Maximum Waiting-time Guarantee
- a remedy to long waiting lists?


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Abstract

Lengthy waiting times have been a problem in Swedish health services for many years. In 1992, Sweden implemented a national maximum waiting-time guarantee (MWG) through an agreement between the Swedish Government and the Federation of Swedish County Councils. The “guarantee” assured patients that the waiting time between the decision-to-treat and the treatment itself would not exceed three months. The national MWG covered twelve different treatments/interventions and remained in force for five years. This dissertation describes the genesis of the MWG, its implementation, and its effects.

Four papers serve as a foundation for the dissertation. Paper I describes how the guarantee was implemented during the first two years. Paper II studies the impact that the MWG had on cataract surgery. Paper III uses the results of two questionnaire surveys of department heads to explain why the MWG, although successfully launched, became increasingly difficult to maintain. Paper IV analyses data from the national cataract register to determine how production and waiting times in cataract surgery were affected by termination of the MWG.

This dissertation confirms that waiting time for health care is a complex phenomenon resulting from multiple causes. “Guarantees” are of particular interest because they define what constitutes too long in reference to waiting times. Beyond that, they are only a framework for developing a plan of action. The positive effects of the MWG were transient and based on rationalisation, introduction of new technology, and stricter prioritisation. The MWG contributed towards empowering patients and slowing the expansion of treatment indications, but it was unsuccessful in levelling out the wide regional variations in surgical rates.

Keywords: Health Services Research, Waiting lists, Health Policy, Evaluation, Maximum Waiting-time Guarantee

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To Håkan and Karin
The Original Papers

This dissertation is based on the following papers, which are referred to by their Roman numerals.


Papers I-III were reprinted with permission from the publishers.
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1. Introduction

Waiting Times – The Achilles’ Heel of Health Services in Sweden

Easy access is one of the fundamental demands placed on Swedish health services. Nevertheless, accessibility – mainly in relation to waiting times – is the aspect of Swedish health services with which citizens express greatest dissatisfaction. Countless newspaper articles relate patients’ “stories” about how long they must wait to receive the care promised. Although health care is usually delivered within a reasonable period, most people instinctively react to waiting times in a negative way. Consequently, waiting time can be targeted as the Achilles’ heel of the Swedish health services, and this issue has greatly influenced political debate and health policy in recent decades.

Sweden, however, is not alone in experiencing problems with lengthy waiting times. The Council of Europe and the Organisation for Economic Co-operation and Development (OECD) have both addressed this issue. Not least, our Nordic neighbours have reported major problems with waiting times, and waiting times were probably one of the strongest forces driving the extensive reforms in the health care systems of Norway and Denmark. Other countries, including Great Britain, Spain, the Netherlands, Canada, Australia, and New Zealand, have also wrestled with the problem of long waiting times.

In many countries, the critical importance of this issue has prompted the rapid expansion of research on waiting times and access to health services. The main lines of research focus on theories to explain the causes of waiting times, analyses of the scope and consequences of waiting times, and evaluations of various initiatives aimed at correcting the problem.

As early as the late 1960s, the Swedish National Board of Health and Welfare (NBHW) started to report on waiting times. In 1981, the Board reported that long waiting times were the cause of most complaints in Swedish health services (1). Since that time, the phenomena of “waiting lists and waiting times” have been constant topics for media attention and political action. Various initiatives have been taken at the national level to increase accessibility and shorten waiting times. County councils, hospitals, and clinical departments have also addressed the problem and attempted to remedy long waiting times. Nevertheless, research on waiting times in Swedish health care has been relatively modest and sporadic.
One approach that has dominated in Swedish health policy since the early 1990s has involved various types of “guarantees” for health services, i.e. pledges that waiting times will not exceed a specified period. This dissertation focuses on the first maximum waiting-time guarantee (MWG) that the State and the Federation of Swedish County Councils (FCC) agreed to introduce in 1992. The guarantee was later extended through 1996.

The research that serves as a foundation for this dissertation has been under way for many years and, in many instances, refers to conditions several years in the past. In other contexts, such studies might be considered “outdated”. Waiting times in general, and the reinstatement (November 1, 2005) of a national MWG in particular, remain very real issues in Sweden (2).

My Role in the National Follow-up of the Maximum Waiting-time Guarantee

Contained in the decision to implement the MWG in 1992 was a provision for follow-up studies by the NBHW and the FCC. A special project was initiated for this purpose and I, as an independent consultant, was appointed to be project manager. The MWG was followed up from 1992 to 1995, resulting in three reports published by the NBHW (3,4,5).

The position of project manager obviously presented me with a special research opportunity. I had complete access to the data collected in the national surveys and was present during the national-level discussions concerning the MWG. Data from the national follow-up were used in the information base for three of the papers included in this dissertation.

Issues Addressed in the Dissertation

Access to health care is a classic issue in health services research. According to U.S. health services researcher Ronald Andersen (6) access is the:

“…actual use of personal health services and everything that facilitates or impedes their use. It is the link between health services systems and the populations they serve. Access means not only getting to services but also getting to the right services at the right time to promote improved health outcomes. Conceptualizing and measuring access is the key to understanding and making health policy in a number of ways: (1) predicting use of health services, (2) promoting social justice, and (3) improving effectiveness and efficiency of health service delivery.”

One of the fundamental requirements on health services, according to the Swedish Health Services Act (7), is good access to health care for all citi-
zens. Good access is defined as the provision of care in relation to the needs of citizens, irrespective of their geographic, social, or economic situation. Access is further described in the documentation leading up to the Swedish Health Services Act where it states that “easy access mainly concerns geographic situations … Geographic proximity alone is not sufficient, but must also involve easy access in other respects. These concern primarily the hours that health facilities are open, the on call services, and the waiting lists for health care” (8).

Waiting times are one aspect of access to health care. Other aspects are physical, economic, and conceptual accessibility (9). The weight placed on these various aspects has varied in the Swedish health policy debate. From initially focusing on geographic access in forming the health care system, increasingly greater interest has been directed at waiting times and the public’s perception of the access to and quality of care. An indication of this is the amendment of the Health Services Act, Article 2a, in the mid 1990s; “Every patient seeking health care shall be given a medical evaluation, unless clearly unneeded, of their health condition at the earliest possible opportunity”

This dissertation aims at studying the 1992 MWG, and in particular how it influenced the production and consumption of health services and the changes in waiting times. The following questions are addressed:

1. What were the effects of the 1992 MWG, and how well did these effects coincide with the intended purpose of the MWG?
2. How can the results of the MWG be explained?
3. What lessons can be gained from the 1992 MWG for future interventions against long waiting times for care and treatment?

Health services research is a multidisciplinary field that covers a broad range of activities. Hence, despite numerous attempts, it is difficult to define the boundaries of the field itself (10). The Swedish National Encyclopaedia describes the field as an applied area of research aimed at describing, analysing, and assessing the organisation and function of the health care system. This implies that the studies conducted in this field are usually aimed at practical health care problems as well as policy and management questions (11).

Knowledge and theories from several areas of research have been drawn upon in this dissertation. First, waiting times and access to health services can be viewed as health policy issues related to the management and distribution of health care resources and the public’s consumption of health services. Another field of research on issues of access and waiting times is health economics. Issues concerning the distribution of health care resources are common to both of these areas, but health policy examines the issues from the perspective of system legitimacy and administration while health
economics primarily focuses on the perspective of resource allocation and efficiency.

Waiting times are also related to the organisation, control, and management of an enterprise, which also engages organisational theory, mainly in operational research. Furthermore, the waiting-time issue obviously has a strong association with medical decision making and the application of medical technology and practice.

Finally, since the aim of this dissertation is to assess a health policy reform, there is a clear association with evaluation research and reform policy.

Structure of the Dissertation

To assess the MWG reform, it is necessary to be knowledgeable about how the health care system is controlled and upon which grounds management decisions are made. As a phenomenon, waiting times are a question related to work organisation in health care and related to the distribution of health care resources. Chapter 2 describes waiting times from this perspective. The chapter also provides an overview of research findings on the consequences of waiting time and various strategies to manage long waiting times.

Chapter 3 describes the “environment” from which the MWG emerged. It discusses the experience that was available to deal with waiting times in Swedish health services and the questions that were debated relative to the future development of health services. This description serves as the basis to answer the final question in the chapter, namely: “Why was the MWG decision made at that particular point in time?”

Chapter 4 reviews the development of the content in the MWG. Important documents and decisions are described and commented on. This is followed by a presentation of how the guarantee was extended through annual agreements, and the discussions that were conducted relative to the continuance of the guarantee from 1992 through 1996. Two of the important investigations relative to the MWG – the Swedish Parliamentary Priorities Commission (12) and the Health Services Financing and Organisation Committee (HSU 2000) (13) receive particular attention. The chapter concludes with a summary of events relative to the MWG after 1996, i.e. after the national MWG for the twelve interventions evaluated in this dissertation had been terminated.

The presentation of the history and content of the MWG reform is followed by a description of the methods and Papers I-IV upon which this dissertation is based. Chapter 5 presents the positions I have taken in selecting the evaluation model and the methods for measuring effects. Chapter 6 then presents the data sources used in Papers I-IV. Since there is no standardised method to measure waiting times and waiting lists, a special section de-
scribes how I managed these concerns. In conclusion, the methods used to monitor production and to measure variations in surgical rates are discussed.

Chapter 7 summarises Papers I-IV of the dissertation. The presentation is structured around the various effects of the guarantee that were followed up, i.e. effects on waiting times and waiting lists, effects on production and regional variations, effects on indications and prioritisation, and effects on patients’ freedom of choice and empowerment. The summary concludes with a section focusing on the physicians’ role in the implementation of the MWG.

In the final chapter, I discuss my perspective on how well the guarantee fulfilled its purpose and how its effects can be explained. I also attempt to define the phenomena of the maximum waiting-time guarantee and the experiences from the 1992 MWG that may be valuable in designing new initiatives to address waiting times in Swedish health services.
2. Waiting Times in Theory and Practice

Waiting Time – A Key Issue of Quality with Multiple Dimensions and Many Interested Parties

The Swedish Health Services Act (7) states that health care shall be offered to the population according to need and based on equal terms. Even when the care needs of patients appear to be similar and should be met, individual cases may vary greatly in character and degree of urgency. Some patients require immediate attention while others can wait for shorter or longer periods.

When someone seeks health care, a physician or another professional determines what care to give and how quickly to give it. This decision is based on “science and accepted standards of practice” as well as an evaluation of the resources that can be applied to the specific situation, or resources that are expected to become available within a reasonable time.

For physicians or other caregivers responsible for meeting care needs who are knowledgeable about the course of the disease and the risks involved, it may be obvious that a “wait and see” approach is the best medical decision. However, the patient waiting for treatment has a different perspective, and waiting times can generate substantial anxiety and irritation. In some cases, this dissatisfaction can be resolved through appropriate attention and information. However, dissatisfaction can also lead to demands on the politicians to allocate more resources toward reducing waiting times.

Therefore waiting times have a political dimension since they relate to resource allocation and prioritisation, a medical dimension since long waiting times can lead to deterioration in health and quality of life, and an economic dimension since they can generate costs for health services, the patients, and society at large.

Waiting Times – A Link in Managing the Chain of Care

The starting point for all care is the medical decision-making process where a perceived need for care becomes a specific diagnosis that, when confirmed, is the basis for care and treatment. It is this core process around which health care systems have been constructed to manage the patient’s pathway through the continuum of care. In the chain of decisions following a request for care,
i.e. from the first contact until treatment, waiting times may be more or less apparent links.

Where and by whom the initial decisions are made, and how the care process is designed, depends on the care needs involved and the organisation of the health care system. Generally, a common cold is not treated, while suspected cancer initiates a long chain of events. Primary care is responsible for some needs while hospital resources are required for others. Needs of an acute nature require immediate attention while other needs can wait.

The interventions covered by the maximum waiting time guarantee (MWG) are primarily elective surgical procedures performed at speciality departments in hospitals. The care process for these interventions usually begins in primary care or with a specialist practising outside of the hospital. Also, in contrast to many other countries, Swedish patients often have the opportunity to visit a hospital outpatient department without a referral.

After the initial visit, a referral note is sent to a speciality department at a hospital. The referral is received and assessed, the patient is scheduled for an initial visit based on the priority set when evaluating the referral. Thereafter, various examinations can be started to establish a diagnosis or to prepare for possible treatment. When the diagnostic investigations are complete, a decision is made concerning surgery. The degree of urgency is assessed, and the patient is scheduled for surgery and placed on the waiting list/planning list. Figure 1 illustrates the normal process at a department of surgery.

![Diagram](image.png)

*Figure 1. The care process in elective surgery.*
Elective surgery patients usually wait first for a clinical visit and later for the operation itself. Additional waiting times may appear in conjunction with the different examinations. The MWG in 1992 applied only from the day of the decision to operate until the day of surgery.

The Important Decision – Who Should be Placed on the Waiting List and for How Long?

As early as 1982, Sanderson (14) described the problem that not every patient registered on a waiting list is actually a candidate for surgery. Disorders associated with long waiting times often develop slowly over time and eventually reach the point where the benefits of surgery exceed the risks and discomfort associated with the operation itself. Ideally, a patient would seek health services at that point in time and would immediately receive an operation. However, not every patient who seeks care has reached this “level of severity”. Nevertheless, they might be placed on the waiting list because they will have crossed the treatment threshold when it eventually becomes “their turn”. Sanderson also points out that the treatment indications used to place patients on the waiting list vary according to local practice at the time.

A Swedish study of 15 typical cases referred to orthopaedics (15) support this theory since it found relatively wide variations among specialty physicians regarding the patients they were prepared to receive and how long they estimated a patient could wait for that visit. The variations were greater in cases where the level of urgency was lower and the diagnosis was less specific. The study also showed that the departments with generally short waiting times were more inclined to take referrals and were more prepared to offer shorter waiting times.

Many of the interventions covered by the MWG in 1992 were strongly influenced by new medical technologies. One example is cataract surgery, the subject of two papers developed for this dissertation. This field has advanced, from treating patients who were nearly blind, to using artificial lens replacement even for moderate impairments of visual acuity (Paper IV). Other examples involve developments in anaesthesiology that allow new patient groups to undergo surgery and laparoscopic methods that have reduced the risks of surgery. Advancements in medical technology often widen the indications for treatment, and wider indications lead to greater demand. Furthermore, in most diseases, the less severe the symptoms the greater the “recruitment base” in the population and the greater the pressure on health care resources (16,17).
Balance Between Demand and Supply Determines Waiting Time

Waiting lists and waiting times represent a multifaceted problem. The perceived reasons why problems arise are a function of the level at which the problem is studied and the theoretical perspective one takes. In general, waiting times express that the number of people demanding a particular health service exceeds the number that can receive it given the current supply.

According to economic theory, in a market that operates effectively this kind of situation can be resolved by adjusting the price until a balance is achieved between demand and supply. Since health services are not primarily controlled by a price mechanism, but are strongly regulated and financed by third parties, other control mechanisms apply in this sector. However, some researchers suggest that in a publicly financed health care system without competing producers, waiting times may serve the same function as prices in a marketplace (18).

It is not difficult to understand why the demand side reacts to waiting time as if it were a price. A long waiting time discourages patients who seek care and physicians who refer patients for care (19). The reaction of producers to waiting time as an alternative to price is not equally obvious. In a publicly financed health care system, with budgetary controls, the patient’s reaction to waiting time is seldom of any decisive importance for producers (i.e. physicians, hospitals) in the sense that long waiting times lead to greater supply. However, third-party payers (elected officials) react to waiting time as if it were a price, i.e. long waiting times increase the supply while short waiting times lead to cut-backs. The patients are voters, and long waiting times do not help politicians win elections. This situation has influenced physicians as producers since they, in their dual roles, can influence demand, i.e. supplier-induced demand (20,21). For example, by widening the indications for treatment, waiting lists have been used to negotiate for more resources in the budget-controlled systems that have been the traditional way of distributing resources among services in publicly financed hospitals (22).

Another theoretical point of departure to help explain why waiting times arise is the statistical queuing theory. Again, according to this theory, demand is greater than supply, but the reason for the waiting lists stems from a random demand and timing cannot be controlled (23). Hence, swings in demand that are difficult to match with supply, and waiting lists may appear during peak demand.

Yet another approach similar to the queuing theory comes from operational research. Here, waiting lists are viewed as part of a dynamic system consisting of different “flows” and “stocks” (24). Flow refers to the number of patients that demand care at any given point in time and the number of patients treated at any given point in time. Stock refers to the waiting lists that tend to increase when demand increases, or decrease if production in-
creases. Waiting lists are unchanged in situations where inflow and outflow are equal. Using this perspective a time dimension is added to the equation, and it becomes possible to calculate the effects that increased inflow and outflow can have on the waiting times.

Similar to the flow concept are the more process-oriented models where waiting times are explained in terms of organisation, control, and management. Complicated processes can lead to bottlenecks, e.g. if too many resources are allocated to outpatient activities rather than to surgery. Again, at the end of the day, the focus is on balancing supply and demand.

Consequences of Waiting Times

The introduction to this chapter noted that waiting times have several dimensions. Many of the studies on waiting times have addressed these dimensions and discussed the consequences that waiting times can have for patients and the health care system. Several literature reviews address the consequences of waiting times (25-28) and are summarised briefly below.

The first, and perhaps most serious, consequence is that a long waiting time can negatively affect health and lead to a less favourable outcome from the care delivered. Some studies show that the outcomes of medical interventions are worse when waiting times are long (29) while other studies show that waiting times do not substantially contribute to severe medical consequences, e.g. increased morbidity, worse prognosis, or increased mortality (30,31).

The explanation for the latter conclusion could be, that in most instances, the system successfully “sorts” needs so that this type of effect does not arise. In cases where medical risk would increase during waiting time, there are usually opportunities for patients to be treated on an emergency basis, or be re-prioritised and receive a shorter waiting time (31).

Probably a larger problem is that waiting lists represent a delay in improving the patient’s quality of life and health status (32,33). Most of the interventions that have long waiting time are effective treatments in the sense that they lead to a substantial improvement in health and quality of life. For many patients, a delay in the effects of treatment would cause considerable anxiety and worry during the waiting period (34). Also, waiting for surgery may generate a greater need for assistance from both society and the family. Other effects may be an increase in the need for medication and an increase in medical visits or other contacts that could have been avoided had the waiting time been shorter.

Long waiting times can also mean that patients must be re-examined since their health condition may have changed during the waiting period. Long waiting lists and waiting times require resources that could have been used more effectively. A seldom-discussed problem is that long waiting times and
dissatisfied patients often create a less favourable working climate, which negatively affects both staff and patients (26).

