Evidence-Based Medicine in General Practice
an exploratory study

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M.Sc. in Family Medicine 2009
University of Malta
Author's declaration

The undersigned, Dr. Dominic Agius, hereby declares that the research presented in this dissertation is his own and has never been submitted to any degree in any other institution. This work was carried out under the supervision of Dr. Dione Mifsud and Dr. Philip Sciortino.

Dr. Dominic Agius

Supervisors' declaration

In our opinion, this Dissertation is good enough to be awarded at least a PASS by the M.Sc. Family Medicine Examining Board.

Dr. Dione Mifsud

Dr. Philip Sciortino
For Josette

Mark and Stefanie
Acknowledgements

I would like to thank my tutors, Dr. Dione Mifsud and Dr. Philip Sciortino for their encouragement and inspirational help throughout my long and uncharted journey.

I am grateful also to the research participants for their support and valued contributions. I am aware of their sacrifice to "fit me in" their tight schedules of work.

Finally, I would like to thank my wife, Josette and my children, Mark and Stefanie for their support, patience and encouragement throughout these two years. Without their help, this work would not have been possible.
Abstract

Evidence-based medicine (EBM) has emerged as an influential model for the practice of clinical medicine. In Malta, however, very little is known about general practitioners' attitude towards EBM.

This qualitative work explores the experiences of Family Physicians in relation to this phenomenon.

In this study, I employed a bricolage of research enquiry based on narrative and interpretive methods. I used two semi-structured focus group interviews with fourteen purposively selected GPs. These interviews were transcribed verbatim and analysed using qualitative content analysis. I also utilized field notes personally collected during the interviews. Reflexivity was viewed as an important dimension in designing and implementing the research.

A literature review is also included in the study.

The findings of the study suggest that the participants welcomed the promotion of external evidence in general practice. Four main themes could be identified: the applicability of evidence to individual patients; the use of EBM in the context of general practice; perceived barriers and constraints; and ways of moving from opinion-based to evidence-based practice.
This work is intended to promote the use of qualitative research methods in general practice and to start an informing process on EBM amongst local GPs. I am aware that generalizability is not normally sought in qualitative research. However, certain tentative conclusions can be drawn from the study: decisions about the application of evidence in a general practice setting are highly complex and shaped by such factors as, the multidisciplinary nature of the practice and its patient-centredness. One recommendation that the participants agreed upon is that the best way to implement EBM in general practice is through the use of local guidelines.
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Chapter 1

The map and the territory

Introduction
1.1 Introduction

A young woman of eighteen injured her ankle while playing tennis and was admitted to hospital for surgery. At follow up, she showed weakness and muscle wasting in the leg and complained of non specific symptoms (fatigue, neck pain). When the surgeon suggested that she was not doing her exercises, she became angry and aggressive.

A few weeks later, she came to my clinic. She was markedly depressed and had severe muscle wasting. After excluding possible physical causes of her symptoms, I encouraged her to talk about how her life was affected by her illness. She explained that she had been brought up in an environment that emphasized academic and athletic achievement. Her success in sports had enabled her to compensate for a poor academic record.

This episode reminded me of Alfred Korzybski’s metaphor of the map and the territory. How we “make a map [disease] by abstracting certain features from a territory [patient’s illness] and ignoring others” (McWhinney, 1997 p.76).

As a family doctor, I know that “the map is not the territory”. That is patients’ complaints form only a part of the illness. As a native of the territory, the patient knows it by living in it and identifies himself/herself with it. My goal as a family doctor is to explore the territory and reach a mutual understanding with the native [patient] on management and care.
This encounter also helped me reflect on various issues that I frequently face during my consultations:

- Are my clinical decisions based on latest, best evidence?

- How can I be sure that I am using the most effective management with my patients?

- Where should I look and whom should I ask for help to make the right decision?

- Am I treating my patients as subjects or objects? (Riansberry R 1986)

I am aware that some of these questions have already been asked and partially answered in studies conducted abroad. However, the issue of EBM within the local GP community has not been explored. I also realized that quantitative methodology prevalent in the literature left a serious and tangible gap in my patients' care. At the time, qualitative methodologies were very much underrepresented in family practice research (Murphy et al, 1992).

I hope that this study will start filling the emptiness.
1.2 Background

I work as a solo family physician, doing my best to provide a holistic, accountable and continued care for my patients. I must admit, however, that my approach to health care has been parsonian or physician oriented. In other words, I use my agenda, beliefs and needs in the management of my patients. This may be a consequence of my Flexnerian approach to medical education. This is a reductionist approach – if one understands the parts, one knows about the whole. However, there are many examples where this approach has let us down. For example, Calcium channel blockers are excellent for lowering blood pressure, but also increase the risk of myocardial infarction when compared with ACE inhibitors. Human beings are complex, non-linear beings and simple, linear reasoning does not always (or even often) work.

Essentially, I have based my patient care on:

1. Personal experience – this is an important component of the “art of medicine”.
   The experience of the clinician is an essential and under appreciated part of practice. Still, there are certain pitfalls: I observe that a number of children with bronchitis do not respond to Amoxycillin, but after putting them on Clarithromycin, they improve. As a result of this experience, I start treating all children with bronchitis with Clarithromycin. However, bronchitis is a self-limiting disease and gets better regardless of how it is treated. Could improvement with any antibiotic merely reflect the natural history of the disease?

2. Expert opinion - I have frequently asked specialists for advice on diagnosis and treatment. Many times their recommendations left me scratching my head. Their
suggestions were not applicable to my particular patient. Specialists live in a world very different from my own. Additionally, some specialists are not up to date on the literature in their own field. A case in point is the use of eye patches for treating corneal abrasions. Recent studies have shown that such a practice (compared to no patching) neither speeds up healing, nor reduces pain. Nonetheless, some ophthalmologists still patch corneal abrasions.

Evidence-Based Medicine promotes the identification of the best methods of health care and helps patients and doctors make better-informed choices (Kerridge et al. 1998). Decisions about the implementation of evidence in General Practice are highly complex and their elucidation in the local setting could lead to better patient care.

With these thoughts and perplexities, I was immediately attracted to the evidence paradigm in general practice. I attended courses and participated in discussions on Evidence Based Medicine in Family Medicine and I am a strong believer in its beneficial effect on patient care and outcomes.

I hope that this dissertation will contribute to a better understanding of the phenomenon and serve as a catalyst to encourage further qualitative research in General Practice.

I will attempt to answer my research question as outlined in Chapter 3, through the use of a bricolage of narrative enquiry and interpretive phenomenological approach, and reflexively giving meaning to the “voices” of the research participants.
1.3 Layout of the Dissertation

In Chapter 1, I describe my encounter with the research topic and introduce the research question and its relevance to the practicing community. Chapter 2 provides the background to EBM and an analysis of relevant literary contributions. In Chapter 3, I describe my journey to identify a suitable bricolage of research methodologies and my research design and process. In Chapter 4, I try to recount faithfully the stories and experiences of the research participants, reflecting on them, discuss them and finally present the results obtained. In the last chapter, I discuss the relevance, limitations and strengths of the project. I conclude by presenting the recommendations on the use of EBM in General Practice, suggested by the research participants.
Chapter 2

The charted and uncharted paths

Literature Review
2.1 Introduction

Some time ago, a middle-aged man came to my clinic, just as I was about to leave. He was visibly distressed and showed me numerous scaling skin lesions over his elbows and knees. The diagnosis seemed obvious and I started him on a treatment regimen. After some days, he returned. His psoriasis, however, did not respond as well as expected. Exploration of his current life circumstances revealed that he had lost his job and was several months behind his rent payments, risking eviction. These factors could have precipitated his condition and delayed his recovery.

I am aware that such situations are common in General Practice and they highlight the subjective aspects of medicine. In clinical encounters, Mishler (1984) identified two contrasting voices: the voice of medicine, that promotes a scientific and detached attitude towards disease; and the voice of the life world, that centres on the individual’s particular illness and social context. I am also aware that clinical expertise must be integrated “with the best research evidence...and patient values” (Sackett, Strauss, Richardson, Rosenberg and Haynes 2000 p. 1).

It was with these thoughts that I embarked on my journey to explore the factors that influence the use of evidence in decision making in Family Practice.

This chapter will present an overview of the literature on Evidence Based Medicine (EBM), definitions and recent advances with particular reference to Family Medicine. Unfortunately very little research has been conducted in Malta on Evidence Based Medicine – all of which is hospital based (Bonnici C 1998; Gauci M. et al, 2004),
and as yet no such literature has been published with reference to Family Medicine. I hope that this study will help to serve as a stimulus for further research in this field and thus contribute to better patient care.
2.2 What is Evidence Based Medicine?

Although testing medical interventions for efficacy has existed since the time of Avicenna’s *The Canon of Medicine* in the 11th century, it was only in the 20th century that this effort evolved to affect all fields of health care and policy. Professor Archie Cochrane, through his book *Effectiveness and Efficiency: Random Reflections on Health Services*, promoted the concepts behind evidence-based practice.

The term “Evidence Based Medicine” entered the lexicon in 1992. It was proposed by a group of academic physicians as a new way of teaching the practice of medicine. They believed that paradigm shift was taking place from “intuition, unsystematic clinical experience and pathophysiological rationale” to an emphasis on “evidence from clinical research”.

Doctor David Sackett and Gordon Guyatt at McMaster University in Ontario, Canada, defined Evidence Based Medicine as:

“...the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients”.  
(Sackett 1997)

It is important to note certain key words in this definition, which will help to dispel much of the criticism that has been advanced against Evidence Based Medicine.

1. Conscientious – implies a moral obligation to practice EBM (not merely a rationale driven by financial or management efficiency).
2. Explicit – can be easily followed and implemented
3. Current and best – best interventions according to current knowledge
4. Individual – evidence as applied to a particular patient. Mr. Smith, a 50 year old, single, unemployed, obese and hypertensive who develops chest pain is different from Mrs. Attard, a 30 year old, married woman with three children, athletic and who develops the same symptom. As will be shown in this study many of the GP respondents seem to forget this crucial element in the definition of EBM.

Sackett himself realizes that evidence alone is not sufficient for the compassionate, effective care of patients. He stresses that the practice of EBM needs to be integrated with clinical expertise, which highlights the following important elements:

1. Expertise in performing the history and physical examination
2. Knowledge of the patient, the family and the community, which creates a context for therapeutic decision-making.
3. A relationship with the patient, informed by his or her beliefs and values.
4. Practical knowledge of the availability of resources in the community.

Sackett summarizes this balance and even tension between evidence and clinical expertise:

"Without clinical practice, practice risks becoming tyrannized by external evidence, for even excellent external evidence may be inapplicable to or inappropriate for an individual patient. Without current best external evidence, practice risks becoming rapidly out of date, to the detriment of patients." (Sackett 1997)

This dilemma has been amply confirmed and explored in this study.

Applying an evidence-based approach to the care of patients is an intellectually exciting style of practice, leading to a path of exploration and lifelong learning. It provides a framework for deciding when to adopt new tests and therapies, when to
discard old ones, and where and how to look for answers to clinical questions that arise daily in the care of patients.

An evidence-based approach frees the physician from a reliance or dependence on dogma and tradition and allows him to critically evaluate traditional and alternative therapies on a level ground. EBM places the patient at the centre of care by highlighting outcomes that matter to patients such as symptoms, morbidity, mortality, quality of life and even cost.

### 2.3 Practicing EBM

A process of systematically finding, appraising and using contemporaneous research findings as the basis of clinical decisions (Rosenberg and Donald 1995)

![Figure 1. Practicing EBM (Rosenberg and Donald 1995)]

1. Formulate a clear clinical question from a patient's problem.
2. Search the literature for relevant clinical articles
3. Evaluate (critically appraise) the evidence for its validity and usefulness
4. Implement useful findings in clinical practice.


2.4 Sources and Hierarchy of Evidence

Each month hundreds of medical journals publish thousands of articles. Even if one considers those oriented towards primary care, one finds over twenty thousand articles per year. Several journals are entirely devoted to Evidence Based Medicine, such as ACP Journal Club, Evidence Based Medicine and Best Evidence.

These articles are commonly derived from two types of sources:

1. Primary sources: original research studies of which Randomized Controlled Trials (RCTs) are regarded as gold standard.
   - Medline through Pubmed (http://www.pubmed.gov)
   - Cochrane Central Register of Controlled Trials (CENTRAL) (http://www.cochrane.org)

2. Secondary Sources: systematic reviews or meta-analysis of primary studies, normally RCTs.
   - Cochrane Database of Systematic Reviews (http://www.cochrane.org)
   - Database of Abstracts of Reviews of Effects (DARE)

Studies are assigned a “grade” or evidence code that reflects the position of the study in a hierarchy of evidence quality. Several coding schemes exist. In grading studies of the effectiveness of treatments, a common feature is to place RCTs at the top of the hierarchy, followed by observational and epidemiological studies. Other coding schemes exist for studies evaluating diagnostic tests, epidemiologic trends and natural history.
In most schemes, internal validity (whether study actually measures what it intends to measure) and external validity (generalisability) are examined and graded. The Jadad scale (Olivo et. al, 2008) is the most well known and validated.

The Jadad scores can be used in a number of ways:

1. To evaluate the general quality of medical research in a particular field.
2. To set a minimum standard for the paper’s results to be included in a meta analysis. A researcher conducting a systematic review might elect to exclude all papers on the topic with a Jadad score of 3 or less.
3. For critical analysis of a particular paper.
   (Simon SD 2006)

### TABLE1. GRADES OF EVIDENCE FOR THE QUALITY OF STUDY DESIGN

(The grades are those of the U.S. Preventive Services Task Force)

I  Evidence obtained from at least one properly randomized, controlled trial.

II-1 Evidence obtained from well-designed controlled trials without randomization.

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3 Evidence obtained from multiple time series with or without the intervention.

Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience; descriptive studies and case reports; or reports of expert committees.
The Oxford Centre for Evidence-Based Medicine suggests levels of evidence (LOE) according to the study designs and critical appraisal of prevention, diagnosis, prevention, prognosis, therapy and harm studies:

**2.5 Relevant studies: EBM in Family Medicine**


I used MeSH – terms Evidence Based Medicine, Family Physician and combined them with free text words like use, barrier$, intervent$, strateg$, utilization and obstacle$.

