of the stream of consciousness; for Heidegger, they were far more significant than assumed states within the consciousness.

Meaning is found in being, through being-there (Dasein). Not that we are always actively thinking beings, but that in our lives, we draw on implicit understandings, while not aware of those understandings, or how we have drawn upon them. The purpose of Heidegger's phenomenology was therefore to bring out in to view that which was but had not been made known.

The second area of interest is hermeneutics. Traditionally, the study of texts, [and a part of Heidegger's early religious training], Heidegger was familiar with the processes and tenets of hermeneutics and exegesis. In Heidegger's philosophy, Dasein, the world, time and hermeneutics were central and inter-related. Hermeneutics arose as a method of examining and interpreting text and, the rules and principals of hermeneutics enabled the interpretation to emerge from text under the implicit assumption that text is intended to communicate meaning and that interpretation illuminates meaning (Crotty, 1998). Hermeneutic reading involves repeated engagement with a text, an approach which has been described as relational with both the text and the author of the text. Hermeneutic meaning is meaning that readers intuit (or more correctly, interpret) beyond the original authors intentions through deep engagement It goes beyond what was spoken and allows the reader to develop new understandings (a point that will be returned to in further detail later in this chapter). Interpretation in hermeneutics begins with the substance of an idea, but lacks the structural form of a concrete idea. In reading and developing meanings, the reader interacts with the text in such a way as to confirm and clarify the initial structure of the idea, developing its form, this process has been described as the 'hermeneutic circle'. Crotty (1998) indicates that it is through the parts we understand the whole, and from the whole, we understand the parts thereof (Crotty, 1998). Thus understanding or illumining the meaning one informs the meaning of the other.

Heidegger latched on to the potential of hermeneutics in a way that no other philosopher previously had. For Heidegger, hermeneutics enabled phenomenological 'seeing'; hermeneutics became phenomenology and phenomenology became an exercise in

hermeneutics (Crotty, 1998). Combining phenomenology and ontology had changed the perspective of philosophy, directing it toward being rather than consciousness. Hermeneutic phenomenology augmented the interpretive, enabling a new hermeneutic circle through the stages of being that both begins and finishes with Dasein. In terms of the re-defining of phenomenology, this variation on hermeneutics and ontology, brought philosophy back to one existential goal: to establish meaning beyond the bounds of relativism (Crotty, 1998).

The philosophies of Husserl's transcendental phenomenology and Heidegger's hermeneutic phenomenology have been embraced not only as philosophic perspectives on the nature or meaning of consciousness and being. A long tradition of primary research was born from their work and phenomenological inquiry now represents a substantive body of interpretive knowledge, particularly in the health and social sciences. There is no basis though to suggest these philosophic traditions need be limited to primary research. Indeed, if anything, it could be argued that, given its origins, hermeneutic phenomenology is better suited to secondary research (analysis of text).

## Approach to synthesis

What then can we deduce about an association between a particular philosophic perspective and the approach to synthesis? Given the influence of philosophic perspective, what is immediately apparent is that both methods are inherently qualitative, inherently interpretive, but from different perspectives. The difference in perspective is not a case of 'right' and 'wrong', but a case of 'either' / 'or'. Heidegger himself in his book "What is Philosophy" (Was is das-die Philosophie?) stated that hermeneutic philosophy was 'one road', and a choice must be made in order to travel (Heidegger, 1956). This it seems is the primary point of distinction with regard to methodology. It is the approach that dictates what and how knowledge is conceptualised. Meta ethnography, with its links to Heideggerian thought requires of the reviewer to engage deeply with the literature in order to generate interpretive understandings that arise from the literature and fuse with the reviewers horizons. The associations with the hermeneutic circle are clear in that a reviewer starts with an idea (question), and returns to that idea through examination, of both the parts and the whole, of a phenomena of interest as represented in the literature, but also as experienced by the reviewer as they contribute to the interpretation.

By way of contrast, the Husserlian approach involves interpretation by establishing boundaries on self, in order to identify the phenomena of interest. What this suggests, in the context of

systematic reviews, is that one can conduct interpretive synthesis without 'distilling' the essence of what the literature says through ones own influence. As the following pages will demonstrate, these characteristics, either engaged hermeneutic higher order interpretation, or bracketed interpretation grounded in the findings themselves, show high internal consistency across both review methods. It is this degree of congruency between philosophic perspective and methodological guidance that provides the basis for this thesis. Therefore, when considering a synthesis approach, the primary question a potential reviewer should consider is whether they seek to engage with the literature in such a way as to extend beyond its findings (as occurs in meta ethnography through the hermeneutic circle), or, whether they wish to summarise the literature (as occurs in meta aggregation through transcendental phenomenology).

## Purpose of the synthesis

The broad purpose of synthesis is to bring together findings from two or more papers. The particular purpose of systematic review is to bring together the findings of a body of literature in a scientifically credible, robust and transparent way that allows proper critique. All forms of synthesis fulfil the germane purposes of synthesis and both methods examined in this thesis have been shown to (with varying degrees of completeness) fulfil the broad requirements of systematic review. As was illustrated in the results chapter, it was both conceptually, and pragmatically easier and clearer for the aggregative review to fulfil the requirements, a point that although not central to this thesis, will have implications for reviewers when planning which approach to consider. A second important consideration is the difficulty that was experienced in the ethnographic review in fulfilling the requirements for transparency and auditability, a problem that began with inclusion and that carried through each step of the review process to the line-of-argument synthesis. This is a complicated challenge for users of the approach, as illustrated in a thematic synthesis review on DOTS where the authors indicated that "…*important aspects of accepted systematic review methodology could not be directly translated*." (pg228) (Noyes and Popay, 2006).

The specific purpose of meta ethnography is to synthesise literature and generate higher order findings. The review and companion papers both describe, in detail, the interpretive process undertaken to generate a line-of-argument synthesis that is greater than the sum of its parts (parts being themes identified in the literature). The companion paper to the review used in this comparative study stated that "…*meta ethnography is probably best-suited to generating*

*models of behaviours or experiences*" (Atkins et al, 2008), reinforcing both the fact that meta ethnography extends beyond the literature (which is entirely congruent with Heideggerian hermeneutic phenomenology) and that the end product is entirely dependent upon the interpretive skills and contextual knowledge of the reviewers. The result is a review that generates mid-level theory with low predictive power, but high theoretical explanatory power (by power I in no way infer any quantitative connotations). The attraction of this method of synthesis for qualitative researchers is both clear and logical in that interpretive research draws on the same philosophic foundations and is therefore predicated on the same interpretive assumptions. To suggest meta ethnography is any less than a hermeneutic approach to interpretive synthesis, is to downgrade the methodology to a generic thematic process with no clear ontology; and this is clearly not the case.

Meta aggregation has a particular and different purpose. As stated previously, the primary purpose is to assemble and summarise the extant literature in order to produce summary statements that reflect the body of literature. The output of meta aggregative reviews is based on a systematic, transparent and auditable methodology, one that has not been 'adapted to' systematic review, but 'designed for' systematic review. The nomenclature of aggregation is counter intuitive to the field of interpretive reviews. Aggregation as a term is aligned with the quantitative paradigm. Hence the use of terms such as 'aggregation' or 'pooling', are open to misinterpretation. The lack of clarity in published reviews and literature regarding its roots in the interpretive paradigm have probably contributed to the misunderstandings of where and how meta aggregation fits within the interpretive paradigm.

## The Protocol

The meta ethnographic review chosen for this comparative study was, as illustrated in the results chapter, aligned with the germane principals and processes of systematic review. However, the authors identified a lack of consensus within the interpretive review community regarding whether a protocol is needed, beneficial, should include standardised information or whether it should be a-priori, or fluid and subject to change as the review progresses (Atkins et al., 2008, Munro et al., 2007). The lack of consensus on these issues is substantive. To date, such decisions have been made individually by reviewers who have tended to cite previous reviewers to validate the decisions made regarding protocol structure, content and purpose. This is not tenantable in the long term for a methodology that has the potential to make a significant, international contribution to knowledge. Work needs to be done on developing a

consensus on what meta ethnography 'looks like' as a qualitative review methodology and consideration should also be given to naming it something more appropriate as the reviews are no longer limited to ethnographic studies.

This thesis has shown that where there are shared understandings and widely adopted key definitions and methods; interpretive methods (meta aggregation for example) can use standardised approaches. Meta ethnography is yet to reach this level of consensus and in order to enhance its methodological development and to promote quality across reviews that use this approach, it is crucial that more be done to identify and obtain standardisation of key definitions and processes as they relate to systematic review methodology. This does not detract from or limit the capacity for interpretive researchers to 'be' interpretive. The method requires interpretation, but needs a framework that fills in the substantive gaps left by Nobilt and Hare. This thesis asserts that its roots are in Heideggerian hermeneutic phenomenology, however no entity, or group of academics/researchers, has taken ownership of how to transition what was designed as a method of synthesis into a method for systematic review.

An aggregative review draws upon an a-priori protocol (the same framework as a germane systematic review). This immediately (and unnecessarily as we have now seen) differentiates it from an ethnographic review, and provides a clear structure from which the methods are conducted. It therefore also provides a clear framework for critique of both the methodology and reviews produced in this approach. Some may suggest that having an a-priori protocol limits the potential directions the review can take and in a very broad sense, that would be correct. However, there are no published examples of ethnographic reviews that are so completely different to their original line of thought that they could be considered 'entirely different' either. Both types of reviews can be conducted from a-priori protocols without limiting their 'interpretive potential' as the synthesis is stated non-directionally in the protocol. If deeper change in direction is required, one that focuses on a different phenomena, this suggests a lack of clarity, knowledge and preparedness during the development phase of the protocol. If the change in direction occurs during synthesis, this can be readily accounted for in an a-priori protocol, as interpretive synthesis methods focus on a phenomena of interest rather than on predicting particular methods of analysis or directions for the synthesis itself. This has, it has been argued, implications for the question structure and purpose also.

## The Review Question

Much was made in the discussion section of the use of mnemonics for structuring qualitative review questions. The usefulness of a structure was not explicitly tested in this comparative analysis, however, there is an interesting observation that can be made with regard to literature that describes the question as either anchor or compass. In the results, I suggested there was at least a third option; that of question as engine. The mythology of question as either anchor or compass must be reconsidered in light of the fact that the exact same question formed the basis of each review, yet the philosophic perspective, methodology, methods and results are markedly different between the two reviews. If the nature of the question were truly significant, one would have to question where its impact was. What this comparative analysis showed was that the question does not either tie a review down, or set it on the path to wider exploration. The question in both cases brought to the fore what the phenomena of interest was and who the population of interest were. The PICo structure in the aggregative review was no more or less helpful than the straightforward aims reported in the ethnographic review. In both reviews, there was a clear association between the question and the subsequent inclusion criteria that provided the framework for each review. The question therefore may well be neither anchor, or compass, but, as was suggested in the results it can more usefully be construed as 'engine', providing the impetus for the inclusion criteria without the quasi-primary qualitative research association that attends the notion of a fluid, changeable question. As with the question, the inclusion criteria were transposed from one approach to the other. No particular limitations were identified in the conduct of the aggregative review based on the use of criteria directly extracted from a meta ethnographic review. Again, this suggests that these are not core issues of distinction. If they were, there should have been substantive, and hence noticeable differences that could be attributed to the criteria. Operationalisation of the review is informed by the inclusion criteria, yet, clearly not directed by them. This can be logically inferred from the fact that there were no differences in inclusion criteria, yet the results were markedly different. This thesis posits that these differences arise less from the criteria or types of papers included than they do from the approach and how it is implemented via the methods, not the question.