Another negative consequence of waiting times is that many patients on the waiting list cannot carry out their normal activities. For the working segment of the population this means that many must be on sick leave during all, or part, of the waiting time. The magnitude of this production loss is difficult to calculate since it is difficult to distinguish the percentage of sick leave that can be attributed to unnecessarily long waiting time. Furthermore, not everyone on sick leave can return to work after surgery (35). The association between waiting time and the cost of sick leave is therefore often weaker than expected since most patients waiting for surgery are elderly and are no longer employed.

When waiting times receive attention, the focus is usually on their negative consequences. The potentially positive effects of waiting times are seldom addressed. As mentioned previously, from a systems perspective it is easy to observe that waiting times – basically a sign that demand exceeds supply at a given point in time – can serve as a regulator. Since the flow of demand for care is not steady, but can vary substantially over time, the organisation must either be very flexible or excess capacity must be maintained to meet peak demand. A unique study by Feldman (36) attempted to compare the cost of excess capacity with the cost of waiting time. He concluded that the savings realised from accepting some waiting time – and thereby avoiding excess capacity – was substantial.

Another potential benefit of waiting time is that it may give patients an opportunity to think about their situation and prepare themselves for an intervention. Several studies have shown that of the patients on a waiting list, from 20% to 30% and in some cases up to 50%, no longer want to have surgery for a variety of reasons (37,38). Waiting time may also be required to make needed preparations for rehabilitation or post-operative care (39).

Although waiting times can generate administrative costs, they can also lead to more efficient care in the sense that decisions can be re-evaluated. The first evaluation of need is not always accurate. Conditions can change over time, and in retrospect the intervention planned might not be necessary, or even the best option. Waiting times also make it possible to prioritise patients according to need, and thereby resources can be distributed more equitably and effectively.

In summary, waiting times have both positive and negative consequences. The balance is determined by the length of waiting time, combined with the level of urgency, i.e. how successfully the different needs are prioritised. The number of patients affected and the extent to which they accept waiting times are decisive factors. Both Hurst and Siciliani (40) and Harrison and New (27) suggest that, despite many studies on the consequences and costs of waiting times, there is a need for additional studies to achieve a greater basic understanding about the actual magnitude of the problem.
It is difficult to define the actual scope of problem since this assumes that we know the optimum waiting time for each particular care need. OECD, however, reports in their study on waiting times in twelve countries that “there is no international agreement about what are excessive waiting times, but several countries have adopted maximum waiting-time targets of 3-6 months for elective conditions in recent years” (25).

Describing the scope of waiting time requires that these times are measurable. Since definitions and follow-up systems are still developing in most countries this also creates a difficult situation (41).

What is the Scope of the Waiting-time Problem in Swedish Health Care?

Interview surveys referred to as the “Care Barometer” have been conducted by Ipsos-Eureka for 19 county councils since 2001 (42). This is an ongoing survey targeted at a sample (0.5%) of the Swedish population aged 18 years and older. One of the areas addressed by the questionnaire focuses on waiting times and access to care. The survey shows that in 2004, 73% of respondents who had made an outpatient visit to a hospital had waited less than three months from the time of referral. Furthermore, 75% reported that they had waited less than three months between the decision-to-operate and the operation itself, while 12% had waited three to six months and 13% had waited longer than six months.

A national database on waiting times in the Swedish health services has existed since 2002 (43). The database, however, covers only selected services. To examine the scope of waiting time in Sweden, the Federation of Swedish County Councils (FCC), using patients statistics from Östergötland County Council (a medium sized county, population approximately 410 000 inhabitants) estimated what proportion of all patients served had waited a longer period (44). Using the data from Östergötland on the distribution of various waiting times in 2002, it was estimated that 2% of patients that had visited a physician had waited longer than three months. Of those receiving inpatient services an estimated 4% waited longer than three months.

The discrepancy between the two estimates probably arises because the Care Barometer includes only elective care while the data from Östergötland also includes acute care services.

A picture similar to that in Sweden emerges in a Norwegian study from 1995 (45). This data concerned only the somatic segment of inpatient services and showed that approximately 4% had waited longer than six months.

Taking a holistic view, the findings suggest that long waiting times are uncommon, but since health care is a service that affects many people then, nevertheless, many citizens must wait longer periods.
It is also important to note that waiting times from diagnosis to treatment barely exist in the segments of health services where pharmacotherapy is the mode of treatment. For these services, long waiting times are related to the time it takes to conduct various medical examinations and establish a diagnosis. Other problems outside of the scope of the MWG studied here are waiting times for follow-up visits or check-ups. Since health care covers all of these activities they are clearly interdependent, i.e. an expansion in emergency care reduces the resources available for elective care. If health services can be made more efficient, this creates room for expansion in areas with inadequate resources.

International studies on the scope of waiting time in elective care revealed that the most extensive waiting lists are found in the surgical specialties (46). Hip replacement, cataract surgery, and procedures for inguinal hernia, varicose veins, and haemorrhoids are typical examples of waiting time interventions. In addition, there are approximately 10 to 15 different operations that usually report problematic waiting times. Characteristically, these disorders are not directly life threatening (cold surgery), and they slowly become worse over time. They are “low priorities” and often affect the elderly. They are also “routine surgery” and therefore not as challenging and attractive from a professional standpoint. Consequently, Frankel and West wrote the following in their comprehensive review of waiting times; “The question about waiting lists is not simply why are they waiting, it is why are these people with these particular conditions waiting so long to be treated within these specialties?” (47)

A review of the scope of the problem cannot ignore the fact that waiting times for elective surgery are not considered to be a problem in some countries. OECD, in its comprehensive review of the waiting time problem (25), found waiting times to be much less of a problem in Austria, France, Germany, Japan, Luxembourg, Switzerland, and the United States than in Australia, Canada, Denmark, Finland, Great Britain, Ireland, Italy, the Netherlands, Norway, Spain, and Sweden. Using regression analysis and information about waiting times, resources, and output, the authors found that waiting times were negatively correlated to resources and output. It was not possible to show that productivity was higher in the countries without waiting times, although the incentive structure for physicians was found to play a role. Waiting times were shorter when reimbursement was performance-based.

What Do Patients Think About Waiting Times?

The MWG from 1992 specified three months as the maximum waiting time. How does this agree with patients’ perceptions about an acceptable waiting time? Although many studies have addressed the issue on the consequences
of waiting times, few have asked patients about their opinions on how long they think waiting times should be. Most of the studies on waiting times present the general public’s view concerning waiting times for care and treatment. A problem with these studies is that they are based more on the view presented in the media than on actual experiences in contacting health services.

One such study addressed public perceptions on waiting times in different countries (48). In 1999, a sample of 1000 persons were surveyed in Australia, Canada, Great Britain, New Zealand, and the United States concerning what they viewed to be an acceptable waiting time for elective surgery, and the extent to which they were concerned about long waiting times for non-emergent care. The waiting times viewed to be reasonable varied between less than one month in the United States to between three to four months in Great Britain. The percentage of respondents that were very concerned about long waiting times was approximately the same in these two countries; 12% in Great Britain and 14% in the United States. The greatest concern was found in New Zealand where 38% expressed their concern. New Zealanders responded that acceptable waiting time would be one to two months.

In the “Care Barometer”, all respondents who had had contact with health services were asked for their opinions on waiting times. In an analysis of the data from 2001 and 2002 (42), waiting times were compared with the question on whether or not respondents viewed this time to be acceptable. The percentage responding that waiting times were acceptable from the decision-to-operate to the operation itself was 93% among those who waited one month, 78% among those who waited between one and three months, 53% among those who waited between four and six months, and 22% among those who waited over six months.

A Swedish study from 2003 (49) asked patients who had undergone hip replacement surgery, back surgery, or meniscus surgery for their opinions on the waiting time prior to surgery. The results show that most respondents said the waiting time had been acceptable, while slightly less than one third said that it had been too long, and one in ten said that it was unacceptable. Similar results were reported from a Danish study from 1998 (50).

An analysis of data from the Swedish study showed that neither gender nor age had a substantial impact on patient opinions about waiting times. Of more decisive importance were the duration of waiting time and the medical disorders involved. Hence, the average waiting time among respondents who reported “acceptable waiting time” was 4.8 months for hip replacement patients, 1.6 months for back surgery patients, and 1.5 months for meniscus surgery patients. The average waiting time among respondents who reported “unacceptable waiting time” was 7.2 months for hip replacement patients, 6.6 months for back surgery patients, and 2.5 months for meniscus surgery patients.
The survey also included a question on how long the respondents thought that waiting time should be, in general, for the treatments they had been waiting for. In answering the question, the respondents consistently accepted a longer waiting time for themselves than what they viewed as acceptable for others who would undergo a similar operation. These results agreed with findings from the Danish study (50) and also with a cataract survey using a similar question (51).

Waiting Time as a Prioritisation Mechanism

Prioritisation means placing something before something else, to give someone or something priority. Allowing someone to wait is therefore obviously one way to prioritise. Hence, the phenomenon of waiting time has naturally become part of the growing body of research on the prioritisation of health care resources. In Sweden, this association has been rather weak since the prioritisation debate has focused primarily on the ethical grounds upon which priorities should be based and on the disease categories and care needs that should be prioritised (52,53).

However, the importance of waiting times as a prioritisation mechanism becomes increasingly apparent when implementing the more comprehensive prioritisation models. For example, the open prioritisation model that was developed for the Västra Götaland region – in addition to the rank order proposed by the Priorities Commission (53) and a level of urgency – also uses “medically acceptable waiting time” that expresses the number of weeks a particular care need can be allowed to wait from a medical standpoint (54).

The traditional way of expressing the level of urgency has been more implicit and is expressed as urgent, semi-urgent, and non-urgent. How individual physicians interpret the needs of these groups has been concealed and, as discussed earlier, has resulted in wide variations in waiting times for patients with similar needs.

When the demands for equitable and open prioritisation intensified, different ideas emerged on how to make the prioritisation process more systematic (55). Edwards (56) argued, e.g. that an equitable way to ration care by using waiting lists must be based on a system where each patient receives priority based on a “scoring system” that is acceptable to health services. The system should build on evidence-based knowledge about the level of medical urgency, and consideration must be given to things that might negatively affect the quality of life or health status. Likewise, the cost effectiveness of treatment should be weighed into the scoring equation.

Edwards was not the first to raise the idea of using a systematic method to express care needs. As early as 1976, Culyer and Cullis (57) discussed the
need for a structured “admission index” that included both medical and social criteria. The criteria they proposed were:

- Time already spent on the waiting list
- Urgency based on the expected rate of deterioration of the patient’s condition
- Urgency based on the patient’s health status
- Urgency based on the social productivity of the patient and the number of the economic dependants
- Urgency based upon other social factors

For each patient, a score per period – with time already waited used as an exponent – should be calculated.

During the past decade the concepts on scoring systems have been developed and the methods have become increasingly sophisticated. In New Zealand, the actions taken to manage long waiting times are based on a scoring system (58). In England, various scoring systems have been used (55), and similar attempts are under way in Canada (59).

**Approaches – What Has Been Tried?**

There is much to suggest that waiting lists and waiting times cannot or should not be avoided in public health systems where patient fees are low and the incentive structure is weak. Nevertheless, it is important to take action to avoid excessively long waiting times and ineffective utilisation of resources.

As discussed, waiting times arise when an imbalance exists between demand and supply. Hence, the approaches taken can be targeted at either limiting the demand or increasing the supply, or – as in the case of the 1992 MWG – target both sides.

The most obvious approach toward increasing supply is to allocate more resources, and OECD (25) has presented three different examples for implementing this approach: (1) distributing resources in relation to the length of waiting time, (2) distributing resources for extra interventions, (3) distributing resources for extra interventions and achieved waiting-time goals. Generally, the experience of temporarily injecting more resources has only temporarily improved waiting times (25,26,27).

A second approach toward increasing supply is to “purchase capacity” from private or other providers. According to the OECD study (25) this has been tried, e.g. in Australia, England, Spain, New Zealand, and Sweden. An option would be to purchase capacity from other countries, which has been tested in Ireland, Denmark, England, the Netherlands, and Norway (25). Depending on the duration, this type of approach has either temporary or
more long-term effects on waiting times. A potentially negative effect may be the emergence of competition for various categories of staff in areas where shortages already exist.

The third approach toward increasing supply is to increase productivity in the system, i.e. to “get more care out of the money spent”. This may involve everything from extensive structural reorganisation, to local quality improvement programs, to increasing patient turnover and the efficiency of patient flow (60). It can also involve changing the incentive structure by using performance-based reimbursement instead of fixed budgets. An evaluation of a bonus system that was linked to waiting-time targets found this to be a successful way to achieve shorter waiting times (61). The shift to day surgery and new medical technologies has also been an efficient way to increase productivity in elective surgery. Approaches that promote productivity are attractive since they increase capacity in the system without increasing costs, i.e. unit costs decrease. However, it is difficult to find examples where unit costs decrease without an increase in volume (e.g. through widened indications). Hence, this type of approach seldom offers any extra space for reducing waiting times (25).

An approach that is similar to performance-based reimbursement is to give patients the opportunity to select providers and allow the money to follow the patient. This is expected to increase competition among providers and thereby lead to increased productivity. This approach has been tried in, e.g. Denmark, England, Norway, and Sweden (28).

Initially, many of the approaches to address long waiting times were aimed at increasing supply, but later the factors that controlled demand were given a greater role. These approaches mainly attempt to influence the patient’s inclination to demand care and encourage physicians to raise the threshold for patients they put on the waiting list.

An example of a policy to reduce waiting times by influencing demand is the New Zealand scoring system for several of the most common elective operations (62). The scoring system includes factors such as the degree of severity and degree of urgency of the disease, the patient’s living situation as regards work, responsibility for supporting others, and independence. The scoring system determines the rank order among patients. This is linked to resource supply by scheduling a time within six months for all patients who have been selected for surgery. Patients with a low score cannot be given a scheduled time, and are referred back to primary care for “active observation”.

The system was introduced in 1999, and the number of patients on the waiting list that have waited over six months decreased by 50% during the first two years. A new category of patients that are under “observation” has emerged, and the percentage that receives notification on care within six months has increased. Despite the successful results, the system has been criticised for suppressing rightful care needs and for creating “waiting times
for waiting lists”. The scoring system has also been questioned (63) and a re-
evaluation has been called for. However, the method of managing a prob-
lematic waiting list situation has generally been perceived as positive, and
other countries are taking similar approaches by using scoring systems to
control the inflow to waiting lists for elective surgery (55).

Another way to influence demand is to introduce a “gatekeeper” function
and stringent referral rules, or to introduce various economic incentives to
influence the tendency to seek care.

Maximum waiting time guarantees as an approach have a special position
since they directly target waiting times and often contain actions aimed at
both demand and supply (25). Many countries have introduced some form of
maximum waiting-time guarantee/goals. In some cases, the guarantee is
limited to special groups, e.g. those at a certain priority level, and in others it
covers only particular operations or a particular segment in the course of
treatment. Time margins can also vary, e.g. within three months, within six
months, etc.

Norway was the first country to introduce a maximum waiting-time guar-
ante (64), and this solution probably inspired the Swedish debate. Another
conceivable source of inspiration was the so-called “Patients Charter” intro-
duced in the National Health Service in England in 1991 (65). Among the
“rights” covered in the Patients Charter was a waiting-time guarantee of two
years for elective treatment. Denmark was another country that made an
early attempt to introduce a MWG, and in 1993 implemented a guarantee
targeted at a maximum waiting time of three months for surgery. The intro-
duction of a maximum waiting-time guarantee was discussed, and limited
attempts were made in Finland during the early 1990s. However, a national
guarantee was first introduced during the spring of 2005 (66). Canada has
also discussed the introduction of waiting time guarantees (67,68).

The approaches taken to address long waiting times are different in dif-
ferent countries and depend naturally on the organisation and the design of
the health care system, i.e. how the system is controlled and the roles of the
various actors. All control mechanisms are not applicable to all systems.
Furthermore, the design is influenced by other ongoing changes. For exam-
ple, a comparison of maximum waiting-time guarantees in the Nordic coun-
tries (69) clearly shows that they had developed as a part of other ongoing
reforms. In Norway, the guarantee originally was to be used to implement
the priority ranking that had been introduced, while the Swedish guarantee
was part of a policy to enhance patient empowerment, freedom of choice,
and efficiency in the system. In Denmark, the first guarantee focused on
implementing, within a certain time period, “extraordinary surgical activity”
to achieve a general waiting-time goal for surgery within three months. In
Finland, the MWG debate was dominated by discussion on the quality of
care and accessibility throughout the continuum of care.
In conclusion, it should be noted that not all approaches to deal with the waiting time issue necessarily aim at reducing waiting times. As discussed earlier, some waiting time can be motivated. There is also acceptance among the public that some waiting time can be necessary in order for urgent care needs to be treated in time. However, it is important that patients receive attention and have a sense of security during the time they are waiting. Well-functioning management systems and the provision of clear information for patients are major factors in the acceptance of waiting times.
3. Background of the Guarantee

Earlier Initiatives to Address Long Waiting Times

As discussed in the introduction, long waiting times for elective care are not a new phenomenon. The first national initiative to intervene against long waiting times in Sweden appeared in a Government bill in 1987 (70). The bill proposed allocating special resources to increase the number of cataract, hip replacement, and coronary artery operations. The Swedish Parliament passed the bill, and it formed the basis for an agreement between the Ministry of Health and Social Affairs and the Federation of Swedish County Councils (FCC) to provide special funding of 70 million SEK during 1987.

The Government’s bill proposed to establish a “national waiting list” for the three operations. This, however, did not win approval from the county councils. Through a recommendation from the FCC (71), the county councils proposed greater regional collaboration to quickly increase the number of operations and reduce waiting times. By “relaxing” the restrictions on defined catchment areas, differences in waiting times across Sweden were expected to diminish, and it was intended that care should become equally accessible. The National Board of Health and Welfare assessed the effects of the state funding (72), and found that the county councils had been quite restrictive during 1987 in referring their patients to other county councils. Nevertheless, the volume of operations for the three disorders increased strongly, but ultimately only 40 of the 70 million SEK allocated were actually spent.

During 1988 and 1989 the “waiting list initiative” concerning the three operations was continued, but as part of the so-called “Dagmar” agreement. The Dagmar agreement resulted from negotiations between the state and the FCC concerning the transfer and distribution of resources from national sickness insurance fund to the county councils. Since 1985, annual agreements have regulated special national funding to issues considered to be essential for development of health services.

