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TURNING GUIDELINES INTO CLINICAL PRACTICE – FINDINGS FROM AN IMPLEMENTATION STUDY

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”Knowing is not enough; we must apply.
Willing is not enough; we must do”.
Johann Wolfgang von Goethe (1749-1832)

ABSTRACT

Aim: The general aim of this thesis is to describe factors of importance when implementing clinical guidelines in psychiatry, and more specifically contribute to a better understanding of the implementation process. The specific aims are: Study I, to investigate a tailored implementation programme for implementing clinical guidelines for depression and suicidal patients, and to evaluate the compliance to guidelines after 6 months. In Study II, to further investigate compliance after 12 and 24 months. In Study III, to more specifically investigate perceptions of clinical guidelines and to identify barriers to, and facilitators of, implementation. Finally, in Study IV, to evaluate clinical outcomes and patient costs comparing patients who received psychiatric care according to guidelines with those who received treatment as usual.

Methods: Six psychiatric clinics in Stockholm, Sweden participated in implementing clinical guidelines for depression and suicidal patients. The guidelines were actively implemented at four clinics, and the other two only received the guidelines and served as controls. In Study I, 725 patient were included, 365 before implementation and 360 six months after. Compliance to guidelines was measured using quality indicators derived from the guidelines. In Study II, further data collection took place after 12 and 24 months and a total of 2,165 patients were included. Study III was qualitative and conducted at two of the psychiatric clinics. Data were collected using three focus groups and 28 individual, semi-structured interviews. Content analysis was used to identify themes emerging from the interview data. Study IV included the two clinics that implemented the clinical guidelines for depression and the control clinic that only received the guidelines. A cost analysis of guideline implementation was performed and patient outcomes were assessed after 12 months.

Results: In Study I, the implementing clinics significantly improved their recording of quality indicators compared to the control clinics. No changes were found in the control clinics. In Study II, the difference between the implementation clinics and control clinics persisted over 12 and 24 months. In Study III, the practitioners in the implementation team and at control clinics differed in three main areas: (1) concerns about control over professional practice, (2) beliefs about evidence-based practice and (3) suspicions about financial motives for guideline introduction. In Study IV, the psychiatric outcome measures improved significantly at the clinics with an active implementation compared to the control clinic. The costs were also lower.

Conclusion: Our results showed that compliance to the guidelines was better at the clinics with an active implementation than at the control clinics and that this difference was sustained after 12 and 24 months. Additionally, patients at the intervention clinics were significantly more likely to be clinically improved, and at a lower cost.

Key words: implementation, clinical guidelines, psychiatry, barriers and facilitators to clinical guidelines, health care practitioners, depression, suicidal attempt.

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LIST OF PUBLICATIONS

The thesis is based on the following papers, which will be referred to in the text by their roman numerals:

I. Forsner, T, Åberg Wistedt, A, Brommels, M, Forsell, Y. An approach to measure compliance to clinical guidelines in psychiatric care. BMC Psychiatry, 2008 Jul 25;8:64

II. Forsner, T, Åberg Wistedt, A, Brommels, M, Janszky, I, Ponce de Leon, A, Forsell, Y. Supported local implementation of clinical guidelines in psychiatry: a two-year follow-up. Implementation Science, 2010 Jan 26;5:4

III. Forsner, T, Hansson, J, Brommels, M, Åberg Wistedt, A, Forsell Y. Implementing clinical guidelines in psychiatry: a qualitative study of perceived facilitators and barriers. BMC Psychiatry, 2010 Jan 20;10:8

IV. Forsner, T, Fandiño-Losada, A, Brommels, M, Johansson, P, Forsell Y. Will implementation of clinical guidelines for depression improve clinical outcomes and lower costs in psychiatry? Manuscript

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LIST OF ABBREVIATIONS

€	Euro (EUR)
AGREE	The Appraisal of Guidelines Research & Evaluation Instrument
AUDIT	The Alcohol Use Disorders Identification Test
BDI	Beck's Depression Inventory
Df	Degree of freedom
DoI	Diffusion of Innovations Theory
DSM	The Diagnostic and Statistical Manual of Mental Disorders
EBM	Evidence-Based Medicine
EBP	Evidence-Based Practice
EPOC	The Cochrane Effective Practice and Organisation of Care Group
GAF	Global Assessment of Functioning Scales
GLM	The General Linear Model
ICD	The International Statistical Classification of Diseases and Related Health Problems
MADRS	Montgomery Åsberg Depression rating Scale
MDD	Major depression disorder
MINI	Mini International Neuropsychiatric Interview
PARIHS	Promoting Action on Research Implementation in Health Services
SCID	The Structured Clinical Interview for DSM-IV
SCT	Social Cognitive Theory
SD	Standard deviation
SEK	Swedish crown (currency)
TPB	The Theory of Planned Behaviour
WHO	World Health Organization

1 INTRODUCTION

One of the most consistent findings in health care research is the uneven uptake of research across different health care settings, countries and specialties. Transferring research results into routine clinical practice is complicated; several studies have described implementation as difficult and the complexity of achieving performance change in health care [1, 2].

During the last decades, much of the worldwide effort to improve the quality of care has been focused on the development and dissemination of evidence-based guidelines. Despite extensive research on guideline implementation, little is known on the most efficient strategies in implementation [2, 3].

The scientific literature is full of examples from which it would appear that patients are not given the care according to recent scientific findings. Only approximately half of the patients visiting general medical practitioners receive treatment according to current evidence, and 20-25 % of the patients receive care that is not needed or is even potentially harmful [4]. In psychiatry the number is unknown due to a lack of studies.

I have had the privilege during my first years as a doctoral student to combine the role as researcher with my clinical work in a psychiatric outpatient clinic. It has been valuable to translate theory into practice. This clinical experience gave me an insight into to the challenges to implement new evidence into clinical practice, and changing clinical behaviour.

The overall aim of this doctoral project was to contribute to a better understanding of the implementation process of turning clinical guidelines into clinical practice. In addition, the desire has been to increase knowledge of how to narrow the famous gap between what we know and what we do.

2 BACKGROUND

Use of new methods often fails, or is delayed, even when reliable evidence is available. More than 265 years passed from the first demonstration that citrus fruits prevent scurvy until citrus use was mandated in the British merchant marine [5]. In routine clinical practice, several studies have described implementation difficulties and the complexity of achieving performance change in health-care [1, 2] and practices often lag years behind research findings [4, 6]. Adoption of new treatments also varies widely across nations, regions and socioeconomic strata – despite access to the same evidence about risk and benefits [7-9].

Translation of research findings to improve clinical practice has received much attention in recent years [10, 11]. Lomas [12] describes three categories for knowledge translation: diffusion, dissemination, and implementation. He defined diffusion as efforts that are passive and unplanned. Dissemination is an active process to spread the message involving targeting and tailoring the evidence and the message to a particular target. Implementation is a more active process that involves systematic efforts to encourage adoption of the evidence and overcoming barriers. Passive diffusion of information and guidelines without an implementation strategy is expected to failure and is unlikely to result in changes in clinical practice [1]. Passive dissemination is likely to be unsuccessful because this approach require few resources and do not require efforts to engage practitioners [13, 14]. The focus of this thesis will be on implementation and the area will be psychiatric care of patients affected by depression as well as patients who were assessed after a suicide attempt.

In psychiatric care there is often a significant gap between the results of research regarding effective treatments and the actual treatments patients receive [15-17]. Many patients do not receive the current best possible care thus leading to an ineffective use of limited health-care resources. Clinical guidelines aim to reduce variation in health care and costs [18] and ensuring that recent advances in medical knowledge are disseminated rapidly into everyday clinical practice [19].

A wide range of factors can influence the success of implementation. A successful implementation depends on adopting new knowledge and changing behaviour. Health care practitioners face many barriers to implementation of guidelines. The promotion of guideline use in psychiatry therefore requires a clear understanding of factors that hinder their dissemination in this field. Knowledge about local barriers to using guidelines, providers' attitudes, beliefs and preferences has been identified as important for planning implementation strategies [19, 20].

Depression is a disabling mental illness associated with considerable co-morbidity, risk for suicide and costs to the individual, the family and the community. It also causes a significant loss of production [21-24]. Unipolar depression is predicted to become the second most important contributor to disability by the year 2020 [25]. Depression is frequently a recurring illness [26, 27] and therefore a clinical challenge.

Suicide is one of the ten leading causes of death worldwide for all ages. In some countries it is amongst the top three causes. In the year 2020, World Health Organization (WHO) estimate that approximately 1.53 million people will die from suicide. Ten to 20 times more people will attempt suicide world wide [28]. Suicide attempters are at high risk for future death by suicide, the literature shows a 30-40 times increased risk compared with the general population [29].

2.1 THEORETICAL PERSPECTIVES

Theoretical models of change can be used to understand the behaviour of health professionals and design strategies to change practice [30]. There are many theories from a variety of disciplines that describe behaviour and behaviour change in health-care. Using a theory-based approach offers the potential of a generalisable framework within which to reflect on factors influencing behaviour and the development of interventions to modify them. However, this approach is seldom used in the design of guidelines dissemination [31].

Numerous implementation theories, with varying terminology and definitions, have been described in the literature, [32]. A study by Michie and colleagues [33] identified 33 psychological theories useful for implementing evidence-based practice. Weiner and colleagues [34] describe the theory of implementation as “a theory that uses concepts and arguments to predict or explain how courses of action taken to put ideas, decisions, procedures or programmes into use”. Some of the most frequently used are described further in the following text.

2.1.1 The PARIHS framework

Kitson, Harvey and McCormack [35] have developed a theoretical conceptual framework PARIHS (Promoting Action on Research Implementation in Health Services), to enable the implementation of evidence-based practice. The PARIHS framework has attracted interest in recent years and is used as a theoretical framework in several studies [36]. The PARIHS framework suggests three essential factors: the evidence, the context, and facilitation. The evidence is described as encompassing research findings, clinical experience, and professional craft knowledge. The context reflects sympathetic values and beliefs, openness to change, strong leadership, decentralized decision-making, role clarity, and appropriate monitoring and feedback. Facilitation by skilled external and internal personnel is recommended and to encourage members to analyze, reflect upon, and change their own attitudes and behaviours, and describe research findings [37].

