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ABSTRACT

The thesis examines general medical practice with particular attention to patient outcomes. Sociological descriptions of healing are presented and compared with official views of medical institutions. A theoretical position is taken capable of interaction with the disciplines of both sociology and medicine. Definitions of health are reviewed and used to specify desirable outcomes to patient-practitioner encounters. The context of modern medical care is then discussed; the influence of the intellectual, social and economic environment on the development of medical care since 1800 are evaluated, and modern reformist pressure on medical practice is examined. From this discussion a list of qualities of interest in the sociological investigation of medical practice is developed.

A research project, undertaken in New Zealand, is described which gathered information on a random sample of 9477 general practice patient-practitioner encounters. A survey methodology was used with data supplied by practitioners. In addition, a patient survey was carried out in a sub-sample of 763 visits. Data on practitioner, patient, problem presented, process of the encounter and outcome was recorded. Outcome was measured as empowerment at the visit and improvement after two weeks.

The results of the project are presented and analyzed. It was found that most patients are satisfied with their consultation and that a majority have improved health state at two weeks. Much of the variation in improvement is explained by the severity of the problem and the age of the patient. Social variables make a small contribution to the prediction of good outcomes. In particular, empowerment at the consultation is related to improved subsequent health state. The influence of occupation, gender and ethnicity on problems presented to the practitioner and on outcome are discussed.

A proportion of patients had delayed obtaining medical care for financial reasons. This was associated with more severe problems and poorer outcome. A psycho-social approach to problems was rare and patient counseling did not appear to contribute to a sense of empowerment. Practitioners reported highest rapport with simpler consultations and rapport was negatively related to empowerment. The significance of these findings is discussed.

In a final section it is suggested that medical treatment and counseling may be antithetical skills and that both practitioner and patient may have vested interests in a materialistic view of the content of their interaction. The forms of social control implicit in the encounter are elaborated.
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INTRODUCTION

This chapter will situate the thesis among the range of academic disciplines. It will introduce and define the topic and demonstrate its importance and interest. Those facets of, and approaches to, the subject not to be considered will be indicated. The structure of the thesis will be outlined and the values informing the theoretical and empirical work will be confessed.

The nature of the thesis

This thesis will provide a social description and a sociological analysis of medical practice. It is intended as a contribution to medical sociology. Strauss (1957) identified a distinction between sociology of medicine and sociology in medicine; it is suggested that a spectrum exists running from sociological theory through these medical sociologies to biomedical theory. This work is conceptually situated at the midpoint of the spectrum where it has the potential of making the maximum contribution to both sociology and medicine, and risks rejection by both. In an address given at St. Thomass' Hospital, London, Eliot Freidson (1983, p.212) specified the desirable interaction between the disciplines:-

"[..] sociology must be engaged in the real world as something other than a mere technological enterprise at the service of the highest bidder or a scholastic enterprise of parasites hypnotizing themselves with mere talk [..] It needs the challenge that the study and analysis of health affairs - among
other affairs - can give it. [...] Medicine, on the other hand, needs sociology in order to be able to preserve what is valuable in its present institutions while participating creatively and effectively in adapting them to the inescapable forces confronting them."

For sociology this plea echoes Mills' call (1959) to bisect the line between grand theory and mindless empiricism. The challenge to medicine is to recognise the claims of others to valid knowledge.

Of all aspects of the health care enterprise, the interaction of patient and healer will be the subject of the thesis. Specifically, the interaction between individual and primary care practitioner will be theorized and investigated empirically. While this choice has been influenced by practical considerations it has theoretical advantages. A visit to the family doctor is the commonest experience of the medical system for the average citizen and the distractions of administrative exigencies and housekeeping care present in the hospital are avoided. Further, the primary care system in New Zealand is currently undergoing changes. The recent "Green and White Paper" (Upton, 1991) proposes new mechanisms for the subsidization of primary care and suggests that it should be better integrated with secondary and tertiary levels.

The patient-practitioner encounter will be seen as a social, rather than as a technical biomedical, event and its description will use lay and sociological, rather than medical, terms. The outcome of the encounter will assume a major importance; people usually pay doctors for the anticipated change in well-being rather than for the pleasure of their company.
The research to be reported in the thesis utilizes a survey methodology, obtaining information from both patient and practitioner. Surveys require associated qualitative studies for validation. These are absent from the original work presented, however, the qualitative research of others is quoted and the author draws, albeit cautiously, on personal clinical experience.

The process by which individuals become patients by seeking care from medical professionals will not be investigated; nor will the actual conversational process of the consultation be examined. The research will be confined to primary care physicians; specialists and practitioners of alternative healing systems will not be discussed.

It should be noted that general practice, primary care and family practice are used as synonyms, as are the terms patient-practitioner encounter, doctor-patient interaction, visit and consultation.

Interest and importance

The primary care consultation is a conspicuous social phenomenon. Firstly, it occurs frequently, involving the majority of the population and consuming considerable resources. In New Zealand the mean number of patient-doctor visits per person, per year, varies between 2.5 and 5.5 according to area (Scott et al., 1986); of the resulting ten million visits, five percent are referred for a second opinion. Consultation rates are similar elsewhere. In Britain, Cartwright (Cartwright, 1967; Cartwright and Anderson, 1981) reports a frequency of 3.8 per person per year.
and quotes a cross national range of 2.2 (Sweden) to 10.7 (Czechoslovakia). Where consultations are billed individually under fee for service systems, the cost is likely to vary upwards from a minimum of twenty five dollars (NZ).

Secondly, access to other medical resources, such as medication and specialist services is commonly controlled by the general practitioner. Thus, indirectly, much of health care expenditure is allocated during primary care interactions. It was estimated that the total cost of services provided as a result of a general practice consultation was $NZ67 in 1986/7 (Malcolm and Clayton, 1988). It is during the primary consultation that the core medical process of diagnosis and treatment planning begins. Given the state of medical knowledge and the efficacy of current treatments, the consultation has a strong influence on the effectiveness and appropriateness of health interventions.

Finally, contemporary society is examining medical institutions with unusual intensity. The contraction of prosperity currently affecting the industrialized world has made the cost of medical care harder to bear and planners are scrutinizing the efficiency of the health care system. This process is encouraged by the realization that medical effectiveness may be less than previously supposed and by the surfacing of consumer dissatisfaction with the experience of receiving medical care. However, the patient-practitioner encounter has been widely studied and new research must be sociologically justified. We identify three aspects of the field, to be addressed by this work, which remain unclear or, even, uninvestigated.

First, the outcome of doctor patient meetings has been neglected. In
brief, social science studies have tended to focus on the impact of social structure on medical work, on the "latent" functions of the system, or on the actual process of the consultation. Most have bracketed the medical content, taking medical efficacy, whatever its assumed level, as a given (Lock, 1988). Studies of efficacy are the basis of medical research but this literature has been limited by the biomedical model. Social factors have been neglected (Ehrenreich, 1978) and the benefits of the medical endeavour, as a whole, have been assumed rather than demonstrated (McKeown, 1979). The present study will integrate patient and practitioner information in the description of the consultation and its outcome.

Second, the research on medical practice variations (Andersen and Mooney, 1990) has demonstrated that, despite international agreement on the facts of medical science, the rate of implementation of specific medical activities may often vary by a factor of four both between countries and between small areas within a single country. The details of medical care must, therefore, be under-determined by medical science and the way is opened for the social evaluation of the process. This study will use patient accounts to measure and classify the outcomes.

Finally, as McWhinney (1983) has suggested, general practice may be undergoing a paradigm shift. He believes that the mechanistic disease model, developed in the nineteenth century, will be replaced with a new (or perhaps, ancient) humanistic illness model. The old model will be retained in appropriate circumstances in the same way that Newtonian physics is retained for everyday engineering in the relativistic world of Einstein.
General practice is seen as a site for the new paradigm because many people are seen with social rather than biological problems and with symptoms rather than diseases. The new practitioner, between episodes of Newtonian medicine, will "mobilize [...] the patient's own healing powers" (p.6). In this study, the patients' understanding of the situation and capacity for self care, which we will term empowerment, will be examined.

The personal interest of the author in this subject comes from twenty years spent in participant-observation as a practicing medical doctor. During this time, being somewhat skeptical, he was constantly aware of those patients who appeared dissatisfied with the medical system and of the techniques used by professionals to live with this. This research represents a search for the facts underlying these informal observations.

Purpose

But if we are to meet Freidson's criteria, mentioned above, we must go beyond personal, sociological or even social interest, and provide medicine with information of practical value in refining health care. The intention of this thesis is to describe general practice in social terms, to see it as it is seen by the public. The social characteristics of patients, such as age, disability and type of need, will be emphasized over medical diagnoses, and socially valued outcomes will be emphasized over successful or medically correct treatment. An attempt will be made to identify people or problems that could be better managed so that practitioners can refocus their efforts and so that the organization of care and the training of practitioners can be
made more relevant.

Outline

Chapters II-VI will develop a theoretical basis for the consideration of the general practice consultation. In Chapter II we will present accounts of the healing process from the contrasting positions of sociology and medicine. This will allow the positioning of this work in relation to the many approaches to the study of the patient-practitioner encounter. It will also begin the process of selecting qualities of the patient-practitioner encounter significant to its social description. These qualities will include "input" variables such as the characteristics of patient and practitioner, or the nature of the problem; "process" variables such as the diagnostic and therapeutic activities of the doctor; and "outcome" variables such as changes in the patient's mental or physical state.

Chapter III will develop the key concepts of health and healing. From this will follow a discussion of possible outcomes to the medical encounter and a specification of outcome measures.

The next three chapters will consider the social context of medical practice and further draw out issues of interest. These chapters are not intended as a formal demonstration of the effects on practice of social factors; rather they serve as a means to review the work of others on the patient-practitioner encounter. They will allow refinement of the list of relevant variables developed in previous chapters and will summarize the qualities of modern healing institutions that have emerged from
Chapter IV will discuss the interplay of social context and medical practice during the period of historical development from 1800 to the present. Chapter V will investigate contemporary changes in medical care and Chapter VI will discuss New Zealand as a particular case of the development of biomedicine.

Chapter VII will describe the intention, research design and operationalisation of the empirical research presented in this thesis. Chapter VIII will describe the practitioners, the patients, and the process of the consultation from the practitioners' point of view. In Chapter IX outcomes and other information from the patient questionnaire will be presented and, in Chapter X, an analysis will be undertaken relating input, process and outcome variables.

In Chapter XI a social description of general practice is presented in terms of relevant of social variables and the prediction of satisfactory outcomes. Finally, in Chapter XII the implications of the findings for medical practice and sociological theory are assessed.

Values

While the discussion which follows and the data to be presented below have been assembled in a spirit of objectivity, they are affected, inevitably, by the beliefs of the author. A brief statement of personal values therefore seems appropriate. First, it is believed that sociology should be descriptive and/or analytical but not prescriptive. It must be understood at the same time that knowledge carries within it the seeds of change. Second, justice
is seen as a worthy goal and consists in equality of opportunity combined with a limit on inequality of condition. Third, society is seen to consist of groups and individuals pursuing their own interests and to produce dominant groups with superior resources which they seek to retain and enhance. Sociological discussion should, therefore, and for both scholarly and moral reasons, identify and avoid false and self-serving justifications of the dominant group.

At a more mundane level, illness is considered to be a personal problem with living, believed to be due to personal incapacity, while disease is a medically imposed label implying a pathological process. Both are socially created labels having a spectrum of stability from biologically defined pathology, e.g. tuberculosis, via medicalized problems, e.g. alcoholism, to culturally specific issues, e.g. drapetomania. Healing is seen to have a manifest function, the relief of distress and restoration of function, and a latent function, namely, social control. The purpose of medical sociology is to assess the manifest, and to identify the latent, functions.

Finally, the potential of healing, including medical care, to benefit individuals and society is assumed. It is seen as valuable to untangle conflicting accounts of the process in the service of a more effective, humane and efficient society.
ACCOUNTS OF HEALING

We will open this chapter with a discussion of the category of social activities known as healing. We will then go on to examine sociological and medical accounts of the process in accordance with our intention to place this work at the junction of sociology and medicine. This will allow the conceptual basis of the thesis to be defined and justified. Further, the characteristics of the patient-practitioner encounter of interest for our analysis will begin to emerge. The definition of health itself will be deferred until Chapter III.

Definitions

Healing is culturally ubiquitous but difficult to define (Glick, 1967). There are wide cultural variations in what shall be called illness and who defines it, and in what shall be called healing and who may do it. Glick concludes that an ethnological account of healing should answer the question "What ideas does a culture hold about power and about illness and how do they interact?" This cultural definition draws attention to the cultural dependence of healing.

For our purposes, we need a definition which covers behavior as well as beliefs and which is applicable to western industrial cultures. The object is to include all health work at the same time as excluding actions productive of welfare in general. Nursing should be recognized but provision of holidays in Bali should not. Stacey (1988: p.4) has defined health work as:- "the production, maintenance and restoration of health;
the care and control of birth, mating and death; the amelioration of irreparable conditions and the care of the dependent."

Health is defined as "general physical and mental well-being, "...the specification of which will vary over time and space..." This is adequately inclusive, covering cure, care and prevention; however, holidays might be included as restorative of health.

An alternative definition, suggested by Evans (1984: p.5) limits health care to:-

"those goods or services which consumer/patients use solely or primarily because of their anticipated (positive) impact on health status"

This recognizes the characteristic delayed benefit of healing processes; as Evans points out, much of medical treatment itself is frightening, painful or dangerous. Accepting this definition of health work but remembering that prevention, care and cure are included, and that context is critical, we define healing as any activity whose primary intention is to improve or maintain health (see Chapter III). We now move on to a consideration of sociological models of the healing process.

Sociological Analyses of Healing

The history of medical sociology is relatively short. The "founding fathers" of sociology saw illness as an indicator of social conditions. Health as an individual issue was outside the bounds of sociology, especially in the early decades when the discipline was seeking a distinctive territory. Thus Durkheim
makes no mention of psychiatric categories in *Suicide* (1897/1952)
and Marx and Engels, while deploring the condition of the working
class, focussed on the impact of economic factors rather than
on medical efforts at their amelioration. It is perhaps more
surprising that the institutions of medicine escaped early sociological comment.

Gerhardt (1989b) suggests that Henderson's "Physician and patient
as a social system" (1935) was the first medical sociological paper; it ruptured the sociological taboo on the individual and
ended the neglect of medical institutions simultaneously. While
the article was published in a medical journal, it was a key
influence on Parsons who is undoubtedly the first major sociological figure to take healing as a central concern. He identified medicine as one of four professions contributing to
the rational solution of social problems in a 1939 article entitled "The professions and social structure" and he used medicine as a major case study in his theoretical work.

Parsons' early inclusion of healing into structural-functional
analysis was followed by the development of major medical components within subsequent sociological schools. Symbolic interactionists and ethnomethodologists published studies of medical subjects in the early 1960s and medical sociologists emerged within the conflict/ Marxian tradition in the 1970s. Gerhardt (1989b) relates the emergence of each sociological school to the political context of the times. She emphasizes the impact of the totalitarian regimes of the mid-century but it is perhaps clearer that the immediate social context influenced sociological thinking. Parson's focus on consensus reflects the
complacent republicanism of the Eisenhower years and the micro-sociologies, which Gerhardt calls "sociologies for a fascist state" mirror both the American civil rights movement and the "third wave" psychologies of the `60s and `70s. Similarly, the recognition of social conflict may be related to the disaffection of the `70s and `80s. Health Services Research can be linked to state medical plans in post-war Britain and Johnsonian America. The following review of sociological models of illness owes much to Uta Gerhardt and her book *Ideas about illness* (1989a&b).

Parsonian macro-sociology

Parson's notion of illness was outlined in Chapter 10 of *The Social System* (1951) and in several essays in the collection entitled *Social Structure and Personality* (1964). Illness is seen to be caused by excessive social demands accompanied by insufficient rewards and is constituted by two processes. For the first, which Gerhardt calls the "incapacity model," disease produces an inability to meet obligations; the person adopts the "sick role" and visits the physician who applies appropriate technological treatment. The patient recovers and reassumes his or her responsibilities. The sick role has four attributes: blamelessness; the obligation to recover and to seek medical aid; and the release from social duties.

The second process, the "deviancy model," involves the break-through of dependency needs. This is to be understood against a background of Freudian theory. During the process of socialization, childlike dependency needs are replaced by the
pleasure principle under which adults learn to exchange labor and self-discipline for esteem and power. The deviant break-through of the childhood pattern is treated by psychotherapy, usually covert. The goal is resocialisation and, once more, the resumption of responsibility. The two processes apply to physical and "mental" illness respectively, however, these and the processes are rarely distinct. The phenomenon of secondary gain in physical illness is recognized and physical symptoms often accompany problems of "mental" origin. Similarly, technical treatment includes a psychotherapeutic component and "mental" illness may be treated technologically. The hospital itself is seen both as a site for technological treatment and as a means of reducing the desirability of the sick role. Clearly, inability and unwillingness to maintain role responsibilities overlap.