In April 1991, the National Board of Health and Welfare published a report (73) on the initiative to address the three operations. The foreword to the report stated that waiting lists remained for the three types of surgery, and although some counties had a shortfall in production the surgical rates in many counties exceeded the national average. National interventions to address waiting times took on a somewhat different orientation because, in the
1990 Dagmar agreement, the Ministry of Health and Social Affairs and the FCC concurred on a “co-ordinated effort to increase access and capacity in health services”. This effort was later called Dagmar 50, in reference to the 50 million SEK allocated for local initiatives. The agreement also included an extensive national study to address issues related to access and capacity.

The Dagmar 50 project concluded in 1992, and the final report “More Value for Money in Health Care” (74), discussed the collaborative effort based on investigations of six different specialities. As shown in the studies, each of the specialities had their own particular situations and problems, but also some common characteristics. A “benchmarking” approach was used to survey the departments within a speciality, and it revealed major differences in productivity. The report concluded that productivity could be increased within the framework of existing resources.

Another initiative that addressed interventions to shorten waiting times involved special funds (400 million SEK in 1991 and 485 million SEK in 1992) that were allocated for rehabilitation and treatment under the Dagmar agreement. These funds were intended to shorten waiting times for the medical components of rehabilitation so that sick-leave episodes could be reduced (75). Although the target groups for these resources differed somewhat from those included under the maximum waiting-time guarantee (MWG), the funds could be used to invest in and enhance resources in units that also treated patients covered by the guarantee.

A Health System in Trouble

To fully understand the origins and application of the MWG it is important to be aware of the general health care environment and political debate at the time.

From the mid 1980s it had become increasingly obvious that the level of economic resources allocated to health services was insufficient to meet all care needs, despite the strong increase in resources following the World War II. Consequently, health services in Sweden fell under close scrutiny during the late 1980s and early 1990s (76). Increasingly, criticism was directed against the effectiveness of the healthcare system. What did society actually gain from all of the resources expended, and wasn’t productivity much too weak? Patients began to complain that health services were inflexible and paid too little attention to their personal preferences. For example, why were they not allowed to seek care from providers outside of their own county council?

The Dagmar 50 project was one reaction to this criticism. Another reaction occurred late in 1988 when the FCC commissioned a study on the future structure, organisation, and content of health services. The project was entitled “Crossroads – Future Options for Swedish Health Care”, and the final
report was presented in early 1991 (77). This report described the intensive change under way at that time in the various county councils. These changes included decisions by several county councils to give patients the right to choose providers within the county council. Furthermore, one of the health-care regions decided to allow patients to seek care, without a referral, at hospitals in other counties within the region. The final report also noted that maximum waiting-time guarantees, e.g. aimed at assuring the patient’s right to receive a particular operation within three months, had been discussed and were being introduced in some counties. The report presented the following comment about the guarantee: “In practice, this means that some types of interventions receive priority at expense of others”. This viewpoint would continue to appear in the debate on maximum waiting-time guarantees.

Other changes addressed in “Crossroads” included the use of “new public management” that was being instituted in various places in Sweden, i.e. a decentralisation of cost responsibilities and introduction of more market-oriented management systems structured around so-called “purchaser-provider” organisations.

The Medical Technology Revolution

Many technological breakthroughs in medicine occurred in the 1980s. New diagnostic and treatment modalities enabled caregivers to successfully treat health problems that were not manageable previously. This trend represents an important factor underlying many problems related to waiting times. New treatment methods raise demand, and supply must subsequently adapt to this demand to avoid waiting lists. The operations covered by the first waiting-list-related initiatives (cataract, hip replacement, and coronary artery surgery), as with most procedures included under the MWG, involved areas where new technology had revolutionised treatment.

New technologies, e.g. laparoscopic methods, facilitated shorter waiting times, and in some cases eliminated the need for inpatient care. Day surgery and day care were new services introduced in the late 1980s. The first survey on the scope of day surgery in Sweden was conducted in 1990 (78). This report discussed the potential for greatly expanding the use of day surgery in the near future. Hence, major opportunities would arise to increase the utilisation of existing capacity and to increase production without additional resources.

Technological change led to a major shift in the utilisation of hospital resources during the latter half of the 1980s. The number of beds and the number of patient days decreased while admissions increased, and hence the average length of stay decreased (79).
A “Policy Window” Opens

Political science offers various theories to explain why some issues, but not others, are included on the political agenda at a particular point in time. One of these theories suggests that a “policy window” opens, enabling a political decision (80). In the case of the maximum waiting-time guarantee, several conditions probably contributed to opening this window in April 1991.

First, there was a clear understanding of the problem – long waiting times were recognised as a threat and created a risk for undermining the entire health care delivery system and its legitimacy. The strategy of allocating resources to “operate more” was found to be insufficient in solving the problem. It was necessary to exploit all opportunities to use resources efficiently and effectively. Also, it was known that major differences in practice existed among departments, contributing to wide variations in surgery rates, indications, and waiting times across the country. Hence, national intervention became an obvious step.

Second, a solution had already been presented under the title, “maximum waiting-time guarantee”. The concept had a positive connotation and was politically difficult to oppose. Unity among the political parties was compact, and if any political conflict did arise it focused on the question of which party block had been first to propose a guarantee.

The decision concerning the MWG suggested that its origins were rooted in the so-called “Ädel” reform (81), i.e. a reform where the municipalities took over the responsibility for health care and home care of the elderly and disabled. The reform was intended to increase inpatient turnover, and thereby hospital capacity, through earlier discharge of patients to local settings, e.g. home or assisted living, where patients would receive care provided by the municipalities. It was important to use the additional capacity to address care needs where waiting times were long – in other words, to quickly utilise this capacity to solve waiting-list problems.

Finally, and perhaps most important, an election campaign was under way during the time when the guarantee was discussed and finalised. Since all parties were in agreement, it was important to quickly resolve the issue. This is substantiated by the fact that the guarantee decision was made before all of the details had been worked out.

An election was held in September, and resulted in a change in government. Consequently, although a social democratic government ratified the initial decision, a conservative coalition government drew up the final agreement in November 1991.
4. The History of the Guarantee

Maximum Waiting-time Guarantee –
A Political Agreement

The concept of the maximum waiting-time guarantee (MWG) was a politically initiated reform presented originally by the non-socialist bloc of parties. In the Swedish Parliament, the term “guarantee”, in the context of access to health services, was first used in 1987 when it appeared in a bill drafted by the Moderate (conservative) Party. The guarantee proposed was closely associated with patients’ freedom of choice, but mentioned nothing about waiting times. Other proposals to guarantee access to health services, although different in content, soon appeared frequently in public debates on the future of health care. Soon, the guarantee concept found its way into discussions on potential ways to shorten long waiting times to health services (82).

When the decision was made to introduce a national MWG on January 1, 1992, the Stockholm County Council had already decided to introduce a three-month guarantee for cataract surgery and coronary artery bypass grafting (CABG), effective July 1, 1991. Several other county councils held similar discussions. Commenting on the Stockholm MWG in the periodical “Landstingsvälden”, the Chair of the Federation of Swedish County Councils (FCC), Gunnar Hofring (Social Democratic Party) expressed his support for a national guarantee – “A reform including three months as a reasonable waiting limit for surgery can be a natural step forward in our common desire for greater freedom of choice in health care”. He also stated that the Board of the FCC would probably render a decision on this issue by April 1991 (83).

The maximum waiting time guarantee in Sweden is based on an agreement between the Government (Ministry of Health and Social Affairs) and the Federation of Swedish County Councils. The FCC is a body representing the county councils/regions. Its mission is to represent the interests of the county councils/regions and serve as their mutual contracting body on various issues. The county councils (18 counties, 1 municipality, and 2 regions) are the authorities in Sweden that not only plan, direct, and manage health services, but also finance health care through taxation of the citizens residing in their counties (7). This latter feature differentiates health services in Sweden from those in many other countries. The county councils and regions are governed by directly elected bodies that are independent of the State.
On January 1, 2005 the Federation of Swedish County Councils merged with the Swedish Association of Local Authorities to form the Swedish Association of Local Authorities and Regions.

Agreements of this type represent a common steering mechanism in Swedish health services. Hence, the MWG is not imperative in the sense that its application can be subject to litigation. Since the Swedish Health Services Act does not legislate rights, but regulates responsibilities of the State to the citizens, the MWG is rooted in this principle.

Under the agreement, which was included in the so-called “Dagmar” negotiations for 1992, the FCC takes on the responsibility to recommend that the county councils introduce a MWG (84,85). During 1991, all county councils in Sweden adopted this recommendation.

First Decision on a Maximum Waiting-time Guarantee

On April 9, 1991 the Ministry of Health and Social Affairs and the Federation of Swedish County Councils agreed to introduce a maximum waiting time guarantee starting in 1992. The agreement resulted from a parliamentary decision addressing responsibility for delivering service and care to the elderly and disabled, the so-called “Ädel Reform” (81). The reform transferred to the municipalities the financial obligation for hospital patients who were medically ready to be discharged, thereby freeing hospital capacity. It was important to use this available “freed” capacity to reduce the waiting times for elective surgery, and the MWG could help achieve this objective. The agreement included the following points:

- The FCC should recommend that the county councils and member municipalities offer the MWG, starting January 1, 1992. The guarantee would cover more than ten types of treatment/intervention. Three of these should be cataract surgery, hip replacement, and CABG. Inclusion of other types of treatment/intervention would be determined in the autumn of 1991.
- Under the MWG, patients should be offered treatment within three months from the date of the decision to operate/treat and the patient is placed on the waiting list. Patients who cannot be treated within three months should be offered care from another provider in the county council’s health service area, in another county council, or in the private sector.
- The physician who orders the medical intervention should assure that treatment is carried out within the period specified by the guarantee. If the treatment cannot be delivered by the designated provider, the physician – in consultation with the patient and in accordance with the standard referral procedures of the county council – should assure that the patient is re-
ferred to a hospital or other care facility that can provide the treatment within the time guaranteed.

- The county councils should have the responsibility to inform patients and the public about the MWG.
- The FCC should compile and report on the waiting-list situation at different departments and in different county councils.
- The county councils received State funding totalling 500 million SEK to implement the MWG during 1992. The funds were to be distributed based on the population as of December 31, 1990 (60 SEK/capita).

To be enacted, the agreement needed the approval of the Government and the FCC Board. Two days later (April 11, 1991), both the Government and the FCC ratified the agreement.

First Notification from the Federation of Swedish County Councils

A document entitled, “County Councils Meet Patients’ Preferences through Freedom of Choice and a Maximum Waiting-time Guarantee” informed the county councils about the decision of the FCC Board. The document shows that the FCC draws a link between the earlier recommendation for freedom of choice in health care (86) and the recommendation for a maximum waiting time guarantee. The freedom of choice that came into force on January 1, 1991 were intended to increase patients’ influence in health care and to improve the utilisation of capacity by allowing a county council to use available capacity in another county council.

The document cautioned that the guarantee could have negative consequences for patients who were not covered. These patients could experience longer waiting times. Hence, a holistic perspective is important in following up the impact of the MWG. For patients with acute needs, however, longer waits were not anticipated. Patients who potentially faced longer waits included those with chronic conditions (many of whom had substantial nursing needs) and those in need of relatively new technology. By giving a high priority to these needs during a transition period the “peaks” could be levelled out. The MWG was viewed as a policy that could make this possible.

The FCC recommendation included several definitions and descriptions. For instance, patients had the right to refuse an offer of care from another provider. The guarantee required only “an offer” of care within the specified time. Other points highlighted were the importance of commitment among managers and staff and the need to develop uniform indications for the treatments covered under the guarantee.
In the document, the Board of the FCC also discussed management methods that could be useful in achieving the objectives of the MWG. For example, an appropriate method might be to have the individual departments guarantee their waiting-list patients a treatment time within three months. If such a guarantee could not be offered, then the department should refer the patients to facilities where they could be treated more quickly.

Various examples of economic incentives were also discussed, and, e.g. it was stated that a patient’s chance of being admitted in another county council would increase if the clinic offering treatment could be directly reimbursed. In another recommendation the FCC had suggested that county councils should make local agreements, beyond the national agreement, to reimburse elective care outside of the county council.

In the early 1990s, many county councils implemented changes in their management systems. These changes were intended to be market oriented by separating purchasers and providers as the common dominators. The document suggested that the MWG model could be easily integrated with the new changes since purchasers in these systems ruled over a budget that they could use to reimburse either their own, or other, departments. However, the document also mentioned a risk that the traditional budget system could resist the introduction of a guarantee, since the departments would have to draw resources from their own budgets to pay other providers. To avoid this type of negative effect, a special budget was proposed for financing the patients covered by the guarantee.

Finally the issue of travel reimbursement was addressed. Here the FCC noted that the MWG would come into force concurrently with another decision to transfer the financial responsibility for patient travel from the regional social insurance offices to the county councils. This would presumably allow the county councils themselves to determine travel reimbursement for patients under the guarantee.

The notification also stated that the FCC intended to initiate regular surveys of waiting times starting from April 1991.

The Supplementary Decision of Twelve Treatments

The decision specified that the MWG should include over ten types of treatment/intervention. Hip replacement, cataract surgery, and CABG – interventions where national action had already been taken to shorten waiting times – had already been specified in the agreement. During the autumn of 1991 the FCC and the State, in consultation with the county councils, would define other areas.

To develop a foundation for decisions on the treatments to include under the guarantee, the National Board of Health and Welfare (NBHW) and the FCC invited representatives from seven medical specialities and the Swedish
Society of Medicine to the deliberations. Most of the representatives were taken from the six expert groups that had participated since 1989 in a national collaborative project – the so-called “Dagmar 50” project involving the State, the FCC, and Spri – to increase capacity and accessibly in Swedish health services (74).

A Swedish Government Official Report on assistive devices in the late 1980s had investigated accessibility to various types of assistive devices and identified long waiting times for hearing aids (87). Hence, representatives from hearing-related services were also invited to the deliberations on the MWG.

The medical experts were asked to propose one or more areas within their respective specialities for inclusion under the MWG. A treatment or intervention needed to meet the following criteria to be considered for the guarantee:

- waiting times created problems
- treatment methods were well-established
- the results and effects of treatment/intervention are measurable
- the beneficial effect is high.

In addition to the material developed by the expert groups, the FCC asked all county councils to submit viewpoints on which treatments or interventions should be covered under the guarantee.

On November 21, 1991 the Government and the FCC Board determined which areas would be included under the guarantee starting from January 1, 1992. The areas included:

- Investigation and treatment of coronary heart disease, i.e. angiography, coronary artery bypass grafting (CABG), and percutaneous transluminal coronary angioplasty (PTCA)
- Total hip and knee replacement
- Cataract surgery
- Surgery for gallstone diseases
- Surgery for inguinal hernia
- Surgery for benign prostatic hyperplasia
- Surgery for urinary incontinence in women
- Surgery for prolapse of the uterus
- Hearing aid fitting/testing

Hence, the maximum waiting-time guarantee applied to twelve different interventions.

The decision on treatments to be covered under the guarantee also established that despite the foreseen large production increase during 1992 for hip and knee replacement, cataract surgery, and hearing aid testing, the situation
did not allow granting a MWG to everyone needing these interventions. Reasons given included a shortage of staff and the substantial “crowding out” effects that could result from concentrating too many staff resources on the guarantee areas. The supplementary decision also noted that future advice from the National Board of Health and Welfare should provide guidance in determining which patients would be covered by the guarantee.

The care needs that were not to be covered by the MWG were limited to the following patient groups waiting for one of the following four interventions:

- Hip and knee replacement (the indications were the same for both procedures)

Patients with moderate pain could not be guaranteed an operation within three months. These patients can manage their pain with analgesics, and their functional ability is, to various degrees, acceptable. Their capacity to work and to manage activities of daily living (ADL) are not substantially impaired. One indication can be progressive deformity and a poor long-range prognosis in the knee joint. Often the indication for surgery is related to the patient’s desire to perform special activities. This patient group was expected to be relatively small, approximately 15% of the number of hip replacements.

- Cataract surgery

Patients with a visual acuity above 0.5 in the best eye could not be guaranteed an operation within three months. This threshold was not to be strictly applied since visual acuity is not the only indication to be considered. Among the groups that were guaranteed surgery there were also those who, for special medical or social reasons, required more immediate treatment. In the group not covered by the guarantee, which comprised about half of the actual waiting list in 1991, a large percentage were patients waiting to have surgery in the second eye.

- Fitting/testing of hearing aids

Patients covered by the guarantee were: children and adolescents; people with acute hearing impairments, multiple disabilities, and hearing loss that impairs education, job training, or work; people with severe hearing damage (50dB or more in the best ear); and hearing aid users with a non-functional hearing aid and who need a new one.

Patients with other hearing impairments (<50dB) were not covered by the guarantee. Hence, mainly pensioners with moderate hearing impairment were not guaranteed a hearing aid within three months.
The FCC and NBHW acknowledged that a major effort was required to shorten the waiting lists during the first months of the year. They were also aware that despite a substantial commitment, it would not be possible to offer sufficient capacity to completely meet the guarantee during the first part of the year. The parties also agreed that every county council should make their resources available based on the need motivated by the patient’s situation, irrespective of the patient’s place of residence.

Again it was emphasised that the effects of the guarantee must be followed up jointly by the National Board of Health and Welfare and the Federation of Swedish County Councils. A preliminary report in the autumn of 1992 would lay the foundation for a decision concerning possible continuation of the guarantee system.

Recommendation by the Federation of Swedish County Councils

In late November 1992, the Board of Directors of the Federation of Swedish County Councils (FCC) formally decided (88) to introduce the guarantee for the twelve different interventions.

A memorandum sent to the county councils included information on applying the guarantee. As regards indications and prioritisation of patients, the county councils were referred to the guidelines developed by the National Board of Health and Welfare (89). Furthermore, attending physicians should use these guidelines in evaluating a patient’s general situation before offering specific interventions, and physicians must give complete and comprehensible information before a patient can accept or reject an offer of treatment.

It was also noted that attending physicians, or audiology technicians, would, in practice, be the ones responsible for applying the guarantee as intended.

An important issue for the county councils involved how to prioritise patients from other county councils relative to their own patients. The memorandum noted that by adopting the MWG recommendation the county councils “agreed to make their resources available – regardless of the patients place of residence – in rank order as motivated by the patients situation. Under the guarantee, non-prioritised patients residing in the county cannot be given access ahead of patients referred from other counties”.

The memorandum also asked the rhetorical question – “What is required of the county council to fulfil the maximum waiting time guarantee?” Recognising the wide local variations, the FCC memorandum stated that county councils with moderate waiting times are required to accept patients from county councils with longer waiting times. This was intended to serve the
goal of equitable care throughout Sweden. Although substantial increases in production were required for some interventions, these interventions were not specified. Rather, the memorandum discusses how production should be increased. It notes that the departments must review their organisations and assess whether they have an optimal distribution between acute and elective interventions and between outpatient and inpatient services. The document refers to the MWG as a challenge for Swedish health services, and highlights the importance of informing and involving physicians and other caregivers as regards the treatment indication guidelines issued by the National Board of Health and Welfare. The county councils must encourage the clinical departments to review and actively work to shorten their waiting lists.