2.1.2 The Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB), a motivational theory [38], has been referenced frequently in implementation research [30]. Behavioural change is most likely to take place when health-care practitioners attitude and beliefs are concordant with the desired change [39]. TPB proposes that individual behaviour is determined primarily by the strength of intention to perform that behaviour [38]. The strength of behavioural intentions is predicted by three factors: (1) attitude towards the behaviour; (2) subjective norm, or perceived social pressure to perform the behaviour;

(3) perceived behavioural control, or perceptions of the effortlessness or difficulty of performing the behaviour, reflecting past experience as well as predictable barriers and facilitators.

Generally, the more positive people's attitudes and subjective norms regarding the behaviour and the greater their perceived behavioural control, the stronger their intention to perform the behaviour. Theories of behaviour change indicate that an analysis of factors that facilitate or obstruct changes is useful when trying to influence health-care practitioners and clinical practice [40]. TPB is useful to identify factors influencing change, including external barriers and facilitators, and hence appropriate forms of interventions.

2.1.3 Diffusion of Innovation Theory

Diffusion of Innovation Theory (DoI) focuses on the way in which new ideas or technologies (innovations) spread through groups or communities [41]. Four stages of adoption are identified: the knowledge stage, which involves learning about the innovation; the persuasion stage, in which the individual forms positive or negative attitudes about the innovation; the decision stage, in which the individual tests the acceptability of the innovation; and the final stage, characterised by the adoption or dismissal of the innovation. A range of techniques will be required to encourage various types of individuals to change their behaviour. Rogers suggest that there are five process factors that may influence the rate of adoption: (I) the adopter's perception of the relative advantage of the innovation; (II) the compatibility of the innovation with existing structures; (III) the perceived degree of difficulty involved in adopting the innovation; (IV) the testability of the innovation, in the absence of significant resources; and (V) the visibility of outcomes resulting from adoption of the innovation [41, 42].

2.1.4 Social Cognitive Theory

Social Cognitive Theory (SCT) was developed by Bandura [43] and suggests that behaviour is determined principally by incentives and expectancy beliefs. A person is more likely to perform a behaviour that results in desirable consequences. In SCT, the interaction between the person and behaviour involves the influences of a person's thoughts and actions. SCT explains the behaviour of individuals in terms of personal factors, behaviour factors, and context related factors [43]. Bandura suggest that individuals cannot influence their own motivation and actions thoroughly if they do not give adequate attention to their own performances. Self-observation contribute to two important functions: it provides the information needed for setting realistic goals and for evaluating individuals progress toward them [44].

2.1.5 Linking theories to techniques for behavioural change

In order to use theories relevant to behaviour changes there is need for translation into specific change techniques [45]. Table 1 shows some examples of changing theoretical frameworks into techniques for changing behaviour [46, 47].

Table 1. Examples of linking theories to technique for behavioural changes

Technique	Theoretical framework
Provide information on consequences	TPB, SCT
Barrier identification	SCT
Provide general encouragement	SCT

2.2 IMPLEMENTATION RESEARCH

Implementation research tries to understand how an intervention designed to improve clinical practice and tested in a limited, controlled setting can be implemented across a wide range of settings. Eccles and colleagues [48] have defined implementation research as follows: "the scientific study of methods to promote the systematic uptake of clinical research findings and other evidence-based practices into routine practice, and hence to improve the quality (effectiveness, reliability, safety, appropriateness, equity, efficiency) of health-care. It includes the study of influences on healthcare professional and organisational behaviour".

Greenhalg et al. [49] conducted a extensive systematic literature review and concluded that successful implementation depends on many factors, which include: (I) the nature of guidelines (their advantages, complexity, flexibility), (II) the individual practitioners (motivation, knowledge), (III) the local organisation (resources, structure, networks, system, decision making, priorities, etc), and (IV) the intervention strategies (leadership, training, audit and feedback, etc).

2.2.1 The terminology varies

In the field of nursing and medicine, implementation research is a relatively new concept and research field. The terminology varies widely and in 2006 Graham et al. [10] found 29 terms used to describe the efforts to go from knowledge to action. For example, knowledge translation is a commonly used term in Canada, whereas in the United Kingdom and Europe, implementation research is frequently used [10]. Another problem is the lack of detailed descriptions and different terminology of performed interventions in many studies [50]. One widely used taxonomy is the one developed by the Effective Practice and Organisation of Care (EPOC) review group within the Cochrane collaboration and a list of examples can be seen in Table 2. An ambiguous terminology and a lack of detailed descriptions affect the contributions to science, and create difficulties for other researchers to replicate or conduct meta-analyses [50]. It is also complicated to identify effective core intervention components hampering an efficient and cost effective introduction of intervention [50].

Table 2. EPOC taxonomy of interventions aimed at achieving practice change*

Professional intervention	**Patient-oriented interventions**
Distribution of educational materials	Consumer participation in governance of healthcare organisation
Educational meetings	Mechanisms for dealing with patient suggestions and complaints
Local consensus processes	
Educational outreach visits	**Structural interventions**
Local opinion leaders	Changes to site/setting of service delivery
Patient-mediated interventions	Changes to physical structure
Audit and feedback	Changes in medical records systems
Reminders	Changes in scope and nature of benefits of services
Marketing	Presence and organisation of quality monitoring
Mass media	Ownership of hospitals and other facilities
	Staff organisation
Financial interventions	
Provider interventions	**Regulatory interventions**
Patient interventions	Changes in medical liability
	Management of patient complaints
Organization intervention	Peer review
Revision of professional roles	Licensure
Multidisciplinary teams	
Formal integration of services	
Skill mix changes	
Continuity of care	
Interventions to boost morale	
Communication and case discussion	

*Adapted from the EPOC interventions taxonomy [51].

2.2.2 Implementation strategies

Grimshaw, Eccles and Tetroe [52] conducted a systematic review of interventions used to change practitioners behaviour. The findings suggest that while behaviour change occurred in 86 % of the included studies, the overall effect size of the change in practice was small. Interventions used to change health-care practitioners' behaviour have been reported in the literature, and Table 3 shows an overview including reports of the effects [1, 53].

Table 3. Overview of strategies for implementing evidence and promoting professional behaviour, including reported conclusions of effects [1, 53]

Strategy	Effects
Interactive small groups meeting	Mostly effective
Educational outreach visits	
Introduction of computers and computerized decision support	
Mass media campaigns	
Educational meetings/interactive educational	Effective
Reminder system	
Multifaceted interventions	
Decision support system	
Educational materials	Mixed effects
Conferences, courses	
Use of opinion leaders	
Education with different educational strategies	
Substitution of tasks	Pharmacist: effect on prescribing; nurse: mixed effects
Patient-mediated interventions	Mixed effects, mostly effective in prevention
Total quality management/continuous quality improvement	Limited effects, mostly single-site non-controlled studies
Financial interventions	Fund holding and budgets effective, mainly on prescribing
Combined interventions	Most reviews: more effective than single interventions
Traditional educational	Ineffective
Distribution/dissemination only	
Audit/feedback/peer review	Uncertain/variable effectiveness
Local opinion leader	
Management support	

Most of the adopted behaviour change interventions seen in the literature are based on the naïve assumption that health-care providers will change if they are given information such as educational materials [54]. However, historically, just the introduction and dissemination of clinical guidelines has had limited impact [19]. Thus it seems clear that education alone does not strongly influence the practice behaviours of health-care providers [55, 56]. It needs to be combined with, for example, a manual or computerised outreach visits and reminders [2, 57]. One problem is that the process of training is costly [55]. Overall multifaceted interventions have been more successful even though studies of the effectiveness in promoting compliance have reported mixed results [13].

Multifaceted interventions can for example include two or more of the following: audit and feedback, reminders, local census processing, or marketing, and interactive educational meetings. Educational outreach visits, also referred to as academic detailing, are situations in which health professionals receive a visit, within the practice setting, from a trained professional for the intention of education about their practice. A recent review of the evidence for the effectiveness of educational outreach visits found that, other than for prescribing practice, education outreach visits have only a small to moderate influence on practice [58].

Facilitation is proposed as an important strategy to assist health-care professionals to implement evidence into practice. Facilitation is defined as – "a technique by which one person makes things easier for others", which is achieved through support to help people change their attitudes, habits, skills, ways of thinking, and working [35]. Facilitation is a technique whereby facilitators provide support to help individuals or groups realize what they need to change and how to make changes to integrate evidence into practice.

Although many systematic reviews of behaviour change interventions have been conducted only modest and worthwhile effects have been found. A clear understanding of methods or an overall explanatory model for successful implementation seem to be lacking [50]. No single method has been shown to be effective under all circumstances. Systematic reviews and literature have identified good evidence for what does not work and reasonable evidence for what does work, but there still remain many unanswered questions [13].

2.2.3 Tailored implementation

Implementation efforts have been reported to be more effective when they address the specific needs, values, and concerns of the persons whose behaviour the implementation aims to change [59]. However, a recently published review shows that the effectiveness still remains uncertain and that more rigorous trials are needed [60]. There is evidence from systematic reviews that an assessment of local barriers and strengths contributes to a successful implementation strategy [13, 61]. A widespread approach directed at multilevel barriers, e.g. at patient, provider, clinic and organization levels is found to increase guideline compliance [1].

2.3 ORGANISATION AND LEADERSHIP

A sufficient organisation and leadership are essential to the success of an implementation since it often involves changes in the local systems. The organizations need to be innovative and encourage an atmosphere conducive to trying new approaches. The network of interpersonal relationships within the organisation are important [41]. A typical organisational problem frequently identified as a barrier is lack of time due to competing demands [62, 63].

Gifford et al. [64] describe three broad leadership strategies as most important to successfully implement and sustain guidelines: (1) facilitating staff to use the guidelines, (2) creating a positive milieu of best practices, and (3) influencing organizational structures and processes. Studies by Wallin et al. [65, 66] show that supportive environment, including contextual factors such as leadership, climate and authority, was influential for changes in clinical practice. The leaders need to be transformational, thus providing a meaningful work environment, a supportive emotional atmosphere, define a vision and communicate organizational values amongst member of the staff [67]. They need to be involved in managing and supporting the implementation during the process.