This model clearly specifies the desirable outcome, recovery of both the will and the capacity for normal social function. Parsons identifies the process of social control within the medical endeavour; patient benefit is assumed. This analysis identifies what Merton (1967/1948) called manifest and latent functions. The manifest function, the overt reason for the activity, is patient benefit. The latent function, that not recognized or intended by the participants, is social control. Parsons' model of healing is attractive; it integrates physical and mental illness and it identifies the desirable outcome. Issues of conflict and justice are not addressed directly but the professions, including medicine, are seen as the arena of society in which competition and exploitation are prohibited.
Our attention is drawn to the capacity and the willingness to meet social demands, to the adequacy of societal rewards and to practitioners as technologists, therapists and mediators.

Micro-sociological approaches

Gerhardt (1989) identifies two models of illness within symbolic interactionism and one within phenomenology. She places Goffman within symbolic interactionism, which might have surprised him, and although the original sociological schools were clear, the placement of some modern scholarship, which draws on them indiscriminately, is problematic. We will group both schools as micro-sociological but retain Gerhardt's three models of "negotiation," "crisis" and "trouble." In general, several authors are associated with each model and the relative simplicity of structural-functional medical sociology, with its single proponent, is absent. For all of these models the cause of illness is assumed to be the disjunction between institutions rather than the Parsonian concept of a disjunction between individual and role.

1. Negotiation - The concept of negotiated order was first advanced by Anselm Strauss and his associates in 1963 in *The Hospital and Society*, a volume edited by Freidson. Strauss developed the concept, particularly in his work with Glaser on dying (1965, 1968). A similar theme had informed the prior work of Davis, F. (1960) on medical uncertainty and that of Roth (1963) on the careers of tuberculous patients. British sociologists have used the idea (eg Stimson and Webb, 1975; Wadsworth and Robinson, 1976; Dingwall et al, 1977; Stacey et al, 1977).

Illness is seen, as in structural-functionalism, as role incompetence
and analysis typically starts with the encounter between client and professional. Each has resources and uses them to reach a negotiated agreement as to the nature of the situation. The patient pursues his or her best interest in seeking legitimation from the doctor. The focus of the sociological analysis is the power relationship of the participants. These include the patient and his or her family and friends, and the practitioner, the paramedical staff and administrators.

What would count as a valued outcome in this model is less clear than in structural-functionalism. Chronic illness has been central to the analysis and recovery of function has been of little relevance. It is implied that an optimum definition of the situation would allow the patient maximum autonomy; as a corollary, a shift from professional authority to patient empowerment, would be endorsed. Our attention is drawn to conflictual power relations between patient and practitioner.

2. Crisis - The crisis model sees the illness label imposed rather than negotiated. This approach stems from the work of Lemert (1951) and Scheff (1966) and some influential proponents have been Goffman (1963) writing on stigma, Freidson (1970b) on physical illness, Szasz (1961) on mental illness and Scott (1969) on blindness. This approach maintains that there is extensive variation between people and sometimes this is recognized as deviant. Deviance is thought to reside in the labeling rather than intrinsically in the behavior; it is context dependent. The patient is inducted into a new and stigmatized status; furthermore this status is dominant and colors all other activities. Following the crisis there is little hope of
recovery and the role of the professional is to support the deviant superstatus.

Essentially there is no satisfactory outcome and labeling is disvalued. The least harm will be done when the power of patient and professional is most nearly equal and when the stigma is minimized. Perhaps a label might be found that improves the experience of the recipient. Reform of the institutions of health care is implied. The crisis model is clearly one sided and has focussed on those chronic conditions in which recovery is unlikely and technical help exhausted. Biological condition is viewed as a constant rather than as a variable. Our attention is drawn to stigmatization; neither recovery nor relief of symptoms are emphasized.

3. Trouble - The phenomenological resembles in some ways the negotiation model; however, it operates at a somewhat deeper level. The focus is not so much on doctor-patient negotiation as on the details of everyday procedures. Thus Garfinkel (1967) examines the "taken for granted", Cicourel (1981) looks at interpretative procedures and Sacks (1972) searches for the rules of conversation. In principle, everyone experiences trouble but are busy "doing being ordinary" and avoiding becoming the subject of a "story." The appeal for help triggers the construction, usually by a professional "trouble shooter", of a holistic problem. It is asserted that unmanageable troubles break the trust that exists between individual and institution. This trust is used to explain order and replaces the super-ego used for the same purpose by Parsons (after Freud). The intention of patient-practitioner interactions is to restore trust using
either action or therapy. For the phenomenological model, there is no distinction in principle, between medicine, the police or any other institution of social control. Improvement in the condition of the patient or reintegration into society are seen as socially constituted goods without any necessary validity. It might be part of patienthood or of doctorhood to value them.

Micro-sociologies of healing address the patient-practitioner interaction. The process of labeling, with or without negotiation, and power relations are central concerns. Broader structural issues are usually ignored and restoration of function is peripheral.

Conflict theory

Moving now to a consideration of the ideas of illness that emerged from conflict theory, we also turn back to macro-sociology. Gerhardt (1989b) recognized two models - those of "loss" and of "deprivation." Both include awareness of the inequality that separates societal members. It has been shown that illness is differentially distributed across social groups; conflict sociology therefore addresses the issue of differential occurrence of disease.

1. Loss - Under the loss model illness is seen as a biological breakdown producing suffering and dysfunction. The causes include the personal history of the individual, thus Wolff and his collaborators (1968) formulated the concept of life stress; deficient personal resources, thus Seligman (1975) points out the negative effects of inability to influence the environment and Cobb (Cobb, 1976) posited a health benefit of social support;
and group membership, thus Hart (1986) in the U.K. and Kitagawa and Hauser (1973) in the U.S. demonstrated the class relatedness of ill-health. From this model have come suggestions that primary care should be devoted to providing social support (Ben-Sira, 1968); others, for example Levin et al. (1977), have advocated patient self-help, endorsing the principles of the women's health movement.

2. Deprivation - The second conflict model draws attention to the production of illhealth in capitalist society. For example, Freund (1982) has cataloged the negative health effects of western social arrangements. Medical work is thought to have little value. Thus, Ehrenreich (1978) describes two forms of medical activity, both essentially disvalued. The first, which he calls cooptative, serves the better off and is expansionist and exploitative; the second, disciplinary, is directed at the poor and is punitively exclusive. The solution advanced within this model is to de-medicalise, de-professionalise and de-commodify; most importantly, society must be reformed to produce a health enhancing, egalitarian world.

The focus of conflict model sociology on social ills draws attention away from the benefits of medicine towards the need for institutional reform. However, a system of care that provided appropriate technological aid to those in need would be valued. The twin dangers of intrusive medicalisation and failure to provide useful help would be avoided. Conflict theorists recognise suffering, and the value of its relief, more clearly than other schools. Both conflict and all micro-sociological models recognise the value of patient empowerment.
These seven sociological descriptions of illness are each partial. Parsons is concerned with the social function of healing institutions, the micro-sociological models are concerned with the social process of certain medical activities and the conflict models are concerned with the allocation of blame for ill health. Gerhardt (1989b) comments that the focus on psychological rather than physical illness, and the marginalisation of the medical definition of physical pathology is surprising. Indeed, each model excludes biomedical science from its purview. While this is partially out of respect for established disciplinary boundaries, it may also be connected to a distinction between the nature of medical and sociological discourse. To quote Gerhardt (1989, p.354) "...sociology is urged to realize that its territory is the theoretical understanding of social goings-on while medicine means practical participation in specific social tasks..." We now turn to the conceptual output of those who are engaged in this practical activity.

Medical Accounts of Healing
We have considered sociological accounts of illness and healing. If these accounts are "etic", "emic" accounts also exist in medical views of disease and treatment. Where sociological accounts see the benefits of medical treatment as problematic, medical accounts take benefit for granted.

The Medical Handbook published by the New Zealand Medical Association in 1978-79 contains a section on Ethics and Etiquette. A series of Codes, quoted with approval, show that the assumption of the
unproblematic nature of the benefits of medical care is widespread over time and place. Thus, the Hypocratic Oath states "Into whatever houses I enter I will go into them for the benefit of the sick" but does not specify the nature of the benefit and is mainly concerned with those activities that should be avoided. The Declaration of Geneva of 1948 adopts an even broader but equally unspecified goal with the physician "consecrating [his or her] life to the service of humanity." The International Code of Ethics of 1949 speaks of the "...importance of preserving human life from the time of conception until death." (The fetus was abandoned at the Declaration of Oslo, 1970). The 1989 Code of Ethics of the New Zealand Medical Association is more specific, requiring physicians to "Consider the health and well-being of your patient to be your first priority" and to "Practise the science and art of medicine to the best of one's ability in full technical and moral independence with compassion and respect for human dignity."

Perhaps the most interesting feature of these biomedical mission statements is their lack of analysis of medical outcomes. The goals may be left undefined or, when defined, may be in conflict or beg important questions. Thus, the service of humanity may conflict with the well-being of a particular patient and respect for human dignity might require the physician to surrender some technical or moral independence. These statements do draw our attention to the protection of life, in both its quantitative and its qualitative aspects, as goals of the healing process. The State has also drafted mission statements. The Act which created the National Health Service in Britain declares that the object
of the service was to "secure improvement in the physical and mental health of the people" and "in the prevention, diagnosis and treatment of illness" (Merrison, 1974, p8). The Merrison Commission on the NHS noted the desirability of assisting individuals, as well as the public, to remain healthy and mention the Law, exhortation, education and incentives as well as "a broad range of medical services" as appropriate means. Satisfactory social conditions are also mentioned as necessary but outside the purview of the service.

Similar overall goals have recently been recognized by the Department of Health in New Zealand. The overall goal of the health system is "protecting and improving the health of all New Zealanders" (New Zealand Department of Health, 1990) and this will have occurred if:-

"life expectancy is increased and avoidable mortality is reduced; morbidity is reduced and the average number of years that people live free from major disease or disability is increased; health promoting behavior is increased and health damaging behavior is reduced." (New Zealand Ministry of Health, 1990)

In summary, designers of State Health Services have been clear on their objectives - increased life expectancy and decreased morbidity. These goals are identical, although better specified, than those derived from medical mission statements. Decreased morbidity has been variously related to well-being and to capacity to work.
Theorizing the patient-practitioner encounter

This review of approaches to healing have identified a number of concerns of interest. Let us first look at the process leading from the causes of illness, through diagnosis and treatment to outcome. Amongst the causes of illness and disease we must consider the social environment, particularly the rewards available to the individual, as well as physical agents and genetic endowment. In defining illness the issue of labeling must be addressed as well as that of suffering. Similarly, both the willingness and the capacity to meet social demands must be assessed. In examining the process of healing, practitioners must be seen as both mediators and as therapists; and power relations between patient and practitioner must be examined, particularly in the possibility of exclusion from valuable treatment and of exploitation by overservicing. Finally, with regard to outcomes, an evaluation of restoration of function and relief of suffering, must be balanced by an assessment of stigmatization and disempowerment. These issues are summarized in Table 2.1.

Table 2.1. Summary of Key Variables in Healing

<table>
<thead>
<tr>
<th>CAUSES OF ILLNESS</th>
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<tr>
<td>- Individual constitution</td>
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<tr>
<td>- Physical environment</td>
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<tr>
<td>- Social environment</td>
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<table>
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<tr>
<th>CHARACTERISTICS OF ILLNESS</th>
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<tr>
<td>- Suffering</td>
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<tr>
<td>- Incapacity</td>
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<td>- Unwillingness</td>
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<th>ENCOUNTER WITH HEALING SYSTEM</th>
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<tr>
<td>- Labeling</td>
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<td>- Mediation</td>
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<td>- Therapy</td>
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23
Secondly, let us look at the disparate nature of the various sociologies of healing. There is a major cleavage between macro- and micro-sociology. However this is a difference of subject rather than one of comprehension; for example, Waitzkin (1979) uses the details of patient-practitioner communication as an illustration of the workings of the capitalist state. The other cleavage is between the concept of practitioner as helper and as exploiter. In the present section we will present our approach to these issues.

Macro-micro relationship - The conceptual relationship between inter-personal events, such as the patient-practitioner encounter, and social facts, such as the capitalist system, has been problematic. Recent scholarship (Knorr-Cetina, 1981) has examined the challenge that post-war micro-sociologies have presented to established macro-sociology and explored possible linkages between the two.

The contribution of Knorr-Cetina (1981) is the idea that social facts themselves reside in the accounts produced by actors to create order and understanding in the social world and differ only in content from the accounts of face-to-face interaction recognized by micro-sociologists. Thus, macro-sociological accounts of the social world are constructed by theorists from
the aggregated accounts of individual actors, leavened by an understanding of accidental social effects. This formulation seems to sidestep the issue of the relation between macro- and micro accounts; another account is needed, that of the relationship.

One view, represented by the work of Collins (1981), is that social structure is formed by the aggregation of micro-events; against this is must be recognized that social systems have dynamics of their own not reducible to the actions or intentions of individuals. Another view, represented by Harre (1981), is that macro-sociology is concerned with the unintended consequences of individual actions; while this is the case, we cannot accept the exclusion of intended consequences.

Huber (1991), using the interaction between types of macro-society and micro-gender relations as example, erects a more satisfactory concept; technological change alters the ground of individual decisions and the aggregated decisions change social structures. Thus, reduced infant mortality diminished the period during which women were tied to the production of a viable family and women became more available to the labor market. In the same work, Hechter (1991) elaborated this theme and Cook (1991) used micro-exchange theory as an explanation of macro-social structures.

We will adopt this concept of a reflexive interaction between micro- and macro-levels. For example, economics can be used as a resource by participants in interpersonal encounters and such encounters, aggregated, constitute the data of economists. In medical sociology, a similar approach has been developed
independently by Sue Fisher (1988) who linked social structure to conversational analysis of medical encounters. This thesis will examine accounts of medical events given by patients and doctors in the form of survey responses; these accounts are structured by social facts (e.g., norms of the consultation) and, in turn, contribute to maintaining and changing them.

Exchange-exploitation relationship - How are the contrasting views of doctor as helper and as exploiter to be reconciled? The idea of exchange is close to the everyday conception, conventional in Western society, of what "seeing the doctor" is about. The patients, directly or indirectly, exchange money for medical services; they believe that their condition will in some way be improved by such service. The practitioner offers medical expertise and action. On this model, the need for care springs from patient disease and the achievement of a positive outcome is limited only by the extent of technical knowledge and by the availability of resources. The practitioner is idealized as a neutral helper.

The exchange of money for expertise is, however, rarely simple. In the case of healing, two issues complicate the exchange. First, what is to be seen as disease is subject to cultural definition. Indeed, as Freidson (1970b) has pointed out, it is defined by the practitioner and the profession to which he or she belongs. Chiropractors recognize subluxation of the spinal joints; physicians do not. Second, even when the diagnosis is agreed, ideal medical care, as mentioned in the Introduction, is under-determined by technical knowledge.

It must be accepted that, under these conditions of uncertainty,
practitioners may pursue their own interests as well as, and sometimes instead of, those of their patients. Similarly, they may act on behalf of the social system of which they are part - even when this may be neither in their own nor the patients interests. As an example, one might consider notifying the police of a gunshot wound sustained by a powerful criminal. This is a particularly clear example of the social control function of medical practice, invoking as it may the coercive institutions of society as represented by the police. There are, however, more subtle processes of social control. Foucault (1976/1980) has suggested that knowledge is inseparable from power; thus, in the medical situation, the practitioner's knowledge creates power over the patient. But, knowledge, in addition to its rather negative coercive aspect, has the positive function of creating meaning. Under this process, the patient-practitioner encounter can be seen as the co-operative generation of an understanding of the patient's situation. Medical knowledge simultaneously imposes a particular interpretation and builds comprehensibility. Foucault has asserted that domination automatically induces resistance; the patient will resist to the extent that the interpretation is experienced as imposition. To the extent that the meaning created is of value, he or she will co-operate. Foucault's conception of power as a micro-sociological, interactively generated, phenomenon is at odds with the more usual view of power as vested in dominant groups.

In considering the nature of societal power relations, it is clear that a simple Marxian division of society into bourgeoisie and
proletariat is inadequate for an understanding of the interaction between doctor and patient; doctors occupy an ambiguous class position, the dominant bourgeoisie is unlikely to be represented at all and much interest centers on competition within the professional class. Bates and Linder-Peltz (1987) in considering possible macro-sociological approaches to power relations in health care, suggest that previous work has been based on either consensus, pluralist or conflict assumptions. They opt for a pluralist neo-Weberian view "...that groups compete [and] that none dominate absolutely..." We will take on the same position but with the proviso that some groups are nevertheless dominating. This is close to the elitist view described by Harrison et al. (1990).