## Searching

The role of searching is one of the most debated aspects of qualitative synthesis, with quite polarised perspectives on the role of literature influencing views as to whether searching should be comprehensive and exhaustive, or saturation based, purposively drawing on much

smaller samples of literature. There are some contrasting views in the literature, as highlighted in the background, where decision making seems to be based on sampling across both good quality and poor quality studies as a way of ensuring no views are lost. However the limited studies on this area suggest that poor quality studies do not make a substantive contribution to synthesis due to their highly descriptive and thin interpretive data (Harden, 2008). Although there was a substantive difference in the numbers of studies identified between the two reviews, this was more likely to be a feature of publication rates than of any difference between the two reviews. Search terms was one of the areas where I made direct contact with a reviewer involved in the ethnographic review to confirm the search terms used across databases, so I am confident that searching in the aggregative review was an accurate replication of searching in the ethnographic review.

The main issues around searching for qualitative synthesis involves issues in managing large numbers of papers and whether to search comprehensively or not. The original suggestion of Noblit and Hare (1988) was that searching should be selective, with use of comprehensive searching requiring justification based on the potential benefits for the synthesis. Meta ethnography in its first conceptualisation was not about predictive generalisations, but about the value of insights associated with interpretation. Searching and subsequent study selection, it was suggested should be based on what the audience wants to know and what they would consider credible. The problem with an approach such as this is that 'credibility' becomes a moving marker, not a fixed point of reference, hence it looses all ability to be audited or to lead to clear methodological recommendations. It should be acknowledged that for many interpretivisits, this would not be a problem at all. However, in the broader context of 'systematic review', rather than 'selective review' it quite simply confounds the notions of transparency in decision-making and, in particular negates the potential for replicability or scrutiny of methods.

Interestingly, Noblit and Hare (1988) describe the generalisation of findings from an inclusive search as yielding trite conclusions, although this was never tested or established empirically through their or the work of others. Yet, within the context of hermeneutic phenomenological reasoning, which is precisely about level of engagement with the text, working with more restricted data sets could certainly make it easier for a reviewer to iteratively identify and translate findings in to one another.

Certainly, Munro and colleagues (2007) found the process of working with larger numbers of papers difficult and had to innovate some of the steps of meta ethnography to cope with forty four papers. The review team included several members of Cochrane review groups and Cochrane centres and their experience and expertise in dealing with literature is not open to question. The technical and pragmatic challenges associated with managing literature in meta ethnographic reviews, with the lack of philosophical or methodological imperative for comprehensiveness, suggests saturation based searching is a reasonable avenue for ethnographic reviews, albeit, research is needed to investigate the processes and implications in order to develop guidance.

By way of contrast, the aggregative review identified an initial data set of 13554 citations. Each of these was scanned by title and, where necessary for clarification, by abstract and/or key words. From this initial pool, 163 citations were read in close detail to establish fit with the review question and inclusion criteria and 37 studies were included in the synthesis. Although seven less papers than the ethnographic review, there were no particular challenges in the management of this number of papers and no variation of aggregative methods was required. The management of papers is broader than the synthesis itself, a point that needs to be considered further in the discussion of synthesis in the following pages.

## Appraisal

The considerations around appraisal as they relate to philosophic perspective are clearly differentiated between the two reviews. The distinctive differences are remarkable given the ethnographic review was more formally aligned with traditional conceptualisations of systematic review than many interpretivists, including Noblit and Hare (1988), would consider either necessary or appropriate. In spite of this adherence to a form of appraisal (even the language varies between appraisal and quality assessment; with appraisal being the more formal term associated with quantitative review). Other qualitative syntheses have used appraisal in the same way, that is as a way of engaging with the literature rather than as a way of establishing its quality and making decisions about inclusion or exclusion based on quality.

There is a curious mix of perspectives in the literature on the role of appraisal that does not seem to have carried through to the conduct of ethnographic, or thematic type qualitative reviews. The synthesis by Noyes and Popay was a general thematic approach, in which appraisal was conducted, but no papers were excluded (the decision to include all was made in

advance of the review) (Noyes and Popay, 2006). The authors had concerns about limiting their review to high quality studies; although in an analysis reported in the same paper, they found no difference between the 'higher' quality studies and the low quality studies. If it can be shown that low quality studies have little or no impact on a review, one must question the purpose or benefit from including them, yet ethnographic authors consistently include studies their own analysis suggests are of low quality. The review by Munro and colleagues (2007), used similar reasoning and this probably contributed to their difficulties in dealing with a larger number of papers than the methodology is readily able to manage.

Dixon-Woods, in a 2004 paper highlighted that the execution of a study in the qualitative paradigms is far more influenced by and aligned with theoretical (philosophic) perspective than an equivalent quantitative study. This position is born out by other authors who indicate that quality should be judged upon the theoretical congruency of the paper (TheJoannaBriggsInstitute, 2008, Noyes and Popay, 2006). This does not assume that higher quality is equivalent to thicker or richer text from which to draw upon. Without being able to clarify what linkage there is between quality (theoretical consistency) and the published data, the inclusive approach is, in the least, highly consistent with a hermeneutic perspective. Meaning as established through engagement with the paper is of more relevance than external markers of quality. Yet, published evidence suggests that low quality studies are poor contributors to qualitative synthesis, with their findings providing little benefit for the synthesis, whereas high quality studies have been found to be crucial (Harden, 2008). The issues are undeniably complex, the congruency with hermeneutic phenomenological philosophy suggests that meaning is more important than quality and most ethnographic reviews seem to take this perspective. Yet there is also data that shows poor quality studies are not associated with an insightful contribution to the synthesis, a position adopted by Munro and colleagues and also supported more widely (Harden, 2008, Munro et al., 2007, Noyes and Popay, 2006). This is the type of dichotomy that requires resolution. The current knowledge regarding how to apply meta ethnography to systematic review methods is congruent with its philosophic roots, yet lacks consensus, and is counter intuitive to the research, which suggests low quality studies have no real impact.

Much discussion regarding quality and what it means has been examined in the background. It is worth highlighting again that recent studies indicate quality assessment for critical and interpretive research can either be the broad thematic examination (where thickness of

description is equated with quality, or where quality is defined as congruency between the parts of a study and its philosophic perspective) and there are valid instruments that can be used to assess and even weight studies (Hannes et al., 2010). The lack of clarity and consensus is damaging as it can only contribute to increased variability in how the methodology is applied. More work is needed and this seems unlikely to occur in a strategic or focused way as there is no particular organisation, individual or entity that is addressing these types of questions.

## Extraction

Data extraction in an ethnographic review bears substantive resemblance to the tenets of Heideggerian phenomenology. Firstly, it is an iterative process conducted in conjunction with synthesis. The reviewer therefore is highly engaged with the paper and acts as filter with regard to what data will be extracted. The extraction is guided by a broad consensus that first level extraction for ethnographic reviews consists of identification and extraction of first and second order interpretations. However, methods for *how* this is undertaken, how the interpretations are identified and extracted remains the authentic decision of the reviewer.

The parallels with hermeneutics are clear. Heidegger associated meaning (and meaning is relevant to extraction when extraction is iteratively connected with synthesis) not with truth in a dichotomous sense, but with establishing a holistic viewpoint as the means by which a phenomena becomes understood (Guignon, 1993). How a meaning becomes understood is through their interpretive context, thus the reviewer extracting in an ethnographic review is gathering an understanding of the whole as it relates to the parts and this engenders the process of extraction with hermeneutic meaning and significance (Guignon, 1993). Heidegger associated hermeneutics with subjective knowledge rather than imposed authority as the Husserlian line of thought might be considered by some (Guignon, 1993). For meta ethnography, meaning emerges from the interaction between the reader and the text, it is not imposed on the text, nor is the process a linear process, but a richly iterative one in which concepts themes and metaphors are re-visited in light of emerging themes. The goodness of fit between this line of thought and classical hermeneutics is eloquently expressed as an '*understanding in the sense of one possible kind of cognising among others (as distinguished, for instance, from 'explaining') must, like explaining, be Interpreted as an existential derivative of that primary understanding which is one of the constituents of the Being of the 'there' in general*" (pg172) (Guignon, 1993). The hermeneutic perspective places ethnographic reviews in the ideal position for a methodology which relies upon interpretive skills and lacks detailed

methodological guidance. The truth from an ethnographic review is a kind of truth, not that predictively explains, but that explores and generates types of understandings. Although the philosophic roots of meta ethnography have not been explored or articulated in the general literature, Noblit and Hare (1988) did strongly resist the connotations of a technical process, in an allusion to Habermas' critical theory of technocratic structures of government (Noblit and Hare, 1988). Although Habermas was more of a critical social theorist, the subsequent methods espoused by Noblit and Hare (1988), as they have been investigated through this thesis bear far greater resemblance to Heideggerian hermeneutic phenomenology, than critical social theory. The commonality is in rejection of formal mechanisms and greater reliance upon intuitive engagement. It is important to note that there are two concepts related to data extraction, these are the nature of what constitutes data, and the approach to data collection. The variation shown between meta ethnography and meta aggregation holds true across both aspects of data extraction.

The associations between method of data extraction and units of data are quite the opposite to ethnographic reviews, with their Husserlian roots. Husserl's philosophic perspective was focused on rationalising conscious thought in order to understand phenomena. How Husserl considered this to work was through phenomenological reduction. Consciousness could be explored and understood by separation of the supposed (pre-suppositional knowledge) and the pure essence of the object or within itself (Guignon, 1993). Husserl maintained that reduction and subsequent constitution act to free ones self from pre-conceived naturalistic understandings and move to a position of consciousness, (reductionism is not removal of some parts and retention of others, but an eidetic reduction) which enables cognition to be cognition of the process within a phenomena rather than cognition of self (Crotty, 1998).

Meta aggregation begins with the purpose of undertaking the review, but is revealed in different ways when undertaking extraction. Here, there is not the same interpretive engagement between reviewer and paper as with ethnographic methods. Rather there is a distance and distillation of meaning into a reduced form through the standardised data extraction process and key definitions. These direct the extraction toward particular types of evidence, and allow for rational, measurable assessment of level of congruency of each finding as it is extracted. The linkage to eidetic reduction is clear, with papers being distilled to the essence of the phenomena of interest as perceived through the consciousness of the reviewer as an integral part of the extraction process.

## Synthesis

The previous sections of the discussion have demonstrated that there are a few key aspects of systematic review methodology that differ substantively between ethnographic and aggregative approaches. These do not start to become obvious until one reaches the point of data extraction. The review question, protocol and inclusion criteria are amendable to either approach. The current invisibility of theoretical framework (philosophic perspective) gives little indication of how important the approach is in terms of both the reviewers perspective and the impact of that perspective on how a protocol is interpreted and utilised. Not surprisingly the lack of clear differentiation is in the descriptive components of a protocol and the aspects of the review that relate to defining concepts and parameters. The clear areas of differentiation are found in the process-based components such as appraisal, extraction and synthesis. Synthesis results in markedly different outputs as we have seen from the results chapter. The meta ethnographic review produced a conceptual map that theorised about the nature of the relationships between a series of core theoretical constructs (these were an extension of the line of argument synthesis). By way of contrast, the aggregative review produced a series of key statements that were both findings as well as evidence statements to be used as the basis of evidence-based practice. The concept map in the ethnographic review provided points for consideration and a series of hypotheses on how DOTS treatment adherence might be improved, but the language bears a certain ambiguity with regard to what should be implemented or how it should be implemented. The primary paper recommended that patient autonomy be recognised and patient centred interventions developed (Munro et al., 2007). The primary reference though was to the conceptual model and on the series of statements drawn from the third order interpretations in order to provide novel understandings of how people experience adherence. Again the language used was related to informing the understanding, or gaining a fresh perspective. This is the language of interpretive findings that are anchored in the hermeneutic knowledge of the reviewer. The key statements might be considered analogous to recommendations for practice, this suggestion is made with some caution as practice in the health sciences requires recommendations to be transparently developed, anchored in the evidence and rated in such a way as to inform potential users of the strength of each recommendation. None of these characteristics were evident in the conclusions of the ethnographic review.