2.4 FACTORS RELATED TO CHANGE

A wide range of factors can influence the success of strategies used to implement innovations. These barriers and facilitators are important to understand. They can be related to the individual health-care provider, the social setting, or the organizational and financial system [40, 68]. Various barriers to practitioners' compliance to guidelines have been reported in the literature. Barriers to the implementation of guidelines among practitioners are: knowledge (lack of awareness or familiarity), attitudes (lack of self-efficacy, lack of outcome expectancy, the inertia of previous practice or external barriers), and behaviours (external barriers related to patient acceptance and environmental factors such as lack of time, reminder systems, resources, and reimbursement) [19, 40].

Examples of barriers for implementation and change at various levels of healthcare are presented in Table 4.

Table 4. Examples of barriers for change at various levels of healthcare

Level	Barriers
Individual	Awareness, knowledge, attitude, motivation to change, behavioural routines, time, agreement, fear of loss of autonomy, lack of self-efficacy, outcome expectancy
Patient	Knowledge, skills, attitude, compliance, demands
Social context	Opinion of colleagues, culture of network, collaboration, leadership
Organizational context	Organization of care process, staff, capacity, resources, structure, support
Economic and political	Financial arrangements, regulations, policies
Innovation	Feasibility, credibility, accessibility, attractiveness, advantages in practice

Adapted from [19, 40, 62, 68].

2.5 CLINICAL GUIDELINES

Clinical practice guidelines can be practical tools for implementation of new evidence in health-care. They are defined as "systematically developed statements to assist practitioner and patient decisions about appropriate health-care for specific clinical circumstances" [69].

There are some general characteristics of guidelines that favour their utilization, as identified by Grol et al. [70]. These should be compatible with existing values and routines, scientifically based, and an explicit description of scientific evidence should be available. Clinical practice guidelines have sometimes been suggested as a practical way of encouraging evidence-based practice, but there are several limitations to this approach. Traditionally, they have been based on consensus statements [71]. Several of the guidelines have also been based on opinion, rather than on research and might therefore reflect the current interest of the developers [72].

The guidelines need to be adapted to local settings since this will encourage ownership [73] but it is important that this does not involve changing of evidence-based recommendations (49). Even if clinical guidelines are useful tools for changing behaviour there are few evaluations outside experimental research of whether and how guidelines are actively implemented in clinical settings [74].

In reality, numerous guidelines have no clear implementation plans and have not been rigorously developed [54], and therefore it could be difficult for practitioners to follow their recommendations. Low rates of guidelines compliance for psychiatric disorders are frequently reported [75-77].

2.6 QUALITY INDICATORS

Quality indicators have been developed to evaluate quality of care and improvements [78]. They can be used to identify gaps between current and clinical practice, which is important in an effective implementation [79]. Targeting the areas where care is poorer certainly maximizes the impact of improvement [40, 80].

Quality indicators should be explicitly defined and measurable elements referring to structure (characteristics of health and medical care such as staff, resources, equipment), process (such as prescribing, provided care) or outcomes (referring to health status such as mortality, morbidity, patient satisfaction) [78, 81].

The indicators need to be clear, reliable, measurable, valid, and easy to register and evaluate. To develop quality indicators is a continuous process. It is also an integrated part of a quality development work, and research has generally focused on the development instead of the application [82]. Indicators that measure guidelines implementation, also needs to be supported by stakeholders [83]. Whenever possible, indicators should be based on the strongest scientific evidence available (randomised controlled trials) [84]. However, many sectors of health-care have a limited evidence base and therefore consensus procedures have been developed that combine evidence and expert opinion.

Numerous indicators have been developed to evaluate and assess the care provided to patients with chronic physical illnesses [85], but there is lack of studies of care provided to patients with psychiatric disorders [86]. Several quality indicators derive from clinical guidelines, however, it is suggested by Wodbrock et al. [79] that indicators used in psychiatry are generally not empirically validated.

2.7 EVIDENCE-BASED PRACTICE

Evidence-based health-care is a concept that has come to dominate the medical literature in the past two decades. Evidence-based medicine (EBM) provides the scientific basis for defining high quality care and has been defined as “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients” [87].

Smith and Donze [1] describe EBP as a process, which clinical research findings or best available evidence is complemented by clinical expertise and patient preferences, and is integrated into clinical practice. Implementing an Evidence-based practice (EBP) environment involves a systematic culture change within an organization as new practice behaviours are adopted. Hockenberry and colleagues state that implementation of EBP makes the difference between what is considered good versus excellent care [88]. The principles of EBP are client outcomes which are an important part of the implementation [89]. The critical question concerning EBP is not whether evidence should play a role in clinical decisions, but how to efficiently and effectively implement EBP in clinical practice. EBM has had less influence on psychiatric practice than other medical specialties, but there is a movement in psychiatry towards an increased adoption of EBP [17]. Evidence is being extended to treatment approaches

that are supported by psychological and biological evidence as well as by the findings of sociological research. However, there is still considerable resistance to EBP among many professions in psychiatry.

2.8 HEALTH ECONOMICS

Economic evaluations are increasingly being used in health-care to inform about the efficient allocation of resources for changing clinical practice and basis for decisions [90]. It can be defined as the comparison of alternative options in terms of their costs and consequences [91]. The health-care system, like many other parts of society, is facing constrained budgets, and it is important for decision makers to carefully consider whether developing and implementing a guideline is worthwhile [92-94].

For estimating the value for money of implementation strategies, information is needed on the costs of developing and executing the strategy and its effect upon the compliance to guideline recommendations. For a meaningful comparison of alternative strategies, it would be necessary to examine the additional costs that one implementation strategy imposes over another, compared with the change in guideline adherence it delivers.

The literature on the economics of implementing clinical guidelines advocates that the assessment of the value for money of implementation strategies should be done in terms of guideline outcomes [92-95]. However economical evaluation of clinical guidelines have so far showed limited use for decision-making [90].

2.9 IMPLEMENTATION OF PSYCHIATRIC GUIDELINES IN STOCKHOLM

Health-care is an important part of the Swedish welfare system and the Health Service Act states that all citizens should have equal access to health-care services, regardless of where they live or their financial situation. Regional health authorities, the County Councils, own and operate nearly all hospital and primary care. In Stockholm County, Sweden, a series of regional clinical guidelines regarding psychiatric disorders has been published and disseminated since 2002. Providers and purchasers in collaboration with Stockholm Medical Advisory Board run the development work. The intention is to require the clinical guidelines to be implemented in all psychiatric clinics in the county in order to provide high quality care on equal terms for all of the county's citizens [96, 97].

The guideline recommendations have been developed by multidisciplinary groups of health-care professionals, researchers and purchasers. It is intended that the guidelines will be useful to professionals in psychiatric inpatient and outpatient settings as well as in primary care. The guidelines are intended to assist the interdisciplinary health-care practitioners in the process of assessment, treatment (including pharmacotherapy, psychological therapy and psychosocial support), and evaluation.

2.10 THE RATIONALE FOR THE STUDY

Closing the gap between research and practice to achieve evidence-based health care requires exploration of the potential barriers that might be faced by health care practitioners when evidence is implementing in clinical practice. Awareness and acceptance of research findings do not necessarily lead to their integration into everyday clinical practice.
Decisions in health care are influenced by a whole range of cultural, organisational, educational, interpersonal and individual factors, it is important to have different strategies for the implementation and dissemination process.

Evidence-based guidelines provide an important contribution in health care improvement. To achieve this goal, it is necessary that guidelines are effectively implemented into everyday clinical practice. Although it remains unclear how best to implement guidelines into routine care. Failure in guidelines implementation has a strong influence on appropriateness of care, clinical efficiency and patients' quality of life.

This thesis increases our understanding of the barriers and facilitators to health care providers compliance to guidelines, diffusion of innovation, and implementation of evidence into clinical practice. Our contribution to the literature is to describe how clinical guidelines are implemented and applied in real world settings.

3 AIM

The general aim of this thesis is to describe factors of importance when implementing clinical guidelines in psychiatric care, and more specifically to contribute to a better understanding of the implementation process of turning clinical guidelines into clinical practice.

The specific aims are:

To investigate a tailored implementation programme for implementing clinical guidelines for depression and suicidal patients, and to evaluate the compliance to guidelines at 6 months (Study I).

To further investigate the compliance of an implementation programme at 12 and 24 months (Study II).

To investigate the dissemination and awareness of clinical guidelines in psychiatry among health-care practitioners in psychiatry. More specifically to investigate perceptions of clinical guidelines and to identify barriers to, and facilitators of implementation (Study III).

To evaluate clinical outcomes and patient costs between patients who received psychiatric care according to guidelines and patients who received treatment as usual (Study IV).

4 MATERIALS AND METHODS

This thesis has an experimental design. The included studies were designed as a pre-test and post-test controlled group.

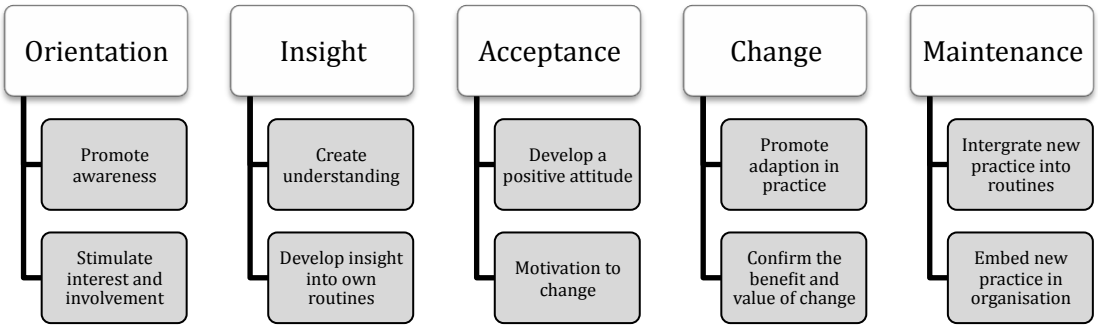
4.1 PARTICIPATING CLINICS

Six psychiatric departments in Stockholm County were invited to participate. Four departments decided to participate in the implementation and the two non-participant departments did not differ from the participating in terms of organization of care, personnel resources, and population, as they had uniform contracts with the county council purchasing office. Six clinics in the four departments were randomly selected, and they were randomly assigned to an intervention group or a control group. In the intervention group two clinics participated in implementing the clinical guidelines for depression, and two in implementing the clinical guidelines for suicidal behaviours. The two control clinics only received one of the guidelines, but were not included in the intervention. All the clinics were in an urban area and the resources and organization were comparable.