Our view will be that the actions of practitioners and patients are negotiated, as conceptualised by Foucault, within a constraining social structure. Thus, power relations are a particular example of macro-micro interaction. The social structure itself, as suggested by Harrison, is more responsive to the elite, medical or economic, than to average citizens. The contrast between doctor as altruistic and as exploitative is reflected in the sociological and medical accounts of healing reviewed above. In the context of this thesis, the medical idea that healing activities may be beneficial to both individual and group is accepted with the sociological proviso that the concept is problematic and that interests will differ - one person's benefit may be another's cost. We adopt the view that health services may be studied empirically with a view to measuring individual and social benefits. Indeed, we believe that services
should be studied and that the maximization of benefits is a worthy and partially obtainable goal. In this we transgress Gerhardt's recommendation (1989b) that sociology should limit itself to understanding social goings-on and enter the realm of participation in a specific social task, namely the reorganization of the institutions of healing.

Having discussed social science and medical accounts of healing, we have begun the process of selecting qualities of the patient-practitioner encounter of significance for our analysis and we have taken up a position on conflict and cooperation. In the following chapter we will consider definitions of health and develop a concept of satisfactory outcome related to the restoration of health. Subsequent chapters will describe the milieu within which modern healing institutions have developed, and continue to evolve, and discuss the features of those institutions.
In this chapter we will attempt to define what should count as desirable outcomes to medical encounters. The previous chapter has indicated that this is problematic. In the present chapter we shall examine the manifest purpose of medical care and we will take the view that this is the maintenance and restoration of health. We shall begin by discussing the nature of health and then move on to evaluate and select outcome measures.

Health

Health has been defined by medical doctors, by sociologists and has a lay meaning. In general medical definitions have emphasized the absence of disease while sociological and lay definitions have drawn attention to well-being and intact function (Helman, 1984). People lose their health to illness, the experience that something is wrong; doctors diagnose diseases, the occurrence of specific pathology (Cassell, 1976).

Lay definitions - People see themselves as ill if there is a change in bodily appearance, if function is altered or limited, or if they have unpleasant physical or emotional experiences (condensed from Helman, 1984). Sometimes, the status of illness may be imposed by others. What degree of change is sufficient to constitute illness varies between individuals and between classes; in general, the better off have a lower threshold (Fox, 1968; Blaxter and Patterson, quoted in Helman, 1984).

The definition of health also varies culturally. Most non-western cultures go beyond simple physical and mental function and see
health as balance within the individual and between the individual and the environment (Helman, 1984). In the New Zealand context it is interesting to note that:-

"In traditional Maori terms, health is an all embracing concept which [has] Wairau (spiritual), Whanau (family), Hinengaro (mental), and Tinana (physical) aspects." (Pomare and de Boer, 1988)

and that spiritual health requires a satisfactory connection to the land.

Whatever the nature of the alteration defined as illness, three questions arise (condensed from Helman, 1984):-

1. What has happened?
2. Why has it happened, why to me and why now?
3. What should I do about it?

The answer to these questions comprise the "explanatory model" (EM) of the subject (Kleinman, 1980). Thus, in addition to the primary disturbance, however defined, illness has an overlay of incomprehensibility. Reciprocally, health includes an understanding of ones state.

Official definitions of health - The definitions of health adopted by official bodies in recent years have gone beyond the absence of disease. The most quoted definition, that of the World Health Organization (WHO, 1946) states that health is "Physical, mental and social well-being." The Board of Health of New Zealand went further:- "...health is a state of physical, mental, social and spiritual well-being and not merely the absence of disease or infirmity. Health is also the individual's own perception of well-being and is related to self-acceptance and self-respect." (Board of Health, 1988).

Sociological definitions of health - We have seen in the previous chapter that sociologists have defined health as performance of social functions, as absence of suffering and as a sense of personal empowerment. The New Zealand Board of Health definition covers each of these aspects.
Medical definitions of health - Medicine sees itself as a manifestation of scientific rationality (Lock and Gordon, eds. 1988). It must, therefore, deal in intersubjectively observable facts. Disease is defined in objective anatomical or biochemical terms; distress or illness, by contrast, is a subjective concept. Similarly, well-being is an individual experience fundamentally resistant to measurement. Thus, medical definitions of health have focussed on the absence of definable pathology. "Mental illness" except when caused by "organic disease" has always resisted this model (Mirowsky and Ross, 1989).

Governmental agencies responsible for delivering "health care" have often favored the medical definition of health (Evans and Stoddart, 1990). There are two major reasons for this. Firstly, doctors are trained to treat disease and have no particular expertise in improving feelings of well-being; indeed, pastors might justify a prior and superior claim to this field of activity. Secondly, any control of utilization rates would be impossible if lack of well-being were treatable since it is experienced by all.

Some sections of the medical profession have resisted this narrow definition of health. Before the "therapeutic revolution" of the present century most doctor-patient interactions concerned uncurable, if not untreatable, conditions and this remains the case in general practice where many complain but few have disease susceptible to definitive cure. Balint (1964) drew attention to the possibilities for psychotherapy in general practice and Balint groups, which train practitioners in appropriate techniques, are now common in Europe. McWhinney (1983) has gone
so far as to suggested that the contingencies of general practice may engender a new medical paradigm (see Chapter V) accommodating the management of illness as well as the treatment of disease.

It may be noted, in this connection, that Evans has suggested that health should be defined as the absence of problems that people actually take to medical doctors (1991). However, it remains an open question as to what group of workers should treat illness not associated with disease.

A definition of health - As Helman (1984) has pointed out the disjunction between medical and lay views of health, between professional and popular "EMs," may produce situations where patients are advised to undergo treatment for disease when they experience no illness and situations where there is "nothing wrong" or, at least, no disease is found, in subjectively ill patients. The first possibility, for example the reduction of high blood pressure, can be accommodated in the knowledge that the disease may later produce illness. The second possibility requires that a non-biomedical definition of health be adopted.

In addition, health cannot be seen as a purely personal matter. It involves satisfactory relationship with others and with the environment, as well as with the self. It includes the satisfactory performance of social roles. With this proviso, we will therefore define health as "physical, emotional, mental, social and spiritual well-being."

Evaluation of healing outcomes

Given that healing is the enhancement of health, a positive outcome to patient-practitioner encounters must be an improvement of
health state. Outcomes are to be distinguished from outputs. Outputs are means, such as prescriptions or surgical procedures, while outcomes are results, such as feeling better.

While positive patient outcomes are the basis and legitimation of all medical activity, medical research has been limited in this area (Best, 1988). In recent years there has been a trickle of articles on the theoretical requirements and desirability of outcome measures (Freeling, 1985; Wilkin, 1986; Russell and Cole, 1987); these sources suggest that there has been little progress in the actual use of outcome measures since earlier commentaries (Brook, 1977). A recent discussion of "the outcomes movement" (Epstein, 1990), has identified cost containment, competition and unexplained geographical variations in health outputs as reasons for the focus on outcome. Epstein also draws attention to a widening of health measures from mortality, re-admission and complication rates, to include subjective patient reports on functional status, life satisfaction and level of symptomatology.

Most studies which have been done, have concerned a single disease; thus, Hollandsworth (1988) found 69 studies, published between 1980 and 1984, in which the impact of medical care on the quality of life was measured; all related to specified single diseases or treatments. One paper which examined the outcome for all patients referred to a University general medical clinic (Britton et al., 1980) generated no references over the subsequent decade. Research has been situated preponderantly in teaching hospitals and their clinics. As a result, little hard information is available on the benefit of medical management
to patients in general.

The lack of assessment of health care requires some explanation. However, the nature of assessment is problematic and will be addressed briefly first. Harrison et al. (1990) have suggested four possible measures. Effectiveness measures whether a system achieves the aims for which it was created; it is associated with the concept of quality. Efficiency measures the relationship between cost and outputs; it is related to cost-effectiveness which measures the relationship between cost and outcomes. Responsiveness measures the relationship between services and need, and equity measures the distribution of services. This thesis will focus on effectiveness.

Harrison et al. (1990) suggest that an elitist model explains the pattern of assessment of the National Health Service in Britain and it may equally well be used to explain the lack of research on health care outcomes elsewhere. The medical profession, as an example of an elite group, have little to gain by accurate assessment of their activities. The results might threaten the legitimacy of profitable activities or limit doctors' personal freedom, for example, to settle in desirable but well doctored areas. The government will be interested in efficiency where this can reduce cost but has little direct interest in effectiveness. Harrison et al. suggest that a 'deal' exists between these groups; the doctors get clinical autonomy and the government gets a disciplined group of providers who will conceal politically unacceptable rationing decisions. The result of this agreement is shown, for the NHS, in the neglect of outcome monitoring, in the lack of concern for responsiveness.
and in the disregard of equity. What assessment there has been has dealt with mainly with efficiency and, furthermore, has focussed on paramedical or low status medical activities. In New Zealand equity and responsiveness were key considerations of a Commission on the Health System (Scott et al., 1986) but political response has been ambiguous and effectiveness was outside the terms of reference.

The neglect of outcomes research undermines not only the efforts of health systems but also the work of individual practitioners. Doctors often do not recognise those areas in which they fail. Researching primary care, Wright and Kane (1982) found that while 24% of patients had poor outcomes, doctors anticipated only 25% of these.

Effectiveness has been addressed from within the medical profession but mainly from the somewhat marginalised discipline of community health. This literature has typically considered three aspects of outcome: patient satisfaction, compliance and health state (Pendleton, 1983; Kaplan et al., 1989). Beckman and colleagues (1989) list 25 outcome measures but these can be reduced to the same three. Satisfaction is conceptualized as an immediate, compliance as an intermediate and health state as a long term outcome.

Satisfaction - Measurement of satisfaction has been carefully researched (Zastowny et al., 1983) and relatively simple measures have been shown to give reliable and valid results. Patient satisfaction has been related to physician, patient and situational factors. Williams and Calnan (1991) have shown that practitioner competence and interpersonal skill predict patient
satisfaction in hospital and dental care facilities, as well as in general practice. Interpersonal skill accounts for up to 37% of the variance in patient satisfaction (Weinberger et al. 1981). Competence explains only around 3% of the variance and it is probable that this effect size is small because, in the study situations, practitioners have tended to be uniformly competent or to appear so to patients. A parallel finding is reported by Haig-Smith and Armstrong (1989) who showed that the criteria of good practices developed by patients focussed on interpersonal comfort and convenient access, while those developed by government focussed on technical competence.

Patient demographics are only loosely correlated with satisfaction; a recent study by Weiss (1988) found they explained about 8% of the variance but a further 16% was explained by patient attitudes such as level of life satisfaction and belief about medical care in general. Finally, Like and Zyzanski (1987) have shown that fulfillment of specific patient requests contributes to satisfaction; a measure of request fulfillment explained 19% of the variance in satisfaction.

Despite relative precision of measurement and the interesting correlations with other variables, patient satisfaction is an ambiguous concept. There can be satisfaction without benefit and benefit without satisfaction. Indeed, one study showed that less healthy patients were more satisfied (Patrick et al., 1983). Similarly, Hall and Dornan (1988) note, in a meta-analysis of 107 studies, that satisfaction is related very unevenly to particular aspects of patient care. Finally, Fitzpatrick (1984) comments that patient satisfaction is problematic because it is
measured against expectations, developed during past and current experiences of patient-practitioner encounters, rather than against an ideal of perfect care.

Compliance - Compliance too is a measure of doubtful significance. It is an indicator of the physician's persuasiveness but compliance itself is of no intrinsic value. It may predict positive health outcomes but can be viewed as an unnecessary and possibly confusing intervening variable. The popularity of compliance research has been explained by Trostle (1988, p.1307) as based on an ideology that "..health care is (ought to be) centered around the proper use of physicians" and he believes that seeking causes in the patient and not in the clinical situation explains the failure of explanatory models. An empirical paper by Fineman (1991) confirms the patient blaming use of non-compliance.

Satisfaction and compliance are rejected here as major variables and, in accordance with the goals of medical care discussed above, short-term outcomes will be discussed in terms of improved comprehension of the situation. Comprehension, as detailed in the discussion of "EMs", indicates both understanding and an enhanced ability to manage the illness and the situation; following the sociological identification of the significance of the concept, we will call this "empowerment."

Empowerment

Empowerment is a concept that has become important in Community Psychology and is associated with Rappaport (1981). Kieffer (1984), in a collection of essays on the subject, defined
empowerment as "...the continuing construction of a multi-dimensional participatory competence" (p.9) and powerlessness as "...individual expectancy that personal behavior cannot determine the occurrence of outcomes [sought]" (p.15). Empowerment has tended to include the encouragement of group activities; it has also included individual coping skills, knowledge and self esteem.

Empowerment has passed, modestly, into the medical literature where its most frequent application has been to nurses and other professionals rather than to patients. A few papers have dealt with the empowerment of psychiatric patients, adolescents and the elderly, and it has been recommended that counselors should enter behavioral medicine and foster health empowerment (Stensrud and Stensrud, 1982).

Nurses, reflecting their traditional role as carers and mediators, have considered the empowerment of ordinary patients in conventional medical settings. Gibson (1991, p.354) recommends the "radical paradigm shift" of adoption of an empowerment model in nursing. She defines empowerment as:-

"...a process of helping people to assert control over the factors which affect their lives. This process encompasses both the individual responsibility in health care and the broader institutional, organizational or societal responsibilities in enabling people to assume responsibility for their own health."

Our use of the term empowerment in the medical area is somewhat novel. It is used for two reasons. First, it seems to summarise the requirements of a satisfactory "Explanatory model" and, second, it seems to encompass those aspects of medical care found lacking by its critics, especially women (Roberts, 1985; Fisher, 1988)
and the more general "consumer" movement (Haugh and Lavin, 1981). These issues will be discussed in Chapter V.

Our use of empowerment is supported by empirical accounts of healing; thus, an echo of the concept is found in Ben-Sira's (1989) use of the term "potency" as an characteristic of those who achieve successful rehabilitation from disability. A more sustained analysis is put forward by Tuckett.

Tuckett and his co-workers (Tuckett et al., 1985) have studied the information accepted by patients during consultations. While they did not use the term empowerment, the idea is implicit in their title Meetings between experts. Their thesis is that the patient should be seen as an expert on their own condition as the doctor is an expert in medical conditions in general, and that the ideal outcome includes a rapprochement between the two kinds of expertise.

Three hundred and twenty eight interviews were conducted with patients in their homes within a few days of a general practice consultation; the consultations were also tape recorded. It was found that, given an appropriate interview format, most patients understood the information given to them if they considered it relevant. The researchers found that the idea that patients are incapable of understanding was incorrect and that, provided the material could be integrated into their own ideas of what was wrong, comprehension and recall was high. Patients views of what information was relevant was related not only to understanding, but also to the practical management of their lives. Thus empowerment, as understanding and as the capacity to cope, was validated.
Tuckett et al. found that doctors did not pursue an understanding of the patients' ideas, that patients did not insist on having their views heard and that the implication of the situation for patients' feelings, work and family relations was not discussed. Their plea that patient views should be identified and integrated into the informing process seems to contain the essence of the informational component of empowerment as that term is used here. This empirical research reinforces our use of the term empowerment as a descriptor of positive subjective outcomes.

Reassurance - In addition to satisfaction and compliance, the concept of reassurance has been used, in the medical literature, as a goal of the patient-practitioner encounter. The relationship between reassurance, information and empowerment must be made clear. Reassurance was theorized by Kessel (1979) as the explanation of the meaning of symptoms to the patient. While this suggests the transmission of information, it is implied that the information given be slanted as the following quote makes clear:

"You want to know what's wrong. Well, it's not a condition to which we doctors can yet exactly put a name. But I want you to know this. You've come to the very best man in Britain for it." (p.1130).

Clearly, a distinction can be made between informing and reassuring. Reassurance without information does not provide meaning and it may have a negative effect. Warwick and Salkovskis (1985) have drawn attention to the cycle of anxiety, reassurance, renewed anxiety and further demand for reassurance, that may occur with the worried well as with the frankly obsessional. Daly
(1989) has demonstrated that the use of complex investigation to demonstrate normality often fails to reassure and may actually create worry.

Other recent publications on reassurance (Index Medicus reveals nine papers dealing primarily with the subject since 1986) have tended to be theoretical or exhortative. Thus, Buchsbaum (1986) gave a sophisticated analysis of the phenomenon and Boyd and Munhall (1989) showed that nurses reassure patients and value this activity. It is not clear if the patients noted any benefit and there seem to be no empirical analyses of reassurance as a general outcome of physician contact.

We have defined information as a component of empowerment. Even the news that one is about to die and that nothing can be done about it empowers one to make appropriate preparations. We will consider reassurance as a component of empowerment, but one that has little value without information. We now move to our second outcome measure - improvement in health state.

Change in Health State

Health state as an outcome measure is conceptually simple - symptoms and disabilities are either improved, unchanged or worsened. The prolongation of life may be seen to result from the cumulative effect of such improvements; it may also be related to those rare situations in which medical intervention prevents immanent and untimely death.

Mushlin and Appel (1980) used outcome measures in the evaluation of general practice and found that they identified more process errors than by using chart review. In the present context their
work is of interest mainly because they developed a questionnaire to compare the severity of symptoms over time. While these authors worked with defined tracer conditions the questionnaire can be used in a general context. It has been adapted for use in the current research (see Chapter VIII). The sociologically important concept of a return to social obligations is evaluated by a question on the degree of limitation of activity.