The presentation of the aggregative review findings maintains the link back to the primary studies even in the final presentation, thus a reader is aware that the recommendations are not

only drawn from the literature, but draw the literature with them as they are developed. Levels of recommendation are attached to each synthesised finding, giving a clear indication to readers as to the strength of each recommendation, while each finding that is included is also rated for credibility based on the directness of its association with the literature rather than the interpretive skills of the reviewer. These differences appear to mirror the philosophic perspectives of transcendental phenomenology and hermeneutic phenomenology, where firstly the literature itself holds primacy and, in hermeneutics, where the reviewer as engaged interpreter holds primacy.

This thesis posits that the association between synthesis output and ability to inform practice recommendations in a clear, measurable and transparent way is also reflective of the philosophic origins. Husserlian thought required the identification of essence through bracketing that allowed the interpretive process not to be clouded by pre-cognitive thinking. The guided process for aggregative reviews provides a framework that centralises the synthesis on the literature rather than the reviewer as interpreter.

This linkage with the literature is what facilitates use of levels of credibility and grades of recommendations in an aggregative review. Contrastingly, in an ethnographic review, the same linkage with the literature confounds use of levels of evidence and grades of recommendations as the meanings that emerge from the 'reviewer-as-interpreter' creative process provide an inadequate structure from which to attempt measurement of credibility or grading of recommendations. It is this grounding in the interpretive relationship between reviewer and data that contributes in part to the output of ethnographic reviews being middle level theory. That is, the findings extend beyond the literature and seek to provide new insights and new meanings which emerge as emic structures, combinations of empirical data (text from primary studies) and therefore need to be considered as theoretical. Further work could and should be undertaken to investigate methods of anchoring these mid range theories to the empirical evidence in order to enable their verification. As this thesis has illustrated, that level of verification is currently reserved for aggregative reviews.

The numerous questions regarding how literature is managed throughout the synthesis process are unresolved issues for meta ethnography and require further consideration if the methodology is to move to a more robust and established tradition within the health sciences. These include the previously highlighted questions regarding where and with what papers to begin, the role of thematic saturation, purposive sampling and study selection as well as

transparency of intention for the interpretive processes that are currently invisible and require the reader to rely upon the review authors expertise.

### Presentation and Platform

Presentation is a direct extension of how the synthesis is constructed. The aggregative synthesis produces a table that shows the final synthesis and its connection to the previous levels of interpretation, right down to the raw empirical data it came from. This approach is transparent, and readily communicable. The ethnographic synthesis resulted in a conceptual model that required further explanation in order to establish its relationship to the review findings. However, in the electronic era, there would be no particular barriers associated with either approach. Within the health sciences though, it is not just accessibility of the results that matter. Health professionals, when considering how to inform their practice are familiar with the structures of guidelines. These draw on evidence, provide recommendations and are textually rich documents. It remains unclear whether it is possible for ethnographic reviews to reach this level of granularity. The generation of mid level theory does not require it and the third order interpretations strength is not in their predictive power (which is low) but in their theoretical power. This, it seems, situates meta ethnographic reviews as companions to, rather than informers of, clinical practice. Utilisation of mid level theory without clinical validation through research in order to test and evaluate the impact on practice and patient outcomes is something that should be considered with full caution and full awareness that the hermeneutic approach is not bound within the empirical imperative of evidence, but in the essence of being, the interaction between the reviewer and the literature; and hence its outputs, the conceptual models and descriptive theories.

The last point with regard to this comparative analysis was that for meta aggregation a full, integrated software system exists. JBI-QARI is an online system that orders the sequence in which a reviewer undertakes the steps of a systematic review of qualitative data. This is entirely congruent with Husserlian Transcendental Phenomenological understandings and provides a framework through which the reviewer can bracket self as context and focus on core elements of the primary research as is required by the highly specific data fields in the QARI software. No such system exists for ethnographic reviews and this is equally appropriate for an iterative methodology that requires fluidity of process, where the reviewer may return to the papers, seeking new directions, or to confirm how the studies relate.

These final points bear practical consideration also. If one is unfamiliar with qualitative synthesis, an approach that relies less upon reviewer as interpretive being and has an accompanying system may be more user friendly than an approach that requires a reviewer to determine what templates they might need, then source, develop and/or pilot them accordingly. With regard to degree of influence, it is clear then that some aspects of the review are more influential than others. This weighting can be visually represented as illustrated in Figure 9.




**Figure 9: Visual weighting of review elements impact on the overall methods.**

## *Conclusions*

This study has examined the claims and provided an analytic critique of two approaches to qualitative synthesis. The framework for the comparison was based on the accepted structure for systematic review. Despite the theoretical claims by methodologists (as examined in the background), most ethnographic reviews in the health sciences tend to follow the broad parameters of synthesis science; and all meta aggregative reviews are required to follow the germane processes of systematic review. This framework then provided the ideal basis for a pragmatic comparison of the structure of the two methodologies, the processes involved in each review, and the findings. While literature tends to focus on the importance of aspects of review method, such as 'question as anchor or question as compass', these are minor points when compared with the philosophical basis of the approach to synthesis and the process based elements of review methodology, such as appraisal, extraction and synthesis. While this is the case, the comparison also illustrates that both approaches can broadly fit within the

germane framework for systematic review. The nature of this fit has not previously been explored or reported upon. The schema in Figure 10, which is based on the findings of this study, visually represents the processes and pathways that differentiate meta aggregation and meta ethnography in relation to their core philosophic assumptions.

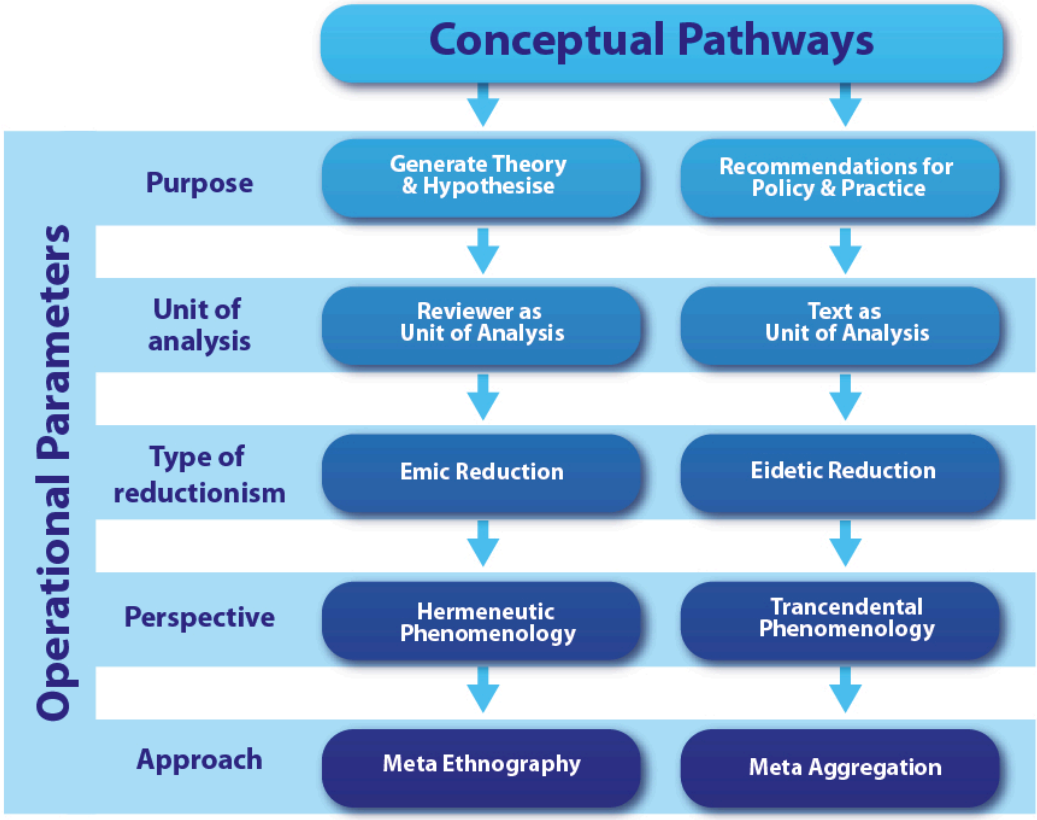



**Figure 10: Core purposive structures for qualitative synthesis.**

Meta ethnography is less suited to transparent, auditable systematic review methods and further development is required if this is to change. The meta ethnographic review indicates numerous challenges remain in enhancing the goodness of fit between meta ethnography and systematic review (Munro et al., 2007).

The particular claims to interpretivism for ethnographic reviews has been examined and found to be superficial and an inadequate representation of the methodology. Specifically, hermeneutic phenomenology has been found to be ontologically and epistemologically congruent with the methodology and methods of meta ethnography; and I have argued that being clearer on the philosophic origins provides a more robust basis for the synthesis.

There is a tension between meta ethnography with its reliance upon interpretive analysis and the needs of clinical practice for evidence from transparent and auditable sources. This tension remains unresolved and has resulted in wide variation in methods within the meta ethnographic framework.

The generation of higher order findings is entirely congruent with the fusion of horizons expected from hermeneutic phenomenology; yet higher order synthesis represents a move away from the literature as data and a move toward reviewer as data. If the philosophic traditions of interpretive hermeneutics were better communicated (rather than generalised claims of interpretivism) readers would be better able to understand the processes of interpretation are theoretically sound. The current disparate developments within meta ethnography are uncoordinated, although trending toward adherence to systematic review methodology. The impact of this on how higher order synthesis is generated and subsequently communicated needs further study. In particular, the 'logic' of deliberately including 'low quality' studies to balance the findings should be reconsidered in light of current evidence that shows negligible benefit to the subsequent synthesis.

Similarly, if reviewers using meta ethnographic approaches recognised the imperative of measurable evidence for policy and practice, ethnographic reviews could be more appropriately directed toward generating new theory for lines of future research and inquiry, rather than recommendations for policy and practice. The approach also has a high level of congruency with gaps analysis and exploration and could make a substantive contribution to knowledge by addressing questions in these two domains. Meta ethnography would benefit from revision that updated the methodology to enhance internal consistency between the methods and methodology and the methodology and its philosophic basis in hermeneutic phenomenology

The methods centric focus of meta aggregation has limited wider understanding of the methodology, including the incorrect association with integration. This thesis maintains that the interpretive foundations of aggregative synthesis are found in Husserlian Transcendental Phenomenology. As a title, meta aggregation is not descriptive of the philosophic basis of the methodology and further contributes to confusion over where it sits within the interpretive paradigm; a change of language away from the quantitative associations with 'aggregation', 'pooling' and similar terms is warranted.