Studies addressing the barriers to EBM in General Practice are listed in Table 2. In addition, those addressing possible solutions to problems in implementing EBM in Family Medicine are shown in Table 3.
## Table 2: Studies addressing barriers towards EBM in general practice

<table>
<thead>
<tr>
<th>Study Year</th>
<th>Population</th>
<th>Design</th>
<th>Respondents</th>
<th>Perceived barriers</th>
</tr>
</thead>
</table>
| Veldhuis M. et al 1998 | Purposeful sample of GPs from 9 practices in Merseyside | Qualitative: Semi-structured interviews | 34 | -not applicable to individual patients  
- poor adherence of GPs to practice protocols  
-time consuming  
-financial conditioning  
-lack of effective computer system |
| Mc Coll et al 1998 | Randomised sample of GPs in Wessex, United Kingdom | Quantitative: Questionnaire | 452  
Response rate 67% | -Time consuming  
-no skills in critical appraisal  
-EBM threatens GPs  
-No access to info  
-No financial benefits  
-Gaps in evidence  
-Evidence not relevant to general practice  
-Too much evidence  
-Evidence hard to implement  
-Patients’ expectations do not fit EBM  
-Colleagues are not evidence-based oriented  
-Government not supportive |
| McAlister et al 1999 | GPs, members of the Canadian Society of Internal Medicine, Canada | Cross-sectional research: Questionnaire | 294  
Response rate 60% | -Too academic  
-Threat to the art of medicine  
-not applicable to individual patient  
-Decrease of importance of experience |
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<tbody>
<tr>
<td><strong>Population</strong></td>
<td>Purposeful sample of GPs of educational programs, courses, supervisors of the Adelaide Royal Australian college of GPs, GPs from the Darwin Urban division of GPs, Australia</td>
<td>Purposeful sample of 8 practices of GPs in the North Thames region, UK</td>
<td>Sample of members from the 'Internal Medicine Society', Australia and New Zealand, participants of an EBM-course program, doctors with a practice in 5 hospitals</td>
<td>Purposeful sample of GPs out of three regions concentrated around a hospital in West England</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Qualitative: Focus groups</td>
<td>Qualitative: Semi-structured interviews</td>
<td>Quantitative: Questionnaire</td>
<td>Qualitative: 3 focus groups Balint type</td>
</tr>
<tr>
<td><strong>Respondents</strong></td>
<td>27</td>
<td>24</td>
<td>111 (Response rate 20%)</td>
<td>19</td>
</tr>
<tr>
<td><strong>Perceived Barriers</strong></td>
<td>-Reduction of therapeutic choice -Contradictory evidence -Not applicable in daily practice -Not applicable to individual patient -Pharmaceutical companies have influence on evidence</td>
<td>-Lack of time -Lack of knowledge and skills -Too much pressure, no motivation -Complexity of practice not considered in Evidence -Patients don’t comply -Patients have specific cultural background</td>
<td>-Lack of time -Poor access to information -Organizational problems -Lack of knowledge and skills -GPs poorly motivated -Not applicable to individual patient</td>
<td>-Problems with logistics -Decreases importance of experience -Patient does not adhere to treatment -Patients have no evidence-based awareness -Tension between 1&lt;sup&gt;st&lt;/sup&gt; and 2&lt;sup&gt;nd&lt;/sup&gt; care</td>
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<tr>
<td><strong>Population</strong></td>
<td>Purposeful selection of GPs in a research project on preventive care, Australia</td>
<td>Sample of GPs in Iowa United States</td>
<td>Purposeful sample of GPs working with patients with cardiovascular problems, in the region Nova Scotia Scotland</td>
<td>Purposive sampling of GPs in Riyadh, Saudi Arabia</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>1. Quantitative: Questionnaire 2. Qualitative: semi-structured interviews</td>
<td>Qualitative: observations</td>
<td>Qualitative: 9 focus groups</td>
<td>Quantitative: cross-sectional research, questionnaire</td>
</tr>
<tr>
<td><strong>Respondents</strong></td>
<td>60</td>
<td>25</td>
<td>50</td>
<td>559</td>
</tr>
<tr>
<td><strong>Perceived Barriers</strong></td>
<td>-Lack of time -Lack of skills -Not applicable in daily practice -Patients come for predefined treatments -Patients have their own expectations</td>
<td>-Lack of knowledge and skills -EBM not applicable in practice</td>
<td>-Lack of time -Lack of competences -Evidence is misleading -Not applicable to individual patient -diminishes importance of experience</td>
<td>-Lack of time -No access to sources of information -Lack of educational support -not applicable to individual patients</td>
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<td>------------------------</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>Purposeful sampling of Flemish GPs</td>
<td>Purposive sampling of GPs in Melada, Malaysia</td>
<td>Purposive sampling of two groups of GPs and facilitators on influence of EBM on attitudes and behaviour</td>
<td>Purposeful sampling of GPs in UK were interviewed on implementation of practice guidelines</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Qualitative: focus groups</td>
<td>Cross-sectional study: Questionnaire</td>
<td>Qualitative: semi-structured interviews</td>
<td>Qualitative: structured interviews</td>
</tr>
<tr>
<td><strong>Respondents</strong></td>
<td>31</td>
<td>50</td>
<td>Grp1: 30 GPs and facilitators Grp2: 21 GPs and facilitators</td>
<td>25</td>
</tr>
<tr>
<td><strong>Perceived Barriers</strong></td>
<td>Micro level: - Competences, time, EBM resources. - Patient expectations - Colleague conflicts</td>
<td>- Lack of personal time - Lack of internet access in primary care clinics - Low level of awareness of EBM</td>
<td>- Time constraints - Work overload - Patients demanding redundant treatment - Constantly changing evidence - Lack of information retrieval skills</td>
<td>- Criticism of guideline development, relevance and implementation - Costs and side-effects of implementing guidelines</td>
</tr>
</tbody>
</table>
### TABLE 3 - Studies addressing strategies to bridge barriers towards EBM in general practice

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<tbody>
<tr>
<td><strong>Population</strong></td>
<td>Stratified, randomized sample of GPs in South of Adelaide, Australia</td>
<td>Theoretical sample of GPs who participate, with patients with a non-rheumatic atrial fibrillation, 6 general practices in Cambridge, UK.</td>
<td>GPs who use ATTRACT ('evidence-based summaries to clinical queries'), United Kingdom</td>
<td>GPs/members of the 'Monash Division of General Practice in the South-East Suburbs' of Melbourne, Australia</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Action research, Telephone interviews No control group selected</td>
<td>Prospective design: 6 months follow-up No control group selected</td>
<td>Quantitative: Questionnaires, No control group selected</td>
<td>Quantitative: RCT</td>
</tr>
<tr>
<td><strong>Respondents</strong></td>
<td>31</td>
<td>unknown</td>
<td>42 response rate 84%</td>
<td>132 response rate 48%</td>
</tr>
<tr>
<td><strong>Tested interventions</strong></td>
<td>Online support system enabling doctors to submit a form with their question(s), these are answered by an information specialist</td>
<td>Evaluation of plans of patients' care using patients records, evaluation of current care with treatment protocol devised by the doctors themselves.</td>
<td>Online support system enabling doctors to submit a form with their question(s), being addressed with reference to current scientific evidence</td>
<td>Respondents introduced to EBM; knowledge and attitudes were explored by a qualified GP tutor at the respondent’s practice</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>GPs found the system helpful to support their clinical decisions. In 20% of the cases, there was a positive effect on the management of the patient.</td>
<td>They clearly showed the difficulties of applying the recommendations of the protocol to individual patients.</td>
<td>GPs appreciate clear summaries of scientific literature. The answers lead to a change in daily clinical practice.</td>
<td>'Academic detailing' improves knowledge and understanding of EBM, but has no effect on the attitude towards EBM.</td>
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</tr>
<tr>
<td>Population</td>
<td>GPs well versed in information programs, Australia</td>
<td>GPs in Fulham and Hammersmith, United Kingdom</td>
<td>Participants of a course on EBM, Berlin, Germany</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>Action Research, Questionnaire No control group selected</td>
<td>Descriptive pilot study: Questionnaire and semi-structured interviews. No control group selected</td>
<td>Quantitative design</td>
<td></td>
</tr>
<tr>
<td>Respondents</td>
<td>71</td>
<td>34 response rate 34%</td>
<td>Two Cohorts 1999 = 82</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2000 = 50</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2001 = 71</td>
<td></td>
</tr>
<tr>
<td>Tested interventions</td>
<td>Set-up of two information desks to assist practitioners in their literature search (Quest and Aqua)</td>
<td>Set-up of a clinical information helpdesk assist practitioners in decision making</td>
<td>Intensive 3-day course in EBM</td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td>An information desk assists practitioners in literature search. However, a cost-utility analysis was used to evaluate it.</td>
<td>The helpdesks improves access to 'evidence'. GPs agree with the system. Limited uptake. However, when used, it led to a clinical practice change.</td>
<td>There was a significant improvement of knowledge and skills in EBM. However, the applicability to practice not explored</td>
<td></td>
</tr>
<tr>
<td>Study Year</td>
<td>Greenhalgh et al 2002</td>
<td>Al-Ansary et al 2002</td>
<td>Schwartz et al 2003</td>
<td></td>
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<tr>
<td>Population</td>
<td>Purposive selection of primary care doctors</td>
<td>All GPs out of the region Riyadh, Saudi Arabia</td>
<td>Experienced GPs coaching junior doctors at the university of Detroit, United States</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>Case studies followed by qualitative analysis</td>
<td>Quantitative: cross-sectional research using a questionnaire</td>
<td>Prospective research design: 3 months follow-up</td>
<td></td>
</tr>
<tr>
<td>Respondents</td>
<td>unknown</td>
<td>559 response rate 86%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Tested interventions</td>
<td>Comparison of an academic feedback system with a practice-oriented feedback system</td>
<td>Training programs in searching and critically appraising scientific literature, and the use of clinical guidelines and protocols</td>
<td>Searching for evidence during the consultations</td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td>A good information system provides a search engine for researchers and practitioners.</td>
<td>Need to implement EBM in health care is urgently necessary.</td>
<td>Time is an important barrier to use information systems during patient encounters. Possible solutions are summaries of literature and faster internet connections</td>
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<tr>
<td>Population</td>
<td>Purposeful sample of GPs, practice nurses, phlebotomists in two UK practices</td>
<td>Purposeful sampling of Flemish GPs</td>
<td>GP supervisors actively teaching EBM in New South Wales, Australia</td>
<td>Purposeful sampling of GPs in UK were interviewed on implementation of practice guidelines</td>
</tr>
<tr>
<td>Design</td>
<td>Ethnographic study over two years</td>
<td>Qualitative: focus groups</td>
<td>Qualitative: semi-structured interviews</td>
<td>Qualitative: structured interviews</td>
</tr>
<tr>
<td>Respondents</td>
<td>14</td>
<td>31</td>
<td>11</td>
<td>25</td>
</tr>
<tr>
<td>Perceived Solutions</td>
<td>Micro level: -Development of ‘mind lines’ based on experience, interactions with each other, opinion leaders and sources of tacit knowledge -Development of professional networks amongst health professionals -Critical appraisal of research targeted at opinion leaders</td>
<td>Meso level: -Teaching EBM to GP registrars early in their specialization -Conflict of interests clearly stated</td>
<td>Macro level: -Dedicated and paid time for research and information seeking -Media to promote evidence-based health care system</td>
<td>-1st care guidelines should be developed with less input from 2nd care and industry -Simple and systematic presentation of guidelines -Should target GPs’ perceived needs -Enforcement strategies not to be used routinely</td>
</tr>
</tbody>
</table>
2.6 What GPs are saying about EBM.

Numerous important issues, sometimes linear and sometimes contradictory, arose from these studies, reflecting the different perceptions and expectations felt by GPs on the subject.

1. Use of EBM in general practice

Most studies (McColl, A et al. 1998; Taylor, J et al. 2002; and Gabby, J 2004) showed a positive attitude of GPs towards EBM and considered its implementation as an important factor in improving patient care.

"We do need a lot of Evidence Based Medicine at our fingertips to discuss issues with patients ... and if we've got a few pertinent figures to quote that helps enormously..." (Mayer J. and Piterman L. 1999)

"I use things like guidelines... and I show them to the patients [to explain] why I choose to treat or choose not to treat..." (Putnam, W et al. 2002)

Interestingly, although GPs welcome EBM as an important tool for better patient care, they do not necessarily use it within their consultations. Greenhalgh suggests that further qualitative studies are needed to address this critical issue. (Mayer, J et al. 1999)

This study has clearly indicated numerous perceptions and fears that throw some light on this phenomenon.

2. Perceived barriers to the implementation of EBM in everyday practice.

GPs seem to experience common perplexities and problems in their quest to implement EBM in their practice. Whether working in solo or group practices, in urban or rural areas (Taylor, J et al. 2002), GPs encounter very similar obstacles to apply EBM in their practice.
These barriers can be categorized as:

1. GP related barriers
2. Patient related barriers
3. Resource barriers

2a. GP related barriers:

Most GPs clearly indicated that their lack of ability to find and appraise evidence was a major obstacle towards implementing EBM in their practice. (McColl, A et al. 1998; Taylor, J et al. 2002) Many GPs question the relevance of much of the evidence included in reviews, guidelines and other sources: clinical trials are often very much removed from their own daily practice.

"Yes... there is the evidence that you pick up from journals and there is the evidence that you acquire from 15-20 years hands on experience with patients... your own experience in the long term is what guides you to make the decisions you make". (Mayer, J et al. 1999)

GPs are frequently undecided whether recommendations are actually based on effectiveness or cost effectiveness.

"...If they are recommending Amoxycillin for pneumonia, you don’t know if they’re doing it because it’s a really good idea or because that’s cheap..." (Mayer, J et al. 1999)

Some feared punitive measures, especially legal, against those who deviated from evidence. The use of evidence or guidelines was considered as a reduction of clinical autonomy while others considered the source of evidence as a crucial factor that determined its implementation. (Hannes, K et al. 2003)
Mayer, J et al. (1999), state that some GPs are willing to present and share evidence with their patient while others were afraid of generating uncertainty in their patients. Many GPs feared the promotion of EBM at the expense at other aspects of medicine.