Despite the different proposed actions, initially it could be difficult to offer the guarantee to everyone. In particular, problems could be anticipated during the summer months when production is traditionally lower.

Advisory Information from the National Board of Health and Welfare and a Brochure to the General Public

At nearly the same time as the FCC memorandum was sent to the county councils, the NBHW published its advisory information for applying the guarantee in health services (89). Most of this information consisted of reviewing the interventions covered under the MWG. In each area, the current situation was presented in terms of development and diffusion of technology, its impact on indications and demand, historical trends in volume and waiting lists, and projections of future need. This information provided a foundation for the guidelines in each particular area of intervention.

The advisory information also included a section on patients’ rights describing how the guarantee harmonised with legislation and practice as regards freedom of choice and care from external providers. Further clarification is given about medical responsibility when patients elect to receive treatment at another department. It states that even if a patient chooses to be treated at another department, the referring department shall, if the patient so desires, still be responsible for follow-up and ongoing contact. Medical responsibility for the intervention, however, rests with the physician providing the treatment/surgery. The information also explains that the principle of free choice overrides the MWG, i.e. even when treatment can be offered within three months the patient has the right to select another provider. Finally, the patient should not have the right to be on two or more waiting lists concurrently, and attending physicians should not contribute to such a practice.

Something not mentioned in the FCC recommendations was that waiting lists and waiting times always concern prioritisation, and that some waiting
lists are intentional. In its advisory information, the NBHW states that “Each care unit must maintain planning lists to assure a steady flow of patients for clinical visits and for admission, diagnosis, and surgery. Otherwise, health services would always be in need of over-capacity, resulting in substantial economic costs to society.”

Furthermore, the advisory information states that treatment indications are important in selecting patients so that patients with the greatest needs receive care. These indications are particularly important in the areas covered by the guarantee since these interventions are at risk for widening indications. Wider indications could lead to denying care to other groups, care that they have a right to. To avoid adverse developments of this type, the National Board of Health and Welfare should monitor the implementation of the guarantee system.

In January 1992, the FCC and the NBHW published a folder with “Ten Questions and Answers About the Maximum Waiting-time Guarantee”. The folder was aimed at the public and was distributed free-of-charge via pharmacies and health care facilities.

**Maximum Waiting-time Guarantee and the Dagmar Agreements 1992 to 1997**

In December 1992, the first report from the follow-up of the MWG was presented, based on data from the FCC survey covering January to August 1992 (90). The report showed that the number on waiting lists had decreased, waiting times also had decreased, and production had increased. News clippings showed that the guarantee had been successful, and a survey at the end of summer showed that few clinics reported waiting times exceeding three months for new patients. In early October 1992, the Minister of Health and Social Affairs, Bo Könberg, stated in a newspaper interview that “The maximum waiting-time guarantee had been at least as successful as we had hoped for.” (91).

Because of the results, it was decided to extend the guarantee another year via the Dagmar agreement for 1993 (92). However, extra resources were not allocated for the guarantee, and the agreement noted that a forthcoming evaluation would guide the way for decisions by the county councils. The FCC also surveyed the county councils concerning their preferences on expanding the guarantee starting in 1993. Although the national guarantee was not changed in 1993, the Malmöhus County Council expanded the guarantee to cover all treatments.

In 1993, signals began to appear that the guarantee could no longer be upheld. Follow-up of the guarantee in 1993 (4) showed tendencies toward longer waiting lists once again. Generally, however, the improved situation
had been maintained, and a FCC survey in late 1993 showed that most de-
partments estimated that waiting times could be held down even though pro-
duction had not increased.

In the Dagmar negotiations of December 1993, the parties again referred
to the positive experiences, and the FCC recommended that the county
councils continue the guarantee in 1994. The FCC decision (94) stated that
several county councils had started to supplement the national guarantee by
including other groups, something that the FCC supported in view of the
differences among county councils.

The image of the MWG as a solution to waiting lists in health services
started to become increasingly blurred, and signals began to appear from
various counties throughout Sweden that the guarantee could no longer be
maintained. Cutbacks in hospital beds and staff had occurred, and in many
places the medical departments had been experiencing constant overutilisa-
tion. At the annual meeting of the FCC in March 1994, a motion was pro-
posed to expand the MWG to cover more treatments, so that ultimately it
would cover all health care interventions. The motion was, however, rejected
owing to the fact that each county council was free to decide on supplement-
ing the national guarantee.

The Dagmar agreement in 1995 again extended the 1992 guarantee. It was
noted that an expansion would be desirable so that everyone could be offered
treatment within three months, and that it would be desirable to include sev-
eral additional areas in the agreement for the year. However, this required
preparation that could not be carried out. Each county council was therefore
couraged to decide on possible expansions of the guarantee. However, the
parties agreed to study, during 1995, how to successively expand the MWG.

In the decision by Federation of Swedish County Councils (95) on the
MWG for 1995, the FCC secretariat was assigned “to develop information
before the Board meeting in August 1995 for a discussion on, and a descrip-
tion of, the consequences of an expanded MWG”. The county councils were
surveyed concerning the design of current guarantees and viewpoints on
possible continuation of the MWG in 1995 (95). The survey showed that 16
of the 24 county councils followed the recommended national MWG, while
the others had made decisions on various types of expansion, e.g. ranging
from specific diagnostic groups to a general guarantee for all interventions.

The second question in the survey asked whether there were areas outside
of the guaranteed interventions where patients “generally wait longer than
three months and, if so, do medical experts find that the waiting times nega-
tively affect the patients prognosis, or are unacceptable for other reasons?”
The responses to this question include many examples of areas with long
waiting times. Several county councils reported a few problem areas while
others reported more extensive problems. For example, the city of Gothen-
burg reported the following: “Waiting times are longer for 41 different inter-
ventions at seven different departments and two hospitals. Waiting times
vary between 14 weeks (gastroscopy) to 156 weeks (varicose veins). Generally, long waiting times mean suffering for the patient, and serious conditions with risks for deteriorating health must be given priority”.

Regarding the question of whether there should continue to be a central, i.e. national, MWG for some interventions, eight county councils responded “yes”, eleven “no”, and four “undecided”. Few of those who wanted to continue the guarantee held the opinion that the guarantee should remain unchanged, but they wanted the issue to be regulated nationally. However, their preference was for a more general guarantee that covered the entire continuum of care, and eventually all disease conditions. Those who did not favour a national guarantee felt that local needs should be the determining factors. Furthermore, they expressed a possible danger of “crowding out” other groups not covered by the guarantee. Several respondents referred to the report from the Priorities Commission (96), and noted that the major problem for the health services involves care for chronic diseases. One respondent suggested that it would be better to enhance patient’s rights either through a local “catalogue of patients rights” or through legislation. Among the respondents who were positive toward continuing the national guarantee, all but one favoured an agreement between the state and the FCC, while one county council preferred the development of guidelines.

Based on the survey, the FCC developed a memorandum for discussion entitled “Description and Consequences of Expanding the Maximum Waiting-time Guarantee” (97). This memorandum stated that “the maximum waiting-time guarantee was developed due to the problematic waiting-list situation for certain health care interventions. It was not based on a discussion of political or medical priorities in health care.” Hence, if there were to be changes in the guarantee it would be important to define the objectives that should be achieved. “Should the guarantee be a ‘spotlight’ that focuses on current problems – especially the waiting-list problem – and if so, how long should we focus on each specific problem? Or should the guarantee express certain values of the county councils? Are there health services that patients should be guaranteed under any circumstances and, if so, which ones?” The memorandum concluded with a statement that the present guarantee was outdated since the problem had changed. Hence, any future guarantees should be designed differently.

In December 1995, the Ministry of Health and Social Affairs and the FCC signed the Dagmar agreement for 1996 (98). The agreement stated, “The current maximum waiting time guarantee (MWG) was designed in 1991 for a particular reason – to solve certain problems with waiting lists in health care. Follow-up and evaluation show that its main purpose has been achieved – waiting lists and waiting times in the targeted areas have been shortened. There are, however, indications that waiting times in several guaranteed areas are increasing. But waiting times that exceed the guarantee time may be, and often are, due to reasons other than deficiencies in accessi-
bility”. Thereafter, it mentions the importance of improving accessibility for all patients and considering the entire continuum of care, and that the patient’s position can be further strengthened in this context. This, along with the proposal from the Priorities Commission (99) to address the needs of patients with severe chronic diseases, led to a statement that the MWG should be developed while maintaining the original guarantee during a transition phase. The expressed aim of the expansion is to initiate a process that will eventually lead to replacing the previous guarantee with a guarantee that “meets the important care needs of all patient groups within a reasonable time frame while concurrently strengthening the position of the individual”.

The expanded guarantee provided that patients would have same-day contact with staff in primary care, that patients who wanted to visit a GP would not need to wait more than eight days, and that patients who did not receive a definitive diagnosis, and were referred to a specialist, would not need to wait more than four weeks for their first visit.

In response to the Priorities Commission, the 1996 agreement included a decision to establish care contracts with patients having severe chronic diseases. The contracts would guarantee patients a defined standard of care. This standard of care would establish content, quality, and reasonable waiting times based on special clinical guidelines that could be established either nationally or locally. The NBHW would be responsible to develop the national guidelines, and in March 1996 the first clinical guidelines for diabetes were to be published.

Concurrently with the conclusion of the Dagmar negotiations in December 1995, a labour conflict resulted in a strike by nurses, among others. In the minutes recorded in negotiating the agreement, the FCC had included a reservation that labour strikes could lead to longer waiting times and that the agreement could not be fulfilled. In February 1996, the FCC issued a memorandum entitled “Maximum Waiting-time Guarantee and Health Care Resources” (100). It reported that the number of operations in the areas under the guarantee had decreased by 5% during 1995, and the number waiting at the end of 1995 was higher than when the guarantee had come into force. The memorandum presented, for the first time, an attempt to calculate costs for the areas under the guarantee. Weights for Diagnosis Related Groups (DRG) were used in calculating costs, which were estimated at 3.5 billion SEK and corresponded to 6% of all costs for county and regional health services in Sweden. The patients on the waiting list at the end of 1995 represented a cost of 1.1 billion SEK, and an additional 290 million SEK would be needed to achieve reasonable waiting times. Half of that sum – 150 million SEK – resulted from delayed operations, e.g. caused by the strike. In conclusion, it was proposed that the FCC should begin negotiations with the State on the possibilities to meet the guarantee and the resource needs of the health service.
The 1992 guarantee terminated with the Dagmar agreement in 1997. However, the guarantee that regulated waiting times to primary care and visits to specialists was maintained. The intent of the agreement was to further empower patients by improving patient information and by intensifying the effort to develop national guidelines, local clinical guidelines, and individual agreements.

The FCC Board was, however, not unanimous in their decision to terminate the “old” guarantee. The conservative parties opposed the decision since they believed that the instruments replacing the guarantee were no more than weak objectives targeting waiting times for surgery or other specialised services. They did not oppose the development of clinical guidelines or national guidelines, but believed that it was important for patients to receive clear information on what they could demand from health services, and that time frames – such as those in the original guarantee – were needed.


As stated in the earlier discussion on the theory and practice of waiting times, access can be addressed either by increasing efficiency and utilisation of resources, or by reducing demand through rationing or prioritisation. When the MWG decision was made, prioritisation in health care had already been discussed for many years, and different approaches toward prioritising services had been tested elsewhere in the world (101). One approach involved the formation of priority lists to guide medical decision-makers in determining who would receive care first and who would need to wait.

Norway was one of the first countries to place the prioritisation issue on the national agenda. In the mid 1980s a committee was appointed (102) to develop a priority list for health services in Norway. A proposed list was presented in 1987 and accepted by the Norwegian Parliament in 1988 (103). The priority list later formed the basis for a project to standardise hospital waiting lists and eventually the guarantee in Norwegian health services that began in 1990 (64).

A national project of this type had not been conducted prior to making the decision on the guarantee in Sweden. However, the prioritisation issue had been on the political agenda for years, and several county councils had actively worked toward developing various prioritisation models (54,104,105).

Only a few months after the non-socialist government came into power in 1992 it directed a commission (the Swedish Parliamentary Priorities Commission) to investigate prioritisation in Swedish health services. Just over a year later the commission published its first report (96), presenting the pre-
liminary findings on a Swedish prioritisation model. The report was intended to serve as a basis for a broad debate and consideration prior to the final proposal and recommendations. One of the conclusions from the investigation was: “The MWG has contributed toward efficiency, but has strongly prioritised interventions for several of the selected diagnoses. Since the guarantee has been extended without allocating additional resources, it is important to closely monitor the trends so that it does not “crowd out” other interventions.”

The final report from the commission was published in March 1995 (99). In reference to the MWG, it stated that the interventions covered by the guarantee may be important, but they are not the most highly prioritised according to the findings of the Priorities Commission. It also stated that: “Guarantees that address only waiting times are of little value for most patients with severe chronic diseases and those receiving care in the final phase of life, i.e. the weakest, most exposed groups, who have the greatest care needs.” As mentioned above, the findings of the Priorities Commission played a major role in terminating the 1992 national guarantee.

Concurrently with the Government’s directive to the Priorities Commission (12), a parliamentary committee was appointed to investigate issues related to health services financing and organisation (HSU 2000) (13). In this context, several expert reports were submitted by the autumn of 1994. None of these directly tackled the issue of waiting times and access to care. In conjunction with the change of Government in late 1994, the committee was changed and received new directives. Among the issues to be investigated were patient empowerment and patient rights.

The committee presented its findings in the report “Patient Rights”, 1997 (106). It specifically addressed accessibility, and in regard to waiting times stated: “There are compelling reasons not to regulate access to care by legislating time frames. Rather, we should build on the system of agreements between the State and the county councils that has developed within the framework of the Dagmar negotiations. The system is flexible and can adapt to current needs and resources in health care. Among politicians at the national and local levels, it creates a unified view on health policy goals and trends. The maximum waiting-time guarantee should, however, be developed for the purpose of further empowering patients”. The committee also suggested that guarantees lacking specified time frames for care may be perceived as vague, and it was essential to quickly initiate preliminary work to introduce a general guarantee on waiting times for all treatments in the 1999 Dagmar agreement.

Two of the committee members disagreed with the suggestion from the HSU 2000 Committee and claimed that legislation would be necessary if the State and county councils failed to agree on this issue. Two other members were opposed to the proposal for a MWG. They stated that this was probably the proposal from the HSU 2000 Committee that would have the greatest
impact on costs and therefore it should have been supported with cost estimates.

While the report on patients’ rights was circulating for review and comment, several respondents emphasised the importance of thoroughly studying the proposal of a general treatment guarantee since several complex issues needed to be defined. Hence, in the 1999 Dagmar agreement, the parties agreed to investigate the conditions related to such a guarantee. The Ministry of Health and Social Affairs assigned the National Board of Health and Welfare to investigate this issue.

After thoroughly studying the issue, the NBHW recommended that a treatment guarantee should not be introduced in Swedish health services given the current situation (17). There was concern about the major risk of establishing the wrong priorities since the guarantee focused only on parts of the health care continuum and on areas where waiting lists are visible. Another concern with the treatment guarantee was that it would require excessive resources and was unrealistic given the shortage of trained specialists. Criticism was also levelled at the guarantees already in place in some county councils because they could lead to the wrong priorities and could damage the credibility of the county councils – since the MWGs could not be fully implemented, i.e. patients could not be guaranteed care within the maximum waiting time.

The report also stated that not only one, but many factors were responsible for long waiting times, and consequently there was more than one solution. Given this background, the proposed actions for managing long waiting times were to enhance capacity, expand patients’ freedom of choice and information about current waiting times, improve follow-up of waiting times, develop uniform treatment indications and priorities, and increase financial collaboration between health services and the social insurance system.

**Maximum Waiting-time Guarantee After 1997**

Since termination of the MWG for the twelve interventions there has been discussion about reintroducing a guarantee for treatment, and the issue of accessibility continued to be a central theme in the Dagmar agreements. Waiting-time guarantees related to primary care visits and referrals to specialists have been part of the agreement from the outset. Otherwise, the thrust of the agreements has been in line with proposals from the NBHW. Hence, the agreements focused on strengthening patients’ rights, information, and freedom of choice. A long-term effort to improve follow-up of waiting times has been part of the agreements, as has support for developing national guidelines for treating various groups of patients. The need for
methods to support qualified local efforts to solve accessibility problems has been highlighted and special resources have been allocated.

Between 2002 and 2004 the county councils received special subsidies to improve access to health services, the so-called “Accessibility Agreement” (107). However, this agreement did not include a commitment for a national treatment guarantee. The county councils, at the 2003 annual meeting of the Federation of Swedish County Councils, took a positive stand toward expanding the existing primary care and first visit guarantee to include a waiting time guarantee for treatment. A guarantee that requires the county councils to offer treatment within 90 days of the decision-to-treat will come into force on November 1, 2005. Details related to implementing the guarantee were worked out in a special agreement between the State and the FCC in February 2005 (2).
5. Methodological Considerations

Goal-based Evaluation Model

This dissertation assesses the effects of the 1992 maximum waiting-time guarantee (MWG). The core questions, presented in Chapter 1, focus on explaining the effects of the MWG and drawing conclusions that can be valuable in future efforts to manage waiting times in health care.

Political scientist Evert Vedung, in an extensive review of methods for assessing reforms, offers the following definition of the concept of evaluation; “Thorough retrospective evaluation of results, performance, or management of public activities that are found to play a role in practical decision situations” (108).

Among the different evaluation models that Vedung discusses, the “goal achievement model” is the one that most clearly reflects the questions pursued in this dissertation. In other words, the MWG will be evaluated based on how well the results produced correspond to the objectives defined at the outset.

Discussions leading up to the MWG decision considered the potential negative effects that the guarantee could have on the patient groups and care needs that were not covered. To address these “adverse” effects I will be using a variant of the goal achievement model called the “adverse effects model” (Figure 2) since it is best suited to my evaluation of the MWG. The evaluation includes an analysis of the relationship between resource inputs and results. This relationship is analysed by studying the actual implementation of the guarantee, i.e. delivery of care by the organisations responsible for fulfilling the guarantee.

Alternative approaches in assessing the MWG might have been to explicitly study how the guarantee influenced the patient’s situation, so-called “user-oriented evaluation”, or to focus on how the guarantee influenced the various stakeholders in health care. Since the goal of the guarantee concerns a quality issue of importance to patients, i.e. waiting time – and since patient empowerment is one of the instruments inherent in the guarantee – users’ interests will also be examined to some extent, even though none of the studies focused directly on patients.