This thesis suggests that the approach and purpose are the first two key points of decision-making and require knowledge of the philosophic influences in qualitative review. Therefore, reviewers interested in undertaking qualitative synthesis should first consider what approach is a good fit with their purposes before deciding upon a methodology. In conclusion, within the 'interpretive' philosophic perspective the two core philosophies, of hermeneutic phenomenology (with fusion of horizons) and transcendental phenomenology are where we must look to understand both the differences between meta aggregation and meta ethnography, and the strengths and weaknesses of each approach. These should be a primary consideration when planning or preparing to undertake a qualitative synthesis using either of these approaches.

## References

AAGAARD, H. & HALL, E. 2008. Mothers' experiences of having a preterm infant in the neonatal care unit: a meta-synthesis. Journal of Pediatric Nursing, 23, e26-e36.

AL-JANABI, H., COAST, J. & FLYNN, T. 2008. What do people value when they provide unpaid care for an older person? A meta-ethnography with interview follow-up. Social Science & Medicine, 67, 111-121.

ARENDT, J. 2007. How do psychology researchers find studies to include in meta-analyses? PhD, Southern Illinois.

ATKINS, S., LEWIN, S., SMITH, H., ENGEL, M., FRETHEIM, A. & VOLMINK, J. 2008. Conducting a meta-ethnography of qualitative literature: Lessons learnt BMC Medical Research Methodology 8, 10.

ATKINS S., B. D., LEWIN S., RINGSBERG K., THORSON A. 2010. Patients' experiences of an intervention to support tuberculosis treatment adherence in South Africa. . Journal of Health Services Research & Policy, 15, 163-170.

ATTREE, P. & MILTON, B. 2006. Critically appraising qualitative research for systematic reviews: defusing the methodological cluster bombs. The Policy Press, 2, 109-26.

BARBOUR, R. & BARBOUR, S. 2003. Evaluating and synthesizing qualitative research: the need to develop a distinctive approach. Journal of Evaluation in Clinical Practice, 9, 179-186.

BARBOUR, V., COHEN, B., CHINNOCK, P., PEIPERL, L. & YAMEY, G. 2007. Qualitative Research: Understanding patients' needs and experiences. PLoS Medicine, 4, e258.

BELL, D. (ed.) 1990. Husserl, London: Routledge.

CAMPBELL, R., POUND, P., POPE, C., BRITTEN, N., PILL, R., MORGAN, M. & DONOVAN, J. 2003. Evaluating meta-ethnography: a synthesis of qualitative research on lay experiences of diabetes and diabetes care. Social Science & Medicine, 56, 671-68.

CHIN, P. & JACOBS, M. 1987. Theory in nursing: a systematic approach, St Louis, Mosby.

CHING L, DEVI M & A, E. 2010. Anxiety in patients with breast cancer undergoing treatment: a systematic revivew. JBI LIbrary of Systematic Reviews. Joanna Briggs Institute.

COHEN, D. & CRABTREE, B. 2008. Evaluative criteria for qualitative research in health care: controversies and recommendations. Annals of Family Medicine, 6, 331-9.

COOPER, H., HEDGES, L. & JC, V. (eds.) 2009. The handbook of research synthesis and meta-analysis, New York: Russell Sage Foundation.

CROTTY, M. 1998. The Foundations of Social Research: Meaning and Perspective in the research process, Singapore, Allen&Unwin.

DE BOER, T. 1978. The Development of Husserl's Thought, The Hague, Martinus Nijhoff Publishers.

DIXON-WOODS, M., CAVERS, D., AGARWAL, S., ANNANDALE, E., ARTHUR, A., HARVEY, J., HSU, R., KATBAMNA, S., OLSEN, R., SMITH, L., RILEY, R. & SUTTON, A. 2006. Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups. BMC Medical Research Methodology, 6, 13.

DIXON-WOODS, M., SHAW, R., AGARWAL, S. & SMITH, J. 2004. The problem of appraising qualitative research Qual. Saf. Health Care, 13, 223-5.

DOWNE, S. 2008. Metasynthesis: a guide to knitting smoke. Evidence based Midwifery, 6, 4-8.

DREYFUS, H. & HALL, H. (eds.) 1992. Heidegger: A Critical Reader, Oxford: Blackwell.

ENUAMEH, Y., ABOKYI, L. & ADJEI, G. 2010. The experience of living with chronic manifestations of lymphatic filarisasis among patients 15 years and older in developing countries: a systematic review. JBI Library of Systematic Reviews, 8, 5890-620.

EVANS, D. 2002. Database searches for qualitative research. J Med Lib Assoc, 90, 290-4.

FAULCONER, J. & WRATHALL, M. (eds.) 2000. Appropriating Heidegger, Cambridge: Cambridge University Press.

GARCIA, J., BRICKER, L., HENDERSON, J., MARTIN, M., MUGFORD, M., NIELSON, J. & ROBERTS, T. 2002. Women's views of pregnancy ultrasound: A systematic review. Birth, 29, 225-50.

GARSIDE, R. 2008. A comparision of methods for the systematic review of qualitative research: two examples using meta-ethnography and meta-study. PhD, Exeter and Plymouth.

GATELY, C., ROGERS, A., KIRK, S. & MCNAILY, R. 2008. Integration of devices into long-term condition management: a synthesis of qualitative studies. Chronic illness, 4, 135-48.

GLASS, G. 1976. Primary, Secondary, and Meta-Analysis of Research. Educational Researcher, 5, 3-8.

GODFREY, C., HARRISON, M., LYSAGHT, R., LAMB, M., GRAHAM, I. & OAKLEY, P. 2010. The experience of self-care: a systematic review. JBI Library of Systematic Reviews, 8, 1351-1460.

GREENHALGH, T. & PEACKOCK, R. 2008. Effectiveness and efficiency of search methods in systematic reviews of complex evidence: audit of primary sources. BMJ, 331, 1064-5.

GUIGNON, C. 1993. The Cambridge companion to Heidegger, Cambridge, Cambridge University Press.

HANNES, K., LOCKWOOD, C. & PEARSON, A. 2010. A Comparative analysis of three online appraisal instruments' ability to assess validity in qualitative research. Qualitative Health Research, 20, 1736-43.

HARDEN, A. 2008. Critical appraisal and qualitative research: exploring sensitivity analysis [Online]. [Accessed December 13th 2010].

HARDEN, A., GARCIA, J., OLIVER, S., REES, R., SHEPHERD, J., BRUNTON, G. & OAKLEY, A. 2004. Applying systematic review methods to studies of people's views: an example from public health research. Journal of Epidemiology and Community Health, 58, 794-800.

HE, L., DRURY, V. & HONG, P. 2010. The experience and expectatiosn of terminally ill patients receiving music therapy in the palliative setting: a systematic review. JBI Library of Systematic Reviews, 8, 1088-1111.

HEIDEGGER, M. 1956. What is Philosophy, Plymouth, Vision Press LTD.

JONES, K. 2004. Mission drift in qualitative research, or moving toward systematic review of qualitative studies, moving back to more systematic narrative review. The Qualitative Report, 9, 95-112.

JORDAN, Z., DONNELLY, P. & PITTMAN, E. 2006. A short history of a big idea, Adelaide, The Joanna Briggs Institute.

KANE, G., WOOD, V. & BARLOW, J. 2007. Parenting programmes: a systematic review and synthesis of qualitative research. Child care, health and development, 33, 784-93.

KOCKELMANS, J. (ed.) 1967. Phenomenology The Philosophy of Edmund Husserl and Its Interpretation, New York: Anchor Books.

KRAINOVICH-MILLER, B., HABER, J., YOST, J. & JACOBS, S. 2009. Evidence-based practice challenge: teaching critical appraisal of systematic reviews and clinical practice guidelines to graduate students. Journal of Nursing Education, 48, 186-95.

LARUN, L. & MALTERUD, K. 2007. Identity and coping experiences in Chronic Fatigue Syndrome: A synthesis of qualitative studies Patient Education and Counseling, 69, 20-28.

LILLEBETH, L. & MALTERUD, K. 2007. Identity and coping experiences in Chronic Fatigue Syndrome: A synthesis of qualitative studies. Patient Education and Counseling, 69, 20-28.

MAGEE, B. 1998. The Story of Philosophy, London, Dorling Kindersley LTD.

MALPASS, A., SHAW, A., SHARP, D., WALTER, F., FEDER, G., RIDD, M. & KESSLER, D. 2009. Medication career" or "moral career"? The two sides of managing antidepressants: a meta-ethnography of patients' experience of antidepressants. Social Science & Medicine, 68, 154-68.

MCKENNA, W. 1982. Husserl's "Introductions to Phenomenology" Interpretation and Critique, The Hague, Martins Nijhoff Publishers.

MOLONEY, S. 2010. The meaning of home: A qualitative meta synthesis. Research in Gerontological Nursing, 3, 291-306.

MU, P., WANG, K., CHEN, Y. & TSAY, S. 2010. A systematic review of the experiences of adult ventilator-dependent patients. JBI Library of Systematic Reviews, 8, 343-381.

MUNRO, S., LEWIN, S., SMITH, H., ENGLE, M., FRETHEIM, A. & VOLMINK, J. 2007. Patient adherence to tuberculosis treatment: A systematic review of qualitative research. PLoS Medicine, 4, e238.

NOBLIT, G. & HARE, D. 1988. Meta-Ethnography: Synthesizing Qualitative Studies, California, Sage.

NOYES, J. 2010. Never mind the qualitative feel the depth! The evolving role of qualitative research in Cochrane intervention reviews. Journal of Research in Nursing, 15, 525-534.

NOYES, J. & POPAY, J. 2006. Directly observed therapy and tuberculosis: how can a systematic review of qualitative research contribute to improving services? A qualitative meta-synthesis. Journal of Advanced Nursing, 57, 227-43.

O'NEIL, T., JINKS, C. & ONG, B. 2007. Decision-making regarding total knee replacement surgery: A qualitative meta-synthesis. BMC Health Serv Res, 7, 9.

PEARSON, A., WIECHULA, R., COURT, A. & LOCKWOOD, C. 2007. A re-consideration of what constitutes "evidence" in the healthcare professions. Nursing Science Quarterly, 20, 85.

PURC-STEPHENSON, R. & THRASHER, C. 2010. Nurses' experiences with telephone triage and advice: a meta ethnography. Journal of Advanced Nursing, 66, 482-94.

RING, N., RITCHIE, K., MANDAVA, L. & JEPSON, R. 2010. A guide to synthesising qualitative reseach for researchers undertaking health technology assessments and systematic reviews. Stirling: University of Sterling, NHS Scotland.

SANDELOWSKI, M. & BARROSO, J. 2002a. Finding the findings in qualitative studies. Journal of Nursing Scholarship, 34, 213-219.

SANDELOWSKI, M. & BARROSO, J. 2002b. Reading qualitative studies. international Journal of Qualitative Methods, 1, 1527-8.

SANDELOWSKI, M. & BARROSO, J. 2007. Handbook for Synthesizing Qualitative Research, New York, Springer Publishing Company.

SCHREIBER, R., CROOKS, D. & STERN, P. (eds.) 1997. Qualitative Meta-analysis, Thousand Oaks, CA: Sage.

SCHWANDT, T. (ed.) 2000. Three epistemological stances for qualitative inquiry: Interpretivism, hermeneutics, and social constructionism. , Thousand Oaks, CA: Sage.

SERA, Y. & A, S. 2005. Linking traditional treatments of maternal anaemia to iron supplement use: an ethnographic case study from Pemba Island, Zanzibar. Maternal and Child Nutrition, 1, 51-8.

STREUBERT, H. & CARPENTER, D. 1999. Qualitative Research in Nursing: Advancing the humanistic imperative, Philadelphia, Lippincott.

TAYLOR, B., WYLIE, E., DEMPSTER, M. & DONNELLY, M. 2007. Research on social work practice. Research on Social Work Practice, 17, 697.