Special cases

It may be asked if the outcome measures empowerment and improvement, developed above, bear any relation to lay expectations or wishes. Calnan (1988) has analyzed lay evaluations of health care but focussed on process rather than outcome. He listed potential doctor roles as technician (e.g. suturing), informer (e.g. diagnosing), reassurer (e.g. relieving anxiety) and counselor (e.g. dealing with psychosocial problems). It does not seem far fetched to suggest that the technician role is directed towards improvement in health state and that the others produce empowerment as defined above.

However, the description of outcomes which we have presented fits best with a specific version of the healing process - that in which the patient presents the symptoms of a new illness and the doctor diagnoses a disease. Here the doctor has the opportunity to inform, reassure, counsel and treat; the patient can be empowered and his or her condition can be improved. At least seven variants of this situation occur in general practice:- 1. The cause of the problem may be known - this would be the case for
2. An initial assessment of the problem may have already occurred - this would be the case with follow-up visits. Here the practitioners task is merely to elaborate on information given and to refine the assessment of the situation.

3. The diagnosis may already be established - this is the case in many chronic conditions. Here, as time passes and the condition persists, the practitioner's power to reassure and inform is attenuated until the patient may become the expert in his or her particular case (MacIntyre and Oldman, 1977), and may wish the practitioner merely to prescribe medications previously experienced to be effective. A variant of this situation occurs when there is no curative treatment; use of anti-hypertensives would be an example. Here the practitioner can, nevertheless, empower the patient and improve her or his health state.

4. There may be no illness - this is the case in any form of check-up. No improvement in health state is possible but the patient may be reassured that all is normal. It is also possible that, should an abnormality be found, the patient may be dis-empowered and improvement may be measured only against a theoretical future course.

5. There may be no disease, despite illness; this is the case in many forms of distress. Here there is the chance of both empowerment and improvement but no technological treatment can be given and results will depend on the doctors ability to reassure or counsel.

6. No treatment is needed; this is the case in many self limiting
conditions. Here the practitioner has the opportunity to inform, and especially to reassure, but improvement in health state will not be related to the visit.

7. The patients' requirement may be for a service without presenting an illness or having a disease. A request for Certification would fall into this category. This might be viewed as a social problem that can be ameliorated by the physician's mediation. Similarly, a request for cosmetic surgery, birth control or for an abortion does not involve illness or disease. Here the issue is access to practitioner controlled services. The validity of this service category depends on the notion that the "treatment", be it a note or a curettage, is chosen by a person or agency other than the practitioner. Empowerment remains an outcome in the sense that the patient is enabled to pursue the course they have chosen.

Previous studies
Patient empowerment has not been the subject of empirical research. Symptom resolution has been related to good practice (Kane et al., 1977) and to continuity of care (Wall, 1981). Bass et al. (1986), expanding on the work of Stewart et al. (1979) and Starfield et al. (1981), showed that satisfactory early resolution was related to patient–practitioner agreement on the nature of the problem. Patient reported stress and identified psycho-social problems were associated, but less strongly, with improvement. Satisfactory resolution at three months was associated with the nature of the symptom, willingness to discuss social problems and effective attention to
psycho-social problems. They could not relate outcomes to norms of good practice. Finally, resolution has been related to patient control, the expression of affect during the interview and practitioner information giving (Kaplan et al., 1989).

Summary
This chapter has discussed the concept of health and theorized outcome measures. We have adopted two such measures - empowerment and change in health state. The first is essentially informational and implies the patient's subjective experience of knowing what is going on and what to do about it. In the following chapter we will deal with the influence of historical and structural factors on the practice of medicine. The capitalist system, the existence of a medical monopoly, and gender and class inequality will be discussed; Chapter IV will be devoted to contemporary developments.
Chapter IV

STRUCTURAL INFLUENCES ON THE DEVELOPMENT OF MEDICAL PRACTICE

This chapter will examine historical and social factors that have shaped and continue to influence the practice of healing in Western societies. It will review empirical work on the patient-practitioner encounter and show how structural factors have produced features not predictable under the concept of the encounter as a simple exchange. We will continue the development of a list of characteristics of the encounter of social interest. These features will relate to both the process and the outcome of the encounter.

Scientific tradition and modern medicine

Modern medical practice has developed within Western scientific thought. This tradition, from its beginnings in the Renaissance, and, especially since Bacon, has emphasized the value of observation. Since Descartes it has separated nature, conceptualized as an autonomous mechanism, from consciousness and its manifestations. Medicine has taken on the idea that truth is to be found in objective observation and that understanding resides in reductionism. Thus Kirkmayer, examining "hidden values in biomedicine" states:-

"In place of dualism, science has come to favor a monistic materialism; the person is a physico-chemical machine, all of whose functions can be described in biological terms and rationalized for efficiency." (Kirkmayer, 1988 p.59)
It follows from the norms of science that medicine is taught as a value-free system. While sociologists use the term medical model (Veatch, 1973) this model is not taught to medical students. Rather it is assumed and inferred; medicine is, in this sense, a Kuhnian paradigm of "normal science" (1970). The paradigm was developed in France in the ten years before and after 1800 and has been causally associated with the gathering of the sick into hospitals.

The process has described by Michel Foucault in *Birth of the Clinic* (1963/73). Foucault quotes Pomme who described in 1769 the peeling away of the membranous linings of the excretory passages in an hysteric treated (successfully) with baths. Foucault compares this with a description, written by Bayle in 1825 of the membranes found coating the brain of a patient with chronic meningitis. From the latter point, the earlier description can only be seen as fantasy. The focus has moved from the subjective reality of patient's symptoms to the objective reality of pathological anatomy and, in the process, the social construction of the former is revealed and of the latter is concealed. Medical knowledge has become the objects revealed to the atheoretical clinical gaze. The key concept becomes the disease as revealed, most clearly, at the autopsy.

Atkinson's (1981) description of modern clinical teaching has demonstrated that this description is neither dated nor the exaggerated product of French intellectualism. During bedside teaching in the Edinburgh Infirmary, patients are coached to present idealized descriptions of disease; descriptions that are reified and treated as if they were there to be revealed.
According to Gordon (1988) the "tenacious assumptions of western medicine" include an attachment to objectivity and a belief in reductionist explanation. These have their roots in the development of medicine with science as described above. It leads, within modern practice, to a lack of concern for subjective matters, be that individual experience or group culture. Further, the cause of the sickness of the individual is seen to reside in the bacteria or in the vitamin deficiency rather than in the social arrangements of the group.

At the level of the consultation this concept of the nature of medical activity can be predicted to have certain effects. Practitioners are more likely to be interested in clear-cut pathology than in vague clusters of symptoms and if the symptoms have psychosocial antecedents and consequences these are likely to be given little attention.

We turn now to the changes in the social organization of healing which accompanied the scientific medical revolution.

Social organization of healing
After the paradigmatic changes of 1800, and during the second half of the nineteenth century the "scientific" understanding of disease increased dramatically, but the new science of pathology was not yet associated with a major expansion of therapeutics. In the twentieth century medical technology has expanded rapidly, with the emergence of safe surgery, effective drugs and accurate diagnostic technology. Both changes have been associated with a rearrangement of the social organization of medicine. Simply put, a diverse collection of healers, recruited from all classes
and both sexes, was replaced by a homogeneous group of male allopathic physicians of upper middle class origin. At the same time, the site of care has moved from the patients home, where healer was guest, to the impersonal world of the hospital. It should be noted that the social changes often preceded the changes in knowledge and it is clear that the reorganization was not technologically determined (Willis, 1983).

In examining the process by which the modern health care system was produced, it is interesting to find that some current problems were apparent two hundred years ago and before the advent of modern therapeutics. Some thought that, with the (French) Revolution, want would be removed and disease would disappear. Curative medicine would become unnecessary and society would only need to deal with questions of public hygiene. It is still arguable that social reform would achieve more than individual cures and that public health should be better funded.

In the event, medical practitioners were found to be necessary. Initially, in reaction to the elitism of the Ancien Regime, the medical profession was deregulated only to produce public outrage at the failures of untrained practitioners (Foucault, 1963/73). The solution was to create a more or less meritocratic but closed and autonomous profession, which, then, as now, sometimes acted in its own interest and not in that of the patient or of the public (see "Intrinsic Contradictions", Chapter V). We will discuss the process under three headings, the achievement of professional monopoly, the influence of class and the significance of gender. Finally, we shall discuss the influence of the capitalist system within which the process was
Taking place.

Achievement of Professional Monopoly

There have been three approaches to the description of physicians as a professional group (Morgan et al., 1985); these relate to attributes (Goode, 1960), function (Parsons, 1951) and occupational control (Freidson, 1970a). In the account which follows we will follow Friedson in seeing occupational control, that is to say, the achievement of a monopoly over healing practices, as the key feature of medicine as a profession. We reject the attribute approach since we see the attributes of the profession as secondary to occupational control and note that there has been confusion between attributes that are factual and those that are ideological weapons used to achieve or justify the medical monopoly. We reject the functionalist approach on the grounds that it cannot easily conceptualize conflict; as mentioned above, we accept an elitist view of society (Harrison et al., 1990) under which elite groups compete and cooperate as their shifting interests dictate. Such a view is compatible with the belief that occupational control is the key feature of the medical profession.

In accounting for the position of medicine as the clearest example of occupational control, rivaled only by the law, Johnson (1972) has drawn attention to certain features of medical work; namely, the fact that a tightly organized group of high status workers deals with an unorganized population of clients. This contribution to an understanding of the nature of professionalism does not alter the key characteristic, the legitimated autonomy of the professional.
Licensure of healers has occurred since the sixth century before Christ (Sigerist, 1929); the present phase may be traced from the Medieval Guilds and the period since 1850 is relevant here. In England, The Medical Acts of 1858 and 1876 led to the registration of medical practitioners and facilitated the subsequent standardization of training along allopathic lines and within Universities and Hospitals (Stevens, 1985). A similar result was achieved in the United States between 1890 and 1910 when the individual States passed laws regulating the practice of medicine. Many of these laws went further than those in England and restricted, not merely the right to claim the status of medical practitioner, but the right to practice any healing technique.

The allopathic medical monopoly which emerged in the English speaking world during the first decade of the twentieth century preceded the development of effective treatment. Physicians could offer a mixture of explanatory science, psychological support and traditional treatments. The inadequacies of this mixture, combined with the need to satisfy their customers, must have forced practitioners to continue to use unproven remedies. As Katz (1984) has argued, the premature achievement of monopoly may thus have hindered the move to scientific medicine. Had "irregular" practitioners been allowed to persist, the allopaths might have confined themselves to the scientific treatment which distinguished them. As it was, traditional potions and routines continued in use along with the obfuscation necessary to their imposition.

While some medical professionals have championed frankness (eg. Cabot,
most believe that uncertainty should be concealed. Indeed, Fox's (1957; 1980) pioneering study of medical training noted the early adoption of feigned certainty. A recent study (Baumann, et al., 1991) demonstrated the phenomenon among practising doctors and nurses; individuals expressed a "micro-certainty" about the correctness of their own decisions while the group demonstrated a "macro-uncertainty" about this correctness. Similarly, under research conditions, a majority of physicians, cross nationally, find that the requirements of informed consent conflict with the best practice of medicine (Taylor and Kelner, 1987). Thus, for various reasons, a style of practice has resulted in which cooperative discourse is minimized. It has been demonstrated that little explanation is given to patients, their own ideas are not taken seriously and treatment is recommended rather than negotiated (Wadsworth and Robinson, 1976; Silverman, 1987; Tuckett et al., 1985). This state of affairs was criticized by Szasz and Hollander in their famous paper (1956) subtitled "Basic models of the doctor-patient relationship." They recommend the adoption, whenever possible, of a relationship of "mutual participation;" it is interesting that they do not go so far as to conceptualize even the possibility of patient dominance.

The premature medical monopoly also influenced practitioners attitudes to other healers. Since the distinctive value of scientific medicine was more apparent than real and since much traditional practice was retained, non-medical practitioners remained competitive and could only be condemned. As a result, much that was valuable was lost, particularly the low key
remedies and supportive practices of folk healing. As the Wertz (1977) have shown, the suppression of midwives in the United States during the 1920s, involved numerous unfounded claims and unscientific accusations; it also outlawed the safest form of childbirth care available at the time and devalued useful but non-medical procedures. Similar events have been documented for Australia by Willis (1983).

Finally, the needs of monopoly practice induced practitioners to promise help that they could not deliver. Patients, encouraged, perhaps, by a very natural tendency towards wishful thinking, developed unrealistic expectations which the practitioners were unwilling to dispel. The medical advances of the twentieth century have further inflated expectations and practitioners continue to want to help all patients. As Tuckett and co-workers (1985) have suggested, practitioners and patients may remain complicit in the generation of unfulfillable hopes and the reluctance to recognise a less satisfactory reality.

In summary, the early achievement of allopathic monopoly may be associated with limitation of communication, discrediting of natural remedies and practices and a need to conceal the truth about outcomes.

Gender discrimination

The replacement of women by men healers has passed through two major stages. As Ehrenriech and English (1973) have described, one aspect of the witch craze that possessed Europe between 1300 and 1800, was the suppression, by a coalition of Church and State, of female peasant healers and their replacement by University
educated male physicians. The replacement was partial; physicians were few and expensive, and a tradition of female lay healing persisted. A similar, if gentler, suppression of these women healers occurred in the late nineteenth century (Stevens, 1985). Following the British Medical Act of 1858 a General Medical Register was established. One woman, Elizabeth Blackwell claimed her right to registration on the grounds of previous practice. A second woman, Elizabeth Garrett, passed the examinations of The Society of Apothecaries in 1865; the Society promptly changed its rules to prohibit any further women from offering themselves for examination. No other degree granting institution admitted and graduated women at the time. However, reform was imminent; the second Medical Act of 1876 specifically admitted women to the register and the University of London admitted women to training in 1878 (Newman, 1975). Following these changes and until 1940, 10% of medical graduates in the United Kingdom were women; the figure had increased to 26% by 1970 and to 50% by 1985 (Bretos, 1980). Similar processes were followed in Australia (Sandford Morgan, nd.) and New Zealand (Van Rooyen, 1978) where the respective percentage of female students in 1985 was 35% and 45%.

In the United States, a similar result was achieved by different means. During the middle of the nineteenth century proprietary medical schools flourished and, many, especially away from the East Coast, were co-educational and some were exclusively for women (Walsh, 1977). The Flexner report of 1910 reviewed existing medical schools against the new standards of scientific medicine set by the reorganization of Harvard Medical School in 1871 and
by the founding of Johns Hopkins in 1893. Many proprietary schools, unable to meet the new standards, closed. Many of the medical schools that survived, including some that had been co-educational, excluded women. The proportion of medical graduates that were female fell to 5% and remained at that level from 1900 to 1960 despite the gradual opening of the schools to women (Morantz-Sanchez et al., 1985). In 1975 only 8% of physicians and 22% of those admitted to medical school were female.

Throughout the English speaking world, some sections of the profession remain partially closed to women and women have been rarely promoted to upper level positions in hospitals or medical schools (Lorber, 1984). It may be concluded from these facts that during its development modern medicine was essentially masculine and that its opinion leaders are male to the present.

Men as physicians - In Europe, North America and Australasia, during the first half of the current century, masculine roles and attributes have clearly differed from feminine ones (Oakley, 1972). The qualities of objectivity and instrumentality have been emphasized while emotionality has been seen as unmanly. Social roles have reflected and reinforced such distinctions. The quintessential male directs an enterprise or manipulates nature; the female supports and is available for the care of children, males and invalids. This gender based division of labor is echoed in the medical endeavor.

The practitioner spends a short time with the patient and is constantly active - questioning, examining, diagnosing and treating. The female nurse is constantly available and her
appropriate activity is passively following the doctors orders and supplying the patients needs. The medical, as opposed to the nursing, enterprise provides intervention rather than support. The distinction may perhaps be most clearly seen in a comparison of the obstetrician and the midwife. The midwife expects to be present throughout labor and to provide physical and emotional support, sharing the experience of the birth with the woman and, nowadays, her husband. The obstetrician stereotypically arrives for the delivery, performs certain operations and then departs, untouched by emotion and unaware of the patient as a person. This sketch has recently been confirmed by an empirical comparison of the management of pain during labor and birth by independent midwives and by doctors (Sakala, 1988).

Mention of midwives draws attention to the new role of women in the healing enterprise. Having ejected women healers, the medical profession has allowed nurses, preponderantly female, to take back a supervised caring role. To delegate care in this way may be seen to further dehumanize the practise of medicine.