"...You can imagine how patients would feel if you said, “You’ve got such and such...now let’s review the evidence,” and you completely ignore their feelings and everything else". (Mayer, J et al. 1999)

2b. Patient related barriers

Patient expectations are considered a major obstacle to practicing EBM. (Veldhuis, M et al. 1998) Patients come with their own management agenda and it is very hard to convince them that they do not need a (non-evidence based) treatment.

"Look, it is like you just said: if people come to me and say: “I want that blood analysis!” I will do it..." (Hannes, K 2003)

This forces GPs to adapt to the patients’ preferences rather than applying EBM. Today, patients are better informed but they lack EBM. In addition, “the emancipation process of patients has blurred the autocracy of doctor demands for different behavioural strategies (Hannes, K et al. 2003)

Poor patient compliance with treatment, especially in relation to symptomless conditions such as hypertension, hypercholesterolaemia, is another barrier encountered by many researchers (McColl, A et al. 1998; Taylor, J et al. 2002) and amply confirmed in my study.
2c. Resource related barriers:

Lack of personal time is perceived as the main barrier to practicing EBM in general practice especially solo practice. (McColl, A et al. 1998; Taylor, J et al. 2002; Hannes, K 2003) Cost factors in accessing and subscribing to major on-line journals (together with expenses needed to maintain up-to-date hardware and appropriate software) are also considered important limiting factors.

Many GPs seem to have “trust and faith” in local specialists (Mayer, J et al. 1999; Putnam, W et al. 2002) and seek and rely on their experience and opinions when solving problems, rather than looking up evidence for themselves.

"[Local specialists] give us an excellent service and I confess I tend to mimic them and pick up a lot of things from them" (Putnam, W et al. 2002)

In fact, a postal survey of British GPs revealed that only 5% consider that learning the necessary skills (finding and appraising the scientific literature) is the most appropriate method of moving towards EBM. (Tracy, C et al. 2003)

Wayne Putnam et al questioned the transferability of specialists' experience and knowledge to the context of general practice.

"...It's a consultant, it's my patient and [the patient] goes back to the drug that he has trusted and he knows and has done well on for the last 7 years..." (Putnam, W et al. 2002)

3. Perceived solutions to problems of EBM in general practice

Solutions presented by GPs are diverse and reflect the complexity of problems encountered during consultations. Possible solutions can be categorized as:
3a. GP related solutions

The most appropriate way to move from opinion based to evidence based practice is by "using evidence based guidelines and protocols developed by colleagues. (McColl, A et al. 1998) In fact, most physicians believe that the move towards EBM is not by evaluating original research (Tracy, C et al. 2003) but by finding good secondary sources that summarize the literature and "give a useful actionable bottom line based on the evidence. (White, B 2007)

David Slawson and Alan Shaughnessy (1994) developed a new idea of "patient oriented evidence that matters" POEMS, that focuses on primary care. It greatly simplifies EBM by allowing physicians to disregard most of the complicated, time-consuming task of finding and appraising literature.

This has led to the concept of "information mastery" as the practical application EBM. Today some 40 to 50 POEMS – synopses of research that focus on patient oriented evidence that matters are created monthly and published in a number of clinical journals including American Family Physician, the BMJ and The Journal of Family Practice. All these developments are helping to push EBM in a more practical and useful direction.
Very few physicians consider that learning EBM skills is a feasible solution – too technical and time-consuming (Tracy, C et al. 2003).

Gabbay, J and le May (2204) came up with the concept of “mindlines” – collectively, reinforced, internalized, tacit guidelines as a source of evidence. GPs rarely use explicit literature but are influenced by brief reading, their own and colleagues’ experience their interaction with colleagues and patients and tacit knowledge. These mindlines allow for a flexible interpretation and implementation of evidence at the point of care.

Very few GPs consider formal, didactic lectures or seminars delivered by university academics, as conducive to EBM implementation (Long, A et al. 1994).

More lectures and workshops should be given by colleagues, making EBM more of a “real-life experience”.

"...I have a feeling that those people who are not connected to university... when they take the word... it is easier..." (Hannes, K 2003)

3b. Patient related solutions

Patient education about the evidence base of treatment is seen as important by GPs especially regarding antibiotics. The use of television campaigns and handouts for patients can be effective. (Taylor, J et al. 2002)

3c. Resource related solutions

Organizational barriers should be eliminated. GPs must have access to laboratory tests, patients’ hospital records and basic diagnostic procedures such as radiography and echocardiography. (Haynes, B et al. 1998) Some GPs recommended
boosting research in general practice to provide more contextual evidence applicable to everyday practice. (Craig, J C. et al. 2001)

On-line sources should be easy to navigate and be free of charge. Some suggested that a select team of GPs should be paid to develop critical appraisal tools for their colleagues. (Haynes, B et al. 1998)

Monitoring or supervision and audit were mentioned as possible solutions to improved EBM implementation. This is especially so for single-handed GPs who said that this approach provided them with “peer pressure” they lacked:

“It’s useful to have an opportunity to compare what we’re actually doing with other practices because we are very isolated” (Cranney, M et al. 2001)
2.7 Conclusion

The literature review on EBM in General Practice has revealed the multifaceted and complex issues that surround this relatively new paradigm of patient care. It focused on different definitions, different views; highlighted different problems and possible solutions and the misconceptions on EBM among GPs.

It has been mentioned that whereas there is a large amount of literature on EBM in most health specialties, this is not balanced by an equivalent amount of research on EBM in general practice. This is especially so for qualitative research.

McWhinney I. R. (1989, p.15) seems to ask for qualitative research in this area:

"Family practitioners attach importance to the subjective aspects of medicine, both in terms of understanding the patient’s perspective and awareness that their own feelings and values will influence the way in which they practice medicine."

It is with the hope that more GPs will take up the challenge of Qualitative Research in family medicine that I humbly embarked on writing this dissertation.
Chapter 3

The Journey

Research Methodology and Process
3.1 Introduction

Very often, in our lives, we make plans; construct complex algorithms that will hopefully lead us to our destination. As we move along the path, we constantly adjust or change the chosen routes and paths but we still reach our goal.

I have always been good at statistics - making sense of numbers, data – and epidemiology, giving direction and meaning to collective data. So I thought it natural to choose a quantitative methodology for my dissertation. Halfway through my studies I realized that as a patient centred Family Physician, I needed different answers from those provided by a quantitative study. I am concerned with the meaning of certain events or symptoms to those individuals who experience them; I want to understand the individual within his own context and consider individuals as “wholes” rather than reducing them to the sum of their parts. One article in particular compared qualitative research and Family Medicine as “a marriage made in heaven” (Murphy, M and Mattson, B 1992). I needed no further convincing.

In this chapter, I will describe my journey to find the appropriate research methodology and the method employed.
3.2 Background

McLeod, Clark and Hockey (1989) define research as "an attempt to increase the sum of what is known (body of knowledge) by the discovery of new facts or relationships through a process of systematic scientific enquiry - the research process".

Through the years, I have been practicing as a Family Physician. In this context, a qualitative enquiry on EBM in General Practice would help to clarify some of the issues surrounding this relatively new health care paradigm.

Norman Denzin and Yvonna Lincoln (Handbook of Qualitative Research 2005) offer a further definition; "Qualitative methods aim to study things in their natural setting, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them."

Qualitative researchers use "a holistic perspective which preserves the complexities of human behaviour". (Black, N 1994)

The term Qualitative Research encompasses an ever-increasing number of different methodologies and methods. Denzin and Lincoln (2005) specifically mention and describe numerous research strategies including phenomenology, heuristics, narrative research and ethnography.

A qualitative researcher can be considered as a bricoleur (coined by Denzin and Lincoln 1994) "who makes use of the tools available to complete a task" (Harper 1987). As the research process slowly unfolded, I chose and mixed a phenomenological approach with to a lesser extent a narrative enquiry.
The metaphor of bricolage – the result of the bricoleur’s method, the “construction” (Weinstein and Weinstein 1991) stresses the concept that qualitative research is multi-method in focus (Flick 2009). The research process is very complex and involves much more than method or procedure.

“...It is very difficult to do qualitative research, and those who do so achieve quality by drawing fully on their personal and cultural sources, rather than by following a set of laid down procedures”. McLeod (cited in Mifsud 2004, p.43)

In this qualitative study, I think of myself as an artist, interpreter and composer of my own world (Price 1991, p.1). That means that I have to grasp and understand a phenomenon and than re-present and re-paint it in the textures, shades and colours of my own lived world. (Rosen 1987; Grondin 1994; Vattimo 1994) hold that in qualitative research, there is only interpretation, “no matter how vociferous many researchers may argue that facts speak for themselves”.

Not only is all research an act of interpretation, but even perception itself is an act of interpretation. It was with my theoretical perspectives, beliefs and values that I started and progressed through my journey to explore the attitudes of my colleague GPs towards EBM in our daily practice.

These values of social justice and freedom of choice stem from my long experience as a GP working in a busy solo practice in Malta and my interest in Evidence-Based Medicine.

I think that I am congruent with these beliefs and consider that patients are best served by physicians who correctly and faithfully apply this health care paradigm.
I am conscious of the fact that Evidence-Based Medicine is a novice concept of patient management, particularly for Maltese GPs, the majority of whom still use a traditional, doctor-centred approach.

Also, I am well versed in Evidence-Based Medicine and implement it in my daily practice. I know that it is very important that the researcher knows and understands the phenomenon to be studied prior to exploring other people’s orientation. (West 1998)

My encounter with Evidence-Based Medicine prompted many questions that were to direct the progress of my research. How can Evidence-Based Medicine affect patient–doctor relationship? What cultural, social and philosophical shifts are necessary for effective implementation of Evidence-Based Medicine in General Practice in Malta? Is it possible to reconcile a traditional parsonian model with a patient-centred approach? How does the lack of supporting structures influence Evidence-Based Medicine implementation in General Practice?

Van Manen (1990) suggests that we not only choose a topic of interest but that we select a theme that “commits us to the world”. I think that implementing Evidence-Based Medicine in my practice commits me to my daily care of patients.

3.3 Lived experience and Reflexivity

Every two months I meet with two or three of my colleagues to discuss the various problems that we meet in our practice. Very often, we hotly debate many issues, especially those related to outcomes and effectiveness of recent therapies and interventions. I must admit that, we frequently resort to an EBM approach to solve our
problems. This experience has helped me to reveal the essence or structure of meaning of the phenomenon of using Evidence-Based Medicine in General Practice.

I wanted to know whether my experience with Evidence-Based Medicine made sense in the local context. Do others use it? To what extent? Do we have similar problems and solutions to EBM?

Reinharz (1997) states that we (researchers) not only “bring the self to the field... [we also] create the self in the field”. The self that personally, socially and historically creates our standpoints.

Etherington (cited in Mifsud 2004, p.46) declares:

“I know that in using a reflexive approach and by including my own story, my personal process would be revealed”.

Reflexivity forces us to reflect critically on the self as researchers, the “human as instrument” (Guba and Lincoln 1981). As the research process progressed from the focus group discussions, transcriptions, writing and re-writing, I discovered and captured the essential meaning of the experience as I lived it – the “essence” or that which grounds the things of our experiences. (Van Manen 1990, p.31)

One of the participants stated:

“to reflect... I have a need; I have a curiosity...soul searching of what I have been doing. What is this telling me? What am I going to do next?” (1D: 682/4)

This need and curiosity helped us, the participants and me to share our experiences and stories and then construct a new reality.
3.4 Different Methodological Strategies – a Bricolage

As my research process slowly unfolded, I became conscious of the complexity of the phenomenon of Evidence-Based Medicine in General Practice. I recalled Denzin and Lincoln’s (2005, p.4) description of a qualitative researcher as:

"...using multiple and generalized images: scientist, naturalist, field worker, journalist, social critic, artist, performer, jazz musician, film maker, quilt maker, essayist."

As a result, I realized that I could not use a passive, external, monological research strategy. I had to actively construct my research design from the tools at hand and at different stages of the research process. I could not apply a single, all-enveloping and "correct" methodology.

Nelson et al. (1992, p.2) note that "the choice of research practices depends upon the questions that are asked, and the questions depend on the context."

I had to allow circumstance to shape the methods employed. (Yvonna Lincoln 2001)

"What is my experience of the phenomenon and the essential experience of others who also experience the phenomenon?" (Patton 2001, p.71)

I wanted to understand how using Evidence-Based Medicine influenced my practice and at the same time explore my colleagues' orientation, perceptions and ideas in the same context. I wished to sit down with my colleagues and listen to their experiences and stories, but had not decided on what research tools to use.
At this point, I started asking myself:

- Where am I going?
- How am I going to get there?

During my consultations, I spend most of my time listening to my patients’ ideas and stories. It is through these narratives and their contextual interpretation that I reach a consensual agreement on care and management.

“A story is one’s identity and we know and reveal ourselves to others by the stories we tell”. (Lieblich, Tuval-Masiach and Zilber, 1998, p.7)

Narratives express emotions, thoughts and interpretations. A narrative makes the self (the narrator), the protagonist, either as an actor or as interested observer of other's actions.

A narrative discourse “highlights the consequences of each human action and event rather than their common properties”. (Bruner 1986; Polkinghorne 1995) Narrators explain, inform and confirm or challenge the status quo.

Stories are influenced by a range of social and political resources and circumstances – local settings, organisation and cultural and historical location.

Narratives are socially situated, interactive performances. (Bauman 1986; Briggs 2002) – produced in a particular setting, for a particular audience and a particular purpose.

“...stories frequently embed concrete, situated examples of actions and the consequences of action that inform choices of behaviour”. Abma 1999 (cited in Mifsud, D 2004, p.48)
This is exactly where "I wanted to go" in my research process. I wanted to share my experience of Evidence-Based Medicine with others and wanted others to share their experience with me. In other words, to discover and to search for thematic understanding while we lived the experience (Million 1992)

3.5 Theoretical Background:

Phenomenology can be defined as "the exploration and description of phenomena, where phenomena refer to things or experiences as human beings experience them. (Seamon, D 2000)."

The aim of phenomenology is not the idiosyncratic description of the phenomenon, but its aim is to use these descriptions as a ground stone from which to discover underlying commonalities that mark the essential core of the phenomenon.