THEJOANNABRIGGSINSTITUTE 2008. The Joanna Briggs Institute Reviewer's Manual 2008 Edition, Adelaide, The Joanna Briggs Institute.

TRICCOA, A., TETZLAFFA, J., SAMPSON, M., FERGUSSON, D., COGOA, E., HORSLEY, T. & MOHER, D. 2008. Few systematic reviews exist documenting the extent of bias: a systematic review. Journal of Clinical Epidemiology, 61, 422-434.

WALSH, D. & DOWNE, S. 2006. Appraising the quality of qualitative research. Midwifery, 22, 108-119.

WELCH, E. 1941. The Philosophy of Edmund Husserl, New York, Columbia University Press.

YIP, R. 1996. Iron supplementation during pregnancy, is it effective? American Journal of Clinical Nutrition, 63, 853-5.

# Appendix I: Meta ethnography included studies

Klink WB (1969) Problems of regimen compliance in tuberculosis treatment [PhD dissertation]. New York (NY): Columbia University. 275 p.

Mata JI (1985) Integrating the client perspective in planning a tuberculosis education and treatment program in Honduras. Med Anthropol 9: 57–64.

Curtis R, Friedman SR, Neaigus A, Jose B, Goldstein M, et al. (1994) Implications of directly observed therapy in tuberculosis control measures among IDUs. Public Health Rep 109: 319–327.

Liefooghe R, Michiels N, Habib S, Moran MB, de Muynck A (1995) Perception and social consequences of tuberculosis: A focus group study of tuberculosis patients in Sialkot, Pakistan. Soc Sci Med 41: 1685–1692.

Smith AJE, Moore LM (1995) Selective directly observed therapy: Appraisement and perception of likely participants. J Public Health Manag Prac 1:14–21.

Dick J, van der Walt H, Hoogendoorn L, Tobias B (1996) Development of a health education booklet to enhance adherence to tuberculosis treatment. Tuber Lung Dis 77: 173–177.

Johansson E, Diwan VK, Huong ND, Ahlberg BM (1996) Staff and patient attitudes to tuberculosis and compliance with treatment and exploratory study in a district in Vietnam. Tuber Lung Dis 77: 178–183.

Menegoni L (1996) Conceptions of tuberculosis and therapeutic choices in Highland Chiapas, Mexico. Med Anthropol Q 10: 381–401.

Dick J, Clarke M, Tibbs J, Schoeman H (1997) Combating tuberculosis— Lessons learnt from a rural community project in the Klein Drakenstein area of the Western Cape. S Afr Med J 87: 1042–1047.

Ellis JHP, Beyers N, Bester D, Gie RP, Donald PR (1997) Sociological and anthropological factors related to the community management of tuber- culosis in the western cape communities of Ravensmead and Uitsig. S Afr Med J 87: 1047–1051.

Nair D, George A, Chacko K (1997) Tuberculosis in Bombay: New insights from poor urban patients. Health Policy Plan 12: 77–85.

Ngamvithayapong J, Uthaivoravit W, Yanai H, Akarasewi P, Sawanpanyalert P (1997) Adherence to tuberculosis preventive therapy among HIV- infected persons in Chiang Rai Thailand. AIDS 11: 107–112.

Asamoa K (1998) Social counselling and tuberculosis treatment adherence at Bethania hospital, Sialkot, Pakistan [Master's thesis]. Heidelberg (Germany): University of Heidelberg. 64 p.

Coleman RL, Wilkinson D, MacAdam KP (1998) Voluntary lay supervisors of directly observed therapy for tuberculosis in Africa. Trop Doc 28: 78–80.

Ito KL (1999) Health culture and the clinical encounter: Vietnamese refugees' responses to preventive drug treatment of inactive tuberculosis.

Med Anthropol Q 13: 338–364.

Johansson E, Long NH, Diwan VK, Winkvist A (1999) Attitudes to compliance with tuberculosis treatment among women and men in Vietnam. Int J Tuberc Lung Dis 3: 862–868.

Khan A, Walley J, Newell J, Imdad N (2000) Tuberculosis in Pakistan: Sociocultural constraints and opportunities in treatment. Soc Sci Med 50: 247– 254.

Ngamvithayapong J, Winkvist A, Diwan V (2000) High AIDS awareness may cause tuberculosis patient delay: Results from an HIV epidemic area Thailand. AIDS 14: 1413–1419.

Pushpananthan S, Walley JD, Wright J (2000) Tuberculosis in Swaziland: A health needs assessment in preparation for a community-based programme. Trop Doc 30: 216–220.

San Sebastian M, Bothamley GH (2000) Tuberculosis preventive therapy: Perspective from a multi-ethnic community. Respir Med 94: 648–653.

Gleissberg VG (2001) Patient views on tuberculosis: Is compliance with treatment the key to success or beside the point? [MSc thesis.] Uxbridge (United Kingdom): Department of Anthropology. Brunel University. 55 p.

de Vos PF (2002) Tuberculosis, adherence behaviour the inner city [Master's thesis]. Edmonton (Alberta): University of Alberta. 221 p.

Edginton ME, Sekatane CS, Goldstein SJ (2002) Patients' beliefs: Do they affect tuberculosis control? A study in a rural district of South Africa. Int J Tuberc Lung Dis 6: 1075–1082.

Johansson E, Winkvist A (2002) Trust and transparency in human encounters in tuberculosis control: Lessons learned from Vietnam. Qual Health Res 12: 473–491.

Singh V, Jaiswal A, Porter JDH, Ogden JA, Sarin R, et al. (2002) TB control, poverty, and vulnerability in Delhi, India. Trop Med Int Health 7: 693–700.

Demissie M, Getahun H, Lindtjorn B (2003) Community tuberculosis care through ''TB clubs'' in rural north Ethiopia. Soc Sci Med 56: 2009–2018.

George LJ (2003) Compliance with medication and directly observed therapy in the treatment of TB in Lesotho [PhD dissertation]. Philadelphia (PA): Faculty of the School of Social Work, University of Pennsylvania. 300 p.

Harper M, Ahmadu FA, Ogden JA, McAdam KP, Lienhardt C (2003) Identifying the determinants of tuberculosis control in resource-poor countries: Insights from a qualitative study in The Gambia. Trans R Soc Trop Med Hyg 97: 506–510.

Jaiswal A, Singh V, Ogden JA, Porter JDH, Sharma PP, et al. (2003) Adherence to tuberculosis treatment: Lessons from the urban setting of Delhi, India. Trop Med Int Health 8: 625–633.

Wares DF, Singh S, Acharya AK, Dangi R (2003) Non-adherence to tuberculosis treatment in the eastern Tarai of Nepal. Int J Tuberc Lung Dis 7: 327–335.

Coreil J, Lauzardo M, Heurtelon M (2004) Cultural feasibility assessment of tuberculosis prevention among persons of Haitian Origin in South Florida. J Immigr Health 6: 63–69

Fong C (2004) Gender and access to DOTS program (Directly Observed

Treatment, Short Course) in a poor rural and minority area of Gansu province, China [PhD dissertation]. Baltimore (MD) Johns Hopkins University. 138 p.

Greene JA (2004) An ethnography of non-adherence: Culture, poverty, and tuberculosis in urban Bolivia. Cult Med Psychiatry 28: 401–425.

Matebesi Z (2004) Living with TB: The career of the tuberculosis patient in the free state, SA [PhD dissertation]. Bloemfontein (South Africa): Department of Sociology, University of the Free State. 216 p.

Joseph HA, Shrestha-Kuwahara R, Lowry D, Lambert LA, Panlilio AL, et al. (2004) Factors influencing health care workers' adherence to work site tuberculosis screening and policies. Am J Infect Control 32: 456–461.

Marra CA, Marra F, Cox VC, Palepu A, Fitzgerald JM (2004) Factors influencing quality of life in patients with active tuberculosis. Health Qual Life Outcomes 2: 58–68.

Sanou A, Dembele M, Theobald S, Macq J (2004) Access and adhering to tuberculosis treatment: Barriers faced by patients and communities in Burkina Faso. Int J Tuberc Lung Dis 8: 1479–1483.

Watkins RE, Rouse CR, Plant AJ (2004) Tuberculosis treatment delivery in Bali: A qualitative study of clinic staff perceptions. Int J Tuberc Lung Dis 8: 218–225.

Watkins RE, Plant AJ (2004) Pathways to treatment for tuberculosis in Bali: Patient perspectives. Qual Health Res 14: 691–703.

Wyss L (2004) Beliefs about medication compliance in a migrant population diagnosed with TB [PhD dissertation]. Akron (OH): University of Akron. 232 p.

Estcott S, Walley J (2005) Listening to those on the frontline: Lessons for community-based tuberculosis programmes from a qualitative study in Swaziland. Soc Sci Med 61: 1701–1710.

Khan MA, Walley JD, Witter SN, Shah SK, Javeed S (2005) Tuberculosis patient adherence to direct observation: Results of a social study in Pakistan. Health Policy Plan 20: 354–365.

Rowe KA, Makhubele B, Hargreaves JR, Porter JD, Hausler HP, et al. (2005)

Adherence to TB preventive therapy for HIV-positive patients in rural South Africa: implications for antiretroviral delivery in resource-poor settings? Int J Tuberc Lung Dis 9: 263–269.

Allen S (2006) The feasibility of implementing brief motivational interviewing in the context of tuberculosis treatment in South Africa [Master's thesis]. Stellenbosch (South Africa): University of Stellenbosch. 165 p.

## Appendix II: Meta aggregation Included Studies


1. Atkins S., B.D., Lewin S., Ringsberg K., Thorson A. , *Patients' experiences of an intervention to support tuberculosis treatment adherence in South Africa. .* Journal of Health Services Research & Policy, 2010. **15**(3): p. 163-170.
2. Coreil, J., M. Lauzardo, and M. Heurtelou, *Cultural Feasibility Assessment of Tuberculosis Prevention Among Persons of Haitian Origin in South Florida.* Journal of Immigrant Health 2004. **6**(2): p. 63-69.
3. Demissie, M., H. Getahun, and B. Lindtj¯rn, *Community tuberculosis care through "TB clubs" in rural North Ethiopia.* Social Science & Medicine 2003. **56**(10): p. 2009-2018.
4. Dodor, E.A., S. Kelly, and K. Neal, *Health professionals as stigmatisers of tuberculosis: Insights from community members and patients with TB in an urban district in Ghana.* Psychology, Health & Medicine, 2009. **14**(3): p. 301-310.
5. Edginton M.E., S.C.S., Goldstein S.J. , *Patients' beliefs: Do they affect tuberculosis control? A study in a rural district of South Africa. .* International Journal of Tuberculosis & Lung Disease, 2002. **6**(12): p. 1075-1082.
6. Escott, S. and J. Walley, *Listening to Those on the Frontline: Lessons for Community-Based Tuberculosis Programmes from a Qualitative Study in Swaziland.* Social Science & Medicine 2005. **61**(8): p. 1701-1710.
7. Gebremariam, M.K., G.A. Bjune, and J.C. Frich, *Barriers and facilitators of adherence to TB treatment in patients on concomitant TB and HIV treatment: a qualitative study.* BMC Public Health, 2010. **10**: p. 651.
8. Gibson, N., et al., *Socio-cultural factors influencing prevention and treatment of tuberculosis in immigrant and Aboriginal communities in Canada.* Soc Sci Med 2005. **61**(5): p. 931-42.
9. Greene, J.A., *An Ethnography of Nonadherence: Culture, Poverty, and Tuberculosis in Urban Bolivia.* Culture, Medicine and Psychiatry 2004. **28**(3): p. 401-425.
10. Hasker E., K.M., Sayfiddinova S., Rasulova G., Yuldashova U., Uzakova G., Butabekov I., Veen J., Van Der Werf M.J., Lefevre P. , *Why do tuberculosis patients default in Tashkent City, Uzbekistan? A qualitative study. .* International Journal of Tuberculosis and Lung Disease 2010. **14**(9): p. 132-1139.
11. Jaiswal, A., et al., *Adherence to tuberculosis treatment: lessons from the urban setting of Delhi, India.* Tropical Medicine & International Health 2003. **8**(7): p. 625-633.
12. Johansson, E., et al., *Staff and patient attitudes to tuberculosis and compliance with treatment: An exploratory study in a district in Vietnam.* Tubercle and Lung Disease 1996. **77**(2): p. 178-183.
13. Johansson E., L.N.H., Diwan V.K., Winkvist A. , *Attitudes to compliance with tuberculosis treatment among women and men in Vietnam. .* International Journal of Tuberculosis and Lung Disease 1999. **3**(10): p. 862-868.
14. Khan, M.A., et al., *Tuberculosis patient adherence to direct observation: results of a social study in Pakistan.* Health Policy Plan, 2005. **20**(6): p. 354-65.
15. Lewis, C.P. and J.N. Newell, *Improving tuberculosis care in low income countries - a qualitative study of patients' understanding of "patient support" in Nepal.* Bmc Public Health, 2009. **9**.
16. Liefooghe, R., et al., *From their own perspective. A Kenyan community's perception of tuberculosis.* Tropical Medicine & International Health, 1997. **2**(8): p. 809-21.
17. Liefooghe, R., et al., *Perception and social consequences of tuberculosis: A focus group study of tuberculosis patients in Sialkot, Pakistan.* Social Science & Medicine, 1995. **41**(12): p. 1685-1692.