Thus, the gender imbalance of modern Western medicine contributes to a devaluation of support relative to intervention. It is also related to a downgrading of experience which is seen as only relevant so far as it provides clues to what is really going on, namely, the biological changes. This emphasis may be presented as a function of the state of medical technology. When effective biomedical treatment is available, the diagnosis must be made and the patient's experience will take care of itself as cure follows. Nevertheless, ignoring experience fits the masculine preference for the avoidance of emotion laden contact. Many
(Mishler ed., 1981; Hahn and Gaines eds., 1985) would argue that neglect of psychosocial context cannot be justified by the success of the biomedical model. It remains true, as these authors have demonstrated, that the model dominates biomedicine and actively excludes the consideration of context. It also undermines the impetus to inform patients; their knowledge only contributes to positive experiences. Scambler (1987) has recorded the low levels of information given to obstetric patients and attributes this neglect to the biomedical model. Numerous authors have demonstrated patient dissatisfaction with low levels of information sharing in various practice situations (Ley, 1976). It is at least possible that the devaluation of experience stems from the preferences implicit in the male role.

Women as patients - Gender also affects medical practice in that, most often, the practitioner has been male and the patient female. The practitioner is thus often faced with an apparently alien being whose experience may seem unimaginable. It follows that there will be a tendency to equate men with normality, and to treat women as fundamentally sick, if not mad. This process has been documented for upper middle class women in America in the late 1890s (Ehrenreich and English, 1978) and for female mental patients in the 1970s (Chesler, 1971). An historical overview by Cayleff (1988) identifies "nerves" as the metaphor used to describe women by western medicine. The argument has been extended in an interesting direction by Annandale and Hunt (1990) who suggest that femininity is associated with poor health in both men and women; similarly, masculinity is healthy in both sexes. At best, there will be a tendency for the practitioner
to support traditional female norms and reinforce patriarchal
beliefs; this has been shown for general practitioners and for
gynaecologists (Barrett and Roberts, 1978; Fisher, 1988).

Gendered interactions - The actual process of the consultation is
affected by gender role behavior. As West (1984) has recorded,
males interrupt female patients more frequently
than they are interrupted; with males the interruptions
occur equally in both directions. In those rarer cases where
female practitioners confront male patients, the direction of
interruption is actually reversed.

This raises the question as to whether the increase in female
practitioners will alter the practice of medicine. It seems
possible that female physicians may modify the masculinist
manners of the profession without altering its basic world view.
Martin et al. (1988) in a review of the literature, showed that
male and female practitioners have similar attitudes but that
women have more egalitarian and more responsive styles of
communication. Similarly, Meeuwesen et al. (1991, p.1143)
showed that male general practitioners were more "imposing and
presumptuous" and females more "attentive and non-directive."

In summary, the male influence on the development of medicine may be
associated with the emphasis on intervention rather than support,
the devaluation of experience and information giving and the
classification of femininity as sick.

Class limitation

The same process that excluded women from medicine excluded the lower
classes. The Gentlemen of The Royal College of Physicians in
London received a charter in 1518 but were unable to enforce any monopoly until the latter part of the nineteenth century. At that time the physicians assimilated the newly successful surgeons to their own rank of hospital consultant and co-opted the apothecaries as general practitioners to fill the lower grades of the profession (Stevens, 1985). At the same time formal training replaced apprenticeship and the fees effectively excluded the poor from entry. Allopathic medicine had captured healing and the rich had captured medical practice. Willis (1983) has documented the process in Australia and notes wryly that, in 1923, fees were increased to address the "problem" of professional overcrowding. In the United States, the move to scientific medical schools achieved the same class exclusion; the effect was magnified by the additional innovation that medical students were required to possess undergraduate degrees.

The class bias of medicine may be seen to have had two effects on the medical practice that subsequently evolved. First, being middle class, physicians expected appropriate incomes and, over the first half of the twentieth century, moved from low to high financial rewards (Parry and Parry, 1976). Further, it was necessary to present the practice of medicine as demanding; thus, medical information should be kept secret, or, if revealed, mystified. Above all, the routine nature of most medical activity must be concealed (Freidson, 1970a). This reinforces the low value given to the provision of information related above to gender roles. The use of information control to enhance medical power has been widely documented (Davis, F., 1960;
Glaser and Strauss, 1965; Waitzkin, 1985; Danziger, 1978). Secondly, a class barrier was created between the working class and the healer, across which communication became more difficult (Bockner, 1983), and the understanding of working class problems was diminished. At the same time, middle class men were given unprecedented access to surveillance of the poor (Ehrenreich and Ehrenreich, 1978). Further, medicine, both in practice and research, focused on the medical diseases of the middle class and gave little attention to the social problems of the poor such as malnutrition, poor housing and their sequelaes. This has been discussed in connection with cognitive dysfunction; rare biochemical disturbances have seemed more important than non-specific poor performance related to situational factors (Ryan, 1976).

In summary class capture of medicine may be associated with high fees, the mystification of medical work and the focus on middle class disease rather than on the problems of poverty.

Capitalism

A major institution, such as medicine, must mirror and support its ambient social and economic system. In this section we will examine the relationship between medicine and capitalism. The issues have been summarized by Rodberg and Stevenson (1977, p.104):

"The health care industry [within the capitalist system] performs four interrelated economic functions: [capital] accumulation, provision of investment opportunities, absorption of surplus labor, and maintenance of the labor force. It also has [the] important ideological functions of systemic legitimation, social control, and reproduction of the capitalist class structure."
The classical Marxian analysis of capitalism identifies two key classes, the bourgeoisie, who own or control the means of production, and the proletariat. The function of the bourgeoisie is to accumulate capital while that of the proletariat is to do the work of modifying nature to meet human needs (Ritzer, 1983). This analysis failed to predict or theorize the increased prominence of professionals under mature capitalism and provides no place for the healer. Wright (1980) addressed this problem and, distinguishing between occupation and class, theorized positions in the social relations of production intermediate between the primary classes; professionals are seen to mediate relations between capital and labor. Willis (1983) has placed the medical profession in this scheme, suggesting that it gains autonomy by accepting responsibility for the reproduction of labor power.

Many scholars (Navarro, 1977; Waitzkin and Waterman, 1974; Doyal, 1979) have agreed that medical care has followed the needs of capital rather than those of the individual. Thus, Doyal has associated the beginnings of concern for the welfare of the work-force with the later phases of the Industrial Revolution when more complex machines required workers of greater reliability. Similarly, Oakley (1984) has shown how the provision of ante-natal care and the supervision of birth followed the discovery that only half of working class Englishman were fit enough to enter the army to fight the Boer War. More recently, expansion of medical services for non-functional citizens has been associated with the reality of
democratic politics allied to the needs of the ruling class. The National Health Service in Britain was proposed by the Beveridge Report in 1942 when it was necessary to offer the population some future reward for present deprivation, and comprehensive health insurance was introduced in Canada from 1968 when political parties of the centre were threatened by populist socialism. The New Zealand situation is discussed in Chapter VI.

Of course, good medical care answers the personal needs of the proletariat as well as providing manpower for work and war. But, even in this context, the medical system can be seen to fulfill two further functions for the state, both ideological. The subsidization of medical care may be experienced as a message that the state cares for the people. Indeed, it has been suggested that the emotional function of the Church has been taken over by medicine. Levine et al. (1983) quote Fuchs who suggested that Marx's typification of religion as "the heart of a heartless world...the spirit of a spiritless condition" could now be applied to the system of medical care.

The second ideological function that medicine can perform is the promulgation of an individualistic view of the world (Eyer and Sterling, 1977) which matches the individualism of the medical model. Capitalism is supported by the concept that each citizen is a free agent, able to compete equally for well-being. This enables the capitalist to evade responsibility for the proletariat. By contrast, the feudal lord of the preceding dominant class lived in more co-operative times and was responsible, in exchange for his privilege, for those who inhabited his domain. At the mundane level of the
patient-practitioner interaction, individualism may take the form of treating, for example, an industrial injury as an exclusively personal problem. Thus, resentment is softened and attention is directed away from social inequality. Similarly, prescription of minor tranquilizers for anxious widows substitutes for other social provision.

But if medicine serves capitalism, it is also the case that the capitalist context modifies the practice of medicine. Capitalism affects the choice of technology, the definition of illness and the style of the doctor-patient interaction. The financial rewards of those activities that the physician can undertake alone and with simple equipment accrue to the practitioner. When other resources are deployed, especially medication and complex diagnostic or treatment equipment, profit from the sale of these items passes to the corporations that produce them. As a result individual practitioners and medical institutions are under considerable pressure to utilize non-personal resources in the management of patients. In particular, the pharmaceutical industry promotes the use of drugs by massive advertising. It has been estimated that in Great Britain during the 1970s, 800 pounds was spent per physician per year (Anon, 1976). The process by which the industry promotes sales by pressuring both the practitioners and the government has been elegantly analyzed by Davis (1992). It must be assumed that this pressure would tend to legitimate medication, providing it with a respectability unavailable to counseling, massage or acupuncture. This process may be seen as an example of commodification, a key feature of the capitalist mode of
production; if health is a commodity it is logical for it to come in a bottle. Those most critical of biomedicine, such as Illich (1976), see this quality as responsible for the negative effects of the institution. Here medical care serves the capital accumulation function of the capitalist economic system. It is a contradiction that medicine should at the same time function to repair workers on the cheap.

But if the nature of treatment is modified under capitalism, so too is the conception of what is to be treated (Kelman, 1975; Turshen, 1977). Given the identification of the proletariat as workers, inability to work must be the essence of disease; pleasure and pain are of only secondary importance.

The actual process of interaction between doctor, paramedical staff and patient reflects the pressures of the capitalist context. Analysis of information exchange, conversational pattern and language structure has demonstrated how the pattern of capitalist ideology is reinforced in the consultation (Waitzkin, 1979; Fisher, 1988; Waitzkin and Britt, 1989a and b). The point should be made that practitioners do not necessarily perform their functions under capitalism consciously; the situation and the norms of medical practice are sufficient to ensure that the process proceeds (Waitzkin, 1985).

Finally, it may be noted that the health care industry itself reproduces the capitalist class hierarchy. The doctor represents the owner/manager who controls the work place and reserves the right to make all significant decisions. The patients represent the proletariat; it is, perhaps, a measure of the alienation inherent in the process that one must be
reminded that it is the patient who does the actual work of recovery. The nurse, the receptionist and the patient's attendants represent lower management and supervisory personnel, mediating between boss and worker.

In summary, capitalism adds to the exchange between doctor and patient a focus on social control, the salience of ability to work and the need to sell products; medical practice provides the capitalistic system with a variety of ideological services.

Summary of influences on the development of medicine

The effects of historical and social factors on medical practice, presented in this chapter, are summarized in Table 4.1. It will be noted that the effects of different factors overlap. Thus, for example, limitation of communication may be associated

Table 4.1. Effects on medical practice of historical and social factors.

____________________________________________________

1. Scientific tradition
   - focus on objectivity / neglect of experience
   - reductionist rather than holistic explanations

2. Medical monopoly
   - limited communication
   - discredit of natural healing
   - reduced outcome assessment
3. Gender discrimination
   - emphasis on intervention / neglect of support
   - devaluation of experience
   - femininity as pathological

4. Class discrimination
   - high fees
   - medical mystification
   - de-emphasis of social problems

5. Capitalist economy
   - Medical social control
   - Emphasis on ability to work
   - Emphasis on products

with several factors and the discredit of natural healing may reinforce the need to use pharmaceutical products. This is not surprising since the structural factors themselves are not orthogonal.

The research will attempt to demonstrate these qualities in the actual patient-practitioner encounter. At that level the qualities may be summarized under four headings:-

1. A technical approach which de-emphasizes the social context, neglects experience, limits communication and favors technical treatment.

2. A power imbalance which serves the dominant class and protects,
by mystification and by high cost, the power of the professional. 

3. A tradition which is less atuned to the needs of the poor, of women and of ethnic minorities.

In the following chapter we will discuss contemporary issues in the provision of medical care. Drawing on Chapters II and III, which have outlined the features of medical care which are of sociological interest, and on Chapters IV and V which will have outlined the nature of that care, we will then summarize the results that may be expected from the survey which will be reported in this thesis.
ISSUES IN CONTEMPORARY MEDICAL CARE

In this chapter we shall examine the current state of healing in developed countries. There are four parts. First, we will first examine reasons for criticism of modern medical systems and discuss the critiques themselves. Second, we will turn to notions of medical reform and discuss their impact on medical practice. Thirdly, we will draw out, in the light of this and the previous chapter, variables of interest to a social evaluation of modern medical practice. Finally, we shall briefly review the use of these variables in recent research.

Reasons for contemporary dissatisfaction with medical care

If the conclusions of the previous chapter were to be exaggerated it could be said that the medical care system is inhuman, expensive, of doubtful efficacy and works in the interest of the rich. With such a description it would not be necessary to explain criticism. However, if the system is compared to that available in 1900, it seems exemplary. A massive range of services is available to all segments of society, death can sometimes be delayed and disability sometimes reduced, and the unproductive are cared for. Doctors do have the resources to help. Why then is medicine often criticized? We will suggest that there are three reasons - problems intrinsic to experts, changes in disease patterns and the emergence of disaffected social groups.

Contradictions intrinsic to the use of experts - Tuckett (1976) has analyzed contradictions that produce conflicts for doctors. Three types oppose the interest of practitioner and patient. First, a consultation must be exceptional for the patient and
routine for the practitioner. The patient perceives the case as unique, or, at least, important, while the practitioner normalizes it ("a normal case of appendicitis"). This division of interest is intensified by the tendency of ill patients to regress to the role of unhappy children, leaving the practitioner to be a responsible parent, in other words, by the problem of transference (Stein, 1985). As Freidson (1975) has argued, these fundamental disagreements, plus any others to do with the specific situation, cannot be resolved by education. Uneducated patients tend to be unchallenging but non-compliant and educated ones tend to be compliant but challenging; patient education does not effect the deep processes of transference. Second, and similarly, if experts are rare, they will distribute their time across those who wish to consult them as they see fit and not necessarily as the patients would like. It may be added that even the practitioner whose services are undersubscribed may ration time as a means of demonstrating a superior power position (Schwartz, 1974).

Finally, some procedures benefit the practitioner more than others. Under fee for service systems, practitioners can increase their income by recommending intervention. Friedson (1970b) suggests that this may be an issue when, in addition to possible gain, the medical situation is ambiguous and when there is some popular treatment available that is not actually contraindicated. He quotes Peterson and Barsamian (1966) who found that the diagnosis of the Stein-Leventhal syndrome, which was the only cause of infertility for which there was a surgical treatment at the time, was almost always in error. More generally, experts
will tend to conceptualize problems as lying within their own fields of expertise. For example, old age and cigarette smoking become medical problems rather than social and moral issues, respectively (White, 1990). Practitioners will tend to see medical problems as responsive to individual treatment, which they control, and ignore social action, over which they have little more power or knowledge than other citizens.

Conflict also arises between the interest of the patient and that of other social groups and the practitioner may be called on to mediate. Where resources are limited, decisions must be made as to the best allocation between deserving patients. The interest of the State may also oppose that of the patient when economy is sought or when reporting of a particular disease or injury may expose the patient to prosecution or other sanction.

The production of experts also produces characteristic effects on the care that is subsequently provided. As Becker and his colleagues (1961) showed thirty years ago, medical students are required to learn large volumes of facts and to prepare themselves to take responsibility for critically ill patients. The stress of the student situation and the fear of future practice has two effects. First, rare and serious conditions have more to teach and so are seen as more interesting, and, second, dramatic intervention is seen as the essence of medicine. Both effects are emphasized by the use of the acute care hospital as the major site of medical education. While medical training exaggerates these student stress effects, all education for expertise must tend to emphasize problematic over routine situations.

In addition, the selection and social treatment of medical students
contributes to the production of a particular type of doctor. The historical effects of class bias in student selection has been addressed in the last chapter. It may be added that the current mode of selecting students on the basis of achievement in secondary education not only continues the class bias but also produces practitioners whose elite intellectual experience is widely divergent from the average citizen/patient. This process, invented by the Americans in the 1920s has only been copied elsewhere in the English speaking world in the last two decades; its contribution to the problems with experts was recognized by a conference on medical education in New Zealand (Anon, 1985).

The similar problem of the indoctrination of medical students has been outlined by Kirkmayer (1988, p.68) who recommended:

"[...], changes in the competitive, individualistic, rationalistic atmosphere of the classroom and the rigid hierarchy of apprenticeship, in which the dominance of student by teacher reproduces the dominance of patient by physician."

Changes in disease patterns - The disenchantment with modern medical experts has been boosted by the emergence of chronic and incurable diseases as the major health burden of industrial countries. The acute infections which were the key health problem in earlier times were usually short lived and the patient often recovered or died rapidly. The chronic diseases are not only resistant to technological fixes, they often are of long duration. This has directed attention, in the absence of cure,
to the need for care. Any deficiency in medical compassion and the inappropriateness of a medical model which is based on cure become more salient.

The emergence of disaffected social groups - Some have suggested that patienthood was an expression of a previous era in which sickness was conflated with neediness in general. They have suggested that this is out of phase with modern life and that the sick now see themselves as consumers (Haug and Levin, 1981). Some patients reject traditional medical authoritarianism and demand a more co-operative discourse. "Doctor shopping" and litigation may also be seen as expression of this change. Such consumerism would contribute to the disaffection with medicine. However, its effect should not be overstated; Lupton et al. (1991) have recently demonstrated that, despite the support for medical consumerism from user organizations and government, Australian patients prefer to trust, rather than to evaluate, their doctors.