In other words, the phenomenologist pays attention to specific instances of the phenomenon with the hope that these instances, in time, will point towards more general qualities and characteristics that accurately describe the essential nature of the phenomenon as it has presence and meaning in the concrete lives and experiences of human beings.

Phenomenology, beginning with Edmund Husserl stresses that the world of immediate or lived experience takes precedence over the objectified and abstract world of natural science. A central theme in Husserlian phenomenology (in part indebted to Franz Brentano) is that consciousness is understood as fundamentally intentional.
Consciousness as an act, is always positing a world; in other words, it is always "of" or "about" something. Therefore, any abstraction is ultimately based on phenomena in the world and thus is secondary to the primary lived experience of phenomena as they show themselves.

Husserl brings to this understanding the concept of "bracketing" or "epoche" of the natural attitude, so that one can attend to a phenomenon as it shows itself. In other words Husserlian transcendental phenomenology, describes the world from the point of view of a detached observer.

Other phenomenological thinkers such as Martin Heidegger and Maurice Merleau-Ponty reacted against Husserl's structure of consciousness (Heidegger 1962; Merleau-Ponty 2002).

In his 1927 "Being and Time" Heidegger argued that consciousness was not separate from the world and human existence. Merleau-Ponty in his "Phenomenology of Perception" broadened Heidegger's correction to include the active role of the body in human experience. This "essential turn" of Heidegger and Merleau-Ponty moved Husserl's realm of pure intellectual consciousness "into the realm of the contingencies of history and embodiment" (Polkinghorne 1983, p.203).

Heidegger's method is concerned with the ontological ground of the phenomenon, that is what makes the phenomenon possible and it is also hermeneutic, that is interpretive – an interaction between interpreter and text.
In this research process, I emphasize the viewpoint of existential phenomenology, since the central focus of the phenomenon is the everyday experiences of real general practitioners working in real situations with real patients.

In traditional, positivist research, the researcher/interviewer is seen as “a miner”:

"Knowledge is understood as buried metal and the researcher/interviewer is a miner who unearths the valuable metal. Some miners seek objective facts to be quantified; others seek nuggets of essential meaning..." Kvale 1996, p. 3)

In the course of the research process, I play the role of a traveller navigating new vistas of experience. (Kvale 1996, p.4)

"The interviewer – traveller wanders through the landscape and enters into conversation with the people encountered. The traveler explores the main domains of the country as unknown territory or with maps, roaming freely around the territory. The traveler may also seek specific sites or topics by following a method with the original Greek meaning of "a route that leads to the goal".

In this case, method is not a means for distancing myself from the phenomenon, but instead it enables me to explore the rich range of important issues, uncovering aspects of human understanding about the phenomenon.

"...What the traveler-reporter hears and sees is described qualitatively and is reconstructed as stories to be told to the people of the interviewer’s own country, and possibly also to those with whom the interviewer wandered." (Kvale 1996, p.4)

Initially, I considered employing a face- to-face interview method. This would have involved in depth exploration of the phenomenon that transforms the interviewer-interviewee relationship into one of narrator and listener. Atkinson and Silverman (2004) note that the open-ended interview offers the opportunity for an authentic gaze into the soul of another.
This method would have answered many of my research needs. However, I needed a method that would produce very rich data that can be shared by a group of participants. I was also interested in observing and exploring group dynamics within the group interview setting – the relative conviction/determination or otherwise about the phenomenon. How use or non-use of EBM influenced behaviour and attitude towards peers. As Lather and Smithies (1997) state "...to explore group characteristics and dynamics as relevant constitutive forces in the construction of meaning and the practice of social life."

I also thought of using a Delphi method, which is a systematic interactive method of obtaining data from a panel of independent experts. The latter answer questionnaires in a number of rounds until they converge to a "correct" answer. In a Nominal Group technique, participants answer questions posed by a moderator and then prioritize the ideas or suggestions. Both these methods, however, minimize discussion and do not allow for the full development of ideas.

I therefore chose a focus group method. (Krueger 2000; Bloom et al. 2001) Denzin and Lincoln (2005, p.704) state that "phenomenological purposes may be served whether group interviews are the sole basis for gathering data or are used in association with other techniques".

I tried to choose the participants using random sampling techniques from a published list of practicing GPs. I selected every fourth entry in the list and contacted him/her via telephone or letter (please refer to the appendix). I also invited participants via a dedicated Family Doctors' website.
In both instances, the response was disappointingly poor. Most of those who actually replied declined the invitation on the grounds of time constraints, no interest in the subject or not versed in Evidence-Based Medicine.

The participants were therefore recruited using a purposive sampling method, based on (1) variability in interest towards Evidence-Based Medicine and (2) variability in expertise with respect to EBM (Polkinghorne 1989; Creswell 2006; Pollio and Arfkin 2006).

I organized two focus groups: Group 1 consisted of seven GPs who were well informed in EBM; five of whom possessed a postgraduate diploma or degree in Primary Care or related area, two members were GP trainers and two were following a Masters degree in family medicine.

Group 2 was made up of six well-established GPs mostly working in private practice and one in group practice. The number of research participants was congruent with Kvale’s (2000) claim that “in current interview studies, the participants tend to be around 15 +/- 10. This number may be due to a combination of the time and resources available… and the law of diminishing returns.” I held the focus groups about two weeks apart, allowing me to perform a preliminary analysis of the data. This way I could make informed decisions on topics that needed further elaboration or were not tackled at that stage of the research project.

Two expert moderators (DM, a counselor and qualitative researcher; and PS, a General Practitioner and University Lecturer) facilitated the group interviews. At the end of each focus group session, the GPs were asked to complete a short questionnaire
collecting demographic data (Table 4). Each focus group, lasting about two hours, was recorded and transcribed verbatim, yielding about 60 pages of text. The transcribed data was given to a number of participants to seek new insights following reflection on the phenomenon, and to check whether the text faithfully reflected their views (Caelli 2001).

Table 4. Demographic data of GP participants

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</tr>
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<tbody>
<tr>
<td>Male</td>
<td>12</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
</tr>
<tr>
<td>Mean Age</td>
<td>49.3 (34-60)</td>
</tr>
<tr>
<td>Years in practice</td>
<td>22</td>
</tr>
<tr>
<td>(mean)</td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>11</td>
</tr>
<tr>
<td>Part-time</td>
<td>3</td>
</tr>
<tr>
<td>Internet in office</td>
<td>7</td>
</tr>
<tr>
<td>Group practice</td>
<td>1</td>
</tr>
<tr>
<td>Post graduate</td>
<td>6</td>
</tr>
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</table>

The format of the interviews was semi-structured, so that the participants had the maximum flexibility to describe in as much detail as possible their thoughts, beliefs, feelings and experiences about the phenomenon. Thus, emphasis was placed on the subjective experience of the participants. I introduced the topic and invited the
participants to talk about their views on the use, barriers and possible solutions to problems in the implementation of EBM in their daily practice.

During the interviews, especially in Group 2, the moderator had to encourage the participants to concretize and elaborate on specific issues in order to maintain coherence.

Most of the participants were very well known to me, something, which I think, helped to develop a more open discussion and resulted in deeper and richer data. Sometimes, I took part in the discussion in order to clarify respondents' points or ideas.

The University Research Ethics Committee approved the project.

3.6 Process or Method

I am aware, that making explicit the techniques that I have used for discovering themes in this project is of fundamental importance for several reasons:

1) Through thematic categories, I would be able to describe, to compare and to explain my findings;

2) This allows readers to assess my methodological choice and rigour; and

3) Allows me to communicate with other researchers across disciplines and across epistemological position. Theme discovery is practiced by avowed positivists and interpretivists alike.

I am also aware, that the importance of any theme is related to (1) how often it appears, (2) how pervasive it is across different practices, (3) how one reacts when the
theme is violated, and (4) the degree to which the number, force, and variety of a theme's expression is controlled by specific contexts (Opler 1945).

Themes come both from the data (inductive approach) and from the researcher's prior theoretical understanding of the phenomenon under study (deductive or a priori approach) (Maxwell, 1996; Strauss, 2008). In this study, I have used both methods to generate thematic categories, since “one cannot anticipate all the themes that arise before analyzing the data” (Dey 1993, p. 97-98). I explore the transcripts using thematic content analysis, developed out of the methods described in grounded theory literature (Strauss and Corbin 1990; Strauss 2008) and in the literature on content analysis (Mayring 2000; Hsieh and Shannon 2005).

Hsieh and Shannon (2005, p. 1278) define qualitative content analysis as:

“A research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns”.

Mayring (2000) adds: “…within their context of communication”.

This method allowed me to interpret social reality in a subjective but scientific manner. I think that the validity of the inferences is ensured by complying with a systematic coding process. However, are “common themes” in the interviews really “common”? I am aware that it is difficult to compare the utterances of one respondent with those of another. The method described here makes this assumption.
3.7 The Process of Thematic Content Analysis

I adapted Philip Burnard's (1991) method of content analysis:

**Stage 1: Fieldwork.**

During the interviews, I jotted down notes. I noticed themes emerging clearly during the interviews themselves, e.g. the consensus towards the use of guidelines as a shortcut to EBM; the problem of integrating evidence in daily practice was clearly felt by most of the participants. I wrote "memos" (Field and Morse 1985) about ideas that attracted my attention during the early phases of the analysis. For example, I noted the misconceptions about EBM:

"You know the shortcuts, then there is no need to read all the articles". 1M: 148/9

**Stage 2: Immersion**

I read and re-read the transcripts. The aim was to "immerse" myself in the data (McLeod 2003) to become fully aware of the "life world" experience of the respondents, to enter, as Rogers (1951) would have it, the other person's "frame of reference". Examples include: a major category seems to be emerging regarding the importance of personal experience as a form of EBM; or that EBM is too complicated for the average practitioner and there is a need for adaptation for everyday use.

**Stage 3: Identifying Themes**

I identified and wrote down as many headings as possible to describe all aspects of the content - a process called "open coding" (Bey 1989); categories were freely generated at this stage.
Table 5. Sample of open coding of transcripts

<table>
<thead>
<tr>
<th>Interview Transcript</th>
<th>Open Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consult a lot of my consultants</td>
<td>Meaning of EBM</td>
</tr>
<tr>
<td>Although the best is not the best for my pts</td>
<td>Applicability of EBM to individual pts</td>
</tr>
<tr>
<td>All you need is a PDA... check it there and then</td>
<td>Misconceptions about EBM</td>
</tr>
</tbody>
</table>

I also used a KWIC (Key words in Context) technique to identify key words and phrases and then systematically search the corpus of the text to find all instances of the word or phrase. Every time I found the word or phrase, I made a copy of it and its immediate context. I used Atlas.ti ver. 5.5 to sort the examples and thus generate themes; for example I looked for “culture$” with the following results:

“EBM requires a cultural change within you... to change gradually... change in areas where I have or feel a need or an interest... 1D: 72/5

“need a culture change... properly educated... equipped. 1J: 202

“This culture, mentality that if it is a GP who has referred the patient, it’s useless”.2S: 682

From these I developed the themes on the barriers to the implementation of EBM.
Stage 4: Reduction

I grouped related themes under higher-order headings. That is, I collapsed those that seemed similar (belonged to similar phenomena and reflected participants' experiences) into broader categories. For example, I compacted the following categories into one category entitled “what allowed you to use it”.

- Patients’ needs
- Use of shortcuts
- Culture change
- Confidence with patient care.

Stage 5: Coding

At this stage, I asked two of the participants to code a data sample, a selection of the transcript of focus group 1. Lincoln and Guba (1995) and Patton (2001) recommend that responders be given the opportunity to examine and comment on themes and categories.

Bey (1993) noted, “there is no single set of categories waiting to be discovered. There are as many ways of “seeing” the data as one can invent”.

I then coded all the text, continuously checking and re-checking the consistency of the coding.

My analysis and coding was mainly deductive, that is it was informed by several theoretical frameworks (based on previous related foreign studies), rather than being a
grounded theory approach. I was not intent to generate theories or test hypotheses, or models.

At one point during the analysis, I noticed that one respondent seemed to stand out and challenge widely held opinions. For example on the issue of ease of use of EBM this participant asserted that "...you get onto the internet, connect to search, you get the answers and with use...the answers a lot faster". 1M: 31/2; or "I subscribe to journal watch...they will send you abstracts of latest articles, latest meta analysis." 1M: 43/4

Such a “deviant case” allowed me to look closer at data that contradicted this claim and so helped me explore the issue.

**Stage 6: Cutting and Sorting (Lincoln and Guba 1995)**

I used coloured, highlighting pens to distinguish between each piece of the transcript allocated to a category or sub-heading. Each coded section was cut out of the transcript and all items of each code were collected together. I am aware that everything that is said in an interview is said in a context. Therefore, I made multiple copies of the transcripts to ensure that the context of the coded sections was maintained; otherwise, the meaning of what was said could have risked being altered.

The cut out sections were pasted onto sheets, with the appropriate headings and sub-headings. Again I asked two respondents to check the appropriateness or otherwise of the category system. I asked, for example, “does this quotation from your interview fit this category?” Adjustments were then made accordingly.
Stage 7: Drawing Conclusions and Reporting

Once all the sections were filed together, I identified relationships between categories, uncovered patterns and developed conceptual networks:

Fig. 2 A map showing relationships amongst concepts
During this phase, I constantly referred back to the original interviews and recordings to stay “closer to the original meanings and contexts”. I am aware that qualitative research is fundamentally interpretative and interpretation represents my personal and theoretical understanding of the phenomenon. However, I have tried to “provide sufficient description to allow the reader to understand the basis of my interpretation, and sufficient interpretation to allow the reader to understand the description” (Patton 2001, p. 430).

Talk can be laid out in stanzas like poetry (Roberts, C 1997). Tedlock (1983) argues that treating oral narratives as poetry:

"...clearly promises many analytic... [and] aesthetic rewards. The apparent flatness of many past translations is not a reflection but a distortion of the originals... a pervasive deafness to oral qualities..."

This will help the reader to capture more the true meaning of the story. I used this analytical method to interpret the participants’ voice in the interviews. Richardson, L (1993) states that “textual experimentation is embedded in the practices of reflexivity without which achieving a voice of truth is impossible”.

The analysed data was then presented to three of the participants for their final comments and approval.