4.2 IMPLEMENTATION PROGRAMME

A framework for changing clinical behaviour and implementing guidelines, adapted from Grol and Wensing [40] were used. This model on how to change behaviour is based on research in a range of disciplines, and includes Social Cognitive Theory [43], and Diffusion of Innovation Theory [41]. Specific problems, or barriers, which may be related to the characteristics of the health-care providers or to the clinical practice were considered in each step in the implementation process, see Figure 1.

Figure 1. The process of changing clinical behaviours – from orientation to maintenance phase



After the publication of the clinical guidelines for depressive disorders and suicidal behaviour in 2003, a pilot implementation study was conducted. The intervention programme was multifaceted since it involved two or more interventions targeting different barriers to change [98]. Local multidisciplinary teams were established at each of the participating intervention clinics. An external psychiatrist led the teams and served as facilitator. The role of the facilitator was to assist the health-care providers in understanding what should be changed and how to achieve the desired results. Academic detailing was performed by trained persons giving information to providers in their practice settings with the intent of changing their performance. Seminars were conducted to introduce the clinical guidelines. Emphasis was put on a collaborative approach, critical reflection and changing practice culture. In the early phase of planning focus groups were conducted (Study III) to provide a broad perspective of factors that might be influential. At each facility, a prospective identification of the barriers to change was carried out in order to define and adapt the intervention. In order to analyse the gap between clinical guidelines and current practice, an audit of medical records was conducted before, during and after implementation. These data were also used to design intervention strategies to reduce barriers and facilitate guideline implementation.

4.3 MEASUREMENTS

4.3.1 Patient records

At the clinics that implemented the clinical guidelines for depression, or served as control, patient records from adult men and women (18-65 years) who had unipolar Major Depressive Disorder (MDD), according to (ICD-10) or (DSM-IV) were randomly selected. At those that implemented the clinical guidelines patient records for adult men and women who were appraised at a psychiatric emergency clinic after a suicide attempt were included. A suicide attempt was defined as self-injurious behaviour with a non-fatal outcome accompanied by evidence (either explicit or implicit) that the person intended to die [99]. Patients fulfilling the criteria for Bipolar disorder, Schizophrenia or other Psychotic disorder were excluded. Data from administrative information system were used to identify medical records that fulfilled the inclusion criteria, and samples from each clinic were selected at random dates during the study period. Number of patient records used in Study I and II are presented in Table 5.

Table 5. Number of patient records used for measuring compliance at provider level

Data collection	Depression programme		Suicidal programme		Study
Time	Implementation 2 clinics	Control 1 clinic	Implementation 2 clinics	Control 1 clinic	
Before (May 2003)	122	61	121	61	I + II
6 months after (Nov. 2003)	120	60	120	60	I + II
12 months after	240	120	240	120	II
24 months after	240	120	240	120	II

4.3.2 Audit instrument for measure compliance

Process indicators extracted from the clinical guidelines were used as indicators of compliance. To evaluate quality indicators' effects on quality of care, we used Donabedian's model, which distinguished the structure, processes and outcomes of care [100].

A modified audit instrument by Gardulf and Nordström [101] was used to assess the presence of the quality indicators. Each indicator was rated on an assessment scale from zero to two, (zero - recommended criteria to guidelines were not met; one - recommended criteria were partially met according to the definition; and two - a clear occurrence). The quality indicators were used as they were and as binary variables (one and two combined) giving essentially similar results (results not shown). The indicators were also summarised to a total score, 22 for the guidelines for treatment of depression, and 26 for the guidelines for suicidal behaviour. Quality indicators for implementation of the clinical guidelines for the care of persons affected by depression and clinical guidelines for suicidal patients are listed in Table 6.

Staff from the participating local teams at each clinic reviewed the medical records and documented the presence of the quality indicators. The first author instructed them and a consensus meeting was held, including a calibrating process and regular tutoring during the data collection period. A random replicate sample of 40 medical records was used to assess inter-rater reliability, (Kappa 0.92 to 1.0).

Table 6. Quality indicators for evaluation of quality of care in depression treatment and care after a suicide attempt

Indicator	Definition	Requirements
Accessibility/wait time	The time between referral and actual contact with mental health service.	Patients receive an assessment from a mental health specialist within three weeks of their first visit to the outpatient clinic. Patients with depression and suicidal thoughts offered first contact (appointment) within 24 hours.
Diagnostic assessment	Documentation of present depression symptoms. The medical record should document at least three of nine DSM-IV target symptoms for major depression.	Depression symptoms (such as decreased socialization, sleep disorders, poor appetite according DSM-IV) noted in the medical record.
Standardized rating scale	Clinical depression assessment that includes a standardized rating scale.	Monitoring signs and symptoms of depression using a validated standardized rating scale at the first visit. Scale and total sum documented in the medical record. Suggestions of scales to be used were presented in the guidelines.
Diagnostic instrument	Diagnostic structured interview.	A semi-structured diagnostic interview e.g., SCID or M.I.N.I performed. Completed before the third visit.
Standardized rating scale during treatment	Standardized rating scale during treatment for assessment of symptoms and behaviour.	Standardized rating scale performed within two weeks. Monitoring signs and symptoms of depression using standardized rating scale during treatment. Adjusted interventions if signs and symptoms are still present, presented in the guidelines.
Substance, drug abuse	Screening for substance use disorder.	Asked for current substance use and evaluated for the presence and/or history of substance use disorder. Screenings instruments such as AUDIT. Motivation interview conducted e.g., CAGE method.
Treatment plan (care plan)	A written treatment plan documented and individually tailored for the patient.	The treatment plan should include; treatment, goals, time for evaluation and drawn up together with the patient.

Evaluation /Outcome	Has patient responded to antidepressant? Achieved symptom remission or reduction between admission and follow-up?	Documented response to treatment within expected treatment frame and monitored progress. Completed a comprehensive evaluation of symptoms.
Continuity	Ability to provide uninterrupted care over time.	Continuity offered to the patient, same caregiver during treatment. Defined as less than two different caregivers.
Suicide assessment	A structured assessment documented in the medical record using standardized rating scale.	Identified suicidal thoughts, plans and symptoms, documented and evaluated in the medical record. Re-screen and assessment performed at every visit and documented in the medical record.
Antidepressant medication	Current treatment with an antidepressant medication for patients with major depressive disorder, moderate or severe.	Begin appropriate antidepressant medication according the guidelines. Started within two visits.
Specialist assessment after suicide attempt	Assessment by a senior physician within 24 hours after a suicide attempt.	A senior mental health specialist has made the assessment within 24 hours.
Suicide assessment	A structured assessment documented in the medical record using standardized rating scales.	Identified suicidal thoughts, plans and symptoms, documented and evaluated in the medical record. Depression assessment conducted using standardized rating scale.
Follow-up	Care plan formulated and documented.	Documented discharge plans. Referral to a psychiatric outpatient clinic.
Evaluation	Documented assessment after discharge.	Should have a follow-up visit with a mental health specialist within one week after assessment or discharge. Telephone contact with patient during this period.

4.4 INDIVIDUAL INTERVIEWS AND FOCUS GROUPS

Study III was conducted at one of the clinics that participated in the active implementation of the guidelines for depression and the control clinic. The two clinics were similar in their structure and organization. Data were collected from a series of focus groups and individual interviews before and at the end of implementation in late 2004. The focus group approach was used specifically to allow interaction between the participants on the raised questions. Two focus groups were conducted at the implementation clinic, one before and one six months after with the same participants. The focus groups prior to implementation aimed at providing a broad perspective of factors that might be influential when implementing clinical guidelines. To further deepen our understanding we conducted individual interviews guided by issues raised in the focus groups, before, and six months after implementation. Results from the interviews before implementation were used to identify barriers and facilitators, and to plan strategies for implementation. At the implementation clinic, all of the members of the implementation team were interviewed; facilitator (*n*=1), physicians (*n*=4), nurses (*n*=3), counsellor (*n*=1), psychologists (*n*=3), manager (*n*=1), and the head of department (*n*=1).

At the control clinic, practitioners were invited to participate in a focus group in order to explore perceptions about clinical guidelines and how to translate evidence into practice in a psychiatric context. Focus group participants were: physicians (*n*=5), nurses (*n*=3), counsellors (*n*=2), psychologists (*n*=3) and a manager (*n*=1).

The interviewees had a range of 4-31 years of psychiatric experience. The participants' ages ranged from 32 to 63 years. There were no detectable differences in responses according to practice size or gender. The age profile of the groups at the implementation and control clinics was similar.

Both the initial and follow-up interviews were semi-structured with open-ended questions and followed an interview guide. They took place at the practitioners' own offices. All focus groups and interviews were audio taped and transcribed verbatim by the interviewers directly after completion. The interviews were scheduled at the convenience of the participants. The focus group lasted approximately 90 minutes. The average length of each in-depth interview was 50 minutes. Data collection was completed when it was deemed that a comprehensive picture of the implementation process and influencing factors had been attained.

4.5 CLINICAL EFFECTS ON A PATIENT LEVEL AND COSTS

In Study IV the clinics that implemented the guidelines for depression and the control clinic were included. The same inclusion criteria as in Study I and II were used. The data collection took place at baseline and during 12 months after the intervention. The study included 360 patient records (18-65 years), 120 at each clinic. Data were extracted from the medical records to study depression symptoms, function and utilization of psychiatric care. Depression severity was measured using either the Beck Depression Inventory (BDI-II) [102], the Montgomery Åsberg Depression Rating Scale (MADRS) [103] or Montgomery Åsberg Depression Rating Scale – Self report (MADRS-

S) [104]. Remission was defined as having a MADRS score ≤10 or a BDI score ≤8 [105] and recurrence as a new episode of MDD according to DSM-IV after recovery [105]. Global level of functioning and symptoms were measured by the Global Assessment of Functioning Scales (GAF) [106], and the scores were split into scales of symptoms (GAF-S) and function (GAF-F) [107]. Additionally, the number of persons who committed suicide, suicide attempts, and care consumption were recorded.

4.6 ANALYSES

An overview of statistical methods used in Study I-IV is presented in Table 7.