18. Luhalima, T.R., V.O. Netshandama, and M. Davhana-Maselesele, *An evaluation of the implementation of tuberculosis policies at a regional hospital in the Limpopo Province.* Curationis, 2008. **31**(4): p. 31-8.
19. Martins N., G.J., Kelly P.M., *An ethnographic study of barriers to and enabling factors for tuberculosis treatment adherence in Timor Leste. .* International Journal of Tuberculosis and Lung Disease 2008. **12**(5): p. 532-537.
20. Naidoo P., D.J., Cooper D. , *Exploring tuberculosis patients' adherence to treatment regimens and prevention programs at a public health site. .* Qualitative Health Research 2009. **19**(1): p. 55-70.
21. Nnoaham, K.E., et al., *Perceptions and experiences of tuberculosis among African patients attending a tuberculosis clinic in London.* The International Journal of Tuberculosis and Lung Disease, 2006. **10**(9): p. 1013-7.
22. Okeibunor, J.C.O., Nkechi G.; Chukwu, Joseph N.; Post, and Erik, *Barriers to care seeking in directly observed therapy short-course (Dots) clincs and tuburculosis control in Southern Nigeria: A qualitative Analysis.* Intenational Quarterly of Community Health Education 2006. **27**(1): p. 23-37.
23. Paz, E.P.A. and A.M.M. S√°, *The daily routine of patients in tuberculosis treatment in basic health care units: a phenomenological approach.* Revista Latino-Americana de Enfermagem 2009. **17**(2): p. 180-6.
24. Sagbakken, M., J.C. Frich, and G. Bjune, *Barriers and enablers in the management of tuberculosis treatment in Addis Ababa, Ethiopia: a qualitative study.* BMC Public Health, 2008. **8**: p. 11.
25. Sagbakken, M., J.C. Frich, and G.A. Bjune, *Perception and management of tuberculosis symptoms in Addis Ababa, Ethiopia.* Qualitative Health Research 2008. **18**(10): p. 1356-1366.
26. Sanou A., D.M., Theobald S., Macq J. , *Access and adhering to tuberculosis treatment: Barriers faced by patients and communities in Burkina Faso. .* International Journal of Tuberculosis and Lung Disease, 2004. **8**(12): p. 1479-1483.
27. Terra M.F., B.M.R., *Does directly observed treatment ("DOTS") contribute to tuberculosis treatment compliance?. .* Revista Latino-Americana de Enfermagem 2008. **16**(4): p. 659-664.
28. Watkins R.E., R.C.R., Plant A.J. , *Tuberculosis treatment delivery in Bali: A qualitative study of clinic staff perceptions. .* International Journal of Tuberculosis and Lung Disease, 2004. **8**(2): p. 218-225.
29. Watkins, R.E. and A.J. Plant, *Pathways to Treatment for Tuberculosis in Bali: Patient Perspectives.* Qualitative Health Research, 2004. **14**(5): p. 691-703.
30. Wyss, L.L. and M.K. Alderman, *USING THEORY TO INTERPRET BELIEFS IN MIGRANTS DIAGNOSED WITH LATENT TB.* Online Journal of Issues in Nursing, 2007. **12**(1): p. 17-17.
31. Xu, W., et al., *Adherence to anti-tuberculosis treatment among pulmonary tuberculosis patients: a qualitative and quantitative study.* BMC health services research, 2009. **9**: p. 169.

## Appendix III: Meta aggregation, Excluded Studies


1. Amuha, M.G., et al., *Non-adherence to anti-TB drugs among TB/HIV co-infected patients in Mbarara Hospital Uganda: prevalence and associated factors.* African Health Sciences, 2009. **9 Suppl 1**: p. S8-15.
2. Armijos, R.X., et al., *The meaning and consequences of tuberculosis for an at-risk urban group in Ecuador.* Revista Panamericana de Salud P√∫blica 2008. **23**(3): p. 188-97.
3. Berger, D. and E. Bratu, *Tuberculosis Knowledge, Attitudes and Practices in Romania: A patient-centered assessment.* Cogni≈£ie Creier Comportament 2006. **10**(1): p. 93-104.
4. Chalco, K., et al., *Nurses as providers of emotional support to patients with MDR-TB.* International Nursing Review 2006. **53**(4): p. 253-260.
5. Cohen B., C.P., Peiperl L., Yamey G. , *Qualitative research: Understanding patients' needs and experiences. .* PLoS Medicine 2007. **4**(8): p. 1283-1284.
6. de Lima M.B., M.D.A., Morais A.P., da Silva W.C. , *Non-adherence to tuberculosis treatment: a study on perceptions and knowledge of the disease and evaluation of health services from the patient perspective. .* Cadernos de saude publica 2001.
7. Demissie, M., et al., *Community tuberculosis care through TB clubs in rural North Ethiopia.* Social Science & Medicine, 2009. **56**(10): p. 10p.
8. Dick, J., et al., *Changing professional practice in tuberculosis care: an educational intervention.* Journal of Advanced Nursing 2004. **48**(5): p. 434-442.
9. Dubanoski, J.P. and B., *Preventive health behavior: A model of adherence prediction.* Dissertation Abstracts International 1988. **48**.
10. Finnie, B. and K.C. Ramona, *A multi-method assessment of factors associated with delay in care-seeking and diagnosis of tuberculosis and non-adherence to treatment in limpopo province, south africa.* Dissertation Abstracts International: Section B: The Sciences and Engineering 2010. **70**.
11. Harper, M., et al., *Identifying the determinants of tuberculosis control in resource-poor countries: insights from a qualitative study in The Gambia.* Tropical Medicine and Hygiene 2007. **97**(5): p. 506-510.
12. Kagee, A., M. Le Roux, and J. Dick, *Treatment adherence among primary care patients in a historically disadvantaged community in South Africa - A qualitative study.* Journal of Health Psychology, 2007. **12**(3): p. 444-460.
13. Lawn, S.D., *Tuberculosis in Ghana: social stigma and compliance with treatment.* The International Journal of Tuberculosis and Lung Disease, 2000. **4**(12): p. 1190-1.
14. Moulding, T., J.C. Mateus-Solarte, and R. Carvajal-Barona, *Factors predictive of adherence to tuberculosis treatment, Valle del Cauca, Colombia.* The International Journal of Tuberculosis and Lung Disease, 2009. **13**(3): p. 416-7; author reply 417-8.
15. Needham, D.M., et al., *Patient care seeking barriers and tuberculosis programme reform: a qualitative study.* Health Policy 2004. **67**(1): p. 93-106.
16. Pozsik, C. and J. Kinney, *Approaches to improving adherence to antituberculosis therapy.* JAMA: Journal of the American Medical Association, 1993. **269**(9): p. 1096.
17. Priscilla, V.B., *Effects of a behavioral treatment package on adherence to tuberculosis medication regimens.* Dissertation Abstracts International Marotta,, 1986. **47**: p. 1259-1260.
18. Radziminski, N.A., E. Mukooza, and J.M. FitzGerald, *Attitudes towards and compliance with tuberculosis therapy as reported by out patients in Kampala Uganda.* Journal of Investigative Medicine 2003. **51**: p. 391.

19. Rundi, C., *Understanding Tuberculosis: Perspectives and Experiences of the People of Sabah, East Malaysia.* Journal of Health Population and Nutrition, 2010. **28**(2): p. 114-123.
20. San Sebastian, M. and G.H. Bothamley, *Tuberculosis preventive therapy: perspective from a multi-ethnic community.* Respiratory Medicine 2000. **94**(7): p. 648-653.
21. Thomson, E.M. and S. Myrdal, *Tuberculosis--the patients' perspective.* South African Medical Journal 1986. **70**(5): p. 263-4.
22. Volmink, J., P. Matchaba, and P. Garner, *Directly observed therapy and treatment adherence.* Lancet 2000. **355**(9212): p. 1345-50.
23. Watt, M.H., et al., *"It's all the time in my mind": Facilitators of adherence to antiretroviral therapy in a Tanzanian setting.* Social Science & Medicine, 2009. **68**(10): p. 1793-1800.
24. Wei, X., et al., *Barriers to TB care for rural-to-urban migrant TB patients in Shanghai: a qualitative study.* Tropical Medicine and International Health, 2009. **14**(7): p. 754-60.
25. Wei, X., et al., *Why financial incentives did not reach the poor tuberculosis patients? A qualitative study of a Fidelis funded project in Shanxi, China.* Health Policy 2009. **90**(2-3): p. 206-213.

## Appendix IV: QARI Appraisal Criteria

NOTE:
This appendix is included on page 152 of the print copy
of the thesis held in the University of Adelaide Library.

## Appendix V: CASP Appraisal Criteria

NOTE:
This appendix is included on pages 153-155 of the print copy of the thesis held in the University of Adelaide Library.

## Appendix VI: QARI Extraction Instrument

NOTE:
This appendix is included on page 156 of the print copy
of the thesis held in the University of Adelaide Library.

# Appendix VII: Meta aggregation Findings sorted by category

## *Category: The Good Patient*

1. Alchoholism When he cannot stop drinking, how can he be cured? He is not responsible for himself and we are not bothered about him anymore.pg630

2. Attitudes of health workers The RHM here shouts a lot so she [relative] thought that she could help her [the patient] on her own.pg1706 NOTE:RHM=rural health motivator.