In some respects, the evaluation also considers other stakeholders’ interests since follow-up on the implementation of the MWG includes a discussion on how the guarantee affected the medical profession.
In contrast to economic evaluation models, a weakness with goal-based evaluations is that they do not consider costs, i.e. consider the results in relation to the sacrifices. Hence, it is difficult to discuss the extent to which the reform has increased organisational productivity and efficiency. Estimates of total costs or cost savings relative to the guarantee would have required an extensive, and nearly impossible, effort since the effects of the guarantee are difficult to distinguish from the effects of other changes. An attempt was made, however, to estimate the level of funding received by various organisations (109,110). However, the extent to which these subsidies cover the actual costs is difficult to determine. Hence, an economic analysis of costs and revenues is not included.

An important aspect of the MWG decision statement is the expectation that the reform would improve resource utilisation, i.e. increase productivity, since the freedom to choose a provider would, in turn, lead utilising the “free” capacity available. If one also assumes that shorter waiting times and increased production demonstrate a higher level of goal achievement, the MWGs impact on productivity and efficiency would also be covered, at least in part, by a goal-based evaluation model.

![Figure 2. Goal achievement model of evaluation including adverse effects.](Source: ref. 108)

Maximum Waiting-time Guarantee Goals and Resources

Obviously, the goal of the MWG was to shorten waiting times. However, the descriptions of the intended scope of the MWG show that it was also ex-
pected to improve health care resource utilisation and equity. Another, albeit implied, goal was to further empower patients by giving them the option to choose their care provider.

The management instruments contained in the MWG were regulations (i.e. maximum three-month wait for care, increased freedom of choice, indications) and economic incentives (i.e. special funds for county councils, payment for patients receiving care from other providers). A control instrument was also included (i.e. monitoring, regular statistical reporting).

The background documentation also specifies several measures that needed to be implemented locally to achieve the MWG goal. The first was to increase production by utilising free capacity, applying new technology, and improving administration and collaboration among the county councils. The second was to inform patients about waiting times and their right to change providers in order to engage unutilised capacity. Free choice was also expected to have an impact on competition among providers and increase efficiency in resource utilisation. Finally, providers were expected to adjust the indications for treatments covered by the guarantee, which should lead to limitations in access to care for certain groups and to level out regional variations in surgical rates. Figure 3 summarises the goals and resources of the MWG.

Figure 3. Maximum Waiting-time Guarantee goals and means.
Time Perspective: Before – During – After the Maximum Waiting-time Guarantee

To answer the questions raised in this dissertation it must be possible to systematically measure the effects of the MWG. The three initial studies (Papers I, II, and III) take a “before-and-during” perspective, i.e. they compare the situation prior to introduction of the guarantee with the situation during its implementation. The termination of the guarantee in 1997 made it possible to also use a “during-and-after” perspective (Paper IV) to assess the effects of the MWG.

An important methodological question associated with the comparative perspective concerns the optimum points in time for studying the effects of a reform. Decisions to implement a reform are usually made after the issue has been discussed for some time, and usually a period of time separates the decision and the actual implementation. During this period, those affected by the reform can begin to prepare for implementation. Hence, the reform may have some effects even before it comes into force.

Formally, the MWG became effective on January 1, 1992. The decision to implement a MWG, however, was made in April 1991. Consequently, the departments/units and hospitals affected had a relatively long period to prepare for implementation. Hence, 1991 was considered an “interim year” where the guarantee both existed and did not exist. The analysis presented here considers the years through 1990 as “before” the MWG, the years from 1992 through 1996 as “during” the MWG, and the years from 1997 onward as “after” the MWG.

Methods to Measure Effects

An important question in assessing social reforms concerns the causality between the reform and its claimed effects. How does one determine whether the observed changes are actually a result of the reform itself and would not have occurred anyway, or if the changes are a result of other concurrent events? Obviously, it is difficult to identify the actual determinants of change, especially in the case of the MWG where change occurred over a longer period.

This evaluation investigates the relationship between “interventions” and “effects” mainly through a descriptive comparison of production and waiting times related to the treatments covered by the guarantee. Questionnaire surveys of those involved in implementing the reform were also used to study the effects of the guarantee.

The policy goals behind the MWG required providers to implement the changes. Paper III follows the implementation of the MWG to better understand its course of development. Attending physicians were those mainly
responsible for the practical implementation of the guarantee. Heads of the departments/units affected by the guarantee were surveyed on two occasions, in 1993 and 1994 (109,110). Using this material and a model developed by Lundqvist (111), the implementation of the guarantee was studied in terms of physicians’ (1) understanding of MWG goals, (2) opportunities to implement necessary changes, and (3) will to implement the changes.

Two investigations of trends in cataract surgery were conducted (Paper II and Paper IV) to more fully describe the effects of the guarantee. Cataract surgery was chosen because it is the only operation for which there is a comprehensive national register of actual waiting times (112). The register – initiated as part of the national MWG follow-up (5) – also contains data on indications for surgery. These data made it possible to monitor how patients are prioritised and whether the indications for surgery are changing.
6. Material and Measurement Methods

The following three sources provided most of the data for the papers in the dissertation (Papers I-IV):

1. Surveys by the Federation of Swedish County Councils (FCC) of actual waiting times, patients on the waiting list, and other indicators
2. Two surveys of department heads
3. The national cataract register

Surveys by the Federation of Swedish County Councils of Actual Waiting Times, Patients on the Waiting List, and Other Indicators

As noted earlier, the National Board of Health and Welfare (NBHW) started to monitor waiting times in the late 1960s, but terminated this activity in the early 1970s. From 1987 through 1989, however, the NBHW monitored cataract surgery, hip replacement, and coronary artery bypass grafting (CABG) in conjunction with special funding to shorten waiting lists for these services (73). As part of the so-called “Dagmar 50” project there was an attempt to measure waiting times among several of the six specialties involved (74). Since 1991, when patients were given broader freedom of choice in health care, data concerning waiting lists and waiting times have been compiled in some parts of Sweden. When the maximum waiting-time guarantee (MWG) was introduced, there were no national statistics on waiting times in Sweden.

In its decision to introduce the MWG, the Federation of Swedish County Councils (FCC), stated its intent to monitor waiting times for the treatments covered by the guarantee. The first survey was conducted in the spring of 1991, and thereafter waiting times were surveyed regularly through the end of 1996.

Data on waiting times were collected via special questionnaires sent to the hospital departments/units that offered the treatments covered by the guarantee (approximately 380 departments/units). Data collected via the survey included;
the number of patients on the waiting list (where appropriate, divided into 
patients “covered” versus “not covered” by the guarantee)
- the number who had waited longer than three months
- the estimated waiting time for the next patient
- the number of operations/treatments provided during the past year.

The first survey was performed in conjunction with the decision to introduce 
the guarantee, i.e. spring 1991. The survey focused on the situation at the 
end of April, and was part of the effort to determine which areas would be 
covered by the forthcoming MWG. Hence, it did not include all of the inter-
ventions that would be covered by the guarantee. Data from this survey were 
not included in the studies for this dissertation.

The next survey focused on the situation at the end of August 1991. This 
survey included nine of the interventions covered by the guarantee. An addi-
tional survey was conducted at the end of September for coronary angiogra-
phy, PTCA, and hearing aid fitting/testing – the three interventions that were 
last to be included on the MWG list. The first survey to include all of the 
interventions was conducted at the end of 1991, but the data only covered 
the number of patients on the waiting list. By the end of April 1992 the sur-
vey instruments had been finalised. Thereafter, surveys were conducted at 
the end of December from 1992 to 1997, and on August 31 in 1992 and 
1993. In total, eight surveys covering the waiting times for all interventions 
were conducted between 1992 and December 1996.

Paper I analyses the data collected from August 1991 through December 
1993. Paper III analyses data on production volume from 1991 through 
1996. Paper II analyses data on the number of patients on the waiting list and 
the number of cataract surgeries from 1991 through 1995. Although the data 
from the surveys have not been used explicitly in the different studies, this 
material was important in the follow-up and obviously influenced the discus-
sion and conclusions in all of the articles.

It is difficult to specifically identify the degree of coverage by the surveys 
since the response rates varied in the different surveys. The first survey had 
the lowest response rate, i.e. 88% of the departments responded. The re-
sponse rates subsequently increased, and only very limited information is 
missing in the later surveys. Hence, the response rates were high, and no 
department was missing in all of the surveys.

Surveys of Heads of Hospitals and Departments

The Research Unit for Primary Care and Social Services at Uppsala Univer-
sity, conducted two questionnaire surveys of all hospital and department 
heads involved in the MWG. The first survey focused on the situation during 
1992 (109), and the second was intended to reflect 1993 through 1994 (110).
The data collected in the first survey is included in Paper I. The primary data for Paper III was drawn from both of the questionnaires, but only those aimed at the department heads.

The questionnaires mainly used multiple choice questions, and in some cases the same questions were used in both surveys. Questions in the first questionnaire were grouped under the following headings:

- Actions and resources for implementing the MWG
- Effects of the MWG

The headings in the second questionnaire were:

- Waiting lists and waiting times
- Resources and actions
- Effects of the MWG
- Changes in the guarantee

The response rates to these questionnaires were high. Only 3 of the 91 hospital directors did not answer the first questionnaire. Of 380 department heads, 357 (94%) answered the first questionnaire and 342 (90%) answered the second questionnaire.

**Swedish National Cataract Register**

Papers II and IV analysed the data from the Swedish National Cataract Register (NCR)(112). Ophthalmic departments report regularly – using a special protocol – to the NCR on cataract operations performed. The register was started in 1992, and reporting is voluntary. Data for Paper II were collected from the NCR in 1992 through 1995. The data include:

- Waiting time (number of days between decision and surgery)
- Visual acuity (in the operated eye versus the better eye)
- Priority (with guarantee or without guarantee)

To obtain reference data on the situation prior to activation of the MWG, Paper II includes the same information as described above from data collected in the Dagmar 50 project (autumn 1991). The data covered 50 consecutive operations from 35 of 38 ophthalmic departments (total of 1 685 operations).

Paper IV uses individual-based data from 1993 and 1994 (years with the guarantee) and from 1998 and 1999 (years without the guarantee). The first survey included 64 532 operations and the second included 92 125 operations. For each operation, information was available about:
• sex and age (40 through 99 years)
• visual acuity in the best eye at the time of surgery
• other eye disease
• previous cataract surgery
• waiting time in days between the decision-to-operate and surgery (limited to more than 14 days, but less than 2 years)
• ophthalmology department that performed the surgery.

In 1992, the National Cataract Register included 89% of all cataract operations in Sweden. This figure increased steadily and reached 95% in 1998.

Measures of Waiting Time and Waiting Lists

Since waiting times for health services have received considerable attention, and since substantial criticism has been levelled at this issue for many years, it is remarkable that so little information has been compiled on how long patients wait for health care in Sweden. As noted above, previous attempts have been made to measure waiting times, but the validity and reliability in these attempts have been met with scepticism.

An OECD report on waiting times stated; “Defining and measuring waiting times for surgery is not an easy task” (25). Others who have investigated this issue have presented similar testimony (27,41). Uniform standards for defining and measuring waiting time have yet to be developed. This lack of definition clearly presents an obstacle toward comparing waiting times among nations, regions, and providers.

The first problem one encounters when measuring waiting times concerns the point in the continuum of care from which “waiting time” should be measured. In our case, the MWG agreement offered a definition as; “waiting time is the time between the decision-to-treat/operate and the actual date of treatment/surgery”.

Although this definition appears to be clear, one must remain aware that it, like other measures, also reflects local practices related to administration of waiting lists and scheduling routines. For example, one question is: Should patients be placed on the waiting list after all preoperative investigations have been completed, or should they be placed on the waiting list without these investigations and then later be removed from the list if, for some reason, they cannot have surgery? This raises the next question: What should be done when patients remove themselves from the list, or if they become too ill to be treated as planned? Should they be included in the statistics, or removed from the list? The answers are determined by local practices that are seldom documented, but are based on agreements within the individual departments/units.
Waiting times are also a powerful instrument for prioritisation – those with greatest needs move forward on the waiting list. Consequently, a waiting time of several months may not be a problem for one patient, while it may create a problem for another patient waiting for the same operation. To be correctly interpreted, waiting times must be considered in light of urgency. The prioritisation process is based largely on local practices (15). A prioritised patient at one department is not necessarily a prioritised patient at another department. As mentioned in Chapter 2, another condition that renders interpretation difficulties is that waiting times are viewed as an alternative to a price – when demand is low then waiting times become shorter, but when demand increases then waiting times become longer (assuming that resources remain static). Hence, on one occasion the same need may be met with a shorter waiting time than on another occasion.

One measure of waiting time used in the FCC surveys was to ask the departments to indicate the “estimated waiting time in weeks for a new patient in the least urgent group”. Hence, the waiting times were not the actual waiting times for patients who had received care, but were based on projected waiting times for new patients with a low priority. In cases where the guarantee did not apply to all patient groups, i.e. cataract surgery, hip and knee replacement, and hearing aid fitting/testing, the survey asked for the estimated waiting time for patients covered by the guarantee versus those who were not covered.

The obvious weakness in this method is that it compares waiting lists and is not an individual-based measurement. Therefore, it does not reflect how the waiting times are distributed. Does the low-priority segment represent a large or small percentage of the group? Does the median waiting time change due to a shift in priorities? Are fewer patients given short waiting times so that patients with a low priority can receive care within the time guaranteed? None of these questions can be resolved by the method of measurement. Nevertheless, the method gives sufficient information to determine if the guarantee can be met, i.e. if patients can be offered a waiting time within three months, even if they have the lowest degree of urgency.

To be reliable, a measure must be objective and not open to manipulation. The reliability of waiting time data is difficult to determine. As with other measures, the calculations of some respondents were probably more accurate than the calculations of others. To investigate this question, the National Board of Health and Welfare commissioned a study in 1995 to determine the similarity between projected and actual waiting times (5). The study concluded that the actual waiting times could be both longer and shorter than the projected waiting times reported in the survey.

The possibility for departments to report more accurately on actual waiting times was often limited since most hospitals in Sweden did not include waiting time data in their patient administration systems. In conjunction with the MWG follow-up at the end of December 1994, the FCC conducted a
survey to identify the systems for monitoring waiting times at the departmental/unit level (113). The survey revealed that most departments had relatively good opportunities to monitor waiting lists. However, only a few departments/units could systematically identify how long the patients had actually waited. Less than one third of the respondents (111 of 350) used computer-based systems to review waiting times for different patient groups.

The second measure of waiting time in the FCC survey concerned the number on the waiting list who had waited more than three months. This measure is an important complement to the first because of the risk for a “back-log group” to develop – a group that does not move forward on the waiting list. Quality control of this measure was not performed.

The FCC survey eventually included data on the number of patients on the waiting list at the time of the survey. Alone, this statistical measure reveals very little about how long patients must wait. Only when waiting lists are related to production volume for a given period does it become possible to estimate their scope. Therefore, Paper I includes a statistical measure called the “waiting list ratio”, i.e. the number of patients waiting in relation to production. If the ratio between waiting patients and annual production is 0.25, this means that one fourth of the annual production is on the waiting list. Theoretically, if all patients were treated in consecutive order, this would correspond to a waiting time of approximately three months. Since waiting-list inflow and outflow vary over time, and taking patients in consecutive order is not strictly applied, there are obvious deficiencies with this measure. However, the waiting list ratio may serve as an indicator of the magnitude and trend of waiting-list problems.

A problem that continually appears in analysing waiting list is that the lists often contain several patients who no longer need or desire the intervention they are waiting for. The longer the waiting times, the more patients who recover, receive emergency treatment, or die. Contributing factors here include deficient administrative systems and vague rules concerning the waiting list and the patients who should be placed on it.

Follow-up of the MWG during the autumn of 1991 showed a substantial reduction in the waiting lists. Surveys also indicated that many hospitals and departments started to “clean up” their waiting lists soon after the decision was made to implement the MWG, and they changed their rules for managing the waiting lists. Obviously, this suggests that the exact definition of “waiting list” varied among units and over time, making it difficult to interpret the changes measured.

Some discussions concerning the waiting list concept in Sweden have distinguished between patients who have been scheduled for treatment, i.e. placed on the so-called care planning or booking list, and patients who have not. In estimating the length of the waiting list, these groups are not differentiated. Patients, however, make a major distinction between having an appointment and not having one. The relationship between the waiting list and
the care planning list may offer an excellent opportunity to assess the quality of waiting-list management by the departments. All waiting patients — whether or not they have actually been scheduled for treatment — should have been included in the FCC surveys.

Papers II and IV used the actual waiting times for patients that had received surgery. Hence, the waiting times of patients still on the waiting list were not included, nor were the waiting times of patients who did not undergo surgery. However, the potential impact that this would have had on the conclusions is considered to be negligible in the case of cataracts. The measures used include the distribution of different waiting-time intervals and the median waiting time. Median waiting time was chosen as a key measure because the distribution of waiting times is usually skewed due to the strong influence that a few long waits can have on the mean.

In conclusion, measures and measurement methods related to waiting times are difficult to determine objectively. All measures have inherent weaknesses, and therefore it is important to develop clear definitions and choose measures that are appropriate for the objectives. In some cases, several different measures must be used to view the problem from different perspectives.

Measures of Production and Surgical Rates

The FCC surveys were also used to estimate production, i.e. the number of operations/treatments performed, including data on inpatients and outpatients in day surgery. Day surgery and treatment in outpatient clinics concern mostly inguinal hernia surgery, cataract surgery, surgery for benign prostatic enlargement, and hearing aid fitting/testing. Patient statistics from the NBHW could not be used since these data did not include outpatient interventions during the follow-up period.

 dropout identified in the first survey was later adjusted using complementary information from the departments. Hence, the production information is virtually complete for the entire period.

Definitions of the specific types of surgery to be reported as MWG treatments were not defined by specific surgical codes. Since most of these interventions are relatively standard procedures, only minor deviations could be expected in relation to the NBHW patient registers, in contrast to outpatient interventions as noted above.

The problem, however, was more complex for hip and knee replacement due to uncertainty in classifying re-operation or secondary procedures. In comparing against the Swedish quality register on hip replacement (114), the number of hip replacements reported in the MWG survey was 20% higher than the number reported to the register, suggesting that many departments were also reporting re-operations. However no similar comparison was done.
for knee replacement. Based on the indications developed, the MWG covered only total (tricompartmental) knee replacement, but in practice it was probably difficult to identify the patients waiting for this procedures since, in some cases, the specific procedure used was determined only at the time of surgery. Hence, many departments may have decided to report all knee replacements in the MWG survey.