Table 7. Overview of statistical methods used in Study I-IV

	Study I	Study II	Study III*	Study IV
Chi-square (χ^2)	x	x		x
Cohen´s Kappa	x	x		
Generalized Linear Models (GLM)				x
Mann-Whitney				x
Multiple regression analysis	x			
Non-parametric bootstrap				x
Odds ratio (OR)		x		
T-test		x		x

* Study III was a qualitative study, where we used content analysis.

The inter-rater reliability was analysed by calculating Cohen's Kappa. The statistical significances of the differences before and after implementation were calculated using Chi-square tests and T-tests. Associations between age, gender and percentages of patients being treated in accordance with each indicator were analysed using Pearson correlation tests. Age and gender adjusted odds ratios were used to analyse the six month compliance after implementation. To address the nested structure of our data, we fitted random-effects logit models where we clustered patients within their health-care providers using 'xtlogit' command in STATA [108]. Odds ratios were calculated for the dichotomized quality indicators comparing quality of care before (reference category) and after 6, 12, and 24 months, respectively. The data were analysed using STATA and SPSS for Windows, versions 10, 15 and 16.0, respectively.

In Study IV baseline comparisons of outcomes between people in intervention and control groups were done using, χ^2 test for categorical variables, and t-test or Mann-

Whitney's U test for continuous variables depending on values distribution (normal vs. non-normal).

Change score variables were created for each outcome variable expressing the difference between final (i.e. follow-up) and baseline values. Differences in change scores between intervention and control groups were assessed using t-tests. Additionally, repeated measures analyses were made using Generalized Linear Models (GLM), which led to establishing factors related with changes in outcome variables over time. Firstly, simple models were run for each outcome using allocation to intervention/control group as the unique predictor variable. These analyses made it possible to determine the efficacy of the new intervention in front of the usual treatment, controlling for the baseline values of outcome variables. These results are presented as linear coefficients (β) and F-tests. Secondly, because other factors could have affected the outcome after the random allocation to treatment groups, GLM models were run using those additional factors as covariates (i.e. number of visits, gender and age) in addition to type of treatment. These results are presented as linear coefficients (β) for each variable. Additionally, Mauchly's tests were calculated for testing lack of sphericity (i.e. unequal variance between measurement times) in each GLM model. All statistical analyses on outcomes were made using SPSS V.18 software (SPSS Inc., Chicago, IL, USA).

Costs data usually have a skewed distribution and are therefore a statistical challenge [91]. Costs are reported as mean values with confidence intervals. The 95 % confidence intervals were obtained by a non-parametric bootstrap with 1000 replications, estimated by the percentile method [109]. The method of non-parametric bootstrapping can provide confidence intervals for the difference in mean between groups in case of non-normality. Bootstrapping is a resampling procedure, which involves randomly drawing a sample from an original data set and replacing it before the next sample is drawn based on a statistical method. Bootstrap analyses were carried out with SAS (version 9.1; SAS Institute, Cary, North Carolina).

4.6.1 Qualitative content analysis

In Study III, a manifest and latent qualitative content analysis were performed. In the manifest content analysis, the written words, directly expressed in the text were used and the aim was to find the underlying meaning in the text [110]. In the first stage of the analysis, the responses were read through line-by-line in order to obtain an understanding of the text and overall impression of the material. Secondly, important meaning units (a word or a sentence) were identified and the texts were condensed. The data were further organized using the Open Code software, version 3.4 [111]. Thirdly, the meaning units were labelled with codes and grouped into categories and subcategories. Fourth, the codes, subcategories, and categories were continually refined and compared with each other [110]. During the analysis, the intention was to reduce the number of categories by aggregating similar categories into broader categories. Finally, the set of main categories was established by grouping together subcategories with similar meaning.

In analysing the data from the focus groups, we looked for differences and similarities in the health professionals' behaviour and perceptions, following the same procedure

as for the interviews. Focus groups and in-depth interviews were analysed separately. Once all transcripts had been analysed, results were reviewed in order to describe findings that apply to the study as a whole. As the themes emerged, these were continuously validated against the data, by being compared to different pieces of actual text.

To ensure trustworthiness of the findings, all steps were validated using two researchers who first independently, and then together, read and discussed the findings in relation to the aim, original texts and the pre-understanding in order to ensure a sound interpretation. To further increase trustworthiness, illustration of the research findings and interpretation of the content by using the most representative quotations from the informants were included in the report. To ensure confidentiality all quotes from participants have been de-identified.

4.7 ETHICAL CONSIDERATIONS

During the whole study, health-care practitioners had access to the same medication and resources of non-pharmaceutical treatment options. The Central Ethical Review Board at Karolinska Institutet approved Study I-IV. For ethical reasons the training part of the implementation programme was offered to the control group at the end of follow-up period.

In Study III, all persons asked to be interviewed in the study agreed to participate. They were informed about the voluntary nature of their participation and their right to decline. Data are presented so that individual participants remain anonymous, and quotations used in any reports do not include information that could identify the participant.

5 RESULTS

Patient characteristics are presented in Papers I, II and III.

5.1 COMPLIANCE TO GUIDELINES

In Study I and II, we investigated the implementation of clinical guidelines for depression and suicidal patients.

5.1.1 Compliance to the guidelines for depressive disorders

There were no age or gender differences between patients from the intervention and control clinics at baseline. Some of the indicators were more often recorded in the implementation clinics; accessibility, diagnostic instrument, standardized rating scale initially and during treatment, substance/drug abuse and treatment plan.

At the six month follow-up 120 new patient records were included at the implementation clinics and 60 at the control clinics. There were no gender differences, but the mean age of the patients was slightly lower at the implementation clinics (35.4 years (SD 11.4) versus 38.6 years (SD 9.6), $t = 1.9$, df 178, $p < 0.1$). The only quality indicator that had an association with age was evaluation of outcome, which was less often registered in patients with higher age. Age and gender adjusted OR for the compliance for each depression indicator at the six-month follow-up is presented in Table 8. Compliance was better in almost all indicators in the implementation group and the total score improved significantly. In Study II we further investigated the compliance of the implementation programmes at 12 and 24 months after intervention; the compliance can be seen in Figure 2. Total scores of the quality indicators for clinical guidelines for depression with 95 % confidence interval are presented. Some indicators were more sensitive to change, e.g. suicide assessment increased 57.3 % compared to use of diagnostic instrument that increased 31.9 %.

For most of the quality indicators, the increase that was recorded at six months persisted over 12 and 24 months. Although, for a few quality indicators the 24-month follow-up audit showed a slight decrease compare to the measurement at 12 months, the use of standardized rating scale during treatment (9.2 %) and assessment of substance/drug abuse (5.4 %) decreased (9.2 % and 5.4 %).

5.1.2 Compliance to the guidelines for suicide attempters

At baseline, there were no gender differences but the patients at the implementation clinics were slightly younger (32.5 years (8 SD 12.2) versus 38.3 years (SD 15.1), $t = 2.8$, df 180, $p< 0.01$). The only indicator that differed in registration was continuity of caregiver that was less often recorded in older patients. Some of the indicators were more often recorded at the implementation clinics, i.e. diagnostic assessment, standardized rating scale initially, evaluation and evaluation assessment. Others were more frequently recorded at the control clinics, i.e. accessibility, substance/drug

abuse, suicide and specialist assessment. The mean score did not differ between implementation clinics and control clinics.

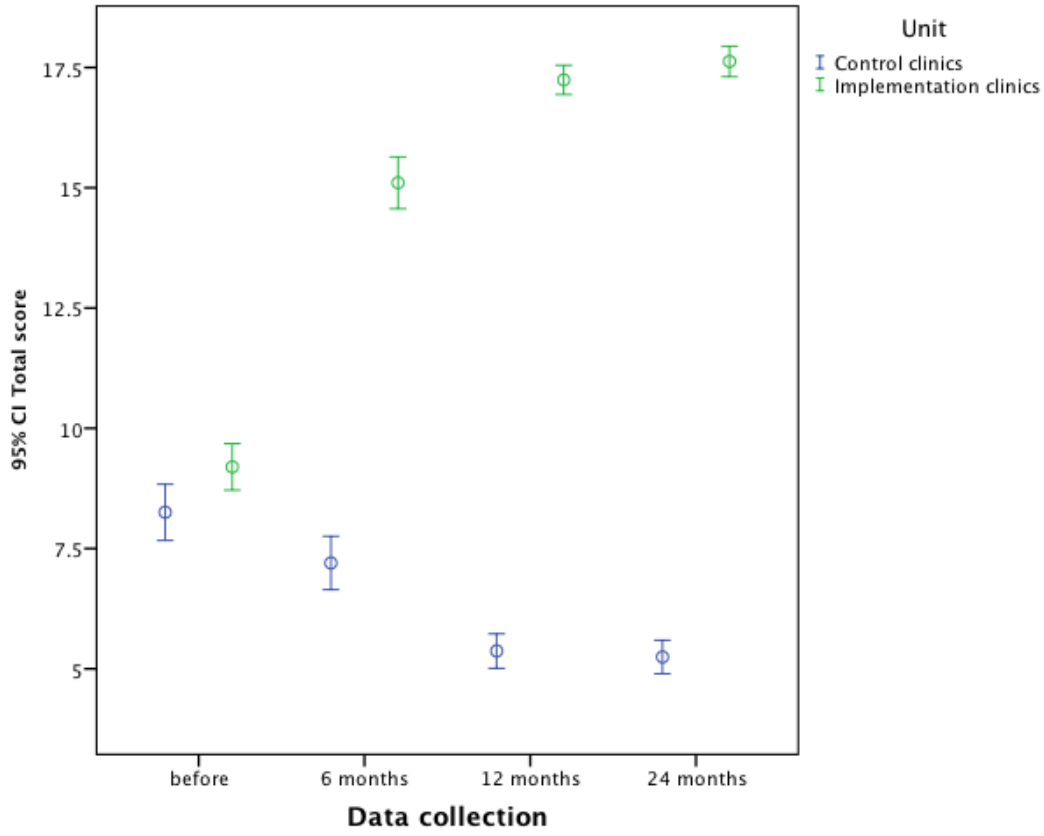
At the six month follow-up there were no age differences, but the patients at the implementation clinics were more often females (70.8 % versus 58.3 %, chisq = 2.8, df 1, $p < 0.1$). The only quality indicator that had an association with gender was specialist assessment, which was less often registered in females. Age and gender adjusted OR for the compliance for each indicator at the six-months follow-up is presented in Table 8. The compliance was better in almost all indicators in the implementation group and the total score improved significantly. Compliance at 12 and 24 months after intervention can be seen in Figure 1 where the total score of the quality indicators with 95% confidence interval are presented. Some indicators were more sensitive to change. In the implementation of the depression programme suicide assessment increased from 40.2 % to 97.5 % and in the implementation of the guidelines for structured suicide assessment for suicidal patients rose from 55.4 % to 97.1 %. Also here the increase that was recorded at six months persisted over 12 and 24 months for almost all of the indicators. A slight decrease compared to the measurement at 12 months was seen in accessibility/waiting time (11.2 %) and continuity (5.0 %).