3. Barriers to re-entry after default Sometime into his course, however, his wife fell ill and had to be hospitalised in a private hospital. During the period of her illness, DL was compelled to interrupt his TB therapy in order to look after her...when he explained his situation, the staff there behaved rudely toward him. DL felt hurt and insulted. He returned home and refused to join back.pg629

4. Compliance and non-compliance with treatment Staff considered higher education and availability of money as factors with a positive effect on compliance.pg181

5. Management of Treatment "We tell them to keep their foodstuff and cups separate. We tell them not to breathe on people....we tell them not to drink alcohol...and we tell them not to have sex...because they will loose their resistance."pg1362

6. nonadherence and structural barriers to care ...At this moment, i don't even have the money for the trip to the hospital. So this situation, I didn't choose to stop treatment, you have to understand the situation. I tried to find the money, but since I have three children that i need to support...this worried me more.pg418

7. Relationship between perception and knowledge of TB Those who said they did not know enough about TB had a more negative attitude about it and a worse experience with the disease than did people who said they had been able to learn enough about it.pg939

8. Rigid routines and health staff attitudes Once I came late and met the bad nurse...and he was angry about it. He told me to sit and wait for him until he got back from town, just to give me my medicines. After he warned me not to come late anymore and then he gave me the medicines. He said 'next time you will be given the injections even later and you will be very late for your work'.pg6

9. The tuberculosis treatment presents many difficulties to patients, which are not always understood by professionals. ...I orientate, say he is going to start DOTS treatment, will have supervised medication, always orientate about the disease...It is an orientation for them to understand this is a curable disease; the treatment is fast, six months.pb183

10. Understanding of Tuberculosis natural history and TB drug regimens That the disease might return, that it might come back, this is what i am scared of. Because i have'nt finished the treatments, maybe one of these days, it will come back again.pg413

NOTE: in relation to non-adherent patients having knowledge of the disease and its course but deciding to discontinue treatment regardless of their knowledge.

### *Category: Constrained by Routines*

11. Delay in receiving appropriate TB treatment All TB patients reported a delay of several months, sometimes a year or more, between onset of the symptoms and initiation of TB treatment.pg814

12. The healthcare professionals ...statements reveal that DOTS means seeing, demanding, guaranteeing compliance, avoiding abandonment, guaranteeing a cure, controlling the transmission of TB, and that it is a moment to create bonds.pg661

13. The meanings of observed treatment ...there were mentions that it refers to seeing, controlling and observing medication intake, guaranteeing treatment compliance.pg661

14. Treatment process I left the treatment process because the CHW who had been designated to me would send me back if her husband was not present. This was very annoying for me as many times i had to return without meeting her.pg361

### *Category: Its not our responsibility*

15. Awareness and use of government sponsored TB treatment "...Also the attitude of health staff is a major issue. Although treatment is said to be free, health workers extort money from patients."pg29

16. For professionals, the cure of tuberculosis is directly related to the patient's responsibility in following the treatment ...I guess that it's important: explain that he has conditions to take the treatment and be cured, and it largely depends on him, because the unit is available to give him all orientation he needs, care, but obtaining cure also depends on the patient

17. Lack of knowledge of the current TB policies among professional nurses who participated in the study It is assumed that we know about these policies, but there is no policy. I have not seen the actual policy.pg34

18. non-adherence to treatment The treatment is already good. It depends on the patient themselves. We have problems with the patient not wanting the medicine. Like I said before, we can make all patients better, the difficulty lies with the patient.pg222

### *Category: Overwhelmed by it all*

19. Beliefs, attitudes and experiences and their implications for treatment adherence. Nurses must be careful how they treat patients. Old people do not want to be ill-treated by young nurses. If you were not treated well by staff in hospital you would not want to experience the same bad treatment again. So its better not to go back.pg 1079

20. health seeking behaviour We are treating people, but every year the cases increase. We treat the cases and they get better, but there are more, continually more...The problem is finding new cases. It is a big problem because all of the people with a problem don't want to come. Only a very small number come to the puskesmas.pg220 Overwhelmed by it all
21. Health seeking behaviour If patients do not follow the routine referral system, where treatment is free they must pay for diagnosis and treatment.pg181

22. Individual costs "...if you have the disease you have to spend more money on food. At the same time, you have to stop working and you cannot earn more money.pg865

23. Interaction with health personnel What we do is not enough. The counseling should be done every time they come for treatment. Sometimes, we just give them their drug and send them home. You do not even know if they are taking the drugs the right way.pg5

### *Category: On being under prepared*

24. Gaps in knowledge One doctor said at first he was 'completely in the dark...no idea about the drugs used...(or) what DOTS was all about."pg1706.

25. Health education activities Staff were not aware of any health education activities concerning TB being carried out in the district.pb181.

26. Interplay of factors Five patients interrupted during the intensive phase of treatment, two of them with only a few days left....the causes of interruption were different, but interrelated. On being under prepared.

27. Lack of attention and support received at the clinics/DOT centres ...He was laughed at by the TBHV along with a number of others in the clinic and some personal remarks were made. This agitated the patient and he finally left treatment.

28. Lack of food That (food) is a very serious problem for many of our patients. They almost want to kill us wanting help. They come here asking for help from NGOs. They say that especially TB drugs increase appetite. Now they feel hungry after they start feeling well a bit, and food becomes a problem.pg4

29. staff education After my normal training there have not been any opportunities for me for education, not for TB.pg223

30. Symptoms of TB staff mentioned fever, cough, chest pain and hemoptysis as the most common symptoms

31. Treatment Quality "...The doctor didn't ask about the tablets from the Puskesmas and I did not say that I have the tablets

### *Category: Incentives and Motivators*

32. Motivation of treatment supporters she says sometimes they come without having had breakfast or any food to eat so she has to give some porridge and then after that they just take the medication.pg 1706

33. Understanding of compliance Only if you spend enough time and take full treatment will germs be destroyed. It is like water, it boils at 100 degrees - it can not boil at 80-90 degrees.pg864

### *Category: The positive influence of social networks*

34. Compliance and belief in the health care No one missed treatment from our group. We go together, when some one is too sick to go to the clinic we help him to go. If this is not possible we inform the health worker, and ask him to come and give the patient his treatment."pg2016.

35. Decision to seek medical attention "One patient actually confirmed that he was assisted by the school to seek medical attention."pg815.

36. Staff attitudes and quality of health facilities "...The doctor was very good, friendly and good-hearted, not like other staff, who only take responsibility for distributing the drugs..."pg865.

37. The economic impact and social isolation It is the second time i am diagnosed. I was hiding my illness. However, i became weak and couldn't farm my land and support my family...I was ashamed in the beginning but I told my friend and he brought me to the health centre..."pg2015.

38. The need for individualized and flexible care Yeah she says he's an old man he's a father and she respects him not them...she says sometimes when she doesn't have any food she goes to uncle and the uncle asks her if she has eaten and she says no and he would give her food to eat and then she would take the tablets.pg1075 Note: shows how a change in observer can assist the individuals with compliance and health.

### *Category: Fear of risks to self or family from the community*

39. Community awareness and stigma They [patients] often dont like to say they have TB, they are less than happy to talk about TB. There is shame and embarrassment, so they cal it Paru Paru Bhaah, which means wet lungs. They are embarrassed, and that is the common term for TB.pg220

40. Community's attitudes towards tuberculosis patients "So what also happens is, when you come to someone suffering from TB, it's likely that he will be within the confines of his family. You will find such people are not welcomed where people are."pg815

41. Context of Stigma "My nephew who used to come and see me, when he heard that i had TB, started staying away."pg1015

42. Disease history and family attitudes When our daughter got infected with TB, we took her to private doctors for treatment, which was so expensive that we were forced to sell the things we had kept for her dowry. The sad part is that in spite of spending so much, she was still not cured. Afterwards, a relative referred us to the TB Centre.pg360

43. Patient's interactions with family members Even people at home treat me differently, whenever i cough everyone looks at me...they are scared of me.pg4

44. Patient's interactions with the wider community If the people who give me work find out that i have TB they won't give me any more (work)...I have to think about feeding my family and other things.pg4

45. Prohibition of full burial rights "...at times, when someone dies from TB, they don't allow the family to bring the dead body home..."

46. reactions to TB people are not only afraid of TB as a disease, but also of the people affected by it.pg180

47. Social consequences of being a TB patient and their effect on treatment compliance They look down on that person. They do not want to talk with him as before. Yesterday I went to my relatives home here in Pacca Garrah. They were not good with me.pg1688

48. Social Stigma due to TB People stayed away from each other, not sharing cigarettes and stuff like that. Just really kept to themselves.

49. Stigma and Fear "I felt small, hurt inside, and thought why me, why do I have TB. I felt embarrassed with my neighbours, but no one treated me differently."pg700

50. The social context I wasn't just afraid for myself, I thought that if the neighbours knew they would start fearing and avoiding me.pg1136

51. type of disease TB is generally seen as hereditary, infectious, dirty, social disease which mainly affects poor people

### *Category: Process and Policy Responsiveness*

52. A lack of monitoring and evaluation mechanisms associated with overcrowding and busy wards as opposed to specialised care in a TB ward Up to now evaluation is not done. The government must also revise their policies and must make sure that policies

are evaluated in the hospitals. They must not just write the policies and leave them as they are. When policies are in place they should be reviewed.pg36

53. Behaviours of health professionals towards patients with TB "...even the doctor is afraid of TB so by the time he gets to the patient he had already covered the nose and mouth..."pg306

54. diagnostic difficulties Mostly if patients get one positive test, from the start the patient gets the treatment for TB...we have meetings..and doctors suggest that we could give treatment after only one positive result, but the specialists always keep the rule at two smears positive for free treatment, because they think we may have problems with the lab or the analyist.pg221

55. health service-related factors I did not like the hospital. I did not like it there at all. It's full of criminals. All the walls are filthy, it's despicable. You can not even sit on the toilets.pg1135

56. Patient priorities versus programme structure D had been very regular in his DOT schedule, he was getting better and wanted to rejoin duty in a bank as he had been on long leave. But he found that he would be late for work if he went to the DOT clinic...so he asked his wife to collect the drugs for him....rules do not allow patients to take their treatment unobserved. As this patient could not remain out of work and could not continue his treatment due to the clinic timings, he was compelled to default.pg630

57. Policy Utilisation There is no TB policy, maybe it is in the deputy manager's office. i have not seen it before but i heard about it when I attended the TB workshop.34

58. Shortage of drugs that result in poor compliance Patients sill come back to the hospital for collection of treatment which is something we do not expect. This is because patients explain to nurses at the hospital that there is no treatment at the clinic.pg35

### *Category: Lack of coordination between and across service levels.*

59. Co-ordination with other services The TB programme in mission, government and company health services were examples of poor co-ordination of within GSH health services.pg1706

60. Drug availability and costs TB drugs are free of charge for patients treated within the NTCP. However, they are also available at most pharmacies without prescription.pg181

61. Environmental factors It is such a hardship to get to the clinic If they only had evening hours, it would be easier. I missed a whole day going in to town to get the x-ray and blood work. I was unaware of how to get there. No one spoke Spanish there.pg14

62. Organisation of TB control Staff expressed a need to integrate TB control with primary health care activities.pg181

63. Perspective of the providers If the patient came we gave him/her the medicine, otherwise, we were not concerned if he was absent for even 2 weeks or had not taken the medicine on a regular basis. If the NGO staff personnel reminded us, we once in a while asked the patient the reason for being irregular, or we just let the matter rest. In many cases, we told the patients to fill up their own cards.pg362

64. Problems with implementation of the TB programme Communication. Although there were examples of communication systems working well there were also examples where it broke down.