Technological advancements have been extensive in several of the areas covered by the guarantee, offering new therapeutic options, surgical methods, and methods of nursing care. Treatment of benign prostatic hyperplasia is one area that experienced major change during the years when the guarantee was in force. The survey included both surgical procedures and transurethral microwave thermotherapy (TUMT). Furthermore, a type of pharmacotherapy was introduced during the MWG period. This was not monitored, and trends related to this treatment are therefore not described as comprehensively as for other treatments.

Age standardisation was not used in the estimates of surgical rates in Paper I, and production was related only to population (mainly per 100 000 inhabitants). Regional variations in Paper I are compared at the county council level. Whether or not a surgical patient resided in the county was not considered. Transfer of patients within the areas covered by the MWG was probably not substantial enough to have generated any major variation.

During the period studied, thoracic surgery and angiography were performed primarily at regional hospitals and a few larger county hospitals. Since the catchment areas for these services are not congruent with county boundaries, the procedures were not included in comparing regional variations.

In Paper II (cataract services), surgical rates were calculated at the departmental level by relating production to the catchment area of the respective departments. If a department’s catchment area could not be specified, or if catchment areas overlapped, the department was excluded from the comparison. To some extent, Paper II considers age differences in the population by relating the number of operations to the population over 65 years of age.
7. Summary of the Papers Included in this Dissertation

Scope and Purpose of the Papers

Two of the papers (Papers I and III) that serve as the basis for this dissertation on the effects of the maximum waiting-time guarantee (MWG) in Sweden cover all of the treatments under the guarantee, while Papers II and IV are limited to cataract surgery.

Paper I describes the effects of the guarantee on waiting times, production, and regional variations during the first two years. The explanations behind these effects were investigated by analysing the information submitted by hospitals concerning their actions related to the guarantee.

Paper III investigates how the physicians, i.e. the group largely responsible for carrying out the guarantee, acted to implement the MWG. By the time this paper had been completed, the guarantee had been terminated. Therefore, the paper also analyses how physician actions could explain how the MWG developed over the years and the importance of these actions on the decision to terminate the guarantee after five years.

Paper II focuses on the ophthalmic departments that offer cataract surgery. The paper investigates why some departments were better than others at fulfilling the guarantee. Since the National Quality Register for Cataract Services started in 1992 new opportunities were created to more closely analyse the effects of the MWG.

Papers I, II, and III use a “before – during” perspective, which is the usual approach toward assessment, since the reforms studied are normally expected to continue. Termination of the MWG after five years offered yet another opportunity to assess its effects by studying relevant parameters after the guarantee ended. In this context, Paper IV investigated waiting times and volumes in cataract services when the MWG was no longer offered to these patients.

A key question in the discussions on whether guarantees are appropriate as health services policy in reducing waiting times has concerned whether guarantees override general priorities and ethical rules. The discussions leading up to the MWG decision had addressed this potentially adverse effect, i.e. that a guarantee threatened to “crowd out” other, more urgent needs. One of the conclusions drawn in Paper III was that the guarantee would be termi-
nated because physicians were not convinced that equitable priorities could be maintained when the guarantee was limited to certain patient groups. Hence, one of the main questions in Paper IV concerned how the guarantee had affected treatment indications and prioritisation among patients in cataract surgery.

The following summary of the papers groups the results according to the effects that the guarantee was expected to have on:

- waiting times and waiting lists
- production and the regional variations in surgical rates
- indications and prioritisation
- patients’ influence and freedom of choice.

The chapter concludes by presenting an analysis from Paper III on how physicians implemented the guarantee.

Effects on Waiting Times and Waiting Lists

The survey by the Federation of Swedish County Council (FCC) at the end of December 1991 showed that 51,100 patients were on the waiting lists for treatments/interventions covered by the MWG. One year later, 40,300 patients were reported to be on the waiting lists, and the year after that the number was 41,500. If we exclude the patients not covered by the guarantee in the categories of hip and knee replacement, cataract surgery, and hearing aid fitting/testing, the waiting lists decreased from 34,100 to 23,100 after the first year and later increased to 25,000 by the end of December 1993. Hence, the waiting lists for patients covered by the guarantee decreased by nearly one third during the first year of the MWG.

However, the number waiting had started to decrease earlier. According to the survey at the end of August 1991, approximately 61,000 patients were on the waiting list, whereof 40,500 were estimated to be MWG patients. Estimates that the waiting lists had started to decrease during the year prior to implementation of the MWG were confirmed by data from 1988 and onwards by the number waiting for coronary artery bypass grafting (CABG), hip replacement surgery, and cataract surgery (Figure4).

Although the decrease in patients on waiting lists varied among the different treatments, the pattern was largely the same. An exception was reported for PTCA where the waiting lists had increased by 14% during 1992. Concurrently, PTCA showed the greatest increase in production (56%), demonstrating that the waiting list situation actually had improved substantially during the year.
As mentioned in the earlier chapter on methods, the number of patients on the waiting list tells us relatively little about the magnitude of the waiting-time problem. The waiting list ratio, i.e. the number waiting in relation to annual production, is a better measure. Paper I shows that the waiting list ratio for all treatments covered by the MWG was 0.21 at the end of December 1991, i.e. the waiting lists comprised less than one fourth of the annual production. After one year, this ratio had decreased to 0.13, i.e. a substantial improvement in the relationship between the number waiting and production. Calculating the waiting list ratios for all waiting lists at all units shows a ratio above 0.25 in over 40% of the lists when the MWG started, but a decrease to 20% after one year.

The perception of improved accessibility also concurs with the analysis of waiting times for new patients that was performed in Paper I. In August 1991, i.e. before the guarantee came into effect, the departments/units reported that nearly half of the waiting lists had projected waiting times above three months for new patients. By the end of April 1992, nearly 90% of the waiting lists had projected waiting times below three months, and by the end of 1992 the waiting time for all new patients was below three months in 95% of the waiting lists. After the second year, however, 91% of the waiting lists had projected waiting times below three months for new patients.

Figure 4. Number of patients on the waiting list. Treatments covered by the guarantee for which waiting list data were available before August 31, 1991.
Although only a few units had projected waiting times above three months, nearly one in five patients on the waiting list in April 1992 had waited over three months. Of those on the waiting list at the end of the year, 15% had waited longer than three months, and by the end of 1993, 16% of the patients on the waiting list had waited longer than three months. According to the information reported in the FCC surveys, approximately 90% of the patients preferred to wait longer than three months for care at their “home hospital” than to change to hospitals with shorter waiting times.

The trends in waiting times for cataract surgery follow the general pattern. Figure 5 summarises the data on waiting times for cataract surgery from Paper II, Table 1. The figure shows that the percentage of patients who were treated within three months increased markedly in conjunction with implementation of the MWG. This improvement was greatest for patients who were prioritised and covered by the guarantee. During 1994 and 1995 the waiting times for cataract surgery deteriorated and the percentage treated within three months decreased. Paper IV shows that this decrease would continue until 2001 (Paper IV, Figure 1).

![Figure 5. Percentage of patients that waited less than three months for cataract surgery.](image)

The decrease in waiting times in connection with the implementation of the MWG was confirmed by the heads of departments in the surveys. Paper III, Table 3 shows that approximately half of the department heads viewed the MWG as a contributing factor in reducing waiting times. However, waiting times were not a pronounced problem in many departments/units. Paper III, Table 2 shows that 38% of the waiting lists were not perceived to be a problem by the department heads. The table also shows that some of the
waiting lists for the twelve treatments/interventions were more problematic than others were. Approximately 60% of the heads of the departments of gynaecology reported that waiting lists for incontinence and prolapse surgery had never been a problem. In contrast, only a few of the department heads responsible for joint replacement surgery, cataract surgery, and CABG reported that waiting lists had never been a problem.

Paper II compared the waiting times for cataract surgery at the ophthalmic departments in Sweden. Variations were substantial, regardless of whether one measured the waiting list ratio or the percentage of patients who received surgery within three months. During 1992, the percentage receiving surgery within three months varied among the departments from 45% to 100% for patients covered by the guarantee.

Paper IV shows that the waiting times for cataract surgery increased when the MWG was terminated. The median waiting time was 89 days during 1992 and 1993, but increased to 147 days during 1998 and 1999. Paper IV also shows that waiting times for cataract surgery are strongly influenced by the treatment indications and subsequent needs for care. For patients who received cataract surgery in 1993 and 1994, the median waiting time was 68 days for those with visual acuity below 0.3 in the best eye, 81 days for those with visual acuity between 0.3 and 0.5, and 113 days for those with visual acuity above 0.5.

Median waiting times varied among the ophthalmic departments from 26 days to 151 days during 1992 and 1993. During 1998 and 1999, median waiting times varied between 45 and 296 days. Paper IV also showed that the differences in waiting times between the departments were not only an effect of differences in patient mix since the waiting times varied substantially within the same priority groups. In the highest priority group, waiting times varied from 25 days to 111 days in 1993 and 1994 and from 43 to 172 days in 1998 and 1999. In the lowest priority group, waiting times varied from 26 to 312 days in 1993 and 1994 and from 40 to 454 days in 1998 and 1999.

Analyses of the trends in waiting lists and waiting times during and after the MWG suggest that the guarantee strongly affected waiting times when it was introduced and during the first two years. Termination of the guarantee meant that waiting times increased, assuming that the trends in cataract surgery also applied to other areas covered by the MWG.

**Effects on Production and Regional Variations in Surgical Rates**

During the year before the MWG became effective, 161 300 procedures were performed within the areas to be covered by the guarantee. The differ-
ent interventions ranged widely in volume, from 1500 incontinence operations to 44 900 fittings/tests for hearing aids. During the first year of the guarantee, the number of treatments increased in all areas except inguinal hernia surgery, which was largely unchanged. The total volume increase was 11% during the first year. Among the different interventions, the increase varied from 2% for hearing aids to 56% for PTCA (Paper I, Table 3). A comparison with production volumes for 1990 showed that production also increased during 1991, and for many of the interventions the increase during 1991 was greater than the increase during the first year of the guarantee. Many interventions continued to increase in volume during 1993, but production declined for half of the interventions, resulting in a total volume increase of 1% for the year.

![Volume trends 1990–1996 for six of the treatments covered by the guarantee. (Index 1991 = 100).](image)

Figure 6 combines data on volume trends from Paper I, Table 3 with data from Paper III Table 5. As shown, volume trends differed considerably by intervention. A nursing strike at the end of 1995 resulted in the cancellation of many planned surgeries, which probably explains the volume decrease in several categories.

Paper IV is the only paper that addressed production changes after 1995, and this was limited to cataract surgery. Production of cataract surgery, which had remained largely unchanged during the guarantee years, nearly doubled between 1996 and 2003.
The decision on the maximum waiting time guarantee was aimed in part at achieving more equitable access to the MWG treatments across Sweden. This would be achieved either by increasing production in departments with low surgical rates or by allowing patients in areas with long waiting times to seek care from departments/units with shorter waiting times.

Paper I investigated the regional variations in surgical rates among the county councils for 1991 through 1993. No systematic changes could be identified, and the variations in surgical rates continued during the first two years of the MWG.

Paper II compares the surgical rates from 1990 through 1995 for cataract surgery at 33 ophthalmic departments in Sweden. The departments were grouped into quartiles, based on surgical rates during 1990, and a mean value for the rates within each quartile were compared over the years. Surgical rates increased in all quartiles during the period. The greatest increases were found among the departments in the second and third quartiles, nearly approaching the departments in the highest quartile. However, the departments in the lowest quartile found it difficult to catch up with the other three. Hence, the distance between the highest and the lowest surgical rates remained at the close of the period.

![Figure 7. Regional variations in cataract extractions per 1000 inhabitants 65 years and older, 1990-1994. (Number of ophthalmic units=33). (Source: Paper II).](image-url)
Effects on Indications and Priorities

In many instances, change in production volume probably are effects of changes in the indications for surgery. This does not necessarily imply that the indications expand. Figure 5 from Paper I shows a reduction in surgical rates for inguinal hernia, which probably means that the indications for this operation became more restrictive after the guarantee was introduced. Heart surgery resources greatly expanded during the MWG years, and the indications for angiography, PTCA, and CABG probably widened for reasons other than the introduction of a guarantee (Paper III, Table 5). Production in the other sectors increased during 1991 and 1992, but thereafter production remained unchanged or declined slightly. This suggests that efforts were made during the first years of the guarantee to shorten the waiting lists by performing more operations without substantially changing the established indications.

As regards the effects on prioritisation, three scenarios can be considered. First, investing in the treatments covered by the MWG could “crowd out” other treatments with a lower priority. Second, the guarantee may have contributed toward prioritising certain patient groups within the treatment sectors covered by the guarantee. Third, the guarantee may have focused on waiting times for treatment, which impacted on waiting times for the first visit or follow-up visits.

Committing 500 million SEK to implement the guarantee represents a kind of prioritisation per se, since these resources could have been used for other treatments in health care or other tax-financed activities. Papers I and II show that approximately 30% of the departments had received some of these extra resources to achieve the MWG objectives. Several units had also received extra resources from their own county councils, and half of the units had received extra resources for the MWG during 1992. A smaller percentage (17%) had also received extra resources during 1993 and 1994. In a few cases, resources were redistributed within hospitals. Some of the resources were used to invest in equipment that benefited not only the MWG treatments, but other areas as well.

In responding to the first questionnaire, one fourth of the department heads indicated that the MWG was the reason for changing prioritisation practices at the department/unit. In response to a direct question (second questionnaire) on how the MWG influenced the priorities, 20% responded that the impact had been negative, 20% responded that the priorities had improved, and 60% reported that the MWG had no impact.

Figure 8 shows the perceptions of departmental heads concerning how the MWG had affected waiting times for patients covered and not covered by the guarantee.
Figure 8. Perceptions of the heads of departments/units concerning the effects of the MWG on waiting times for patients covered and not covered by the guarantee. (Sources: Paper III, Tables 2 and 4).

As the figure demonstrates, the perception of most department heads was that the MWG had improved the waiting times for patients under the guarantee in 1992. The percentage was somewhat lower in the second survey, reflecting the situation during 1993 and 1994. According to 25% of the respondents, the guarantee had also shortened waiting times for first visits in 1992. However, in 1993 and 1994 a smaller percentage perceived an improvement in waiting times, and several department heads indicated that the situation had deteriorated.

Perceptions were more divided concerning patients not covered by the guarantee. Although several reported an improvement, others indicated that the MWG had negative effects for non-guarantee patients. The negative effects were greater during 1993 and 1994, and one fourth of the respondents indicated that waiting times for treatment had become longer.

Mainly it is the attending physician that determines the priorities and treatment indications in each individual case. Different priority setting routines have also been developed at the respective departments/units. Papers II and IV analyse the treatment indications and priorities for cataract surgery at the ophthalmic departments.

Paper II clearly revealed a change since the percentage of patients with visual acuity below 0.5 (the limit for the guarantee) who underwent surgery
had decreased, and that the percentage prioritised as MWG patients due to “special circumstances” increased over the years (Figure 9).

**Figure 9.** Priority groups in cataract surgery. (Source: Paper II, Table 2).

Paper IV also grouped patients according to visual acuity in the best eye. The paper shows that the percentage of patients with visual acuity above 0.5 continued to increase after the guarantee was terminated, suggesting that the indications for cataract surgery continued to widen. Figure 10 also shows that the wider treatment indications include a shift toward better visual acuity in the group earlier covered by the guarantee, and that increasingly more patients were having surgery in both eyes. Another observation is that the number of patients with visual acuity below 0.3 had increased only marginally, suggesting nearly total coverage of needs since the late 1990s in the patient group with the highest priority.
Figure 10. Indications for cataract surgery. Comparison between 1994 (MWG) and a mean value for 1998/1999 (not MWG).

Paper IV compared the percentage of operated patients with different treatment indications at the ophthalmic departments (Figure11).

The percentage of patients with visual acuity above 0.5 – in principle, the limit for the MWG – varied from 22% to 62% during 1993 and 1994. This variation was even greater during 1998 and 1999. One department reported comorbidities, i.e. other eye disease, in slightly less than 10% of surgical patients, while comorbidities at another department exceeded 50%. Some departments reported that over 40% of the surgical patients previously had surgery on one eye, while only 20% of the surgeries at another department were operations on the second eye. Hence, the patient mix at the different departments varied substantially.
The amount of resources, and thereby surgical rates, are likely to influence the treatment indications that are applied. A high surgical rate would probably make it easier to meet the MWG for prioritised patients. However, this is not always the case, as shown in Paper II when comparing the ability of departments to achieve the MWG waiting time target measured as the percentage of MWG patients that received surgery within three months. Two hypotheses were presented:

I Departments with high goal attainment had higher surgical rates
II Departments with high goal attainment were stricter in prioritising MWG patients.

Three analyses were performed using goal attainment as the dependent variable. The analyses showed a positive, but weak, association between goal attainment and surgical rates. However, the association between goal attainment and the percentage of patients covered by the MWG was negative and substantially stronger, i.e. the greater the percentage of patients covered by the MWG the lower the goal attainment. Finally, the percentage covered by the MWG was compared to surgical rates, and showed a relatively strong negative association. Hence, the higher the surgical rate the lower the per-

Figure 11. Variations in treatment indications among ophthalmic departments. (Source: Paper II, Figure 2).
percentage of patients covered by the MWG. The third analysis of association also controlled for goal attainment. Departments showing a low goal attainment were found to have a low surgical rate, and nearly all patients in these departments were covered by the MWG. However, none of the departments with the highest goal attainment had the highest surgical rate. The distribution of surgical rates among these departments was relatively wide, and the conclusion drawn in Paper II was that a high surgical rate did not automatically mean that MWG patients received care within three months. To achieve the goal of the guarantee it was equally important to apply the indications and priorities stipulated by the MWG.

Effects on Patient Choice and Empowerment

One of the management instruments contained in the MWG was that patients were given the right to choose another provider if waiting time exceeded three months. This option, however, was already in place when the guarantee came into force. In January 1, 1991 the county councils, after adopting a recommendation from the FCC, had offered free choice of health services. Under the MWG, attending physicians would actively help patients to receive treatment within three months and would offer patients information and support in changing providers. The intent, as noted earlier, was to use resources more efficiently and achieve greater equity in access to care.