Table 8. The odds ratio of compliance six months after the implementation of clinical guidelines for the management of depression and suicide. Significant OR are in italics

	Depression		**Suicide**	
Indicator	Implementation clinics OR(CI95%)	Control clinics OR(CI95%)	Implementation clinics OR(CI95%)	Control clinics OR(CI95%)
Accessibility/wait time	2.2(1.0–4.7)	0.6(0.3–1.4)	0.9(0.4–1.8)	1.1(0.5–2.4)
Diagnostic assessment	7.9(2.3–27.8)	1.2(0.4–3.6)	2.8(1.6–4.8)	0.6(0.2–1.5)
Diagnostic instrument	2.7(1.4–5.4)	*	*	*
Standardized rating scale	6.2(2.9–13.2)	0.7(0.3–1.4)	2.9(1.7–4.9)	0.5(0.2–1.4)
Standardized rating scale during treatment	7.1(3.7–13.7)	1.9(0.9–4.1)	6.0(3.3–11.2)	0.6(0.2–1.9)
Substance/drug abuse	8.1(4.2–15.7)	2.9(1.3–6.6)	1.7(1.0–2.8	1.0(0.5–2.2)
Treatment (care) plan	4.9(2.5–9.5)	0.9(0.4–1.9)	4.6(2.6–8.1)	0.9(0.4–2.0)
Evaluation/outcome	12.4(4.7–32.9)	0.8(0.4–1.7)	3.5(2.0–6.2)	0.4(0.1–1.2)
Continuity			0.7(0.4–1.5)	0.5(0.2–1.0)
Suicide assessment			11.5(5.1–25.8)	0.6(0.3–1.5)
Specialist assessment			6.6(3.5–12.6)	0.8(0.3–2.3)
Follow-up			2.9(1.4–5.7)	0.6(0.3–1.4)
Evaluation assessment			3.9(2.2–6.4)	0.7(0.3–1.8)
Difference in total score compared to baseline	16.2, p<0.001	ns	9.0, p<0.001	-2.1, p<0.1

* The numbers did not allow calculation.

Figure 1. Total score of quality indicators for clinical guidelines for depression and suicide



5.1.3 Facilitators and barriers to guideline implementation

Study III aimed at determining perceived facilitators and barriers to guideline implementation and compliance to guidelines for depression. Three main categories were formed to describe barriers or facilitators for successful implementation: (1) organizational resources, (2) health-care professionals' individual characteristics and (3) their perception of guidelines and implementation strategies. Table 9 uses these categories and presents a summary of the barriers and facilitators influencing implementation of clinical guidelines as reported in the interviews.

The practitioners in the implementation team and at control clinics differed in three main areas: (1) concerns about control over professional practice, (2) beliefs about evidence-based practice and (3) suspicions about financial motives for guideline introduction.

Table 9. Reported barriers and facilitators influencing implementation of clinical guidelines

Categories and subcategories	Barriers	Facilitators
Organizational resources		
Staff	Lack of time	Clear roles
	No agreement on need to use clinical guidelines	Included in decision-making processes
	Emotional exhaustion	Sufficient time
	Influence of prior experiences	
	Workload	
	Information overload	
Learning culture	Lack of learning culture	Promotes learning organization
Leadership	A lack of dedicated time	Strong leadership
	Lack of investment from the organization	Active department chief
	Guidelines not mandatory	Head of department supported the implementation
	Lack of organizational strategy and skills	Effective organizational structures
	Resistance to multi-disciplinary team	Empowering approach to learning
	Concerns about resources	Multi-disciplinary implementation team
	Lack of financial resources	Awareness of clinic attitudes and actions
		Effective teamwork
Dissemination	Lack of clear intervention goals	Supporting implementation
	No regular implementation meetings	Planning the implementation process
	Guideline format	Access to guidelines tools and recommended clinical scales

Change clinical patterns	No measurement or tools for evaluation of care	Feedback on performance
		Audit used routinely
		Quality indicators
		Measuring 'before' in order to identify gap
Facilitation	Lack of facilitation	External facilitation
		Academic outreach visits
		Driving local change
Health-care professionals' individual characteristics		
Attitudes and beliefs	Negative attitudes to clinical guidelines and new action	Positive attitudes and beliefs regarding guidelines and new action
	Perceived limited validity of guidelines	
	Fear of loss of autonomy	
	Fear of standardization of care	
	Concerns about relevance of evidence to own patients	
	Lack of internalization of guidelines	
Knowledge	Lack of research skills	Increased knowledge
	Lack of specialized training	
Perception of guidelines and implementation strategies		
Credibility of content	Change in recommendations	Increased accountability
	Overestimation of current care	
Awareness	Lack of familiarity with guidelines	Practitioner's awareness

5.2 CLINICAL OUTCOMES

Study IV compared clinical outcomes and costs between two clinics that actively implemented the guidelines for depression and a control clinic. Patients' score at the baseline and final visit during a 12-month period were compared to determine the degree of change in symptoms during the study period. Patients at the intervention clinic had a mean MADRS score of 29.0 at study entry and 5.7 at the final visit and in the control clinic it was 29.2 at baseline and 18.3 at the end of study (t=14.36, p<0.001). The change of GAF-S value between groups was also significant (t=-5.63, p<0.001). Intervention patients entered the study with a mean score of 54.2 and 66.5 at the final visit, compared with 55.0 and 62.8 respectively, for patients at the control clinic. Functioning improved over the study in the intervention clinics, mean GAF-F value at baseline was 55.0 and it was 67.9 at the end of study. In contrast, at the control clinic a decrease for GAF-F was seen during the study, with a baseline value of 55.1 and 51.8 at the end of study. The differences between groups were significant (t=-9.69, p<0.001). Table 10 summarises the results of the clinical outcomes.

Table 10. Repeated measure analysis between subjects' effects for patients in the implementation programme versus usual care

Outcome variable	β [a]	CI for beta	F	df	p
Clinical outcome					
MADRS[b]	-12.57	-13.98 to -11.15	146.65	1, 310	***
BDI[b]	-12.54	-16.80 to -8.28	1034.18	1, 35	***
GAF-S	+3.77	+2.58 to +4.96	16.50	1, 357	***
Functional outcome					
GAF-F	+16.09	+12.95 to +19.24	92.12	1, 358	***

* p = < 0.05, ** p = < 0.01, *** p = < 0.001

[a] This estimate reflects change in variable units over 1 year follow-up. A negative beta estimate indicates that the intervention is favoured over usual care when lower is better for the clinical outcome variable. Note: A positive value indicates that the intervention is favoured over usual care when higher is better.

5.3 COSTS

We estimated the mean costs per patient in the intervention and control group during the 12-month follow-up period. Total costs were amounted to € 12,687 per patient in the intervention group and to € 15,393 in the control group, with a statistically significant difference between the groups of € -2,704 (95 % confidence interval € -1,761 to -3,631).

The total cost of six months intervention programme at the two psychiatric clinics was estimated to € 45,204 (€ 22,602 for each outpatient clinic).

6 DISCUSSION

The objective of this thesis was to explore factors that influence implementing clinical guidelines in psychiatric care. Translating scientific evidence into daily practice is complex. Research cannot change patient outcomes, unless health services and healthcare professionals adopt the findings into practice. Recognition of quality gaps has led to increased interest in more active implementation strategies. Although, the effectiveness of interventions varies across different clinical problems, contexts, and organizations. Implementation research involves the study of changing behaviour and maintaining change. The area of implementation research cover many different knowledge areas and across various field and disciplines such as, medical science, nursing science, psychology, sociology and health economics.

This study demonstrated a significant change on a provider level as well as on a patient level following an active implementation of guidelines in a psychiatric setting. The findings showed that passive dissemination did not seem to have any effect on clinical behaviour or on patient outcome. Thus, if guidelines are to be useful in practice, they need to be accompanied by an active strategy.

Quality indicators derived from the guidelines were used as a measure of compliance on a provider level. Initially there were large gaps between current clinical practice and recommended practice according to guidelines, especially in the clinics where guidelines for suicidal patients were implemented. An increase in the documentation of almost all of the quality indicators occurred at the intervention clinics and was sustained at almost the same level throughout the two-year study period.

These findings imply that the systematic implementation approach gave sustainable change, at least over a two-year follow-up period, as documented by quality indicators. The simple presence of knowledge available to all clinicians had not changed practice. Thus the change in the organisation and structure of the care was sustained after withdrawal of implementation support, which is the aim of all implementation.

An interesting result of our study is that health-care providers who have changed their clinical approach by applying new guidelines when assessing and diagnosing patients, also evaluated and actively followed up their patients' symptoms and treatment effects using the instruments recommended by the guidelines. These changes in approach and use of tools in the clinical setting have not led to longer treatments periods and higher consumption of psychiatric care. They have in fact led to lower total psychiatric care, patient costs and productivity costs.

6.1 OUTCOME ON A PATIENT LEVEL

Clinical guidelines implementation is a far more complex intervention than applying one specified treatment modality such as a drug regimen. We, therefore, felt that it was justified to choose a pragmatic approach in terms of outcomes measurements and used the symptom ratings scales recommended by the guidelines. A higher

compliance to the guidelines was found to be associated with an increased recovery rate as measured by MADRS and BDI (adjusted for number of visits, age and gender). A higher number of visits were related with poorer treatment results (GAF-S and MADRS), indicating that certain patients would need even more visits in order to improve their status; but this did not diminish the average positive intervention effect. The patients had also improved their functional scores.