Reflecting on my research process, I think I can describe it as a bricolage of narrative and phenomenological approaches.
3.8 Ethical Considerations

Ethical neutrality in research is not possible (McLeod 2003). The method used in this study involved open-ended interviews that were audiotaped and transcribed. The tapes and transcripts contained multiple clues to the participants’ identity.

Even after protocols of anonymisation were applied, (I transcribed the sessions myself using pseudonyms and initials) quotations, speech mannerisms and context, could provide enough information for participants to be identified by themselves or others. I made this point very clear to the respondents both verbally and in writing (please refer to the Appendix for a copy of the consent form used).

I do not consider consent as “a once and for all event but as a process, subject to re-negotiation over time” (British Sociological Association, 1991). I made it clear to the participants, at every stage of the research process, that they could correct or object to the data or its interpretation and could withdraw their consent at any time.

The respondents were also debriefed following their participation in the study.

The dynamics of qualitative interviews (Hoddinott, P 1997), the nature of the data collected (Richards, HM 2000) and the interpretation of the data would be inevitably influenced by epistemological framework, my theoretical perspective and my preconceptions. This could lead to misinterpretation of the respondents’ views and experiences. I tried to minimize this through reflexivity throughout the whole research process-data collection, analysis and interpretation; and through “respondent validation” -I fed back the transcripts and analyzed data to the participants before the final report for their opinions and suggestions.
I was aware of my responsibility to the participants (Gauld, R 1999; Morse, JM 2001) to ensure confidentiality and to provide feedback on research results. I consider that this is a form of recognition and gratitude towards the respondents for their participation.

Denzin and Lincoln (2005, p.40) speak of:

- The Absolutist stance of ethical issues in qualitative research, that is “prevention of deception, protection of privacy, informed consent and protection of participants from harm”.

- The Relativist stance, when the investigation is directed to build open, sharing relationship with those investigated; and

- The Contextualist stance, where the researcher describes and understands events, actions and processes in the natural context in which they occur; does not attempt to generalize findings; and uses purposive sampling to include the richest sources of information in a specific context.

I have attempted to follow these steps as rigorously as possible throughout the research process.

My accountability for both, findings and their interpretation and use, is perhaps the most important part of establishing the “actual” benevolence in what I was researching, non-maleficence towards the research participants, patients and community and justice in the research project (Cutcliffe, JR and Ramcharan, P 2001).
3.9 Conclusion

In this section, I have tried to clarify my philosophical perspective and value position that underpinned the research process. I attempted to describe my "journey along a path" (Rothe 1991) – how and why I chose the subject for my dissertation and how I found a suitable bricolage of research methodologies. I have described my research design, my reflexive process and the complex ethical considerations that are intrinsically embedded in such a process.

Now, that I have found my direction and path, I think I can move on to discover and give meaning to the stories told during the encounters.
Chapter 4

The fruits of the journey

Findings and Discussion
4.1 Introduction

Listening to people, their stories, worries and experiences. Through my consultations with my patients, I have tried to explore and give meaning to the subjective experience, individual perceptions and inter-relatedness of human experience.

I am aware that in order to understand the patient’s experience, I need to interpret it in the context of time and space and through the interactions between the individual and his or her world. This has been my experience for many years: exploring and interpreting patients’ thoughts and feelings in order to reach a satisfactory management plan.

Therefore, it seemed very natural to me to share my experience and skills with other Family Physicians in order to investigate the paradigm of EBM in General Practice. My experience is that this sharing or intersubjective enquiry allowed us, both the participants and me, to change in the process. The participants gained a deeper level of self-knowledge and understanding of the phenomenon: "... I have realized what a widespread application EBM has in our specialty. I thought it was only used with respect to drugs and medicines..." I have also learned something about the phenomenon myself (McWhinney 1997).

At this stage of my journey, I have tried to present the “voices” of my traveling companions. In the second part of the chapter, I have tried to ‘balance a strong, committed, personal involvement in the lived experience of using EBM in my practice with objectively giving a thoughtful interpretation of the written text” (van Manen 1990).
The data collected yielded an impressive number of themes that cannot all be represented in this dissertation. However, as a result of the analysis, I organized the participants’ experiences on the use of Evidence-Based Medicine in their practice, into four main themes that I think clearly help to place the phenomenon in its right perspective. These were:

1. The applicability of evidence to individual patients;
2. Attitudes of doctors and patients to EBM – ability to assess/interpret and use EBM;
3. Barriers to implementing EBM; and
4. Moving from opinion based to evidence-based practice (possible solutions).

Lincoln and Guba (1985) observed that themes should be defined in a way that they are “internally as homogeneous as possible and externally as heterogeneous as possible”. However, it is evident that these four themes are closely related together, reflecting the complex and multifaceted aspect of the phenomenon.
Findings

4.2a Applicability of Evidence to Individual Patients - Theme1

Most of the participants were willing to practice Evidence-Based Medicine, as is evident in this excerpt:

*D: Professionalism demands that I'm always up to date. That means EBM is a must.*

*J: So we agree that you can't do without EBM. But you cannot immerse yourself in EBM on day one.*

*M: You have to be practical for your patients' sake.*

*D: It is a process.*

Many participants however, noted that patient preferences can and often do determine the direction of the treatment plan.

A participant faced with a patient with hypercholesterolaemia:

*My first impulse is to treat it.*

*She told me to give her a chance,*

*to follow a diet*

*I had to agree*
Indeed most of the participants reported that when patient preferences directly collided with other factors – be it evidence from published studies, local practice patterns, etc – the tendency was to do what the patient wanted.

If somebody gets flu…
I resist antibiotics.
But she’s getting married,
she can’t get sick.
Therefore I prescribe antibiotics. 2JPD:492/4

The following excerpt illustrates the dilemma faced by the participants in their quest to make the right decisions about therapy:

M: A patient who has high blood pressure and is on an ACE inhibitor; should I turn him over to an ARB? …If he’s doing well on them - am I being old fashioned when I say ‘no, the ACE for this patient, because he is tolerating it, he is not getting side effects, his Blood Pressure is controlled’.

D: But you’re still justified in your treatment.

M: Yes I am justified. And somebody else, who’s using an ARB instead of an ACE, would say I am a bit conservative. No, I would tell him, if you have a patient with heart failure, or if the patient has got an uncontrolled systolic blood pressure, I would go for an ARB. But this patient is doing
well on an ACE. This is EBM, using it for your particular
patient.

It seems clear that the role of Family Doctors is not to impose his views on his/her patients. The following excerpt illustrates this concept:

MI: We use EBM to impose treatments on patients or to inform the patients and reach a consensus?

M: You can’t impose anything on a patient...whether you are a patronising doctor or you’re using the bio-psychosocial model.

MI: Even so, your best decision might not be, the patient might not agree with your best decision.

D: Isn’t that the patient’s choice? I think our obligation is to inform, not to apply force.

MI: Not to impose.

However, a number of participants expressed a reluctance "to give in to the patient":

JT: Somebody comes to you and tells you he wants an X-Ray. He doesn’t want to be examined, he just wants an X-Ray.

PH: How do you go about it?
JT: No I don’t send him. I tell him if it is indicated I will send him. As another example; a patient came in with a sore throat and wanted antibiotics. I examined him and he did not need antibiotics, it could have been something else. I referred him to ENT and he refused. The next time I heard of him he was in hospital following a throat operation.

The respondents seemed to recognize the need to contextualize patient care.

The following excerpt illustrates this contextual conflict:

JPD: Fitting the guidelines to the patient.

PH: What does it mean? Somebody mentioned the cost.

JPD: you have to consider the style of life of the patient, the cost, the character of the patient. I mean if this particular drug has particular requirements – you have to take this drug at six o’clock, standing up for half an hour. When? After a night shift - that’s impossible. 2:333/9

In this context, decisions about care are discussed and agreed between patient and doctor.

The patient is a partner…

in management. 1D: 547

Discussing evidence with the patient
then...

let the patient decide. 2DM: 382

An important issue that frequently cropped up in the interviews was how GPs modified or better adapted their decisions to meet the patient's financial situation, as is shown in this excerpt:

*PH: The evidence is there...the cost will make you use the evidence or otherwise.*

*JPD: In the area of my practice, it is very important. It controls management and care. Many times you want to prescribe a drug but you realize that the patient cannot afford it. Therefore, you have to choose a cheaper, less effective drug.*

*D: So sometimes, you have to modify your management.*

*JPD: Yes, you have to modify in spite of the evidence that you find.*

*D: Yes. Cost modulates the way I use evidence. Might be less effective than the more costly one but I have no choice.* 2: 230/9

In the case of a chronically ill patient, two participants agreed that implementing EBM would be of great benefit for the patient:

*PH: We all have our own patients with chronic disease. Patients with chronic disease, apart from the management setup, you need medical records etc...You need to follow patients more*
often than in acute conditions where evidence is not very strong. But in chronic conditions there is a lot of evidence... to help you in terms of patient satisfaction...

S: Yes, if you follow the guidelines, most people will do well...

2: 644/8
4.3a Attitudes to using EBM in the context of Family Medicine – Theme 2

All the participants favoured the use of evidence in their practice. However, “evidence” was perceived differently by different individuals, sometimes hardly reflecting the meaning of EBM.

Some equated Evidence-Based Medicine to personal clinical experience:

- The evidence you get
- when you examine the patient.

Our own gut feelings

Other participants clearly identified EBM, thus:

- The patient has a problem...
- I have to look it up
- and in my looking up
- I will search the evidence.
- But using EBM
- means applying the evidence as well...
- incorporating it in your daily practice.

A very reductionist view was:

- You will get abstracts,
- summaries
- and appraisals of all the evidence;
you don't have to read the whole study. 1M:

103/4

Some turned to local experts or opinion leaders as both sources of new evidence and interpreters of that evidence.

The following excerpt illustrates this view:

JPD: He (cardiologist) gave me a set of data which he collected and which he considers foolproof or which he will go by. On that evidence I will stand, I will take his advice…

D: What made you change your mind?

JPD: The authority of the source.

PH: Trust. So it's a question of trust – you trust a source.

JPD: I believe that source.

PH: Because you know him. 2: 124/130

Others seem to have realized that such sources of information were not very reliable and contextual and had a more active stance vis a vis specialists’ advice:

…if he [the consultant] was changing the medication because of the 4S study, I mean the patient didn’t fit the 4S study.
It's a consultant,
it's my patient
and he [the patient] goes back to the drug
he has done so well on
for many years."

Thus, what is applicable to Family Practice is not necessarily applicable in a hospital context:

The guidelines we have
are mainly hospital based guidelines
and not GP based,
which is a different kind of medicine.

The participants felt that implementation of EBM required a change in culture at both the individual and the organizational levels:

EBM requires a cultural change

...when you are used
to working in a certain manner
you cannot change like that.
You have to change gradually
and more often than not,
I find that
I change in areas
where I have
or feel a need
or an interest.

Misconceptions about Evidence-Based Medicine seemed to permeate parts of the discussion. The idea that EBM is a simple, mechanistic approach, a shortcut, is evidenced in this excerpt:

1M: If you make a search and even if you ask these questions; this week the New England Journal of Medicine has published the On Target Study – the latest evidence which still says that ARBs are not better than ACE inhibitors. And we use ARBs if they (patients) are intolerant to ACE inhibitors or in combination.

D: But you cannot base your decision on one study.

M: If you know the shortcuts, there is no need to read all the articles. There are reviews that will tell you the conclusion and in three minutes, you will know the latest.

At an organizational level, serious doubts were raised as to the veracity of the evidence presented to the participants especially by the pharmaceutical companies or their representatives.

One participant hit the nail on the head when he said:

Sometimes, we are inundated with information
from different drug companies.
We get some form of lecture
or conference
which is funded by a company
which has of course
invested interest in the drug...
The evidence is conflicting.
It is not really EBM
if we practice that.

By using EBM in their practice, the participants seemed to attain a sense of security and confidence in caring for their patients.

My experience was very positive...
once you start to use it
you will feel more confident in yourself...
once I read the evidence myself,
I claim it as my own...
I will quote from where I got the evidence. 1M:
49/58

When I used to face people
who were more academic than myself
I used to be a bit shy...
but now I feel their equal. 1M: 54/5
This confidence does not, however, eliminate the feelings of worry and apprehension that could follow the implementation of EBM itself. This excerpt refers to the dilemmas that arise at the GP/hospital interface:

1D: We are about patient safety. We are about patient care.
So you can always use EBM and cause conflicts in patients, conflicts – psychological conflicts – the specialist told me that, how is she (GP) telling me this?

1J: You are responsible for the patient.

1D: But at the end of the day I became a doctor to take care of patients, medically, emotionally and psychologically. Do I cause psychological conflict because I am applying an Evidence-based management and then she (patient) goes to hospital and everything is turned round?
In my earlier days, I went down this track but you get wiser with time.

The majority of the participants work in solo practice. They considered EBM not only as a cause of conflicts but also as a means of breaking their isolation.

Most of us work in solo practice –
that’s isolation.
EBM tries to open it up
because you are in a group
where you discuss,
you have knowledge flowing...
for us,
it is more than a research
it opens up our isolation.

One respondent eloquently expressed the philosophy behind EBM when she commented:

EBM is a start,
I say I have a need;
I have a curiosity,
let me go and search.
But then,
after you do that,
there is the soul searching,
hi,
what have I been doing?
What is this telling me?
What am I going to do next?
4.4a Perceived barriers and constraints - Theme3

There seemed to be a consensus amongst the participants that the main barrier to practicing Evidence-Based medicine in General Practice is lack of personal time.

One participant described her dilemma when trying to find evidence on the safety of anti-obesity drugs in women.

...but I found fourteen of these [articles]...

which one do I pick up

in my short time pan?

If you want to do EBM well

you should go
to those fourteen,

see and compare

what kind of study it is,

what bias there was,

what conflict of interest there was

with the funding 1D: 172/4

Because of this time constraint, this participant seemed to doubt the credibility of her method:

...The EBM I use today

is an adapted form

of what it should be

because of my time constraints.
We are using the word EBM...
are we using it in its scientific meaning, how it should be done or how we do it?

Most participants were aware of the great effort needed to learn and grasp the scientific method of EBM and its application to their own individual patients.