According to the responses from department heads in the two surveys, few patients elected to change providers. One reason for this may have been that the patients were not aware of their rights. In two thirds of the departments/units with waiting times exceeding three months, no patient during the first three years elected to change providers. Concerning the question of how the MWG influenced patient choice and patient empowerment, slightly over one third of the physicians surveyed responded that the MWG had contributed toward improvement while most responded that it had no impact (Figure 12).
Implementation of the Maximum Waiting-time Guarantee and the Physicians’ Role

As mentioned earlier, it was mainly the attending physicians who determined the duration of waiting times. Physicians made their decisions based in part on their knowledge and experience and in part on the conditions within their respective organisations. In this context, the conditions refer to available resources and the regulations and standards of practice upon which the health care system is built. Some of these regulations are based on legislation while others are based on national or local agreements. Much of what the individual physician does is also guided by accepted standards of practice that have developed within the various departments/units.

To meet the intentions of the MWG, physicians were required to adapt their practices relative to indications, prioritisation, and the care of patients covered by the MWG. If the waiting times were long and the indications too narrow, it was necessary to increase production by, e.g. working overtime, reorganising the department, or investing in education and equipment to apply new technology. By studying how physicians reason and act it is possible to gain an understanding of why the guarantee was initially viewed to
be a successful reform, but later viewed to have “outlived its usefulness” and was terminated.

Paper III focuses mainly on analysing physician actions to implement the guarantee. Three specific questions are addressed. The first question was whether or not physicians understood the background and purpose of the MWG.

Since the problem of waiting times was recognised, and many of the departments affected by the MWG had already been working to manage their waiting lists, we assumed that the purpose and idea of the MWG were not difficult to understand. The tendency to keep patients rather than refer them to other hospitals was interpreted to mean that providers remained somewhat uncertain about the practicalities of transferring patients between providers. The status of the MWG was also unclear. What would happen in one’s own department if the conditions of the guarantee could not be met?

More difficult to understand, and for the physicians to accept, was probably why the selected groups of patients should be guaranteed waiting times of only three months. Although politicians and the media had targeted waiting times as a major problem, many physicians stated that the waiting lists were not particularly long and that the patients on these lists were not exposed to medical risks.

For a reform or change to be implemented, obviously it must be practically feasible. Therefore, the second question in analysing the implementation of the MWG concerned whether the departments had the resources or capacity to implement the MWG.

The first survey showed that approximately half of the departments received extra resources during 1992 to meet the guarantee. The second survey shows that barely one fifth of the departments received extra resources in 1993 and 1994. Information on extra resources for 1995 and 1996 was not available.

In the survey, the department heads reported actions that had been taken because of the guarantee. Approximately 60% of the departments reported changes for 1992, and these changes continued to apply at most of the departments even during 1993 and 1994. A few additional departments reported changes during 1993 and 1994, bringing the total, i.e. departments that took some action, to approximately 75%.

The most common action involved some type of reorganisation. That was followed by changes in priorities, extra resources, introduction of new technology, and improved administration of referrals, better continuity, and departmental staff operating on their “own” patients but at another hospital.

For many departments, the guarantee was not a major issue although many respondents also reported that the guarantee had reduced waiting times and that patients had greater influence over their care. Concerning the MWG’s potential effects beyond shorter waiting times, respondents mentioned that groups not covered by the guarantee waited longer. In response to
a direct question if other patient groups had been “crowded out”, one fourth reported that this had occurred. Data from the surveys and the follow-up of waiting times also showed that the conditions for meeting the guarantee differed for different treatments. Some treatments comprised a large share of the activity within a speciality, while other treatments required a substantially lower share of resources. The ability to increase production was, however, limited after the first year of the MWG. The Government had imposed a tax cap on municipalities and county councils, which meant that many health services needed to save in order to achieve the mandated economic balance. Between 1992 and 1997, health care expenditures decreased by approximately 1.3% annually. The conclusion drawn from this, in Paper III, was that resources and capacity were available during the first year of the MWG, but were cut back during the later years. This resulted in only marginal opportunities to increase capacity, rendering it more difficult to fulfil the guarantee unless further efficiency and reprioritisation actions were taken.

Another prerequisite for a reform to be successful is that the implementers can recognise its advantages and the importance of implementing it. Hence, the third question dealt with the willingness of physicians to implement the guarantee.

The degree to which one is prepared to participate in changes to implement a reform depends on how one assesses its impact on one’s own activities and personal work-related goals.

The freedom to choose a provider was one of the incentives contained in the guarantee. This empowered patients and presented a threat to physician authority. It could also have economic consequences for the organisation in terms of lost reimbursement, or if resources were taken from the departmental budget to pay for care from other providers. On the other hand, extra resources could be awarded for implementing changes to shorten waiting times.

The study also suggests that the follow-ups and the major interest from the media on this issue provided publicity and also gave the departments important information for monitoring waiting times and the changes implemented. This could be viewed as an incentive to participate in implementation of the MWG.

The MWG also contained national guidelines for treatment indications and priorities. This was a new instrument in managing Swedish health services since decisions on who should receive care, and at which level of priority, was previously a concern only for the attending physician. The guidelines could be perceived both as a support in a tight resource situation, but also as a threat toward clinical freedom and professionalism.

The study concluded that the physician community strongly supported the MWG at the outset. This support, however, diminished as the increase in capacity declined and when physicians were forced to limit the treatment
indications for MWG patients and/or prioritise between these and other health care needs. Hence, this was probably one of the main reasons why the MWG for the twelve treatments was terminated after five years.
8. Discussion and Conclusions

Maximum Waiting-time Guarantee – Semantic Magnet in Election Campaigns

When the maximum waiting-time guarantee (MWG) decision was made in 1991, the Swedish health care system was facing strong criticism. The gap between care needs and health care resources had widened, and all indications suggested that this gap would become greater in the future. Therefore, the State and the county councils were searching for new ways to control, finance, and organise health services. During the 1980s, the Swedish county councils had become increasingly independent and were attempting to find new ways, based on local conditions, to control health care resources. Two national investigations – the Priorities Commission (12) and the Health Services Financing and Organisation Committee (HSU 2000) (13) – were commissioned in early 1992. These investigations can be viewed as the national level’s reaction to the diminishing confidence that the population had expressed in health services, and the increasingly apparent problems with efficiency, quality, and access.

An ageing population has been, and continues to be, an important reason behind the growing need for care and social services. Another reason that was probably equally influential in increasing the demand for health services was the rapid advancement in medical technology that, in many instances, led to revolutionary change in the potential to cure and alleviate certain medical problems. These opportunities – along with a general trend in post-industrial society that greatly emphasised individual rights, independence, and influence – generated higher public expectations on health services.

Waiting lists and long waiting times for some elective surgical procedures had been a growing problem for many years when the decision was made to introduce a MWG. The reason for this situation was generally viewed to be the technological advancements in this segment of health care that made it possible to treat patients that previously could not be treated. However, earlier attempts at allocating special resources to “cut away” at the peaks in demand that accompanied the new technology had not been completely successful (73).

As the 1991 election approached, it was becoming important politically to demonstrate initiative in addressing health care issues. A survey in 1990 showed that 58% of the population believed that extensive change was re-
quired in the Swedish health care system (115). Health care, not least waiting lists for treatment, became one of the key issues in the election.

The political parties never engaged in battle over the MWG since they had settled this issue among themselves before the election campaign began. A key reason for this is probably that the MWG concept was a positively charged “semantic magnet” (116). No party could oppose such a reform without losing voters. At the same time, a MWG carried little risk since it was rooted in earlier decisions to change health care, i.e. free choice of health care provider (86) and the so-called “Ädel” reform (81). The 500 million SEK invested in implementation during the first year was probably also important in gaining the support from the county councils since these funds were viewed as a type of compensation for transferring resources to the municipalities in conjunction with the Ädel reform. Yet another reason why it was so easy to reach a political decision to introduce a MWG was probably that the agreement did not include any direct sanctions if the county councils did not meet the terms of the guarantee.

Political risk related to implementing a MWG was also reduced because the guarantee was limited to covering “approximately ten interventions” that would be selected after thorough study. However, there was some uncertainty concerning negative adverse effects. The decision and recommendations issued by the Federation of Swedish County Councils (FCC) and the National Board of Health and Welfare (NBHW) (Chapter 4) stressed the importance of evaluating the guarantee to monitor trends in the areas covered, and to assure that the guarantee did not “crowd out” other care needs.

Maximum Waiting-time Guarantee – From Victor to Intruder

Press clippings from the first months of the MWG showed that the reform was perceived to be a major success. Surveys by the FCC also showed that waiting times and waiting lists had both decreased substantially while at the same time the number of operations increased (3). Already during the second year of the guarantee, however, critical voices were being heard. The criticism mainly addressed the limitations of the guarantee to twelve diagnoses. Critics stated that the guarantee must be expanded, and that other areas of health care were also “deserving” of a guarantee (117).

The main objection was that a guarantee based on selected diagnoses did not align with the basic principles of equity in health care and the priorities in Swedish health services (17,99). During the following year, criticism increased while the follow-up revealed substantial problems in keeping waiting times within the limits specified by the MWG.
A key explanation for this development related to the economic and organisational situation at the time, which focused largely on cutbacks and saving resources in health services.

In the early 1990s, Sweden’s economy was in recession. Stagnating growth and major state deficits did not offer the possibility to allocate more resources to meet the growing demand for care. From 1990 through 1993 the county councils’ possibility to increase revenues were limited due to a State-imposed tax freeze on local authorities. The total cost for health services decreased during the 1990s, which was largely explained by the transfer of resources from the county councils to the municipalities. Thereby, in 1992, the municipalities took over the responsibility for health and social services for the elderly and disabled in the home, i.e. the so-called “Ädel” reform. The percentage of GNP allocated to health care remained relatively steady during the 1990s (118).

Table 1. Inpatient beds, admissions, bed utilisation, care days, average length of stay, and physician visits in short-term surgical care. 1990-2000 (Source: ref. 119)

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<tbody>
<tr>
<td>Inpatient beds</td>
<td>17 595</td>
<td>16 631</td>
<td>15 367</td>
<td>14 108</td>
<td>12 755</td>
<td>11 732</td>
<td>10 603</td>
<td>9 314</td>
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<tr>
<td>Admissions, 1000s</td>
<td>774</td>
<td>785</td>
<td>784</td>
<td>762</td>
<td>728</td>
<td>695</td>
<td>682</td>
<td>637</td>
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<tr>
<td>Admissions per bed</td>
<td>44</td>
<td>47</td>
<td>51</td>
<td>54</td>
<td>57</td>
<td>59</td>
<td>64</td>
<td>68</td>
</tr>
<tr>
<td>Care days, 1000s</td>
<td>4 579</td>
<td>4 385</td>
<td>4 133</td>
<td>3 855</td>
<td>3 606</td>
<td>3 322</td>
<td>3 159</td>
<td>2858</td>
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<tr>
<td>Average length of stay,</td>
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<td>in days</td>
<td>5.9</td>
<td>5.6</td>
<td>5.3</td>
<td>5.1</td>
<td>5.0</td>
<td>4.8</td>
<td>4.6</td>
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<tr>
<td>Physician visits, 1000s</td>
<td>5 440</td>
<td>5 313</td>
<td>5 463</td>
<td>5 506</td>
<td>5 394</td>
<td>5 290</td>
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Table 1 presents trends during the 1990s regarding resources and activities in surgical care. The table shows that the number of beds decreased substantially throughout the 1990s. The number of admissions, however, did not decrease at a corresponding rate. Hence, inpatient beds were utilised more intensively. The average length of stay also decreased during the 1990s, while the number of surgeries steadily increased. The full scope of the increase cannot be calculated since the national patient registers in the 1990s did not include day surgery.

However, the FCC surveys of the MWG included operations performed in day surgery, showing that the two procedures performed in day surgery at the time of the guarantee increased from 29% to 54% (inguinal hernia surgery) and from 64% to 90% (cataract surgery) (120).

When the MWG decision was made, there was a potential for greater efficiency in the treatments covered by the guarantee. With (1) extra resources, (2) changes in control, management, and organisation, and (3) freed bed capacity resulting from hospital discharges precipitated by the Ädel reform.
(121), production could increase during the early 1990s. Therefore, implement-
isation of the MWG did not directly threaten other activities, but was per-
ceived as a positive way to deal with long waiting times for those treat-
ments where the problem was greatest.

When the impact of the cutbacks became apparent in 1993 it was no
ger longer as painless to increase the number of operations to meet the MWG,
and it became obvious that the guarantee challenged current practices and
priorities. Paper III states that the MWG became “a threat to clinical free-
dom”, suggesting that the guarantee controlled decisions that traditionally
had been made by the physician in daily practice. Probably the changes in
controlling who would receive care caused a greater reaction than did the
actual “crowding out” generated by the guarantee. This conclusion is based
partly on information from the department managers, i.e. that resources had
not been redistributed from other areas, and partly on a study in the national
follow-up of the MWG (110,5).

The special study that was part of the national follow-up examined trends
in several potential “crowded out” diagnoses in each speciality under the
guarantee. The results indicated that only in ophthalmology was it possible
to find a tendency for other patient groups to be set aside..

PaperIV, based on information concerning trends in cataract surgery, sug-
ests that even this “crowding out” effect can be questioned. The paper
shows a dramatic increase in the number of operations when the MWG ter-
minated, while concurrently the waiting times for all priority groups in-
creased. This finding suggests that the guarantee had actually slowed the
trend in cataract services. If the guarantee had resulted in prioritising patients
with cataracts ahead of other types of eye care, the number of cataract opera-
tions would rather have decreased when the guarantee terminated.

An important question is whether effects similar to those in cataract sur-
gery appeared in other areas of treatment. Figure 13-17 shows the trend in
the number of operations in other sectors covered by the guarantee, with the
exception of hearing aid fitting/testing where national statistics are not avail-
able.
The first coronary bypass operations were performed in Sweden in the late 1970s, and PTCA was introduced in the mid 1980s. Both CABG and PTCA are preceded by diagnostic angiography. As shown in Figure 13, coronary artery services experienced strong development throughout the 1990s, not least angiography and PTCA. However, CABG has experienced a weaker trend in recent years. The MWG was probably not a decisive factor in this trend.

Figure 13. Number of operations for angiography, CABG, and PTCA 1987 – 2003. (Source: ref.122).
The number of operations related to the two procedures in gynaecology has increased somewhat over the years. The guarantee probably had some effect on surgical volume when it was introduced, but did not have any great effect when it was terminated. Of these departments, 10% in 1992 and 15% in 1993 – 1994 indicated that the guarantee had resulted in a “crowding out” effect in gynaecology (109,110).

\[\text{Figure 14. Number of operations for prolapse of the uterus and incontinence (women) 1987–2003. (Source: ref. 122).}\]

\[\text{Figure 15. Number of cholecystectomies and operations for inguinal hernia and benign prostatic hyperplasia (BPH), 1987 – 2003. (Source: ref. 122).}\]
Laparoscopic methods in gallstone surgery were introduced in the early 1990s. The adoption of this technique was probably supported by the introduction of the guarantee, which explains the increase in the number of surgeries during 1991. The development after 1992 is relatively stable and was probably not affected by the MWG in any decisive way.

New treatment methods for inguinal hernia surgery and surgery for benign prostatic hyperplasia (BPH) were introduced in the early 1990s. New methods in anaesthesiology enabled day surgery for inguinal hernias – which explains the sharp descending curve in the diagram that only includes inpatient surgery. FCC data on the number of operations, including day surgery, show that the number of inguinal hernia operations indicated a weak downward trend, probably explained more by changes in morbidity than by the effects of the MWG in prioritising this group.

Increasingly, treatment for benign prostatic hyperplasia involves medication, and it is possible that the MWG accelerated this trend. The survey of department heads (109,110) did not yield any responses suggesting that the guarantee had any “crowding out” effects.

Figure 16. Number of operations for hip and knee replacement, 1987–2003. (Source: ref. 122).

As with cataract surgery and hearing aid fitting/testing, there were special restrictions concerning which patient groups would be covered by the guarantee for hip and knee replacement. The trend shown in Figure 16 is remi-
niscent of the trend in cataract surgery presented in Paper IV, i.e. the number of operations increased until the guarantee took effect and later levelled out, or – as in the case of hip and knee operations – decreased for some years, only to increase again after the guarantee had been terminated.

Corresponding statistics for hearing aid fitting/testing before and after the guarantee are not available. However, the FCC surveys indicated that the number of patients who received hearing aids was largely unchanged during the first years of the guarantee, but decreased somewhat during 1995 and 1996.

The national follow-up (5) summarised the percentage of the departments who were able to provide “non-guarantee patients” health services within six months. The summary showed that in low priority hip and knee replacements and cataract patients without guarantees there was, nevertheless, some improvement during the first two years. During 1994 and 1995, the waiting times for these groups increased substantially. As regards hearing aid fitting/testing, waiting times increased somewhat during the entire period.

Another condition highlighted in the follow-up was that in hip and knee replacement, the number of “non-guarantee waiters” on the waiting list decreased substantially. This was interpreted to mean that the priorities had changed so that patients who were not covered by the MWG were not scheduled for surgery at all (5). This would mean that patients were crowded out, but that the phenomena applied to those with low priority within the areas of surgery covered by the guarantee.

“Positive” prioritisation effects of the MWG also were noted in ophthalmology. In the second survey, somewhat less than 40% of the department heads responded that the guarantee had negatively, “crowded out” other care. However, a small percentage responded that although the guarantee had crowded out other care, this was a positive effect since it led to prioritising the cataract patients in greatest need.

The apprehensions that the guarantee would be an “unwelcome intruder” and crowd out other care were unfounded given the responses in the follow-up. On the contrary, the MWG was perceived to have slowed the trends, mainly in the areas where waiting-time problems were most extensive. Although this had some “crowding out” effects, it primarily affected groups with the lowest priorities in cataract surgery, hip and knee replacement, and hearing aid fitting/testing.

Maximum Waiting-time Guarantee –
A Reform of its Time

Reforms are often “children of their time”, i.e. they reflect current changes in society. Changes that affected the public sector at the time when the MWG
was introduced were associated with greater individual empowerment and freedom of choice. In Swedish health services, this meant giving patients the opportunity to select a care provider. The first recommendation to increase free choice for patients appeared in 1989 (86). Since then, forms of patient participation and free choice have been discussed and modified. HSU 2000 thoroughly examined the issue, and issued a report in 1997 (106) containing several specific proposals to increase patient rights, including a maximum waiting-time guarantee. The most recent recommendations on this topic were issued by the FCC in 2000 (123).

A fundamental element in the MWG reform concerned the choice of a care provider. The right to change provider was intended to guarantee that patients could be offered treatment within three months. Although increased freedom of choice was a goal of health policy makers, it was also a means to implement the MWG. The idea was that greater patient empowerment would threaten organisations with long waiting times since they could lose patients and be required to pay for their care. In situations where performance-based reimbursement was used, and “the money followed the patient”, the effect would be a loss of revenue.