Women, as might be expected from the discussions above, have tended to be distinctly critical of the medical care on offer. They have noted that practice reinforces patriarchy, views women as abnormal and deals poorly with women's problems (Roberts 1985; Lewin and Oleson, 1985; Bunkle, 1988, 1992; Coney, 1992a&b). Minorities have also been vocal in their criticism of main-stream medicine. Such groups have found their voice as multi-culturism has become legitimate (the melting-pot replaced by the smorgasbord - to use an appropriately mixed metaphor) and have demanded appropriate care. The difficulties have been of three kinds. First, those who do not speak English have been poorly
served by an Anglo-saxon medical establishment. Second, those whose social mores differ from their medical attendants have experienced incomprehension and embarrassment. As Davis (1981 p.176) has put it:-
"[...] culturally subordinate and marginal groups are at a disadvantage, since they lack the skills and knowledge that would allow them to use these services in an appropriate manner."

Third, groups with distinct social practices may find some medical procedures offensive. The reluctance of the Maori to undergo surgery, their respect for the distinction between tapu (sacred) and noa (mundane) and the incompatibility of post mortem examination with the tangi, are salient examples in Aotearoa. Similarly, in North America, to chose another example at random, Chinese immigrants do not share the medical "ideology of normalization" in caring for the chronically ill, and may misunderstand caregivers expectations (Anderton et al., 1989)

Critiques of medical care

The mechanical style of practice that emerged in the present century has not gone uncriticized. Reiser (1978) documents the distancing of patient and doctor with the rise of technology since 1650 and Shorter (1985), in his history of the doctor-patient relationship, laments the loss of personal contact that has characterized the "post modern doctor" since 1945. Katz (1984) has made a case for the introduction of cooperative discourse into medical consultations on the grounds
of medical effectiveness as well as for psychological and humanistic reasons.

The development of the welfare state and the governmental provision of medical services, now virtually universal in the first and second worlds, has made the State a key player in the design and management of medical care delivery systems. Over the same period, it has become clear that increased expenditure on medical care has not increased life expectancy nor decreased morbidity (Davis, 1981; Bates and Linder-Pelz, 1987).

Governments have moved, especially over the last decade, to limit spending on medical care and to demand a closer accounting for the expenditure. Medical care is controlled by de facto rationing in Britain and by expense in the United States. Hospital costs under Medicare and Medicaid in the latter country are now paid under a schedule related to diagnosis and governmental support is given to organizations that undertake total medical care for a predetermined premium.

The forces for change in medicine are not limited to the dissatisfaction of consumers, and sociological and governmental criticism. Reform movements also exist within the profession. It is to these that we now turn.

Medical reform movements

Medical practitioners have not been a monolithic group and a minority of practitioners have consistently supported a less technological, more social model of medicine. Specialists in hospital practice have been the main users and beneficiaries of the new medical technology but even here some have urged a more
holistic view of the person. For example, Johnson (1985) has
documented the struggles of socially conscious psychiatrists
with orthodox biomedical clinicians. However, it is in general
practice that reform has been centered.

Since the apothecaries were recruited to the medical profession to
fill the role of general practitioner their position has been
of lower status than the hospital specialist. General
practitioners have sought ways to enhance their status
e especially in Britain and Australasia, where they have been
barred from hospital practice. Armstrong (1986) documents the
evolutionary process. A 1965 Royal College of General Practice
Report described the practitioner as an extension of the
hospital system, essentially useful only to perform the triage
that would generate patients for the specialist. By 1972, a new
edition of the report had added protection of the patient
(against the impersonal hospital) and the management of social
problems to the functions recommended. In North America, where
the number of specialist positions is not limited by the system,
the tendency has been for increasing numbers of medical
graduates to acquire speciality qualifications.

As general practitioners have sought to increase their status
relative to specialists, their domain of operations has been
eroded by the expansion of the roles of other professionals. Thus,
nurses have come to take over more routine aspects of practice
activity and, in some cases, to deal independently with the more
straight-forward problems. Several studies have shown that they
do this for less money and in an entirely satisfactory way
(Spitzer et al., 1974). While most nurses and other paramedics,
such as midwives, physiotherapists, and ambulance attendants, confine themselves to the dirty work of medicine and remain under the control of physicians, a more threatening erosion has been caused by healers who do not accept medical direction. Thus, naturopaths, chiropractors, acupuncturists, psychic healers and many others exploit both the inability of scientific medicine to cure all ills and the perceived lack of human concern of some physicians. It has been estimated in Britain (Research Council for Complementary Medicine, 1986), in New Zealand (Marshall et al., 1988) and in Australia (Weisner, 1983) that about 10% of all primary care visits are to such alternate healers. This is especially remarkable in Britain where primary care is free and alternate practitioners are not. A study in Australia (Parker and Tupling, 1977) showed that the patients of alternative practitioners had abandoned conventional medical services because treatment was unsuccessful, because they objected to drug therapy or because they wanted attention to personal problems. Similarly, Furnam and Smith (1988) found that patients of alternative practitioners reported unsatisfactory experiences with traditional medical care. This threat from "below" has prompted general practitioners to become more competitive both by improving their personal relationships with their patients and by adopting some of the alternative techniques. At a more philosophical level, Bakx (1991) has related the recent expansion of folk medicine to a general rejection of modernism.

The new function of the general practitioner is in the process of definition. Armstrong (1986) and others (see Wright and Treacher,
1982) have argued that a renewal of "biographical medicine" is underway in Great Britain. In the United States, Mishler and co-workers (1981) have urged the recognition of the social context of practice. Four strands may be recognized in this movement.

Balint, who was psychoanalytically trained, published, in 1964, *The doctor, his patient and the illness*. He recognized that much of general practice does not involve technical medicine and recommended that problems should be seen as involving the "whole person" and that efforts should be made to study the benefits of the drug "doctor." In effect he suggested that practitioners should undertake psychotherapy. He undertook the training of individuals interested in this approach and believed that considerable psychological reorganization was necessary to convert a medically trained person into an effective therapist. An account of the training is given in Balint, 1966. It is interesting, in view of the struggle for status within the profession, that he also suggested that the family doctor should be seen as the specialist in socio-psychological matters and that the teacher/pupil relationship of specialist to GP should be rejected.

The second strand in the reform process is a philosophical analysis of the needs of the general practice patient by McWhinney (1983), Professor of family medicine at the McMaster University in Ontario. He identifies biomedicine as a Kuhnian paradigm of normal science based on the clinical method of differential diagnosis. Kuhn (1970) believes that a paradigm is used until a number of anomalies, evidence that the paradigm is flawed, are
recognized; a scientific revolution may then occur and a new paradigm be adopted. McWhinney identifies three anomalies within differential diagnosis; many people who are ill do not have a disease; disease is not randomly distributed in the population; and healing can occur without treatment (including the placebo effect). In response to these anomalies, McWhinney suggest that a new healing paradigm will arise in which the doctor-patient relationship will be seen as central to healing, illness will be seen as a response to the environment from which a lesson can be learnt and the doctor will seek to mobilize the patients healing powers. Also, the present technology, based on the documents (reports, cardiograms etc.) will be replaced by one based on oral communication.

While McWhinney's ideas are interesting, there is, perhaps, more between the two paradigms than he brings out. First, the new paradigm shows a considerable similarity to homeopathy, especially the idea of mobilizing the patients healing powers, and to a whole range of "new age" alternative healing practices, especially in the centrality of the relationship and the learning component. Second, there has been a tension between "active" and "passive" healing practices since prehistoric times (Grossinger, 1980). Thus, the new paradigm may face opposition on the grounds that it is old as well as on the grounds that it is new. In particular, the activity required of the patient goes against the grain of modern medicine and can be presented both as victim blaming and as shamanistic propitiation of spirits.

The third strand is the move to improve doctor-patient communication.
It is now a standard part of the medical school curriculum to teach communication using role play, videotaped interviews, as well as lectures (Poole and Sanson-Fisher, 1979). Books (Bennett, ed., 1976) are available and editorials appear (Dixon, 1989) on medical communication skills and most discussions of primary care contain relevant sections (Pendleton and Hasler, 1983; Pendleton et al., 1984). Studies of interaction in primary care are legion. One particularly interesting paper examines the education of general practitioner trainers (Walker, 1988). It was found that classical medical school socialization was undermined and that the separation between GPs and hospital practitioners was increased.

The fourth and final strand in the reform movement has been the analysis and adoption of alternate practices. In New Zealand this process has been documented by Leibrich et al. (1987) and it was found that many practitioners use manipulation, acupuncture and various psychotherapeutic maneuvers. It was estimated that some 30% of general practitioners in Auckland used some form of therapy that could be described as alternate (Marshall et al., 1989). More reflectively, McKee (1988) has suggested that the holistic health model contains lessons for the practice of healing. The model has sometimes been rejected by sociological analysts on the basis of its victim blaming stance and by medical analysts on the basis of the lack of proof of efficacy. McKee comments that holistic healing has the potential, in its awareness of social factors, to illuminate the production of ill-health under the capitalist system; further, it should be evaluated on its own terms, not on those of
reductionistic biomedicine which are actually part of the problem.

The state of the art

It is to be expected, therefore, that modern practice will manifest a mixture of personal styles and reflect a variety of belief systems. McWhinney (1985) reviewed the literature and found eight binary classifications of style; he felt that they could all be reduced to the model of doctor- or patient-centeredness. An early investigation documented such a range of styles (Byrne and Long, 1976). Four styles were identified and 25% of consultations fell into the two categories at the patient centered end of the spectrum; only 1% of consultations were fully patient centered. Other analyses of interactions have shown that, in Britain, even well intentioned practitioners are rarely wholeheartedly behind the idea of open communication (Tuckett et al. 1985). Silverman (1987), in his ethnographic studies of a variety of medical situations, found that the sharing of medical power was a hypocritical sham. Similarly, Fisher (1988) has recorded marked disempowerment of patients by gynaecologists even under fee for service systems in the US. That there is considerable resistance on the part of the profession to power sharing with patients has been shown in Israel by Shye et al. (1990) who found that behaviors which "express autonomy and initiative in the doctor-Patient interaction" are viewed negatively. In particular those behaviors which threaten the practitioners' dominance in diagnosing and prescribing are rejected outright.
Despite practitioners' attachment to dominance, medical encounters rarely include displays of naked power. Strong (1979) has used the term "bureaucratic" to characterize the polite relations maintained in a Scottish out-patient clinic. This civility was created by the assumption that all doctors were "good doctors" and all patients people of rational goodwill. Stimson and Webb (1975) described similar tactics in Welsh general practices but found that the patients compensated by sharing doctor "horror stories" in group interviews. This is, of course, an extension of the general social convention that the dynamics of an interaction should not be examined; under such circumstances issues such as medical power cannot even be examined, let alone resolved.

It must be added that the preferences of patients vary as do those of doctors. Steptoe et al. (1991) found that cancer patients with "avoidant" coping styles were more satisfied but had less information (and less anxiety) than "information seekers." In partial contrast, Roberts (1977) noted that inarticulate patients in hospital, perceived by the staff as "not wanting to know," were markedly dissatisfied with the level of communication.

It may be added that the value of the new socially aware medicine has been questioned. Arney and Bergen (1984) felt that such practice extends the regrettable dominance of expertise over peoples lives.

Freidson (1970b) has suggested that a patient-centered style will be more common in solo than in group general practice and more common in both than in specialist practice. He believes that the
determining factor is the extent to which a practitioner is practicing for his or her peers. As conditions of individual practice affect practitioner style, so also specific funding arrangements affect it. Under capitation payment, British doctors will be reluctant to increase service levels and complaints of trivial and unnecessary consultations are made (Mechanic, 1974; Cartwright and Anderson, 1981). Under payment by item of service, service rates are apt to be higher and there may be a willingness to undertake more social explorations.

Characteristics of the patient-practitioner encounter

Chapter II ended with a summary of the features that the various sociologies of healing had found relevant to a consideration of the patient-practitioner encounter. This may now be expanded and made more concrete in the light of the discussion of outcomes and of the context of medicine in Chapters II-IV.

1. The Practitioner - The primary variable of interest here will be the position of the practitioner on a scale of patient- to disease-centeredness. The age and gender of the practitioner will also be of interest given the fact that patient-centeredness has only recently come to be valued and the finding that interactions between women practitioners and their patients have unusual features. It is also possible that the busyness of the doctors may effect the process and outcome of the consultation since it may reduce the time available for communication. Finally, the size of the practice may affect patient centered attitudes. The issue of the qualifications of the practitioner will also be significant; the patient may be seen by an established
practitioner, by a locum or by a registrar; more importantly, the patient may be seen by a nurse working either alone or in combination with the medically qualified doctor.

2. The Person - The class of the patient has been identified as of possible significance to the patient-practitioner encounter; gender and cultural background may have similar effects in the inhibition of satisfactory communication. A further major distinction will be between adults and children attending with a guardian.

3. The Problem - Problems presented to practitioners vary on three dimensions. The problem may be, first, at various stages of development from acute to chronic, and, second, at various levels of treatability from curability, through maintenance to untreatability. Third, the type of problem varies; it may be a physical symptom, a psychosocial issue, a request for preventive action or a need of a service.

4. The Process - Process may be evaluated according to what is done, such as history, examination, investigation, referral, medical treatment or counseling, and according to the quality of communication.

5. The Outcome - Outcome may be evaluated on the basis of the immediate response, the variable we will call empowerment, or on the basis of change in health state, including relief of anxiety, reduction of pain or improvement of function, over the succeeding period.

These issues are summarized in Table 5.1
Table 5.1. Significant characteristics of the patient-practitioner encounter.

1. Practitioner - Qualifications, Gender, Age, patient/disease centeredness.

2. Person - Gender, Age, Class, Cultural background.

3. Problem - a) Acute, Follow-up, Chronic.
   - b) Curable, Controllable, Untreatable.
   - c) Symptom, Psychosocial, Check, Service.

   - b) Quality of interaction.

5. Outcome - a) Immediate - Empowerment.
   - b) Delayed - Improvement in Health State.

Previous research
Some of these variables have been researched and an attempt has been made to link patient, practitioner and process variables. The work on the influence of each group of variables will be discussed in turn. The greatest volume of work has investigated
the effect of socioeconomic status. Thus poorer people have been shown to be sicker objectively (Blaxter, quoted in Helman, 1984; Marsh and Channing, 1986; Curtis, 1990) and subjectively (Martin et al., 1991). They consult more frequently (Forster, 1976; 1979; Curtis, 1990) and use more medication (Foets et al., 1985) but utilization is less than might be justified by morbidity (Davis, 1985; 1986b; 1986c for NZ, and see others mentioned above). They are less concerned with prevention (Foets et al., 1985; Marsh and Channing, 1986) and set a high value on supportive activities (Stewart, 1984b; Mockapetris and Craigie, 1986) and on friendliness (al Bashir and Armstrong, 1991). The old have similar characteristics of high utilization, low interest in prevention and a value on friendliness; they also value early referral (al Bashir and Armstrong, 1991). By contrast, there is a high usage group of the young and affluent who value efficiency, prevention and cost effective prescribing (Foets et al., 1985; al Bashir and Armstrong, 1991). Utilization is also increased by accessibility and by previous exposure (Foets et al., 1985).

Gender effects utilization rates with women using practitioner services more frequently than men. Verbrugge (1989) has analyzed this and finds it to be explained by higher stress levels for women. Male patients, especially if educated, report facts and are given information; females express emotion and are given support (Stewart, 1984b).

In New Zealand, ethnicity has been shown to effect utilization (Davis, 1986a; 1987). In Britain Gillam et al., (1989) has shown that young Asian males have high overall consulting rates, that West Indians have high rates for hypertension and asthma and that
native Britons have highest rates for prescriptions, referrals and certification.

Patient wants have also been investigated and it has been shown that patients, in general, value accessibility (Gillette et al., 1986), sensitivity (Holloway et al., 1989), a doctor who listens (Armstrong, 1991), information (Gillette et al., 1986) and useful discussion (Martin and Bass, 1989); they also welcome prescriptions (Martin et al., 1991) and direction (Savage and Armstrong, 1990), especially when sick.

Finally, two subgroups of patients have been identified and characterized. Frequent attenders, the 5% of the population who use perhaps 20% of the services, are usually single, poor, and have an external locus of control (Browne et al., 1982). Difficult patients, identified as such by practitioners, tend to present undefined medical problems and to have an abrasive personal style; they are also older, often women and no longer married (Schwenk et al., 1989).

Practitioner variables have been shown to effect some aspects of practice. Thus, younger doctors do more preventive work (Baker and Klein, 1991) and order more tests (Rosenblatt et al., 1982), while older ones write more prescriptions. Women practitioners see more women and do much preventive work, such as cervical smears and breast examinations, with them (Cooke and Ronalds, 1985). They also see fewer patients, work shorter hours and do fewer complex procedures (Ellsbury et al., 1987).