Achieving optimal quality of care for patients with depression and suicidal thoughts should be a priority and a worthy goal for practitioners. A highly structured approach to monitoring the results of the treatment and to consequently adjusting the treatment might be a major contribution. The set of indicators used in this study included measures of both diagnostic and treatment processes. The observed relationship between process and outcome in this study might make these indicators useful for evaluating programmes in psychiatry. However, quality indicators should be reviewed every few years based on new evidence. Few studies have assessed the effects of compliance with clinical guidelines on patients' clinical status and further analyses are needed to examine the correlation between compliance and various clinical factors.

6.2 COST OF IMPLEMENTATION

The considerable economic burden associated with depressive disorders, particularly from negative effects on work productivity and loss of quality of life, raises the question as to whether increased severity of depression symptoms have an impact on work impairment, and if implementation of clinical guidelines would result in economic gains. Even if improved treatment of depression increases costs, it may be worthwhile if it leads to substantially improved clinical outcomes. Treatment of depression in psychiatric specialist care is costly; a recent analysis of Swedish primary care [112] estimated the annual cost at € 11,000 per patient, with costs of antidepressants being 4 % of the total. Productivity costs constitute the greater part of depression expenditures and have been reported to be more related to work loss than in other psychiatric disorders [113, 114]. Compared with Sobocki et al. [112], we observed differences in amount of sick leave and the burden of depression in terms of severity of depression. In our study the patients had a significantly greater extent of depression symptoms and most were classified as suffering from moderate (80.9 %) and severe depression (19.1 %).

A cost analysis showed that active implementation was less costly than standard treatment, and thus it was not necessary to perform a full scale cost-utility study to show the cost-efficiency. Cost analysis is less challenging to perform than cost-utility or cost-benefit analyses. There are some challenges with cost analysis; data for measuring and valuing resource use are created for purposes other than health-care costing. Standard unit costs have to be used in many instances. While the majority of health cost analyses focuses on the direct costs of medical care, it is also important to address external costs. Patients who participate in the intervention programme or who undergo treatment are contributing with their own time, costs for travel, patients' fees and considerable productivity costs. In an evaluation of interventions to improve depression care, these non-medical care components of burden should be

included. There is a need for further studies including economic analyses, such as cost of intervention development and implementation.

6.3 GUIDELINES

Guideline utilisation is complex and many factors may influence the impact of guidelines on care. Although valid guidelines may seen as necessary, they are not sufficient to insure evidence-based decision-making. Policy makers play an important role in influencing whether and to what degree research findings influence health-care service and public health [115]. The National Board of Health and Welfare in Sweden have currently published national guidelines and quality indicators for depression and anxiety disorders, which are expected to improve the quality of care. Research is needed to evaluate the effect for this national policy and how it can be integrated in Swedish health-care.

Implementing clinical standards and guidelines is currently a complex process. We cannot explain this easily as a linear process of "information provision = implementation". It is not even as simple as "information + training + resources = implementation".

6.4 FOCUS GROUPS AND INTERVIEWS TO ADDRESS BARRIERS AND FACILITATORS

Implementation and change of praxis are complicated processes involving individuals, teams and organisations. The gap between recommendations of guidelines and delivery of care may be due to numerous barriers. The purpose of using qualitative methods in this study was to gain a deeper understanding of barriers and facilitators for implementing clinical guidelines in psychiatry that could be addressed in the implementation process. Local knowledge has previously been identified as important for planning implementation strategies [19, 20]. Garbett and McCormack [116] have stated that practitioners need help in identifying organisational factors that impede progress, in order to achieve a greater sense of ownership and empowerment. This was seen in the interviews at the implementation clinic where auditing and information gathering were seen as an important contribution in supporting the local changes.

A range of individual and organization level barriers to the implementation of the guidelines was identified. Some health-care providers have expressed that they have the necessary knowledge and skills, but that they are unable to implement guidelines because of emotional exhaustion. Research has previously shown that providers who have high level of emotional exhaustion are less likely to be aware or be able to implement innovations and may lead to less research utilization [117, 118].

In the focus groups there were three main areas that differentiated the reports from the practitioners at the control clinic from those at the implementation clinic: (1) concerns about control over professional practice, (2) beliefs about evidence-based practice and (3) worries about underlying financial motives. In the focus group at the control clinic negative attitudes to guidelines in general and underlying concerns

about financial motives emerged as key findings. Staff were more concerned about their lack of control over implementation of the guidelines (lack of ownership), over their practice, and over their professional role (lack of autonomy). They perceived more negative effects, both for themselves and for the patients' care. These attitudes and barriers were not seen at the implementation clinic, where participation, encouragement and ownership issues were addressed.

The interviewees reflected on potentially successful strategies such as having a facilitator who helped them to address the gap between clinical guidelines and practice. Facilitation has previously been identified as a potentially important component in the implementation of research findings but the concept is not well-defined in this field and future research should address this issue [119].

6.5 POTENTIAL EXPLANATIONS FOR THE MAIN FINDINGS

New methods in psychiatry, as in all other areas of medicine, are continuously introduced but implementing evidence to practice is complex and there is no simple solution [1, 2, 120]. The implementation programme used in this study was multifaceted and it is problematic to determine the effect and generalizability of a single intervention.

The used active implementation strategies were based on organizational learning theory and previous knowledge of effective methods to change clinical practice. Learning organisation is described as a process of increasing the capacity for effective organisational action through knowledge and understanding [121]. The learning climate is a valuable aspect of educational environments that influences learner satisfaction, stress and attitudes to learning [122]. A good learning climate is when team members: a) feel that they are essential, valued, and knowledgeable partners in the change process; b) individuals feel psychologically safe to try new methods; and c) there is sufficient time and space for reflective thinking and evaluation.

The effectiveness of any implementation programme is expected to vary according to a range of contextual factors such as staff morale and competence, the level of resources and received support for the programme. The organizational environment may prevent individuals from performing their intentions. A supportive culture where learning is valued, associated with transformational leadership, might be an important factor in the implementation and the sustainability of clinical guidelines.

The TPB proposes that it is necessary to identify the belief that promote change behaviour [38]. In our study health-care provider's beliefs and attitudes toward implementation and changing clinical behaviour were identified in the first stage of planning the intervention. Hence, using a theory such as TPB can help to identify barriers and facilitators related to factors influencing the intended behaviour or change of clinical praxis.

Theory can explain the behaviour change or lack of change process. By using theory we can enhance our understanding to identify relevant behaviour change techniques to address behaviour influences and their impact on the desired behaviour [30]. They can address the issue of relevancy and applicability by identifying and measuring

factors influencing practitioners' attitudes and beliefs regarding need to change, and environmental factors. It is important for future development of guidelines to use theory to develop clinical guidelines that are relevant to the audience, behaviour, and context.

6.5.1 Local adaptation

The process of moving efficacious treatments to usual-care settings is complex and may require adaptations of treatments, settings, and systems. There has been substantial discussion about whether new interventions should be implemented with highest fidelity or whether adaptation has to be permitted or encouraged to suit local needs and preferences [123, 124]. In some cases, adaptations might improve outcomes, whereas in other cases, changes might undermine the implementation success. Therefore, it is essential to monitor the types of adaptations that occur instead of treating them as failures of implementation. Few studies have focused on understanding how guidelines can be tailored to the local context of health-care.

Studies have shown that the values and beliefs of the individual adopter influence to what degree the interventions are initiated and integrated into clinical practice [41, 125]. Lack of knowledge about how to plan and conduct an active implementation may contribute to passive distribution methods, and as result clinical guidelines are not being adopted into practice. Our findings indicate that in the absence of a strong organizational support for EBP, providers' attitudes are likely to play a greater role in the adoption and use of EBP. Without the adoption of guidelines by health providers there might not be any influence on health status or health system outcomes.

Adaptation of guidelines for local use is an approach likely to enhance applicability. In the adaptation process of a guideline, attentiveness is given to local context, such as; specific needs, priority, policies and resources.

6.5.2 Facilitation

Facilitation, as described to date, is a complex and multifaceted concept. Facilitation has been conceptualised and applied in various ways in the literature [126]. The term is used loosely and describes a wide variety of activities. This makes it difficult to draw meaningful conclusion about the nature and effectiveness of facilitation as a distinct implementation intervention. Kitson et al. [35] have suggested that factors such as robust evidence, if the context is receptive to change, and if the change process is facilitated are important for successful implementation.

To ensure local adaptation and to facilitate partnership, multidisciplinary implementation teams were established at each intervention clinic since this has been reported as an important factor in the utilization of guidelines and research [98, 127, 128]. The teams were encouraged to involve all staff at the clinic and the intention was to integrate knowledge and action and to increase the understanding of the context and challenges of the local health service. This was seen in the interviews and focus groups performed at the intervention clinic where a high degree of ownership in the implementation process was revealed. Facilitation was used as a model for

change. The effect of the facilitator was to assist the health-care providers in understanding what might be changed and how to achieve the desired results.

6.5.3 Audit and feedback

The interventions included audits and regular feedback, in order to help the local teams monitor implementation. The aim was that local teams would be able to choose the most important areas for intervention. They would also have access to advancement and encourage modifications. Previous studies have reported that this enhances learning and facilitates translation of insight to daily work [129, 130]. The feedback was based on quality indicators that were easy to use and showed a high inter-reliability. The use of the indicators enabled regular feedback on gaps in performance, compared to guidelines. The indicators were all process indicators that had previously been the subject of discussion as to how to use them more effectively in mental health-care, and they were not particularly controversial [131].

Audit and feedback have been reported to be effective in improving professional practice and are likely to be better when baseline adherence to recommended practice is low and when feedback is delivered more intensively [132]. However, little is known from psychiatric contexts, due to lack of studies.

Once the guidelines have been implemented and adopted, audit and feedback may be considered to facilitate sustainability.

6.5.4 Academic detailing and regional network

Other active strategies were that an outside researcher made regular visits to support the local teams and that all involved teams were part of a regional network that held regular meetings. The network was formed to support knowledge sharing, and encourage observation and reflections and facilitate interpersonal relationships. These are factors that have been reported to be of importance for successful implementation [133]. Although the teams worked locally, they were able to learn about organizational culture, implementation techniques, and improvement models from colleagues in the regional network. The goal was to transfer implementation technology into the participating organizations in order to continuously improve each organization's capacity for change.