EBM in my daily practice,
I don’t think I will be able to put it at more than twenty per cent.
It’s not that I’m not using the methodology of EBM ...
the application with the patient... trying to solve a problem;
I find it really difficult.

Still I am not trained.

None of the participants seemed to opt for identifying and appraising the primary literature as a means of implementing EBM. Even though most of them were conscious
of the need for EBM, they looked for shortcuts — guidelines or protocols. This excerpt illustrates this view.

1D: 584/9 “You cannot do without EBM. But you cannot totally immerse yourself in EBM on day one”.

M: "you have to be practical"

D: “It is a process.”

J: “Guidelines are supposed to be shortcuts on how to improve your professionalism and your practice...If EBM is an analysis, a meta analysis of so many papers, how can we do it? It’s impossible.”

However, one participant commented on the use of shortcuts in her practice:

...This is like driving a car.
When you go for your driving test
you’re very attentive
but as you use it,
by time
you start taking shortcuts.
You become better [at EBM]
you are taking shortcuts...
you are moving away
from learning EBM,
The participants are conscious of the fact that even when evidence exists; its contextual application presents serious problems: its relevance to General Practice and its lack of coherence and consistency seemed to be serious obstacles to its implementation.

Many commented that there are very few local guidelines. When guidelines did exist only a small minority of the respondents knew about them:

2PH: 184 "I am not familiar with the local sources of evidence…"

The following excerpt confirms that very few, if any Maltese guidelines exist:

1D: 230/5 "But you are talking about very few Maltese guidelines…"

Do: "Maltese guidelines are very few."

C: "The guidelines we have are mainly hospital-based guidelines, not GP-based which is a different kind of medicine."

Do: "Yes that is the point…"

C: We need something for GPs and which we can use very easily. I mean in our clinics now I suppose everyone keeps a
computer; so we need something local that we can use with
the patient in front of us.

Again, one participant stated:

The reliability
of the evidence
that is available to us...
is it coming
from General Practice...
General Practice
of the kind I do?  2PH: 46/50

The inconclusive and conflicting nature of the evidence itself seemed to play a
decisive role in deciding whether or not to Implement EBM.

2S: 201 “...They [sources of evidence] come up with their
own studies, their own guidelines, and it's never ending.
They come up with one study a day...There is always
something different...Take osteoporosis treatment...280
studies and they are all different...”

The exponential growth in clinical research has resulted in the generation of
diverse and conflicting evidence and guidelines that requires training and skill to
evaluate properly.
...A problem

knowing exactly what protocols to adopt,
what is the best way
to tackle asthma...
different guidelines...
I get confused
and stuck...
I need proper training. 1J: 185/7

The trustworthiness of the evidence was frequently quoted as being a serious obstacle to this paradigm shift. Most participants seemed to perceive evidence and guidelines as being "market driven" (quote 2JPD: 122), that is presented by industry; especially pharmaceutical companies who wish to promote their product. In the following excerpt one can feel the frustration and skepticism of the participants.

1ML: 311/20 "Sometimes we are dished out information from RCTs and other trials which are funded by a pharmaceutical company. Pharmaceutical companies inject millions in each trial and expect some form of return. Some drugs don't make it to the market. Therefore the drugs that do, sort of tend to compensate for them. Sometimes we are inundated with information from different drug companies. The veracity of that information is at best doubtful."
1M: “For example asthma guidelines are industrially funded and every company sort of has its own grid, has its own algorithm how to manage a case. Again you have to take that with a pinch of salt.”

MK: “The studies they do, are they really representative of what is happening? In fact if you see some of the studies… are financed and certain companies or people won’t finance you. It doesn’t interest them, the subject doesn’t interest them.”

D: “And not only. And negative evidence, is it all being presented to us?”

The cost of interventions or medicines was also perceived as a limiting factor to the practice of high quality medicine. The following excerpt illustrated the modulatory influence of cost on the use of evidence.

2PH: 235/250 “There are guidelines like the NICE guidelines which are NHS oriented… they are also influenced not only by evidence of efficacy but also by cost-effectiveness.

So here we are not talking about effectiveness… it is the cost that will make you use the evidence… often.”
JPD: “In the area where I practice, it is very important… it controls management and care.”

D: “So sometimes you have to modify your management”

JPD: “Yes you have to modify in spite of the evidence that you find.”

V: “For example Herpes Zoster. You have different drugs that you could use but you have different prices. And if you have a patient who has a low income, you still try to manage the patient but at a different cost for the patient and his family.”

Implementation of EBM was perceived as causing conflicts and problems to the patient. The following excerpt highlights the anxiety and emotional impact on the practitioner when implementing EBM.

1D: 243/5 “…And there is another problem [of using EBM] because some people mentioned patient compliance. It’s almost harmful. In most of the cases, it’s harmful…So we can use EBM and cause conflicts in patients. The psychological stress I saw in that girl…using EBM to manage the situation…”

J: “For this, for what you are saying, I don’t think there is need for EBM…EBM tells you this is the best
manner/approach. But when you come to apply it you have these conflicts.”

The patients’ experience and expectations seemed to influence clinical decisions and use of EBM. One participant recalled how he failed to convince a forty-year-old man who suffered repeated episodes of chest pain, to have the necessary investigations and interventions because:

... my brother
had a lot of tests
and operations...
he takes a whole pharmacy of pills...
and he is impotent
and miserable. 2S: 376/7

All the participants reported that many patients visited the clinics with a fixed agenda. They expected a certain test, referral or medicine and exerted pressure on the practitioner to meet their demands. This was especially evident in patients using our National Health Care System, which is free. The following excerpt clarifies the issue:

2JT: 581/5 You find a number of patients who come for a PSA. You tell them “listen, the blood test on its own does not show anything”

PH: Our health care system... they are asking for tests, for drugs, for interventions, for admissions to here and there. And we have to convince them of this evidence.
JT: Yes somebody comes to you and tells you he wants an X-ray. He doesn't want to be examined. He just wants an X-ray."
4.5a Moving from opinion-based to evidence-based practice – Theme 4

A sense of uneasiness permeated throughout our discussions, but especially while I transcribed and analyzed the text.

...I have to make that conscious effort to use EBM, not my norm...
and in my tiredness and in my everyday, you know pressure, how often do I allow myself to make that conscious effort? 

One participant noted that EBM enabled her to keep abreast with latest medical knowledge and information.

I use EBM mainly because I need to keep up to date I need to apply the latest knowledge. I find that it’s important
that I keep up to date...
mostly
I look for the NICE guidelines
and for the Cochrane... 1C:215

Some felt that Evidence-Based Medicine might empower them to make alternative choices for their patients by giving them the skills and confidence to discuss or challenge specialists' decisions.

...On an academic basis
when I used to face people
who are more highly academic than me,
I used to be a bit shy...
but once I read the evidence myself
and claimed it as my own...
I felt more confident
when it comes to my patients. 1M: 54/9

The shift from opinion-based to evidence-based practice was envisaged as a progressive and slow process. It cannot take place overnight and throughout the whole practice.

One of the more academic participants stated:

For me
I must say
it [shift to EBM] has to be gradual.

You can't go,

all your medicine,

change it in one day.

So

EBM for me

is driven by patient need

and my curiosity,

my liking...

As noted earlier the participants seemed to find it very difficult to change in all aspects of care. They appear to favour a gradual shift starting in areas that are of particular interest to them.

When you are committed
to a particular subject,
in a particular field
it is easier to change gradually.

Most of the participants seemed to agree that one way towards EBM is through educational interventions. Only one doctor thought that the best way to achieve this was through appraising primary literature.

...Having attended lectures about EBM

I learned how to make choices

and how to apply the evidence
and I was in a better position
to use it for my patients,
and in fact
I am using it...
the more you use it
the less time you need... 1M: 28/30

Many of the participants doubted the effectiveness of traditional lecture-style
continuing education meetings, where:

...An expert describes
a few randomized control trials
and gives
a whole lot of opinions
about testing
or diagnosing
a particular medical condition. 1D: 459

Attending courses in EBM is not always easy and practical, as is evidenced in
this excerpt:

1J: 455/473 “We do a lot of CME activity here.”

C: “I attended a course, hands-on learning…”

D: “It’s one thing attending a course where there is delivery
of knowledge…but it is very different in our clinics.”
JP: "it was interesting when we attended the course but what a difference there is sitting in a computer lab and looking up things without being pressured and having actually the problem in front of you. If you're looking up the evidence and solving the problem on paper it's one thing but if you have the patient next to you and you're trying to decide what direction you're going to take...It didn't help me much I still find it very difficult."

During the discussions, other participants came up with ideas and suggestions on how to bridge the gap between evidence and practice.

All agreed that access to a relevant database and the internet was a basic prerequisite to use EBM, even though one participant preferred paper-based resources:

I rarely use the computer...

I receive journals such as Printed Evidence on a regular basis...

I find it very useful... 1J: 443/4

It was considered essential to have EBM resources accessible at the point of care, either in the form of computer-based or PDA-based resources. The following excerpt shows two different views on how Information Technology can help General Practitioners apply EBM in their practice.
1J: 187 “In my case I use it [EBM] selectively… in my sort of spare time – to look up the subject and pick up EBM on the internet; just to get educated myself… Sometimes you get the odd case where you have to look it up. Something which is not urgent you can always delay and I have no hesitation in telling my patient…”

M: “I don’t agree that you have to go home in your spare time and check it. All you need is a PDA. You can download all the data you need and even in front of the patient you can check it there and then…”

The following excerpt shows the conflict between two respondents who seem to have different views on how to implement EBM.

1M: 162/70 “There are reviews that will tell you the conclusion and in there minutes you will know the latest.”

D: “If you go to Cochrane and you read one review you’ve done nothing.”

M: “Cochrane, in fact, is not one review. What it gives you most are meta analyses. They will review thousands of articles, many trials.”

D: “…If you want to do EBM well you should go to all the studies and compare, what bias there was…”
M: "If you go to Cochrane and you see a meta analysis all you get is one line, three spots like this, and you just look. All that is to the left is good, all that is to the right is not good. This is the meta analysis and that is in two minutes."

All the respondents agreed that the best way to EBM is by using guidelines, preferably locally developed guidelines:

...Guidelines
really
are the essence
of multitudes of experience...
it's a condensation.
We need something to guide us. 1J: 198

The following respondent seemed to reflect the transformation that had taken place following his encounter with EBM.

Before...
my shortcut
was the consultant;
I phoned the consultant
and asked him.
But now
I use guidelines
and say my own opinion.

The research participants stressed the need for locally developed guidelines.

1C: 227/32 "I feel that there is something which is more standardized and which is easier to use...more applicable for us locally."

Do: "Up to now I think it's the guidelines that are the easiest."

D: "Yes but you are talking about very few Maltese guidelines."

C: "We need something for GPs and which we can use very easily. We need guidelines that we can use with the patient in front of us."

However, as one respondent so realistically noted:

It doesn't mean that it (the guideline) is Gospel truth...

but it's what we have...
Discussion

4.2b Applicability of Evidence to Individual Patients - Theme1

The indication that the majority of the participants welcomed the use of EBM in their practice reflects Sackett’s (1997) view that without current best external evidence, practice risks becoming rapidly out of date, to the detriment of patients.

In this context, EBM gives you a framework for knowing when to adopt new tests and therapies, when to discard old ones and how to look for answers to the clinical questions that arise everyday in the care of patients. However, we are all aware that, the universal occurrence of biological variation hampers attempts to extrapolate evidence, whether from basic or applied research, to individual patients. Patient preferences, values, expectations and context appear to exert a tremendous influence on the clinical decision-making of this group of Family Physicians.

As family physicians, we are in a very special position concerning our patients. Reid (1982) noted that Family Physicians develop a certain intimacy from long-standing doctor patient relationship, so much so that we often tend to think in terms of particular patients, their needs, experiences and expectations, rather than in terms of abstractions or generalizations.

Today, patients access the internet and come to our clinics with decisions about what is wrong with them and "there is no amount of discussion that will budge the feeling that that's what they've got."
So, in such a circumstance I will order the test they are asking for, even though they don’t fit the protocol, because that’s the only way of showing them that their belief is wrong". 2JPD:342/5. I frequently find myself in similar situations. Most of the time I try to discuss the issue with the patient, but at the end of the day, it is his /her decision that is paramount. It is not our role to impose our decisions on patients.

An important issue that frequently cropped up in the interviews was how GPs modified or better adapted their decisions to meet the patient’s financial situation. Certain drugs are very expensive and definitely out of reach for many patients. GPs, therefore, have to choose alternative drugs, knowing well that these may be less effective.

Very often, we as physicians have to contextualize our patient care. That is, we have to adapt and or modify our decisions to meet the particular circumstances of the patient.

This attitude and respect towards their patients clearly reflect a patient-centred approach (McWhinney 1983; Levenstein 1984).

This holistic approach to patient care is of profound importance in Family Medicine. We do not see illness solely in terms of a disturbance of bodily function. We appreciate that patients see illness as a disruption of their “being in the world”.

The participants seemed to agree that in the care of chronically ill patients, there is a lot of evidence to help them to achieve patient satisfaction.
When I reflect on my own experience with chronically ill patients, I tend to agree with this observation. The possibility of following up these patients, usually with co-morbid conditions, gives me the opportunity to apply latest evidence in management. In addition, many studies (Wagner, EH et al. 1996), have confirmed that use of EBM in the management of chronic conditions such as diabetes, hypertension, schizophrenia and asthma improves both the process and outcome of care.

Most of the participants favoured the use of EBM in their daily practice. However, they realized that psychosocial and contextual issues are so important that research evidence could become irrelevant and its explicit presentation, unnecessary. Korzybski (1958) maintained that we should constantly remind ourselves of the uniqueness of each patient.
4.3b Attitudes to using EBM in the context of Family Medicine – Theme 2

Although all the participants favoured the use of EBM in their practice, it seemed clear that different individuals perceived "evidence" differently. This could possibly reflect the different backgrounds of the participants. At one end, there are the practical, down to earth established GPs: their busy work schedule hardly allowing them to explore and venture into the realm of classical EBM.

At the opposite end, there are the academics of the group, those who were actually trained in the use of EBM (McColl, A et al. 1998).

This conceptual variation concerning evidence may reflect the different clinical approaches used in Family Medicine. Some individuals consider prior experience to be of greater importance than external research evidence.