It is also now accepted that the major source of inter practitioner variability is practitioner style. Thus, McGavock (1988) concludes that some doctors just diagnose and treat more than
others, and Sandvik and Hunskar (1990) showed that while the management of urinary tract infection varied widely, this variation was not related to practitioner age, gender, location of practice or training. Davis and Lay Yee (1989) showed that practitioner identity explained as much of the variation in practice activity as practitioner and practice characteristics. In one particularly interesting study Street (1991) showed that "partnership building" by the doctor contributed to patient assertiveness and that patient assertiveness, education and anxiety was related to the levels of information given and received. This suggests an interactive effect involving both patient and practitioner characteristics in the creation of an informed patient.

Summary

This chapter has completed a review of theoretical work on the patient-practitioner encounter. The characteristics of the encounter which will be investigated have been drawn out and some associations suggested. A brief review of the literature indicates that others have found these characteristics interesting. The following chapter will outline the context of medicine in New Zealand. We will then move on to a description of the research.
Chapter VI

THE DEVELOPMENT OF MEDICINE IN NEW ZEALAND

Knowledge, technology and ideology travel rapidly between developed countries. For example, ether was first used for anesthesia in the United Kingdom in December 1846 and was used in New Zealand in September 1847. Similarly, the first phase feminist movement occurred concurrently in the UK, the USA and New Zealand, and, more recently, monetarism has been popular worldwide. Thus, we may assume that biomedical practice will be similar across nations. However, the arrangements for the provision of medical care depend on the relationships between the public, the profession and the government in the particular economic circumstances of each country and so vary dramatically (Evans, 1991).

The process by which allopathic medicine achieved ascendance over competing systems was similar, in New Zealand, to that elsewhere and has been described by Belgrave (1991). The first Medical Practitioners Bill was put before Parliament in 1860 and was defeated on a technicality having been opposed by the "surprising number of homeopathy supporters" (Wright-St Clair, 1987, p.3). The 1867 Act registered qualified doctors and limited the activities of the unregistered. It did not, unlike equivalent legislation in North America, forbid the practise of healing by the unqualified and alternative practice remains legal in New Zealand to the present. Thus, while the public granted legitimation to medicine and demonstrated its desire to utilize medical technology, such as drugs and surgery, there has been no actual medical monopoly over healing practices. In 1895,
25% of practitioners were "irregulars" with herbalists as the most popular group. Osteopaths and chiropractors were permitted to use radiology and anesthetics until 1920.

However, as Belgrade (1991, p.9) states:-

"In New Zealand, most other professions were willing to accept subordination to doctors, in order to share in the fruits of developing medical economics."

Thus, nurses who had been identified at the Census since 1874, were turned from independent workers to handmaidens by the Nurses Act of 1901 and midwives came under medical supervision with the Midwives Registration Act of 1904. A similar move was made by physiotherapists in 1923. As Belgrave says (1991, p.24):-

"The more an occupation could present itself as an independent private enterprise profession, practised by men, the greater its chances of success."

Whereas women could be turned into paramedical aids and osteopaths and the like could be relegated to a small corner of the market, it was found possible, in the Tohunga Suppression Act of 1907, to outlaw traditional Maori healing practices altogether.

Interestingly, in view of recent discussions (Davis, 1992), chemists and doctors were able to cooperate from the earliest days. In the first decade of the century it was common for chemists to supply free rooms and telephone for the doctors. Until 1910 both diagnosed and dispensed; from that date the functions were separated.

Key dates in the organization of the medical profession are 1874, when the Otago Medical School was founded, and 1896, when a New Zealand chapter of the British Medical Association was opened.
As elsewhere, practitioners trained in middle class institutions, demanded middle class remuneration and it became problematic for the poor to purchase care. In response a tiered system for the delivery of care developed, which was based on the British model, as New Zealand society was based on the model of rural England. The better off paid fee-for-service physicians out of their pockets; those modestly off joined Friendly Societies, the first of which, the Oddfellows, was founded in New Zealand in 1843; and the destitute were served by Voluntary Hospitals (Hay, 1989).

New Zealand society was transformed by the development of the "refrigeration economy" in the period 1890-1935. The self sufficient farm of the early Colonial period was replaced by the farm producing for export, and urban industry supported a wage earning population. The wealth produced was unequally distributed and a workers consciousness began to emerge. The Labor Party was founded in 1916 and gained power in 1935, aided by the dislocations of the depression. The initial response of the medical system to these changes was to improve the voluntary services already functioning. However, this was satisfactory neither to the poor nor to the doctors (Fougere, 1984). Labor called for free medical services and outlined a somewhat socialized medical service in the Social Services Act of 1938. The voluntary hospital system was to be expanded and, with doctor fees, was to be funded from general taxation.

The medical profession opposed the Bill forcing amendments to the Act which was finally implemented in 1941. The profession was able to insist on a direct payment by the patient with the government
providing refunds; there was also provision for extra-billing, despite the generous fee of 7/6d per visit. The unity of the doctors was critical in obtaining these concessions; the outcome might have been different had specialists existed as an independent group. In the United Kingdom when medical participation in the Nation Health Service was negotiated in 1946, specialists were a separate and dominant group; general practitioners lost fee-for-service remuneration and were paid on the basis of capitation.

In addition to the General Medical Services Benefit (GMS) of 1941, governmental payment for physiotherapy (1943), District Nurses (1944), laboratory tests (1946) and prostheses (1947) were subsequently introduced (Hay, 1989). Complete government control of the public hospitals was solidified by the Second Labour Government in 1957.

The result of these measures was a massive increase in public spending on health which was supported by the buoyant economy of the forties and fifties. This economy depended on a guaranteed British market for New Zealand products and the development of an import substituting domestic manufactory. Since 1967 these fortunate conditions have been undermined; Britain has joined the Common Market and the limits of import substitution have been reached. Payment of health costs has again become problematic. The GMS remained stationary as doctors fees increased; it covered 75-100% of the fee in 1941, 50% in 1972, 10% in 1988 (Hay, 1989) and was withdrawn altogether in 1991.

Government policy on medical fees for children has lead to lower costs for the consumer. In 1985 as the GMS contribution to adult fees
dwindled, a pediatric benefit of $9.50 with extra-billing limited to $3.00 was proposed. The legality of this arrangement was challenged in the High Court and overturned allowing continued unlimited extra-billing. The subsidy on children's visits was reduced for all but the poor in 1992.

The discussion so far has been concerned with ambulatory care by general practitioners. As the capacity of technological medicine expanded, specialist services began to be seen as the essence of medicine and hospital care became the dominant consumer of resources. Central government took over payment for public hospitals under The Social Services Act (1938) but the control of the hospitals remained under locally elected Hospital Boards (Hay, 1989). Escalating costs lead to action by the National Government which was elected in 1949; public hospitals were taken over and the evolution of private ones was encouraged under the Hospital Amendment Act of 1951. Public hospitals and the services of the specialist doctors within them remained free to the user until 1991; part payment begun in February 1992.

However, the policy of encouraging a competing private sector of hospitals staffed by specialists who are committed only part time to the public sector, has again produced a tiered system, reminiscent of colonial times. The better off can have rapid convenient private care while the poor must wait their turn in overcrowded institutions. The middle class can obtain private care by insurance. The Southern Cross Insurance Company was founded in 1961, The National Government made medical insurance premiums deductible from taxable income in 1967, and more than 50% of New Zealanders now have coverage (Hay, 1989). Fougere
(1984) has suggested that the provision of private care for the upper and middle classes reduces effective demand ("voice") for an adequate public system. It must be added that the public system provides essential and emergency care to all. It also provides such "high-tech" procedures as organ transplants and open-heart surgery.

In summary, New Zealand has a mixed medical care system. Emergency and essential care, plus care to poorer children, is provided free, or nearly so, by a public system; adult care for less than life threatening conditions is stratified and delivered on the basis of ability to pay by a private one. Davis evaluates this system stating "In general, the consumer gets the advantage neither of the private buyer in the market nor of the citizen claiming a service as of right" (1984b, p.111). By comparison, the private system is smaller in the UK, perhaps because general practitioners were less powerful when the system was created, and larger in USA where there has been less belief in the responsibility of government to provide for the needs of the population.

A further aspect of the New Zealand situation remains to be mentioned. While 81% of the population is of European descent, 9% is mainly (50% or more) Maori, 12% recognizes some Maori descent and another 7% are of other ethnic groups, including other Polynesians, Indians and Chinese. A significant proportion of the population is, thus, of a culture different from that which produced biomedicine and the tangata whenua (native people), at least, may well claim the right to culturally sensitive medical treatment.
Tipene-Leach (1979) has described some principles which must be respected. Maori manners differ from those of Europeans; it is impolite to ask someone their name and direct eye contact should be avoided. Communal activity is valued and a visit to the doctor may become a family affair; surgery arrangements should be flexible enough to cope with this. In Maori culture disease is thought to follow some fault and so may be a matter of shame; further, the patient and their family may be concerned to discover and correct the fault at the same time as dealing with biomedical treatment (Durie, 1977). In addition, the world is seen in terms of tapu ("sacred") and noa ("mundane"). Some patients will be offended if tapu objects are mingled with noa ones, as in sitting on food serving surfaces or washing clothes along with dish towels. Finally, nudity, outside appropriate situations, and the scars produced by surgery have a negative connotation unexpected among Pakeha.

Successive New Zealand governments have provided medical care for Maori. Grey, the first Governor, opened public hospitals to which Maori were admitted without question and, at present, there exist special Health Areas, with large Maori populations, where primary care and medication is subsidized. Despite these measures, it can be demonstrated that mortality rates among the Maori are higher than for Pakeha New Zealanders even when social class is controlled (Pearce et al., 1983a; 1983b; 1984). For Maori born in 1980, life expectancy at birth was the same as Europeans born in 1920. Maori expectations and health problems provide a challenge and a distinctive character to medical practice in New Zealand.
Finally, it should be noted that the research project was started three years after the Cartwright (1988) inquiry which examined outpatient follow-up of women with abnormal cervical cytology. The inquiry had uncovered examples of unethical research and of inhumane patient management. These findings were widely publicized and might have moved the public to distrust of medical care, especially of medical research.

New Zealand medical care provides some distinctive features to be examined in this thesis. Practitioners are paid per item of service and so are rewarded for extra work. Primary care is only subsidized for some and a distinction can be made between those who must pay and those who do not. Similarly, ethnic variation divides patients into those who whose culture is that of western medicine and those to whom it is foreign. The effect of these distinctions will be examined.
Intention

The intention of the empirical research was to describe general practice in social terms. The variables of social and of sociological interest developed above, were operationalized and a large, representational survey was carried out. Input variables, associated with the practitioner, the patient and the problem, were related to encounter process variables, and both were related to the immediate and longer term outcomes.

Research Design

A. The Pilot Project

The pilot study was undertaken at an early stage in the development of the research project. The intention at that time was to test the hypothesis that positive outcomes would be related to agreement between patient and practitioner as to the nature of the problem presented. The researcher visited volunteer practices and interviewed adult patients after the consultation. The protocol included closed and open ended questions and the answers to the latter were recorded and transcribed. In addition, the practitioner completed a questionnaire for each consultation.

For this study five practitioners were approached who were personally known to the researcher; they practiced in four different areas of the city of Auckland - a high status inner suburb, a more distant suburb occupied by many retired people, a socially mixed industrial area and a lower status area with a high percentage
of Polynesian residents. During the visit of the researcher all adult patients were asked to grant an interview. The majority of these took place in the doctor's rooms; two were undertaken at the patients home. In thirty cases a follow up telephone call was made at one month.

The patient questionnaire obtained demographic data, information on the presenting problem and details of the patient's reaction to the visit. The practitioner's questionnaire summarized the reason for the visit, the activities performed and the doctor's evaluation of the encounter. In addition, questions were asked about the previous relationship between patient and practitioner and about the practitioner's background.

Only those results significant to the development of the project will be mentioned here. Forty two patients presented sixty two problems to the five practitioners. Most of the questionnaire items made sense to the practitioners and to the patients; most elicited a range of answers. It is of interest that only two patients presented with acknowledged social problems and none wanted counseling on a problem of living; however, social issues were more salient to the practitioners who counseled nine patients on non-medical issues. Only one patient wanted a pre-defined service. In fact, the majority of encounters were construed on a traditional medical model.

Questions on empowerment posed no particular difficulty for patients; with possible scores of from 0 to 7, the range was 1 to 7 and the mean was 5.5. On a satisfaction scale with possible scores of from 0 to 8, the range was 5 to 8 and the mean 7.7.

A content analysis of the transcripts of patients' answers to the
question "What did you get out of the visit?" was performed. Thirty of the 42 patients mentioned reassurance and 9 mentioned information; a total of 34 patients were either informed or reassured. Sixteen patients mentioned treatment as a benefit - it may be noted that 30 members of the group were treated. All eight patients who were neither informed nor reassured mentioned treatment as a benefit. It should be noted that it was easy to distinguish reassurance from other forms of information.

A number of decisions were made as a result of the pilot project. In general the questions that had been developed were found to be comprehensible and to distinguish between informants. These questions or the concepts they measured were incorporated in subsequent studies. The benefits mentioned by patients were found to be easily classifiable and susceptible to measurement by pre-coded closed ended questions. Finally, the high patient satisfaction and the high practitioner-patient agreement on the appropriateness of the "medical model" challenged some of the fundamental assumptions of the study. It became obvious that the disgruntled consumer-patient, however common at cocktail parties, was a rare bird in the doctors waiting room. It was thought that the reason for this could lie in a three-fold selection process: firstly, dissatisfied patients might stay away from the doctor; secondly, less socially aware doctors might refuse to cooperate with research; and, thirdly, people who are socially less competent might be more likely to decline the research interview.

An attempt to broaden the group of doctors was unexpectedly difficult; phone calls were not returned, requested written proposals were
ignored and cooperation was withheld. An extended personal study modelled on the pilot was abandoned and the more elaborate cooperative project described below was undertaken.

B. WaiMedCa

CoMedCa - The present project was inspired by the Community Medical Care Study (CoMedCa) undertaken in the Hamilton Health District in 1979 under the direction of Ian Scott. Using a methodology based in the National Ambulatory Medical Care Survey (NAMCS) from the United States (US DHEW, 1974), Scott approached all general practitioners in the District with a request to provide information on a sample of patient-practitioner encounters. He achieved a response rate of 90% and sampled approximately 1% of all encounters over the period of a year. Accounts of the research have been published by Scott and Gilmore (1979), Scott, Gilmore and Mararasz (1980) and by Gilmore and Madarasz (ND). Analyses of the data have been published by Davis (1985; 1986a; 1986b; 1986c; 1987) and by Davis and Lay Yee (1989; 1990). A similar study of general practice was performed at the same time in Canterbury (Research Committee, Canterbury Committee RNZCGP, 1979; 1983; 1984) and the results of this survey were compared with those from CoMedCa by Young (1985). It should be noted that the Hamilton Health District was chosen as the site for CoMedCa because it contained examples of all principal New Zealand environments (Urban, Agricultural, Silvicultural) and because all population groups were represented.

Development - Instruments - Practitioner Background and Practice Services Questionnaire - These questionnaires were developed
from three sources: the practitioner background questions used in the CoMedCa study; the instrument used by McAvoy et al. in Loughborough to survey practice services (1988); and the measure of practitioner style developed by Grol et al. (1990). Modifications were made to reflect the New Zealand situation. The areas covered include the background, current activities and attitudes of the practitioner, and the structural features of the practice.

- **Encounter Report** - This followed the format used for CoMedCa and originally developed for NAMCS in the US. The form was restructured to allow diagnostic and therapeutic activities to be related to specific diagnoses when more than one condition was reported. Several question were added; in particular, the doctor was asked to indicate the intention of therapy (curative/symptomatic) and to assess the level of rapport established.

- **Patient Follow-up Questionnaire** - The patients were asked to give a subjective evaluation of health state and to assess their encounter with the health system. The questions for the evaluation of health state were derived from the work of Mushlin and Appel (1980), who sought to measure change with treatment. These questions were administered at the end of the consultation and at two weeks. The evaluation of the immediate impact of the encounter, using the information gained during the pilot study, sought to assess "empowerment" as defined above. Questions addressed information received and reassurance experienced; individual questions addressed satisfaction and agreement between patient and doctor. The text is given in Chapter X.
The Team - A party from the Departments of Community Health and General Practice of the School of Medicine of the University of Auckland visited Hamilton in March 1990 and met with representatives of the Waikato Faculty of the Royal New Zealand College of General Practitioners, the local branch of the New Zealand Medical Association and the Planning Department of the Waikato Area Health board. It was agreed that a repeat survey of general practice would be of value and it was thought that local practitioners would support such a project. Preliminary funding was obtained from the Department of Health and from the Medical Research Council. A Steering Committee was set up and held its first meeting in November 1990. In addition to the organizations mentioned above the Practice Nurses Association was represented. It was one of the strengths of the project that all professional bodies with an interest in the project were involved in decision making. The project was funded in 1991 by the newly created Health Research Council.