In the first survey (109), the heads of departments responded that freedom of choice was perceived to be a real “threat”, and many departments/units worked actively to reduce their waiting lists before the guarantee came into effect. However, after some years with the MWG it became clear that patients were not exercising their right to change providers to any great extent, and the power of this control mechanism abated. The surveys aimed at the heads of departments, and which were included in Papers I and III, indicated that patients were not fully informed about the opportunity to change providers and actually were not very interested in this option.

The FCC follow-ups of the MWG also showed that between 80% and 90% of the patients who had waited longer than three months, as reported by the departments, chose to wait rather than to change providers. A special study, performed as part of the national follow-up, investigated the patient flow between county councils for several of the diagnoses covered by the MWG (5). This study also found that it was uncommon for patients to change providers. Another study of total patient flow in the mid 1990s showed that the transfer of resources among county councils for this purpose ranged between 2% and 5% of total turnover (124).

In a dissertation on reforms addressing freedom of choice in Swedish health services (125), Ulrika Winblad Spångberg showed that physicians in the 1990s did not particularly promote freedom of choice. The main reason given was that medical considerations and physician judgement determined the choices that were made in a referral situation. Another reason was that free choice intrudes on the physician’s role. Hence, they are less inclined to inform and help patients exercise free choice.
In some instances, the MWG was probably viewed as a threat to clinical freedom, which could be part of the explanation why physicians were not more active in their role to refer patients covered by the guarantee. The economic consequences were probably also responsible for restraining referral activity.

An important issue concerns the extent to which physicians had the necessary information to enable them to refer patients. A physician who informed patients about free choice was naturally expected to help these patients find another provider — work that required extra resources and probably was not viewed to be especially urgent in a time of economic restraint. What did physicians know about waiting times, routines, and quality at other hospitals? Probably not much. Although county councils in some regions compiled regular “waiting list newsletters” this information was probably insufficient to motivate physicians to inform patients about alternative choices.

Several studies have found a lack of knowledge in the Swedish population concerning freedom of choice in health care (126,127). This, however, does not necessarily mean that patients are uninterested in changing providers, i.e. having real opportunities for greater influence over their own care. As physicians must deal with the practical aspects of offering help in choosing a provider, many patients would have to deal with the practical situation of changing providers. Often, patients are elderly and in poor health, distances can be great, and one must forfeit the security of established contacts. These conditions may work against exercising freedom of choice in real situations even though the patient might have a generally positive attitude toward changing hospitals. Furthermore, patients did not have more information than did health care staff concerning the length of waiting times at other hospitals. Choosing another provider would therefore require a substantial initiative from the patient to acquire this information.

The opportunity to change hospitals did not vanish when the MWG was terminated. On the contrary, it has continued to develop. Hence, it is interesting to note that in a survey (128) in 2001 of just over 1000 patients who received hip replacement, back surgery, or meniscus surgery, 71% reported that they had not been informed about their right to choose another hospital. The comments, however, showed that many did not believe it was necessary to change, that they were already aware of their rights, or that they had acquired the information themselves. The survey of orthopaedic patients also included a question concerning the importance of various factors prior to surgery. Of the seven conditions specified in the survey, the opportunity to select a hospital ranked fifth. The respondents indicated that it was more important to meet the surgeon prior to the operation, to receive information on the length of waiting time, to receive information about the date of surgery at the same time as the decision-to-operate, and to receive information about the surgeon who would perform the operation. Choosing the surgeon
who would perform the operation and having the opportunity to influence
the time of surgery were viewed as less important.

The strongest steering mechanism in the MWG – the patients’ possibility
to change providers – was found to work only in conjunction with the intro-
duction of a MWG. As discussed, neither the patient nor the attending physi-
cian expressed any major desire to exercise this option in practice. Both par-
ties probably felt it was best to try to solve the problem “close to home”.
Likewise, the county council leaders probably had no major objections to-
ward patients not receiving care elsewhere, since it could have resulted in an
even tighter economic situation. This can also explain why there was not a
particularly great demand for developed systems with easily accessible in-
formation about waiting times and other quality comparisons that would be
helpful in making a choice.

A Guarantee, yet not a “Real” Guarantee

As noted earlier, the agreement to adopt the MWG contained no sanctions
should the guarantee not be met. The risk that it would not be met was, how-
ever, not particularly great since strictly interpreting the guarantee would
mean that there should not a single provider in Sweden who would be able to
take on the patient and give the treatment within three months. Viewed from
this perspective, the FCC survey shows that the guarantee could be met with
a wide margin in all areas during all years.

However, this was not the image of the MWG that was presented in the
public debate or in the media. Here the perception was that a guarantee for
treatment within three months should be given, which many patients testified
that they had not received. The guarantee was also viewed in this way within
the health services, and when waiting times increased after the first years
without generating any sanctions, the guarantee was viewed by many to be
more of a symbolic policy and political gimmick than a realistic attempt to
tackle the problem of access. In an interview study with politicians, leading
administrators, and representatives for various medical specialties from
1999 (129) that was included in NBHW’s work to investigate a new MWG
(17), many found the word “guarantee” to be misleading and unfortunate
since it did not correctly reflect what they thought should be the content of a
guarantee.

The study also indicated that in none of the cases investigated did one link
the ability to manage waiting times with any type of reward or sanction.
Although this applied to the local guarantees that were effective after the
termination of the national guarantee, the conditions did not appear to be
particularly different as regards the years when the national MWG for twelve
interventions was in force.
The introduction of local guarantees had started already after the first year of the national guarantee. The desire to expand the MWG as presented by individual county councils, parties, or patient representatives was met by the State and the FCC with the response that it was an issue for each county council to decide. Hence, by the time that the national MWG for the twelve interventions was terminated in 1997, 13 of the 21 county councils had already formed their own guarantees. This probably did not facilitate the national guarantee since MWGs at multiple levels created confusion among both patients and staff about what the guarantee actually represented. Thereby, the status of the MWG-policy deteriorated further.

Regional Variations and Local Practice –
Difficult to Influence by National Directives

Regional variations in surgical rates are a well-known phenomena (130,131,132). To prevent the MWG from contributing toward even greater variations, indications and priorities to treatment were specified for patients in twelve procedures. The decision-makers also believed that differences in surgical rates would equalise when patients at departments with long waiting times elected to receive care at departments with short waiting times.

The assumption upon which this was based, i.e. that departments with short waiting times have higher surgical rates and vice versa, was found to poorly reflect the actual situation. For instance, Paper II showed that surgical rates did not reflect the ability of an ophthalmic departments to provide care to guarantee patients within three months. This finding concurs with other studies of local practices in administering and organising waiting lists, and how this influences the waiting time that can be offered to patients (60).

The general indications developed at the national level represented a new element in the management of health services in Sweden. Never before was it so clearly established which groups would be prioritised ahead of other groups and which indications would be applied before a patient could have access to certain interventions. In the original agreement, the decision-makers had not agreed that the MWG would include specific priorities. However, the National Board of Health and Welfare along with the medical profession, based on the surveys conducted in the so-called “Dagmar 50” project, argued that this was necessary to keep the guarantee from causing undesired effects for patients not covered by it.

As discussed, the indications had some impact on the four interventions under the guarantee that did not cover all patients, since volume trends decelerated and remained at approximately the same level during the entire MWG period. Likewise, the decrease in surgical volume for inguinal hernia was interpreted to mean that indications had narrowed after the guarantee.
However, the indications were not thought to have any major impact on coronary artery services. Furthermore, the MWG was not found to have generated any major reductions in regional variations (5).

Cataract surgery was studied in detail (Papers II and IV), showing that a wide range of indications were applied locally, and that many departments selected to ignore the national recommendations by not using their capacity for the prioritised groups to give them shorter waiting times. The second survey to the department heads (110) included a question on whether the MWG had contributed toward any changes in the indications for treatment during 1993 and 1994. Of the 329 responses, 88% said that no changes had occurred.

“Poor compliance” with the NBHW guidelines was attributed to the difficulty in achieving change in medical practices through national directives. Since there was no local follow-up, or any sanctions placed on departments that deviated from the recommendations in NBHW guidelines, the incentives were too weak for most physicians to change. Furthermore, several areas were in a phase of major technological expansion, which created strong pressure to widen the indications for treatment. Therefore, the national recommendations probably needed to be reviewed after a few years to capture these changes. There was no discussion about, or any demands for, overhauling the recommendations, which might be interpreted to mean that they had outlived their usefulness in most areas.

Back to the Drawing Board

“Terminate the ill-conceived maximum waiting-time guarantee – ahead with medical priorities!”

“Terminating the guarantee would be most unfortunate. Criteria are important in planning health services.”

Two department heads gave these diametrically opposed comments in early 1995, in response to a question on the consequences that terminating the MWG would have on their departments. There is no doubt that the MWG generated interest in health services. Of the heads of departments who responded to the second questionnaire on the importance of the MWG and its effects (110), 88% commented on the question about the consequences of terminating the guarantee.

The purpose in asking this question, as noted in Chapter 4 on the MWG history, was that the parties involved in the 1995 Dagmar agreement decided to “investigate how the MWG could be successively expanded and how access to diagnosis, treatment, rehabilitation, etc could be improved”. This was a response to the criticism levelled, not least from the Swedish Parliamentary
Priorities Commission, that the MWG was not aligned with the overriding priorities in health care.

What did not emerge in the Dagmar agreement, but which appeared regularly in the media, was that the guarantee no longer “worked” in many places. Waiting times had started to increase as early as 1994. The situation continued to deteriorate during 1995, and by the end of the year a nursing strike further exacerbated the problem. When the MWG was terminated in 1996, the waiting-time problem was at least as great as when the MWG was implemented (120).

After five years under the national MWG, the situation was the following:

1. The steering mechanism upon which the guarantee was based no longer worked. This was primarily due to insufficient incentives and the absence of sanctions if the provisions of the MWG were not fulfilled. It was difficult for the county councils to determine whether or not a department had fulfilled the guarantee since it was only when patients expressly complained that they had not received help to change providers that the guarantee was actually not fulfilled.
2. Considerable uncertainty existed among the public, the media, and health care staff concerning the actual meaning of the MWG and how freedom of choice and the MWG related to each other.
3. Since funds were not allocated nationally, and county council finances required saving even within the sectors covered by the guarantee, the capacity for increased production dwindled.
4. The county councils, like the physicians, were only moderately interested in actively helping patients select providers, particularly if this effort involved extra costs.
5. In choosing between whether to allow the waiting time for MWG patients to increase, or to prioritise these patients ahead of other groups, many departments chose to allow waiting times to increase again. Demand increased for several of the interventions covered by the MWG. The pressure to widen treatment indications was great. Since the MWG was perceived to be outdated, the limits established by the national indications were probably relaxed in many counties.

The symbolic political value inherent in the MWG and the absence of other options meant that it was difficult for the government and the county councils to abandon the concept of the MWG. In response to criticism on the “crowding out” effect, a new guarantee for all patients was implemented at the end of 1995 to cover visits in primary care and referrals for the initial visit to a specialist. One year later the original guarantee, covering twelve interventions, was terminated.
Maximum Waiting-time Guarantee as a Remedy for Long Waiting Times

When the MWG was introduced in Sweden similar initiatives had already been taken, or were being studied, in other counties with similar health care systems. England, Norway, and Denmark designed special MWGs (65,69) in the early 1990s. Other countries later followed the same path, and most recently a national MWG became effective in Finland on March 1, 2005 (66). In recent years, Canada has also carried on discussions about introducing maximum waiting-time guarantees (67). However, guarantees in health care have a tendency to come and go. One explanation for this is that guarantees are political documents, i.e. they express a political ambition and are formed by the current political discourse and the current power relationships in the health care system.

What then is a maximum waiting-time guarantee? To me, the phenomenon of a maximum waiting-time guarantee is: a policy to regulate waiting times for elective care by specifying a maximum time limit. Policy is defined as “actions or methods based on principles”. These principles are determined on a case-by-case basis, the only prerequisite being the establishment of a time frame within which patients shall be offered care.

Waiting lists, to the extent they are not “fictitious”, are a sign of imbalance between supply and demand. Actions that can be taken may be targeted at either one of these, or both concurrently. Chapter 2 reviewed various conceivable actions that can influence the scope of waiting times.

Hence, a MWG can be equated with a package combining different actions (Figure 17). On one hand demand can be controlled with laws and regulations concerning patients’ rights and responsibilities. Examples include referral rules and freedom of choice. Demand can also be influenced by rationing health services through prioritisation and treatment indications based on scoring systems. The supply of health services can be influenced by the organisation and management of health care, but also by the amount of private capacity that is permitted to exist within the public system.

Designing a maximum waiting-time guarantee requires decisions on a range of questions including:

- On what type of steering mechanism should the guarantee be based, i.e. is it a law or an agreement?
- Does the guarantee apply for a limited period, or indefinitely?
- From what decision, or point in the continuum of care, should waiting time be calculated?
- Should specially earmarked resources be allocated, and how should they be distributed?
- What method should be used to determine who should be covered by the guarantee?
What rights are covered by the guarantee?
How will the guarantee be monitored and checked?

Numerous attempts have been made to find solutions to the waiting-time questions in health care, but no one has been able to provide a general formula for solving the problem. In the introduction of this dissertation I identified the waiting-time problem as a weak point in Swedish health services, an otherwise cherished and well-functioning health care system. In comparison to populations in other countries, the Swedish population has good access to elective surgery, and Swedish health services compare well internationally (133,134). Analyses have shown that the waiting-list problem is often less extensive than perceived, and the reason why waiting lists develop is that incentives to limit waiting times have been weak or directly counterproductive (25,22). Some researchers have also suggested that the continually recurring problem of long waiting lists and the inability to find constructive solutions indicate that the actual interest in managing waiting lists is weak. The reason for this is that waiting lists allow one to avoid dealing with conflicting interests, e.g. the priorities of the different parties involved (135).

The maximum waiting-time guarantee that is the focus of this dissertation has largely addressed this issue. Waiting times are a prioritisation instrument, and if this instrument is removed it must be replaced with something else to regulate demand. The indications defined by groups of medical ex-
perts were introduced as a new regulator in the national MWG. However, this instrument was never given a real chance to function and develop. At the outset, the guarantee was already being criticised as a threat toward more prioritised groups, and this criticism only become stronger over time even though the national follow-up could not show that this had actually occurred. In fact, in several areas the indications appear to have functioned as an effective prioritisation mechanism. Cataract surgery is clearly an example in this regard. Hence, it cannot be ruled out that some of the criticism directed toward the guarantee was not actually about crowding out more urgent needs, but rather was aimed at defending clinical freedom and the right to decide who should be placed on the waiting list. In this context it is interesting to note that after termination of the guarantee, the indications for cataract surgery widened and, concurrently, waiting times became longer. This, however, did not generate any discussion concerning “crowding out”.

Obviously, it is impossible to predict what would have happened had one continued to develop this steering instrument and adapt the treatment indications to resource trends and changes in technology and need. Experiences from other countries that use this type of approach – scoring systems and advanced scheduling (Chapter 2) – to manage priorities in elective care are cautiously positive (62,55).

From a political perspective, since the introduction of the first guarantee it has been impossible to remove MWGs completely from Swedish health services. Despite the opposition that the MWGs later met in health care, and the criticism concerning the guarantees as symbolic political gesture without any real meaning, new political initiatives based on the idea of a maximum waiting time have been regularly promoted. In this debate, the political parties attempted to outdo each other with promises about the maximum length of waiting time. This naturally creates expectations among the public that, based on the experience from various MWGs, can be difficult to fulfil without creating new problems.

Although the experiences from the 1992 MWG are mixed, and it is easy to question the medical, economic, and operational appropriateness of limiting the guarantee to three months, it is impossible to offer any alternative formula for the successful implementation of MWGs. As stated in Chapter 2, waiting lists and waiting times are a quality issue involving multiple dimensions and many interested parties. Hence, not a single type of action is required, but many steering mechanisms must co-ordinate with existing structures. The MWG combines several interventions in a “package”. How well a guarantee works therefore depends on how well the steering mechanisms can capture the problems and how they are received by the individuals expected to implement the intent of the guarantee.

The MWG in place between 1992 and 1996 has generated substantial debate concerning the legitimacy, effectiveness, and practical priorities related to health services. The guarantee has also increased knowledge about the
scope, causes, and effects of waiting times in the Swedish health care system. On November 1, 2005 a new national MWG will become effective, and guarantees will probably be used in Swedish health services for many years. Probably the MWGs will always be a topic of discussion and criticism since they affect issues so fundamental in health services as equitable and accessible care.
Acknowledgements

Every dissertation has its story. In my case it is a rather long story, in more ways than one. In 1992 – the year that I was accepted as a doctoral student in health services research – I entered a new phase in a journey that started with my undergraduate degree in the mid 1970s. At that time, I was a research assistant in Public Administration and Management at the Stockholm School of Economics. Although I found it necessary to postpone my formal postgraduate studies for many years, my research interests in evaluating and monitoring public-sector reforms had taken root and continued to grow.

In the late 1970s I started working as a researcher at the Swedish Institute for Health Services Development (Spri) and came in contact with social medicine and health services research. Describing and analysing the extent to which utilisation of health services actually reflected the care needs of various groups was an area of special interest. I became fascinated with the complexity of these issues, particularly the fact that what people define as need of care is highly subjective and changes continually with advancements in medical science and shifting values of individuals and society. This has been the source of considerable reflection, not least in the context of my dissertation.

In the late 1980s, I served as project manager at Spri for the DAGMAR 50 Project – a project aimed at improving capacity and access in health services. The project drew my attention to the phenomenon of waiting times and waiting lists. Later, when I was appointed to evaluate the 1992 Maximum Waiting-time Guarantee, this subject area naturally presented itself as a compelling dissertation topic.

Seldom does one have the good fortune of being able to write a dissertation on an issue that remains a “hot topic” for so many years. Since the late 1980s, waiting lists, waiting times, and waiting-time guarantees have been part of the public debate on health services. The decision to introduce a new guarantee on November 1, 2005 provided the impetus I needed to complete my evaluation of the Maximum Waiting-time Guarantee that terminated in 1996.

During the lengthy process of developing this dissertation, I have had the distinct pleasure of working with many individuals who, in various ways or at various times, have contributed to the final product. Someone who has accompanied me throughout the entire journey is Björn Smedby, my main supervisor. It is with the deepest gratitude and appreciation that I thank
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By necessity, my dissertation has been mainly an “after-work” enterprise, since I had to write while managing other responsibilities. A distinct boundary never separated my studies from my other work since both required me to work with the waiting list issue. Furthermore, management of the project Väntetider i vården (Waiting Times in Health Care) has been of decisive importance in terms of acquiring data, knowledge, and inspiration for this dissertation. With great appreciation I thank my employer, the Swedish As-
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