Sullivan and MacNaughton (1998) describe this process of weighting of different sources of evidence available to the GP, and suggest numerous strategies that might help to change practice. My experience shows a progressive shift from the "personal experience" stage to classical EBM and then to POEMS (patient-oriented evidence that matters) (Slawson, D and Shaughnessy, A 1984).

This difference in the concept of evidence may also reflect the different sources that were sought by the participants to meet their information needs. Some turned to local experts or opinion leaders as both sources of new evidence and interpreters of that evidence.
At times this specialist – GP relationship was relatively passive ("mimicking" specialists), what Balint (1957) would no doubt have characterized as "the perpetuation of the teacher-pupil relationship" between the hospital consultants and Family Physicians.

In my experience, many of the illnesses encountered in Family Practice can only be understood by understanding their context. Gregory Bateson (1979) spoke about information cues or "meta messages" that is messages that make other messages intelligible by putting them in context.

There seemed to be a consensus on this issue, which could be interpreted as confirmation that Family Practice represents a distinctive worldview that is identifiably different from that of other disciplines (McWhinney 1997, p. 13).

Misconceptions about Evidence-Based Medicine seemed to permeate parts of the discussion. This could serve as a serious obstacle for us to appreciate the underpinnings of EBM: that it entails a rigorous and scientific methodology that is comprehensive, critical and explicit. A single study review is not EBM. If you go to Cochrane

and you read one review,

you've done nothing. D: 169

The idea that EBM seeks to convert clinical practice into "cookbook medicine" impeding efforts by clinicians to exercise clinical judgment and individualize care is a grave misconception (Woolf, SH 2002).
Serious doubts were raised as to the veracity of the evidence presented to the participants especially by the pharmaceutical companies or their representatives. This general feeling among participants could be interpreted as a clear sign of mistrust and concern about current methods of presenting evidence to Family Physicians. Conflicts of interest must be clearly stated.

Once the participants decided to implement EBM in their practice, they seemed to have experienced a radical change in their attitude and sense of security in their management (Putnam, W et al 2002).

The use of EBM seems to give the participants a certain boost of confidence and achievement that enables them to feel at par with their peer specialists.

It was noted that serious dilemmas arose at the GP-Hospital interface. In my experience, this is a very hot issue that has to be resolved for the sake of our patients and ourselves as GPs. From the excerpt (p.81, 82) it seems that, the participant had no alternative but to give up her EBM approach in order to avoid conflicts with the hospital and her patient.

Most of the participants work in solo practice and considered EBM as a means of breaking their isolation. My interpretation is that EBM sets common ground and standards of clinical practice that enables reflection, open discussion and sharing of experiences.
4.4b Perceived barriers and constraints - Theme3

Through personal experience, I am aware that to acquire necessary skills of searching, appraising and implementing evidence in our practice is a slow and demanding process. Implementation of this evidence into clinical practice is further hindered by our heavy workload.

Regarding this issue McColl et al. (1998) comment that proficiency in EBM entails a steep learning curve frequently not compatible with a busy Family Practice scenario. As a consequence, GPs have to resort to simpler and more practical methods of implementing EBM in their practice.

I am aware that this experience reflects how EBM is conceived and used in our daily practice. We have to modify or adapt EBM to our needs and our limitations. My experience suggests that it would be very difficult to implement the scientific method of EBM. Indeed, at first, I used to go through the whole scientific process of identifying, appraising and applying evidence. However, with time I found my own shortcuts that I could use “in front of my patients”.

The lack of local guidelines presents serious problems. I am fully aware of this problem and the guidelines that exist are however hospital-based. I have made a very thorough search of the literature and could not find any studies or guidelines relevant to General Practice in Malta.

McWhinney (1997, p.149) put it succinctly when he said

“the population at risk for a Family Practitioner differs greatly from the population at risk for a referral specialist”
I would add that Family Physicians need different guidelines and evidence specifically tailored for Family Practice.

Most felt uncertain about how to deal with conflicting evidence and how to determine the level of the evidence. I realize that I used to encounter similar problems.

Hannes, K et al. (2003) note that GPs get a lot of information from different sources. Only a small part of the information is independent, and unfortunately most easily identified in the information overload. This has also been my experience. I feel overwhelmed by the amount of "evidence" that is presented to me on a daily basis by drug company representatives claiming trustworthiness.

The cost of interventions or medicines was also perceived as a limiting factor to the practice of high quality medicine. I practice in a relatively socially deprived part of the island, where the "cost factor" plays a very important role in care management decisions. Frequently, use of best medicines even for common everyday conditions like asthma and hypertension, entails costs that are far beyond our patients' reach. I am fully aware of the problems that the participants face in managing their patients and their efforts to meet their patients' needs within their particular contexts.

For the doctors in my study, clinical evidence is not just "an intellectually celibate commodity that is lifted out of medical journals and transferred to a patient" (Freeman, AC and Sweeny, K 2001).

As a physician, I sometimes find myself in situations that cause conflicts and problems to my patients. I have taken a step back from using evidence when I realized that this could have jeopardized my relationship with my patients or caused them harm.
I remember a patient who needed coagulation but because of her alcohol problem and repeated falls, I had to decide otherwise.

A patient-centred approach underscores our work as Family Physicians. Whitehead (1926) noted that:

"...medicine should include both knowledge derived from empirical science and knowledge derived from hermeneutics that is concrete experience as it is lived."

The patients' experience and expectations seemed to influence clinical decisions and use of EBM. This is a common finding reported in many studies (Freeman, AC et al. 2001; Hannes, K et al. 2003; Tracy, CS et al. 2003).

I frequently find myself in situations where patients expect certain services and treatments that are not clinically indicated. I must admit that sometimes I give in to the patients' demands. However, in my experience this "conflict of interests" between patient and doctor should be settled by finding a "common ground". Fisher and Ury (1983), state that this could be achieved through "principled negotiation" that involves isolation of the problems and focusing on the different interests and using objective criteria to reach a solution.

I am aware that this would be difficult to achieve in a busy practice, which takes me back to where I started: the greatest barrier to EBM implementation is lack of personal time.
4.5b Moving from opinion-based to evidence-based practice – Theme 4

When I started using EBM in my practice, I realized that it was going to be a slow and uphill journey. I had been an established Family Doctor for quite a number of years. I vividly remember the preoccupations and doubts that accompanied my decision: why should I change my current practice? My patients like me; my outcomes are generally good. Besides change is hard work. Isn’t it hard enough trying to survive in such a competitive environment?

Some of the participants did make that leap forward for various reasons. They talked at length about their relationship with secondary care doctors. They thought that the context of secondary care was very different from that of primary care and thus specialists’ recommendations could not be applied to General Practice. As one participant put it “... it [secondary care medicine] is a different kind of medicine” (1C:232); and specialists’ evidence “…is not coming from General Practice of the kind I do.” (2PH:50)

I am fully aware of this contextual difference and I think this was one of the main reasons why I myself started incorporating EBM into my practice.

McWhinney states:

“...we sometimes receive well meaning but ill conceived advice from physicians in other branches of medicine about adopting certain procedures in our practices. The advice is ill conceived if it falls into the error of extrapolating from one clinical context to the other without supporting data from Family Practice. When given this kind of advice, we usually feel intuitively that it is wrong.” (p.148)
EBM enabled some of the participants to keep abreast with latest clinical knowledge. I think shows our commitment to provide the current and best care for our patients.

The use of EBM seemed to empower some of the participants to make clinical decisions for their patients by giving them the necessary skills and confidence to discuss and/or challenge specialists' views. My interpretation of this feeling is that competence in EBM might help to reduce or eliminate our present day dependence on specialists' opinions and enable us to work at par to provide holistic care for our patients.

The patient’s needs and the doctor’s curiosity seem to be the driving forces behind the shift to EBM. My interpretation is that sometimes we are faced with situations in which we have no immediate answers to the queries and problems of our patients.

We must be honest enough to admit this to our patients and search the literature for solutions. More often than not, we tend to look for evidence in areas which interest us or that we meet frequently in our practice.

Slawson D and Shaughnessy A (1994) developed an idea (Information Mastery) specifically for Primary Care physicians, that enables them to focus on what they consider relevant and doable in their individual practice.

These authors state that this concept might actually simplify and facilitate the shift to EBM.
"Information Mastery is the practical application of EBM... it allows the physician to disregard much of the medical literature and focus only on what's important which simplifies EBM. Some EBM knowledge is necessary, but not sufficient to practice medicine in this age of information.” (White, B 2004)

The participants seemed to prefer a gradual and selective shift towards EBM. I am aware of the wide spectrum of problems that are encountered in Family Medicine. I think that addressing different conditions such as hypertension, asthma, diabetes one at a time, would make the transition process easier and faster (Slawson, D 1994).

I think that it would be very difficult to learn the necessary skills and apply them in front of your patients. This is also reported in many studies. (Slawson, D and Shaughnessy, A 1994; Cranny, M et al. 2001; Putnam, W et al. 2002; Taylor, S et al. 2002; Gabbey, J 2004) that also suggest ways of circumventing the problem such as using guidelines, mindlines and POEMS.

Other studies (Hagdrup, N et al. 1998; McColl, A et al. 1998) disagree with this view and indicate ways of integrating EBM in a stepwise manner in General Practice. Only one of the research participants held this view. Most of the participants doubted the effectiveness of traditional lecture-style continuing education meetings.

Flaherty (2004) agrees that this type of education is not the best source of information and adds that GPs dislike lectures. (Long, A and Atkins, JB 1974)

I have attended a few courses on EBM. Academically I found them very stimulating but I think that when it comes to applying these skills in a clinical setting, serious problems arise.
Access to a relevant database and the internet is a basic pre-requisite to use EBM. However, only half of the respondents had a computer in their clinic. This might reflect the long and tortuous road that lies ahead of us locally on the way to Implementing EBM in our daily practice.

I am aware that some of the participants had been practicing medicine for quite a number of years and had relied mostly on their personal experience to manage care. They might not have felt the need or possessed the ability “to go technological”.

EBM resources should be accessible at the point of care. I tend to agree with this view. Searching abilities of today’s electronic devices are such that it is very feasible to incorporate them even into a busy practice. Flaherty (2004) comments that in order to achieve this:

“The key is establishing the habit, developing convenient resources, and not being afraid to look things up in front of the patient.”

I am aware that practicing EBM is a technical, time-intensive endeavour, which few physicians have the skills, time or will to pursue on their own. This would suggest that we need shortcuts. These could take the form of guidelines, systematic reviews (which summarise the evidence from multiple studies) or meta analysis (which quantitatively pool data). Using reviews and meta analyses could present valid alternatives to scientific EBM and thus facilitate and promote its implementation.

Ely et al. (1999) states that:

“to practice in an Evidence-Based way means finding good secondary sources that summarize the literature and give you a useful, actionable bottom line based on the evidence.”
All the respondents agreed that the best way to EBM is by using guidelines, preferably locally developed guidelines. This view is also echoed in a number of studies (Hannes, K 2003; White, B 2004; Woolf, SH 2005).

As Flaherty (2004) says:

"The easiest way to practice Evidence-Based Medicine is to let someone else do the work for you".

He was referring to the wealth of reputable resources now available, which continually search, appraise and summarize the literature for physicians.

I am aware that some guidelines are consensus-based, that is, opinions not backed by science. However, recently more scientifically rigorous methods have been used to establish guidelines that, as Flaherty (2004) notes:

"you can recognize at a glance because they grade their relevance and validity and the quality of the research".
4.6 Conclusion

In this chapter, I have tried to reflectively convey the stories and experiences of my research participants. Most seemed to welcome evidence-based medicine and agree that its practice would improve patient care. However, some questioned the contextual applicability of the method to individual patients. Perceived barriers and possible solutions to EBM use were discussed. In particular, the need for local research and sources of evidence that are readily accessible to Family Physicians, was perceived as being of paramount importance for effective implementation of EBM (McColl et al. 1998; Mayer, J and Piterman, L1999).

I hope that this work will help to start this process.
Chapter 5

The Aspired Destination

Concluding Comments
5.1 Introduction

Throughout the research process, I realized that not only the subject itself, EBM in Family Medicine, had not been researched before, but also the qualitative approach used to explore the phenomenon was contextually new. My decision to use focus groups as a research strategy provided a large amount of rich data which reflected the lived experiences of the research participants and as Lather and Smithies (1997) noted, would help qualitative enquiry

"...move through the triple crisis of representation, legitimation and praxis that has haunted qualitative work for the past two decades."

In this context, the data generated resulted in especially powerful interpretative insights, amenable to a phenomenological enquiry.

I am aware that the research participants made important recommendations that might be applicable in the local context.

In this last chapter, I will discuss the important issues of trustworthiness of the study, its strengths, limitations and possible recommendations.

5.2 Trustworthiness and Strengths of the study

Several authors have argued that the criteria used to ensure trustworthiness or quality in qualitative research should be consistent with the philosophical and methodological assumptions on which the research is based (Leininger 1994; Koch and Harrington 1998).
The study was conducted in the interpretive paradigm using a narrative enquiry and phenomenological approach. In support of this view, I chose the criteria of credibility and replicability as appropriate for this research.

5.3 Credibility

Appleton (1995) noted that for a qualitative study to be deemed credible, it must:

"reveal accurate descriptions of individuals' experiences".

Credibility deals with the notion that what one says he has observed is in fact what really happened. In final analysis, credibility (or validity) is always about truth (Shank 2002, p. 92).

I have identified several strategies in the literature that enhance credibility in interpretative research, including congruence between the adopted paradigm and chosen methods, prolonged engagement with the participants and the phenomena, multiple methods of data collection, appropriate and transparent analytic techniques, and auditable records (Eisenhart and Howe 1992; Creswell and Miller 2000; Denzin and Lincoln 2005, p. 528).

As explained in the methodology chapter my goal was to achieve multiple constructions and interpretations of the participants' experiences on the phenomenon of EBM in their practice, consistent with the philosophical underpinnings of the interpretative paradigm (Crotty 1998). This was achieved through the use of focus groups that enabled me to generate rich description and by the use of participants' words to allow them to speak for themselves.
"Focus groups often produce data that are seldom produced through individual interviewing and observation and that result in especially powerful interpretive insights." (Denzin and Lincoln 2005, p. 903)

I am aware that in a focus group setting prolonged engagement with the participant was not possible. However, all the participants were well acquainted with each other and I think this gave them the trust, comfort and freedom to discuss their views and experiences, increasing the credibility of the research findings (Polit and Beck 2004).