65. Reaching TB patients outside DOTS clinics "People for one believe it cannot be eradicated since it is re-emerging after so many years. And now that it is associated with AIDS virus people conceal it as they do not want to be suspected of HIV..."pg31

66. Stigma Nonlocal patients change phone numbers frequently. Addresses they present are usually inaccurate on purpose, which make sit difficult to follow. I think one of the main reasons is that they are afraid of stigma and loosing job.pg6

67. The new community based TB programme is an improvement okay, in fact she loves this system since it helps people, like for example one of her patients was a boy who was attending school so he was treated at hospital for a week and then he came back home ad attended school while he was on medication...he even passed the schooling.

### *Category: TB Self Efficacy and Loss*

68. Agency and coercion in treatment taking I think people should learn to value themselves and their lives and then they will not stop taking their treatment. People have to love themselves so much that they will not need [a] caregiver to run after them to take their treatment. pg166 Note: Agency refers to action taken by the individual on behalf of themselves.

69. Cognitive/Emotional beliefs I was supposed to catch a ride with the crew leader, but i didn't get off work in time. I didn't feel like I could ask again. I had no control over the disease or treatment.pg15

70. Communication six of 40 defaulters stated that they had defaulted because of the poor communication skills of the health workers.pg628

71. Denial of Diagnosis I am not convinced it is TB I have. First they say it is this illness...then they say it is TB."pg1015

72. Drug supply With the information that TB drugs were becoming available and that each patient had his or her own box of drugs, patients began to believe that they could be cured, and some cited this as an incentive to adhere to their complete course of therapy

73. Healing "...if i have sex, my body will expand...and the drying wound in my lung will burst."pg1362

74. HIV cross-stigmatisation of TB "I requested not to do it [HIV test]. I wasn't sure. I thought to myself, if I get that news, I would die."pg1016

75. Influence of others "I always buy medicine, INH for the lung...I buy it from the Chemist. My husband suggested it, as he had that tablet also..."pg696

76. mistrust of the medical system ...I didn't want to go back to the doctor because he frightened me...I felt that the doctor would blame me for not taking my treatments.pg416

77. Patients interactions with healthcare workers I have no choice but to take the medication when and where the people here tell me. I don't understand why I have to take all these tablets every day for so long, but I have no choice, I want to get better.pg3

78. Perception of early symptoms "Not being able to buy things necessary for life exposes you to bird (lebird yaggalleten). One of my relatives who work as a nurse confirmed this fact to me saying that bird was able to penetrate my lung because i had been living in poverty for long."pg1360

79. Psychosocial factors promoting and hindering adherence to TB medication I took my treatment frequently just like I'm doing right now. I didn't have any problems, instead since i have been taking my treatment i feel a big relief even from the stiffness and the pain i always felt.

80. Someone who will "take you from far and bring you in close..." This phrase encompasses a multifaceted approach to patient care centred on close, personal relationships and attention to emotional/spiritual issues.pg67

81. Treatment barriers and default "Mostly people are working all the time, they are too lazy to go to the puskesmas, they think it wastes time...Also people dont think they have free time. Mostly they work and look after their family, so they dont go even if someone asks them to....People go to someone who they can trust..."pg698

### *Category: Psychosocial, physical and economic needs can overwhelm.*

82. Co-morbidity an elderly smoker, suffering from severe breathlessness due to chronic obstructive respiratory disease. He happened to suffer from TB also...he fond the distance to the centre was too much for his condition and he could not afford to spend money on transport.

83. Contextual, individual and disease factors associated with the illness experience I was always tired, I didn't feel like doing anything, I didn't want people around me, and I was irritable. [pause, looking down] I couldn't even wash myself and my sister had to help me get washed and this made me feel angry because i felt helpless.pg59

84. Crisis precipitated due to completion of the intensive phase People will get bored of you. Earlier they supported me when they had money, or with some food, but they don't do that much more. I cant ask for help all the time (crying) It is at home...they have asked me to leave their house now.pg7

85. Financial burden of tuberculosis I have small children, I planted wheat, I was thinking that I have to help my children. I was thinking of asking for leave, then I could come back to the hospital.

86. Hunger ....Especially when I lack food I feel like not coming....My only motivation is to get food...food...it is food motivating me...to get food, any kinds of food...at the right time...and to have a person that can help you get that food.pg5

87. Location although most DOT patients are within 2-5km of a DOT centre, the distance could still be challenging for the very sick and/or poor.pg637

88. Loss of income People who are daily labourers or work in the private sector they can't get any kind of [sick] leave and they face more problems. Many of them interrupt their treatment because they don't want to loose their jobs. They rather live for a while, with money and their jobs, to eat and then die.pg5

89. Misconceptions concerning TB "...I thought he passed it on to me through sex, like HIV."pg1015

90. Physical demands I walk, I dont have any money for transport...I use almost two hours and i vomit on the way.pg6

91. Recognition of early signs and symptoms "if that is the case, it can be seen from his cough and the look of his body. He becomes weak, can't do any work and any slight drop of temperature and he will look for fire..."pg812

92. Structural factors Its lack of money. Well everywhere they write that TB treatment is free of charge. And where is it free of charge? Only tablets they give for free. Everything else we have to buy - injections, drips...and then, who will feed my children?pg1136 NOTE: relates to opportunity costs and direct costs.

93. Symptom misinterpretation "I thought it was because of the heavy load I carried. I did not report the chest pain for about three weeks. When I coughed, I saw blood, then i came to the doctor.pg1015

94. TB services are not actually free My spouse newly passed away and i also lost my job. To survive, I have to take drugs. Though anti-tuberculosis drugs are free of charge, other medical tests and liver protection drugs still cost me up to 2,000Yuan. It is a heavy burden on me.pg4

95. The challenges of DOT I had to come every day for injections. I tell you the truth, there was a time when i had to sell my jewellery; my rings, my necklace, everything. I had to run here without even eating breakfast.pg5

### *Category: Negative influence of social stigma and fear.*

96. Acceptance by the patient him/herself I said to him (the doctor) don't tell them at home that I have this disease otherwise they will be very sad.pg1688

97. Beliefs regarding how people get TB "In the Philippines, I worked in a printing press. There are chemicals. Maybe, I don't know, I probably inhaled chemical fumes. Also I had vices before - I smoke and drink alcohol".pg936

98. Impact of TB on social life "Within marriages husbands leave their wives and wives leave their husbands when there is infection by ukwaranta (tuberculosis)."pg27

99. Isolation and exclusionary practices "...when you have TB and report to hospital you are isolated to a place where many people will not see you; that is why it is a shameful disease..."pg304

100. Patients' and community members' perceptions of the problems associated with accessing formal TB treatment When you are suffering from this illness, the provider behaves as if they were afraid to approach you, to rub shoulders with you..as if you have the plague'.pg1481

101. personal factors I was frightened...better i go on hunger strike and die right away. A neighbour of mine seriously suffered from TB. I know what kind of disease it is.pg1134

102. Public Health Discourse "...every morning, we usually take tea together before starting work; everybody has his or her cup. After I was diagnosed with TB, by the time I got there, my tea was prepared and poured into a polythene bag and tied..."pg306

103. Stigma "I work in a dress making factory. Since I got TB, I have to take my meals alone in the factory. I could not eat with my colleagues and they wouldn't say anything, but I think they are afraid so I take my meals alone."pg865-6

104. Transmission and causes of Tuberculosis ""...with strong blood are likely to be more resistant than those with weak blood..."pg813

### *Category: 'Adherence' occurs within a 'life needs framework'*

105. Adverse reactions However, some patients are reluctant to cooperate with us. The main reasons are the adverse reactions and long course of treatment. For example, one patient didn't visit my clinic to take drugs as regularly. So I called him immediately. He told me that he didn't want to continue as he felt much more uncomfortable after taking drugs.pg6

106. Awareness of TB - Causes, symptoms and seriousness "We did not think it was a problem, she was just skinny, did not feel hungry and had problems with food....I just used coconut oil to massage the prominent bones in her back, and it makes her feel better."pg695

107. Curability "Even the medical doctor can be defeated and likewise the medicine man."pg815

108. Food safety and hygiene practices "...You will only be given the certificate to sell food when you are not having TB, so that you don't contaminate the food and transmit the disease to a lot of people..."

109. Management of early symptoms "I waited for about 2 months. I didn't give much attention to my health problems in the beginning, because I only had cough. I used a tea made of oil seeds to treat the cough

110. Moral and Religious Norms "People [TB Patients] die because they don't adhere to this sex prohibition, and they drink alcohol. On the contrary, I know people who were cured because they abstained from sex. I dont want to destroy everything by engaging myself in these dirty things."pg1361

111. Pregnancy and TB treatment I was already sick before i got married. I have now been married two years. I know I had TB. I was already taking medicines. I was better, but then I married and I stopped my medicines. Because I got pregnant and i could not stand the smell of medicines.pg1689

112. Response to treatment The drugs don't suit me, so I had to stop taking them.pg630 NOTE: responses to improvement vary with individual perspective

113. taking medicines on an empty stomach I knew that i would feel pain if i swallowed the tablets immediately [at the clinic]. Therefore i pretended swallowing the tablets, I took the tablets, hiding them. Then I swallowed the tablets later...with milk...at home.pg5

114. TB Health Beliefs When i first got this disease, i went to the clinic for treatment and after 2 weeks, I realised my condition did not improve. Then the nurse asked me to stay there for 8months and i refused. I have a cousin who had previously suffered from the same disease and recovered well by taking traditional medicine.pg535

115. The confirmation of the tuberculosis diagnosis shakes patients life We feel completely out of the world, it's very hard, complicated, especially in the first three months. I tried to live my life as normally as possible.pg182

116. The legacy of sanitoriums for Aboriginal people "...when i did get home, everybody sort of treated me as an outsider."pg938

117. The tuberculosis treatment has different meanings for those infected and for those who treat it. I had to stop doing many things i like to do, had to stop walking in the sun, rain, having a more normal daily life, I had to stop studying to comply with the treatment, stop working, so it was extremely difficult.pg182

118. Treatment as lifestyle change You should not smoke, you should not drink and you should not default your treatment pg167 note: lifestyle change was predominantly about giving up (eg smoking or alcohol).

***Category: Changing tensions between beliefs and knowledge in decision-making.***

119. Aymara Identity, Health Beliefs, and Practices [when i had tuberculosis] I first went to the yatiris; they gave me cures to take for the cough. They made me take donkey milk, a lot of garlic, i took a lot of things, I dont know exactly what they were, for the tuberculosis. But they didnt help me much; I was coughing a year and a half....But then i went to the general hospital, and i was hospitalised there. I was totally pale, unable to eat, tired all the time. I only weighed 38kg when i was hospitalised. Now i have completed all my treatment and i am cured.

120. Aymara Medicine and biomedicine in the management of tuberculosis The medicine of the naturistas the Aymara medicine, it is - how do i explain - it is something that has pros and its cons. Many times there are plants or perhaps natural medications that cure people, but they only cure momentarily...pg411

121. General perceptions and beliefs TB was labelled a dangerous disease because it is difficult to cure. Despite the availability of a large quantity of drugs, both traditional healers and doctors may be defeated by the disease and the affected person often ends up dying.pg812

122. Health seeking for tuberculosis in communities Health seeking depends on the level of education. The illiterate would delay going to hospital. They first use local herbs."pg28

123. Pill burden and side effects Swallowing so many drugs, it was very difficult. I was scared that it would harm my body. Drugs can harm you if they are too many.pg4

124. The role of the supporter: constraining or facilitating empowerment? when i was still at home with my mother [buddy], she used to help me with my treatment but you know how us males are..."pg168

125. Timing of ART It is better to take one drug and then the other drug. Your stomach can tolerate it. Your body can tolerate it. Together it is too much. That's why i stopped taking my drugs.pg6