6.5.5 Leadership and organizational culture

Organizational leadership might be the key to evaluating the needs of the organization, identifying the resources required, and creating a strategic plan for implementation. A supportive organizational culture and the presence of active leaders to guide the implementation and clinical changes were described as facilitators in the interviews. Leaders who failed to develop a practical vision of implementation and change and who were not involved themselves in the implementation process were described as barriers. Amongst participants who less actively supported the implementation of clinical guidelines, key barriers included lack of authoritative support to change and weak leadership. Limited support from

colleagues, supervisors and organizations are frequently reported in the literature as negatively influencing guideline implementation [63]. Pettigrew, Ferlie and McKee [134] have suggested that successful change is more likely to occur in contexts with a supportive organizational culture and leadership.

The resource issue was addressed in the interviews, lack of resources as a barrier was mentioned both at the intervention and the control clinic. Interestingly, only the practitioners at the control clinic mentioned lack of time as a barrier, which is a frequently cited barrier in the literature [63]. The fact that this was not reported at the interviews at the intervention clinic might be due to the fact that the implementation clinic team tried to change and develop practice. It has previously been reported that changes in practice cannot occur without an organized approach which most likely had occurred at the implementation clinic [135].

6.6 METHODOLOGICAL CONSIDERATIONS

This study has several important strengths and limitations. Firstly, data were based on real-world settings and were obtained using multiple sources (i.e., medical records, providers and stakeholders), thus considering effects on provider, clinical as well as patient level. Thirdly, we were able to investigate health-care providers' views of implementation along with implementation efforts. Fourthly, our result showed a sustained change in clinical practice and therefore not only a result of temporal changes in clinical practice. Furthermore, we applied multifaceted implementation strategies based on the research literature. Fifthly, Study III differs from others studies in that we interviewed all members of the multi-professional team at a psychiatric outpatient clinic, rather than only psychiatrists. Few studies have examined barriers and facilitators experienced by other health-care practitioners [136].

To ensure trustworthiness of the findings in the qualitative study all steps were validated by two researchers who first independently, and then together, read and discussed the findings in relation to the aim, original texts and pre-understanding in order to ensure a sound interpretation. To further increase trustworthiness, illustration of the research findings and interpretation of the content were made using the most representative quotations from the informants.

Several limitations should be considered in interpreting our findings. First, we collected health-care providers' perceived facilitators and barriers to guideline implementation and clinical compliance from a small sample of the participants. However, the aim of our focus groups was to identify possible barriers and facilitators, rather than quantify their importance and width. Another limitation was that the patient sample was relatively small. A strict randomized controlled trial was not conducted. In medical research and clinical trails RCT are often regarded as the gold standard. On the other hand, most randomized controlled clinical trials do not represent real life because of strict inclusion criteria. Implementation studies must often be conducted under conditions in which randomized design is difficult or impossible to arrange. It might even be a strength that we applied the implementation programme under realistic clinical conditions and examined patients who normally receive care in this context.

Additionally, the evidence of the guidelines was not evaluated in our study and it is well-known that many clinical guidelines do not meet the internationally accepted criteria of the Appraisal of Guidelines Research & Evaluation Instrument (AGREE) [137].

To attain a deeper understanding of the difference between the intervention and control clinics additional information might be needed. We have not systematically investigated (e.g. barriers scales) individual health-care providers attitudes towards implementation, evidence, and changing clinical behaviour. Furthermore, we have not examined the differences in organisational leadership, learning cultures, system and support in everyday clinical practice in any significant way. It might be worth estimating the extent to which changes are made at difference levels.

In Study I the author of the thesis provided support to start up the audit and gave feedback to care practitioners. Participating departments then developed skills and performed this independently. In order to avoid as much bias as possible in Study III, a research associate at Karolinska Insitutet conducted the in-depth interviews. It has been argued by Malterud [138] that using an approach of multiple researchers might strengthen the study design of a study. As part of triangulation a researcher from outside the context was included.

In Study I and II, a modified audit instrument was used to measure the compliance to clinical guidelines. The instrument has been used and tested concerning validity and reliability in other studies in Sweden.

In Study IV the cost were probably underestimated since not all costs were included, e.g. the costs of suicide attempts and suicide and family costs and informal care costs (help from family and friends).

No statistical power calculation is presented in the four studies. The number of patient records was based on a clinical practice perspective; we estimated the expected number of new depressed patients a clinics and health-care providers would meet during the first study intervention period.

Finally, patient behaviour may affect provider adherence, and we were unable to assess this phenomenon in the present study.

6.7 CONCLUSIONS

To conclude, the main findings of this thesis suggest that compliance to clinical guidelines increased after active implementation as measured by quality indicators in medical records. The two-year follow-up showed persistent change in clinical practice. Additionally, an active implementation programme improved the psychiatric outcomes over a one-year period at a lower cost than standard care.

The findings support that implementation of clinical guidelines is most likely to be successful if there is a active implementation, tailored to local conditions and

supported by a multifaceted strategy that involves more than just traditional passive dissemination.

To our knowledge the first study on guidelines implementation in psychiatric care in Sweden, addressing not only compliance, but also sustainability of change. This is also the first study with a long-term follow-up, demonstrating the impact of guidelines compliance on clinical outcomes.

6.8 CLINICAL IMPLICATIONS

Clinical guidelines can make a substantial contribution to improve health-care but it is important to ensure that they are translated effectively into everyday clinical practice. Getting evidence into practice and implementing clinical guidelines are dependent upon more than practitioners' motivation. There are factors related to the local context - for example, culture and leadership, evaluation, feed-back on performance and facilitation - that are likely to have an influence.

Knowledge about local barriers to using guidelines, providers' attitudes, beliefs and preferences have been identified as important for planning implementation strategies.

Overall, our results may have implications for initiatives to optimize psychiatric care and to implement guidelines.

6.9 FURTHER RESEARCH

There are still many challenges for the implementation field:

- A better understanding of intervention and the mechanism of action is necessary.
- Appropriate study designs to address key implementation questions are needed.
- Can the strong presence of some factors offset the absence of others that would ordinarily promote implementation?
- There is a need for studies investigating guidelines attributes that affects guideline utilization by managers and policy makers.
- Further studies are needed to examine the influence of different contexts on the effectiveness of interventions.
- Further research is also needed to determine which types of implementation strategies have the greatest sustained effect.
- Further research is needed to evaluate the relationships between fidelity, adaptation, and clinical outcome.
- The development of one or more taxonomies of implementation strategies, and barriers. Also an approach to a standardised measurement.

Finally, we encourage researchers to further test, refine and adapt our implementation approach.

6.10 POPULÄRVETENSKAPLIG SAMMANFATTNING

Bakgrund

Många studier har rapporterat att nya forskningsresultat inte rutinmässigt omsätts till daglig praxis. Gapet mellan evidensbaserade riktlinjer för klinisk vård och användandet av dem är välkänd och utbredd. Det har gjorts omfattande forskning kring införandet av ny kunskap som visar att denna process är komplicerad och kunskapen om vad som fungerar är bristfällig. Endast ett fåtal studier har genomförts av implementering av psykiatriska riktlinjer och det finns en brist på studier om de långsiktiga effekterna.

Det övergripande syftet med denna avhandling är att beskriva faktorer av betydelse för implementeringen av kliniska riktlinjer inom psykiatrin, och att bidra till en bättre förståelse av processen.

Metoder

Avhandlingen är uppbyggd kring fyra vetenskapliga delarbeten. I den första och andra delstudien deltog sex psykiatriska kliniker i Stockholm. Vårdprogram för depression och självmordsnära patienter implementerades på fyra enheter under en sexmånaders period och vid ytterligare två enheter delades skriftliga vårdprogram ut till personalen, inga interventioner genomfördes och de fungerade som kontroller. På de implementerande klinikerna utformades lokala riktlinjer och rutiner för hur vårdprogrammet skulle följas. Genom journalgranskning uppskattades sedan följsamheten till vårdprogrammen. I delstudie I ingick 725 patienter, 365 före genomförandet och 360 sex månader efter. Vården och följsamheten utvärderades med hjälp av kvalitetsindikatorer, dvs ett mått på kvaliteten på den vård som gavs. I delstudie II, genomfördes datainsamling 12 och 24 månader efter interventionen vid dessa sex enheter och total 2165 patienter inkluderades i studien. Syftet var att undersöka om eventuella effekter av implementeringen kvarstod under den tvååriga uppföljningsperioden.

Delstudie III var en kvalitativ studie som genomfördes vid en enhet som implementerade vårdprogrammet för depression och vid en av kontrollenheterna. Data samlades in från tre fokusgrupper, före och efter interventionen för att identifiera vårdpersonalens attityder, åsikter och erfarenhet av implementeringen, att arbeta enligt vårdprogrammen och upplevelserna av att förändra sitt arbetssätt.

I delstudie IV ingick tre psykiatriska kliniker, två av klinikerna implementerade depressionsvårdprogrammet och en klinik var kontroll. Vi jämförde effekterna på patientnivå mellan intervention- och kontrollklinik samt beräknade kostnaden.

Resultat

Första delstudien visade att medverkande vårdpersonal vid de enheter som aktivt implementerat vårdprogrammen i större utsträckning registrerade kvalitets-indikatorer i journalerna Vid kontrollenheterna sågs ingen förändring. Andra

delstudien visade att följsamheten förblev hög under den tvååriga uppföljningsperioden. Hos kontrollenheterna sågs inga förändringar.

Den tredje delstudien visade att det fanns skillnader mellan interventions- och kontrollklinik. Tre huvudområden identifierades: (1) personalen uttryckte farhågor om en kontroll kring över sin egna professionella yrkesutövning och arbete, (2) föreställningar om evidensbaserad praktik och arbete, och (3) misstankar om ekonomiska motiv för att börja tillämpa kliniska riktlinjer.

Den fjärde och sista delstudien visade att de personer som fick vård enligt vårdprogrammen i större utsträckning förbättrades än de som inte fick vård enligt de kliniska riklinjerna. Kostnaderna var även lägre för de enheter som aktivt hade infört vårdprogrammen.

Slutsatser

Denna studie visade en betydande förändring av den psykiatriska vården för patienter med depression och personer som söker vård efter ett självmordsförsök efter en aktiv implementering av vårdprogram. En passiv spridning av ett vårdprogram hade inte någon effekt. Om vårdprogram och riktlinjer skall vara användbar i praktiken måste de åtföljas av en aktiv implementeringsstrategi.

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