Data was collected using semi-structured interviews and field notes that I compiled during and immediately after the discussions. This triangulation of data collection methods provided different constructs of the phenomenon, thereby enhancing the depth and richness of the data and reducing systematic bias (Denzin and Lincoln 2005). In addition using different methods and sources of data may be seen as a way of encouraging reflexivity in the researcher and the research (Mays and Pope 2006). I think that the use of transcripts and field notes, together with the purposive sampling of the participants, the use of open-ended questions and my declared philosophical "frame of reference" helped in achieving credibility and transparency of the research process.

The verbatim transcripts were also given to participants to check the faithfulness of the texts. Member checking was utilized during various stages of data collection and analysis: during the interviews when the participants were asked to define or interpret their ideas; at the end of each interview session when participants were asked to discuss findings; and two participants were asked to provide feedback on the transcripts.
Numerous peer-debriefing sessions were held with an experienced qualitative researcher (DM) in order to address “the researcher-as-instrument “characteristic of qualitative research, by providing “an external check on the enquiry process” (Lincoln and Guba 1985). These sessions were held throughout the research process (Peshkin 1988) and helped me adjust the method and analysis techniques to the methodologies used.

I am aware that subjectivity is often equated with bias and is something to be avoided. However, in qualitative research subjectivity “can be seen as virtuous, for it is the basis of researchers’ making a distinctive contribution, one that results from the unique configuration of their personal qualities joined to the data they have collected” (Peshkin 1998, p.18).

5.4 Replicability

Replicability or its positivist counterpart, reliability, refers to “stability of data over time and over conditions” (Polit and Beck 2004, p.434).

At various points during the interviews, the participants were asked questions that helped to inform and ultimately define the research questions.

This helped to construct the participants’ perspectives regarding the research questions. Table 6 shows the method used:
Table 6. Data Collection: Interview questions that address research questions

<table>
<thead>
<tr>
<th>Research question</th>
<th>Interview question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you use evidence in your practice?</td>
<td>Do you routinely look for evidence apart from medical reps?</td>
</tr>
<tr>
<td></td>
<td>Where do you look for a reliable source of evidence?</td>
</tr>
<tr>
<td></td>
<td>Are you familiar with the classification of evidence?</td>
</tr>
<tr>
<td></td>
<td>How often do you use evidence in chronic disease?</td>
</tr>
<tr>
<td>Do you experience any problems when using EBM?</td>
<td>Is the evidence coming from General Practice?</td>
</tr>
<tr>
<td></td>
<td>How do you assess the quality of the evidence?</td>
</tr>
<tr>
<td></td>
<td>Does cost modulate the use of evidence?</td>
</tr>
<tr>
<td></td>
<td>Why do you prefer gut feelings rather than evidence?</td>
</tr>
<tr>
<td>How have you overcome these problems?</td>
<td>What makes you use EBM and how do you use it?</td>
</tr>
<tr>
<td></td>
<td>If you have doubts about the evidence, how do deal with it?</td>
</tr>
<tr>
<td></td>
<td>Is litigation a strong predictor whether you use EBM or not?</td>
</tr>
</tbody>
</table>

The data was analyzed using thematic content analysis that was described in detail in Chapter 3 of this study. The main idea was to give explicit definitions, examples and coding rules for each category, determining exactly under what circumstances a text passage could be coded with a category:

Table 7 shows one example of how a particular coding rule was developed.
Table 7: Development of coding rules

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Examples</th>
<th>Coding rules</th>
</tr>
</thead>
</table>
| C1: use scientific method of EBM  | Ability to search, appraise and apply EBM | "EBM means analyzing the evidence and incorporating it ..." 1D: 76/8  
"a wider search, critical analysis, comparative analysis" 1D: 96/7  
"a science to critical appraisal ... do it systematically" 1D: 105/6 | Use of all three steps of definition; otherwise C2.                                    |
| C2: use shortcuts                 | Ability to search and apply but not appraise EBM | "...send you abstracts... latest meta analysis..." 1M: 43/4  
"meta analysis and that is in two minutes..." 1M: 78  
"I look for guidelines about hypertension..." 1C: 215/6 | Use guidelines, meta analysis or reviews; otherwise C3.                                  |
| C3: do not use external evidence  | Do not search for, appraise or apply external evidence | "I base on what I see in my patients... 2V: 104  
"Not familiar with this classification of evidence..." 2JPD: 188/9  
"I rely on the results I get myself..." 2V: 79 | Do not use external evidence                                                             |

I used Atlas.ti (ver. 5.5) to assist me in coding: I could quickly retrieve text based on key words, rename emerging codes and generate visual views of these codes and show their relationships to one another. An example was shown in chapter 3.

Table 8 shows how themes were generated by a process of bringing order, structure and interpretation to the mass of collected data (Marshall and Rossman 2006, p.150). The idea was not to develop "grounded theory" but to present a viable interpretation of the findings.
Table 8. Data Management: Code Mapping: 3 iterations of analysis (read from bottom up)

<table>
<thead>
<tr>
<th>Third iteration: Theme development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1. Applicability to particular pts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second iteration: Establishing patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Pts’ influence on decisions</td>
</tr>
<tr>
<td>1b. Pt as partner in management</td>
</tr>
<tr>
<td>1c. Doctors’ response</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First iteration: initial codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Patients’ needs</td>
</tr>
<tr>
<td>1a. Evidence in context</td>
</tr>
<tr>
<td>1a. Cost for patient</td>
</tr>
<tr>
<td>1a. Patient decides</td>
</tr>
<tr>
<td>1a. Confusing patient</td>
</tr>
<tr>
<td>1b. Obligation to inform</td>
</tr>
<tr>
<td>1b. Human touch</td>
</tr>
<tr>
<td>1b. No imposition</td>
</tr>
<tr>
<td>1c. Retreat</td>
</tr>
<tr>
<td>1c. Modify evidence</td>
</tr>
</tbody>
</table>

I am conscious of the fact that the process of data analysis is eclectic: there is no “right way” (Tesch 1990). However by making all aspects of the analysis process open to inspection, I hope that the chain of evidence created and the “audit trail” constructed (Lincoln and Guba 1985) helped to strengthen the replicability of the study.
5.5 Limitations

I am aware that the aim of qualitative research is not to generalize findings but to explore in depth experiences that shed light on the phenomenon under investigation. In this study, I make no claim for generalizability.

The goal of the study was to explore the experiences of fellow GPs with respect to the use of EBM in their practice. In this context the interpretive paradigm used and the reflexive nature of the study not only “brings the self to the field... [they also] create the self in the field” (Reinharz 1997, p.3) thus conferring subjectivity to the findings and conclusions.

I employed a purposive sampling technique to choose people with “a lived experience” of the phenomenon. Their experiences might not reflect those of other peer practitioners. In particular there was an over representation of academic and full time private practitioners. I realize that this might have resulted in an under representation of issues relevant to part-time/National Health Service practitioners.

Triangulation, or as Richardson (2000, p.94) prefers to call it “crystallization”, of the interviews with a questionnaire method of data collection could have rendered a more holistic understanding of the phenomenon and conclusions.

I tried to ensure generalizability by “rich description and reporting of the research process” (Foster 2004, p. 230). In particular, I described in detail the coding scheme and data handling procedures that might help the readers to judge transferability of the criteria to other contexts.
5.6 Reflections and recommendations

While searching the literature on EBM I discovered that although local hospital-based studies exist, no such studies have been conducted within the context of General Practice. Similarly, while qualitative methods have become commonplace in health care research their absence was evident in the local GP context. Consequently, there is a serious lack of knowledge and information about the phenomenon within local settings. I realize that the findings of this study cannot be directly transferred to other contexts or a wider population. However, I have tried to make the research report sufficiently detailed for the reader to be able to judge whether the findings apply in similar settings. In this way, I hope that this project will help other GPs in their quest to provide the best care for their patients, based on latest evidence.

I feel that the interpretive paradigm and the focus that phenomenology provided on lived experience, enabled me to give meaning to the phenomenon in a way that is credible and relevant to the participants and their interpretations.

Most studies conducted in other countries, especially Canada (Carter, A 1993), Australia (Mayer and Piterman, 1999) and the U.K. (Howitt, A 1999), showed a positive attitude of GPs towards EBM. They also showed that implementation of EBM was an important factor in improving patient care. This seemed to be amply confirmed by my findings.

GPs seemed to encounter very similar problems in applying EBM in their practice (Taylor, J et al. 2002) -the lack of skills to find and appraise evidence (McColl, et al. 1998); the relevance of evidence to their practice and the perception of reduction of
clinical autonomy (Hannes, K et al. 2003) (pp.31, 31). My findings concurred with these views, as well as with the conditional influence on EBM implementation exerted by patient expectations, values and perceptions of care (p.30).

Lack of personal time (Hannes, K 2003), cost factors in accessing on-line resources and reliance on “local authorities” were also common findings (p. 33).

However certain issues such as:

1. the predominance of solo practices (p.77),
2. competition from other health care professionals ( p. 84),
3. the modulatory influence of cost of services and medicines ( p.85-87),
4. the influence of our health care system (p. 87),
5. the quality of “free medicines” available within the National Health Service ( p. 88), and
6. the absence of local GP-based guidelines ( p. 95-96),

seemed to reflect the local practice environment.

The literature review showed that very few GPs consider learning the necessary skills (finding and appraising the scientific literature) is the most appropriate way to move towards EBM (p.33). In my study, only one participant advocated the scientific method towards EBM.

Common suggestions to move from opinion-based to evidence-based practice included the use of locally developed guidelines (p.34); accessibility of evidence at the point of care through the use of computer-based and PDA-based resources; improving computerized decision support systems (Johnston, ME et al. 1994).
The use of POEMS or mindlines, were not mentioned as possible solutions by my respondents (pp.34, 35)

In agreement with most studies, my findings seem to advocate a multifaceted educational approach: practice-based education linked to audit with peer referencing and underscored by evidence in a readily understandable format (Hannes, K 2003).

Other suggestions seem to be shared within the international GP community. These include easy and free access to on-line resources; monitoring or supervision and audit, especially for single-handed GPs (Haynes, B et al. 1998) (pp.35, 36).

The participants seemed to emphasize the need for ready access to certain diagnostic procedures and tests available within the National Health Service and there should be integration of hospital and private GP medical information systems (Haynes, B et al 1998). I am aware that this would require a drastic change in our National healthcare policy and an increased expenditure. However, in the long run, these changes could be cost effective (Sutton, M 1997).

It seems that the project uncovered a number of novel areas that need further research or follow-up: exploration of the influence of other health professionals (eg. pharmacists) on EBM use; the assessment of the impact of evidence practice on patient outcomes; the impact of pharmaceutical representatives on clinical decision making in General Practice; exploration of patient preferences and how these influence evidence implementation in general practice. Also, there were suggestions, such as the feasibility to have supervision among Family Doctors, which go beyond the concepts that initially informed the research.
5.7 Summary

Earlier on in my dissertation, I described qualitative research and Family Practice as “a marriage made in heaven” (Murphy and Mattson, 1992). I recognize that in reality, the choice of the research method should be dictated by the nature of the research question and not by epistemological debate. I feel that there is much reason for qualitative research in Family Medicine and I hope that this work will help to encourage other Family Doctors to embark on similar journeys.

This study suggests that EBM is still within the realm of academics and puts forward various recommendations that might enhance its use within the GP community. In this context, this study could be a start in the right direction. Apart from adding to the body of knowledge about EBM in local Family Practice, the research strategy, through its reflexive nature enabled me to engage in my own learning journey towards a deeper understanding of the phenomenon, the strategies that I adopted and myself as a researcher.
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Appendix

Letter of Consent

Letter to Research Participants
Consent Form to Act as a Research Participant

1. I understand that I am participating in a research study entitled Evidence Based Medicine in General Practice - a qualitative study. This research is part of Dr. Dominic Agius' research study.

2. I understand that this will involve taking part in a one-hour focus group interview, which will include questions as well as opinions and experience on the above topic.

3. I understand that my participation in this study is completely voluntary and I am free to withdraw at any time.

4. I am aware that the interviews will be recorded. All personal references and identifying information will be erased after the recordings are transcribed. All subjects will be identified by a numerical code only. Coded transcripts will only be seen by the researcher.

5. The study participants will be provided with a written summary of the findings.

6. I will not be asked to discuss topics of a personal nature and may elect to stop the interview at any time.

7. I understand that my participation does not involve any physical, emotional or mental risks.

8. All procedures relative to the project have been satisfactorily explained to me prior to my voluntary acceptance to participate.

I have read and understood all the above explanations regarding this study. I voluntarily consent to participate. A copy of this form has been given to me for future reference.

______________  ________________
Date                      Signature of Participant

I, the undersigned, have defined and fully explained the investigation to the above subject.

______________  ________________
Date                      Signature of Researcher
You are kindly being invited to take part in a research study. Before you decide it is important that you understand why the research is being done and what it will involve. Please take time to read the following information carefully.

The purpose of this study is to assess and explore the attitudes and barriers to the implementation of Evidence Based Medicine in General Practice as part of my studies leading to MSc. in Family Medicine.

You were chosen to participate because of your experience and knowledge in the subject.

It is up to you to decide whether or not to take part. If you agree, you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part, you are still free to withdraw at any time and without giving reasons.

You will participate in focus group interviews wherein you will be asked questions that generate discussion relative to the topic under study. The interview will take about one hour.

The interviews will be recorded. Any data obtained during this study will be kept strictly confidential. The completed data will be presented in summary form and the results may be used for scientific purposes and may be reported or published. On completion of the study all written and recorded materials will be destroyed.

There are no known risks associated with taking part in this study. However if you have any queries do not hesitate to contact me on --------------- or via e-mail: ------------------

Thank you for taking the time to read the information sheet.

__________________________  __________________________
Date                                           Signature of Researcher

__________________________  __________________________
Date                                           Signature of Supervisor
"This is a great moment, when you see, however distant, the goal of your wandering. The thing that has been lying in your imagination suddenly becomes a part of the tangible world."

Freya Stark (1893-1993)
British travel writer