Recruitment

General practices in the study area were identified using data from the Waikato Area Health Board supplemented by a search of telephone listings. Recruitment then proceeded in five steps:– the survey was publicized in the medical press; a practitioner member of the steering committee telephoned each doctor; the director of the project telephoned each doctor and set up an appointment for a practice visit; an information sheet was posted out; and the director visited each practitioner, discussed the project and requested participation. It should be noted that a positive response from the practitioners was
facilitated by the initial approach from a fellow practitioner and that use of a mature researcher with a medical degree increased cooperation.

The Practice Survey

Recruitment provided an opportunity to gather information on the practices and a set of questionnaires were distributed to each practice with the information sheet. One covered details of the practice itself, another requested individual information from the practitioners and a third requested similar information from the practice nurses. Practice organization, personal background, clinical practices and personal attitudes were investigated. The questionnaires were collected during the practice visit. Copies of the instruments used are provided in the Appendix.

Auckland and Taranaki - The opportunity was presented to carry out two parallel practice surveys. The Auckland Region Coronary and Stroke Study (ARCOS) drew a random 25% sample of all general practitioners in the Area Health District. During this recruitment process, undertaken in February and March 1991, a simplified practice and practitioner questionnaire was administered. 100% of eligible practitioners co-operated. During the course of a visit by one of the principal investigators to Taranaki, the local faculty of the RNZCGP offered to co-ordinate a survey of all practitioners in the that district. The chair of the faculty sent out notices in December 1991 and these were followed by a postal questionnaire. Follow-up telephone calls were made in January 1992 to those who had not returned completed questionnaires. 79% of eligible practitioners co-operated. The questionnaires used in Auckland
The Encounter Survey

All identified general practitioners were requested to participate in the reporting of details of patient-practitioner encounters. Doctors with specialist qualifications who were practicing their speciality at least part time were excluded; Family Medicine Training Programme registrars and practitioners in-locum-tenens were included. Practice nurses accustomed to seeing patients independently were also included.

Participating practices were requested to record information on a sample of patient encounters for a period of one week and to repeat the exercise four times over a year. The practices were grouped geographically and practices in each town or suburb collected data simultaneously. Data collection began in September 1991 and will be completed in August 1992. Some latitude was allowed and individuals delayed data collection for reasons of convenience. Data collection was halted over Christmas, New Year and Easter; in addition, vacation destinations were not sampled during the holiday month of January.

A week prior to the beginning of data collection, the survey director visited each practice to deliver the survey instruments and to explain the working of the study. For each practitioner a sampling interval was set, based on the usual number of patients seen per week, to produce a sample of 25 reports over each week. Doctors in-locum-tenens, registrars and practice nurses were given a sampling interval of 4. The range of sampling intervals was from 1:2 to 1:8. Nurses reported only on patients not seen
by the doctor. The sampling interval was incorporated in the personalized survey instruments. All patients seen during the week were entered in a Patient Log; when the "nth" patient was entered, the participant was instructed to complete the Report Form. An example is shown in the Appendix. All prescriptions in the data collection week were completed in duplicate; those related to patients on whom reports had been made were identified by number.

A pair of questionnaires was distributed to a 20% sub-sample of patients. These questionnaires were attached to every fifth Report Form and participating practitioners were asked to hand them to the relevant patient. Examples of these questionnaires are shown in the Appendix; they could be returned post-paid. All patient-practitioner encounters were eligible for inclusion except those occurring in hospital or during a routine "round" of other residential settings. Visits to patients at home and out of office hours, excluded from the CoMedCa study, were included. Telephone consultations were excluded but repeat prescriptions, however arranged, were included as encounters. Completed Report Forms were mailed to the researchers. After the first round of data collection, the postal service was also used in the distribution of blank forms. Practices were contacted by telephone at the start of the first data collection period and prior to subsequent mail-outs.

Ethical issues

Practitioners were fully informed of the nature and requirements of the study before being added to the research list (see
Practitioner Information Letter in Appendix). Confidentiality was protected and only the research officer had access to the file relating identity numbers to named individuals.

Patients were made aware that the survey was in progress by means of notices displayed in practitioners' waiting rooms. The notice indicated that more information was available on request and that patients had the right to be excluded from the study without penalty (see Notice and Patient Information Sheet in Appendix).

It should be noted that no patient information was collected that is not normally available to practitioners, that no patient identification left the practice, and that patients requested to supply follow-up information did so using anonymous questionnaires.

The data set will be protected and long term use will be controlled by the principal investigators. Use will be in the public interest having provided for the protection of the subjects of the research.

An application for ethical approval was submitted to the University of Auckland Human Subjects Ethical Committee. Approval for WaiMedCa was granted in December 1990 (Ref-0199). The research committee of the Waikato Area Health Board, and its Ethics subcommittee, were informed of the project and The Waikato Area Health Board approved it in January 1991. The Ethics committee of the Royal New Zealand College of General Practice was also informed of the project and suggested some modification of the instruments to be used.

Consumer Organizations involved in the health field were consulted and asked to identify any area of concern to their members or
to the public at large. Groups contacted include the Iwi Health Forum, the Women's Health Action Group and consumer groups based at the Hamilton Disability Resource Centre.

Operationalisation of the variables
This section describes the development of the variables used in the subsequent description and analysis. Numbers in brackets refer to the questions on the various forms comprising the raw data (P = Practice Questionnaire; M = Medical Practitioners Questionnaire; N = Nurses Questionnaire; L = Log; R = Report Form; I = Immediate Outcome Questionnaire; O = Two Week Outcome Questionnaire). Definitions used by respondents in answering questions are included in the Appendix.

Characteristics of the practitioner - As we have seen above, a range of practice styles may be expected among doctors currently practicing. Older practitioners, those working in rural areas and doctors in large practices might be expected to be less affected by contemporary trends, and male gender and high work load might be associated with more a traditional style. The following variables have been included in the analysis:

1. Practitioner age - (M1) expressed in years.
2. Practitioner gender - (M2) expressed as male/female.
3. Work load - (M9) expressed as usual number of patients seen per week.
4. Style/attitude - (M20) summary index, value 0-21.
5. Practitioner type - expressed as the categories doctor, nurse and doctor with nurse.
6. Practice site - expressed as urban (= Hamilton) and rural.
Personal characteristics of patient - as we have seen above, there is reason to believe that the patient-practitioner encounter may be affected by the status of the patient as measured by age, gender, ethnicity and class. The following variables have been included:

1. Age - (R1) was expressed in years and as categorical variable distinguishing those under 15 from those over that age.

2. Gender - (R2) expressed as female or male.

3. Ethnicity - (R5) expressed as Maori and other or as Pakeha and other.

4. Class - (R4) expressed as occupational class (Elly and Ervine, 1985) of patient or main family income earner or as two categorical variables indicating life problems, (L/R4) receipt of any social benefit and (O5a/b) delay in medical utilization of medical services due to considerations of cost.

5. Utilization level - expressed as the number of visits in the previous year (R10).

6. Relation to practitioner - (R8) expressed as new or not new to practitioner and new or not new to practice.

Problem presented - We have seen above that some problems fit the medical model better than others and may be expected to be more easily dealt with. Further, the significance of the level of suffering, and of the willingness and capacity to work has been identified. The following variables have been included:

1. Reason for visit - (R11) These will be classified as:
   - illness (= symptoms requiring diagnosis and treatment);
   - injury; follow-up of short term problem; maintenance (= continued management of an established and chronic condition) with, or without, symptoms; prevention; service (= request for particular service, including certification); social problems; and mixed (= two or more types of reason for visit).
2. Number of problems presented - (R11).

3. Who initiated visit - (R9).

4. Problem Status - (R13) as new; follow-up; and chronic (reported by practitioner).

5. Disability - (R16) (reported by practitioner) Extent - expressed as none, minor and major. Type - expressed as temporary and permanent.

6. Severity - (I1-4) (reported by patient) expressed as scale of 0-3 for each of four questions and as index of all, range 0-12 (See Chapter IX).

7. Treatability - (R19) expressed as high (=cure or maintenance) and low (=symptomatic or for reassurance) objective for any medication given.

Process of patient-practitioner encounter - We have indicated above that the content of the encounter is of interest. In particular, the distinction between technical treatment, mediation and counseling was seen as relevant. The following variables are included in the analysis:-

1. History - (15) expressed as two dummy variables complete history, yes/no, and psychosocial history yes/no.

2. Examination - (15) expressed as ordinal variable, (none/local exam/general exam) and treated as interval variable.

3. Treatment - (R17) expressed as five dummy variables, none, prescription, immunization, dressing, minor surgery, advice/counseling, time off work and certification.

4. Diagnostic activities - (R18) as two dummy variables, any diagnostic tests and any referral.

5. Follow-up - (R18) as return at specified time, yes/no.

6. Visit length - (R20) expressed as long, average or short.

7. Level of rapport - (R24) expressed as low, medium or high and "normed" for each practitioner.

8. Practitioner Uncertainty - (R23) as none, low or high and "normed" for each practitioner.

9. Site - (Log) expressed as office or other.
10. Time - (Log) expressed as office hours or other.

Outcome measures - The concepts of improved health state and empowerment have been developed above. The following variables have been developed from the raw data:-

1. Empowerment - (I5) expressed as answers to the individual questions (range 0-2) and as a summary Index (range 0-14).

2. Change in health state - (I&O,1-4) change in severity between the two patient reports; expressed as change in individual questions and a summary change of severity Index. Alternative - health state at two weeks, index - range 0-12.

Having described the research design and methodology, and the operationalisation of the variables of interest, we move, in the next three chapters, to present the findings.
Chapter VIII

THE WAIKATO AND ITS PRACTITIONERS

In this chapter we will present information on the Waikato, the results of the preliminary survey of practitioners and a summary of the information provided by practitioners on the patient-practitioner encounters. It is intended, first, to demonstrate how the area and its doctors resemble, and differ from, those of New Zealand as a whole and to indicate how the results may be applied to the country in general. And, second, to show that an adequate range of responses was obtained on the encounter questions relevant to our thesis as specified at the end of Chapter V.

The Waikato

The following information comes from the New Zealand Census of 1986 and from statistics developed by Waiora Waikato (1991).

1. The Area - the territory included in the research is that covered by the Waikato Area Health Board (1987-?1993). It comprises 30,000 square kilometers, 11% of the total land mass of New Zealand, and extends from the northern tip of the Coromandel Peninsular south to Mount Ruapehu. The eastern border of the area leaves the coast just before Waihi Beach and excludes Tauranga and Rotorua; Tokoroa, Taupo and Turangi are included. The border circles the mountains, includes Taumarunui and reaches the west coast at Mokau; it leaves the coast north of Raglan and cuts back to the Firth of Thames between Te Kauwhata and Pokeno. The two doctors in Waihi Beach were included in the study since they
share a call roster with those in Waihi. For convenience the area will be referred to as the Waikato although this is, strictly speaking, only the region surrounding the city of Hamilton. See Figure 8.1. The region has a temperate climate and the land is graded from the lush, arable, Hauraki Plain, through pastoral foothills to the forested uplands of the Coromandel and the Central Plateau. Hamilton, with a population of 101,000, is the only large settlement in the area; the next most populous, Tokoroa, has 20,000 inhabitants. New Zealand wide, 67.5% of people live in urban areas with populations above 30,000.

Figure 8.1 - Map of area covered by waimedca study. Numbers indicate distribution of general practitioners.
2. The people - The area population was 320,000 at the 1986 Census, 10% of the New Zealand total. The majority of the population is of European descent but the *tangata whenua* is well represented. When Maori Origin is defined as 50% or more Maori blood, 13.6% of area inhabitants so define themselves, compared with 9% of all New Zealanders. When Maori Descent is defined as any Maori ancestor, 17.9% so classify themselves, compared to 12.4% of all New Zealanders. A little more than 1% of the population is of other Polynesian ancestry and a little less than 1% is of Chinese or Indian descent.

The population is somewhat younger than the New Zealand average; 26.7% were under 15 (NZ 24.4%) and 8.9% were over 65 (NZ 10.5%). The population structure reflects the lower mean age of Maori. The level of education and the income of the population were somewhat less than that for New Zealand as a whole; this reflects the younger mean age and the high percentage of rural residence and occupations.

The medical practitioners

The information on practitioners and their practices is based on the preliminary questionnaires distributed by WaiMedCa and on data gathered in Auckland (by ARCOS) and Taranaki.

Response Rate - One hundred and ten practices staffed by 221 practitioners and 189 nurses were identified in the Waikato. Questionnaires were returned from 101 (92%) practices, 184 (83%) practitioners and 150 (79%) nurses. It should be noted that practice questionnaires represented 218.8 practitioners,
expressed as full-time-equivalents. In Auckland a 25% sample of all general practitioners was drawn and all 169 of these cooperated with the ARCOS study. In Taranaki 39 practitioners returned questionnaires for a response rate of 79%.

Results

In this section details are given of the practitioners and their practices. Hamilton (H), as the sole urban environment, is distinguished from the remainder of the Waikato (W) and comparison is made with Auckland (A), Taranaki (T) and, where possible, with New Zealand (NZ) as a whole. New Zealand data was obtained from the Medical Council of New Zealand. Table 8.1 gives details of the gender, age and place of qualification of practitioners in Auckland, Hamilton, the Waikato, Taranaki and New Zealand.

Table 8.1. Medical practitioners - Gender, Mean Age, Years in Practice, Place of Graduation; comparison of Waikato, Hamilton, Auckland, Taranaki and All New Zealand.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>H</th>
<th>W</th>
<th>T</th>
<th>NZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender - %female</td>
<td>20</td>
<td>20</td>
<td>14</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>Mean age</td>
<td>42.7</td>
<td>43.2</td>
<td>42.5</td>
<td>44.8</td>
<td>43.7</td>
</tr>
<tr>
<td>Years in practice</td>
<td>13.8</td>
<td>13.9</td>
<td>14.5</td>
<td>13.7</td>
<td>15.0</td>
</tr>
<tr>
<td>Mean size of practice</td>
<td>2.3</td>
<td>1.9</td>
<td>1.9</td>
<td>1.3</td>
<td>NA</td>
</tr>
<tr>
<td>Place of graduation, % by area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NZ</td>
<td>77</td>
<td>77</td>
<td>46</td>
<td>69</td>
<td>70</td>
</tr>
<tr>
<td>UK</td>
<td>8</td>
<td>14</td>
<td>34</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Euro</td>
<td>7</td>
<td>6</td>
<td>13</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Asia</td>
<td>11</td>
<td>3</td>
<td>6</td>
<td>13</td>
<td>5</td>
</tr>
</tbody>
</table>
It will be noted that the mean age and the mean number of years in practice of the general practitioners in the areas considered is quite similar. The percentage of female graduates is lower in rural Waikato and in Taranaki. The percentage, of British graduates is higher in rural Waikato and practice size is higher in Auckland and lower in Taranaki. Table 8.2 presents the personnel structure of the practices. Ratios of nursing and clerical to medical staff are calculated; there is some variation between areas but no clear pattern emerges.

Table 8.2. Number of Nurses and Clerical workers per practitioner; comparison of Waikato, Hamilton, Auckland, and Taranaki.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Nurses per doctor</td>
<td>0.72</td>
<td>0.52</td>
<td>0.66</td>
<td>0.78</td>
</tr>
<tr>
<td>Reception+clerical/doc.</td>
<td>0.76</td>
<td>0.83</td>
<td>0.77</td>
<td>0.94</td>
</tr>
<tr>
<td>All staff per doctor</td>
<td>1.48</td>
<td>1.35</td>
<td>1.43</td>
<td>1.72</td>
</tr>
</tbody>
</table>

Table 8.3. Practitioners by age and gender for Hamilton and the Waikato.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Males (%) down</th>
<th>Females (%) across</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>4 (2.4)</td>
<td>2 (33.3)</td>
</tr>
<tr>
<td>30-39</td>
<td>62 (37.8)</td>
<td>18 (22.5)</td>
</tr>
<tr>
<td>40-49</td>
<td>51 (31.1)</td>
<td>7 (12.1)</td>
</tr>
<tr>
<td>50-59</td>
<td>25 (15.2)</td>
<td>2 (7.5)</td>
</tr>
<tr>
<td>60-69</td>
<td>21 (12.8)</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td>70+</td>
<td>1 (0.7)</td>
<td>0 (0.0)</td>
</tr>
</tbody>
</table>
Table 8.3 gives the age and gender of medical practitioners in the Waikato. It may be noted that the largest percentage of doctors are aged 30-39 and that numbers reduce in each subsequent decade. This represents both mortality and the recent increase in recruitment to general practice. The percentage of females within each age group increases with diminishing age reflecting the graduation of more females in recent years.

Table 8.4 gives details of the work load and patterns of practice of practitioners from the same areas. Auckland doctors stand out for the number of hours they work but this was calculated
slightly differently, making allowance for actual work time when on call and should be discounted. Rural Waikato doctors stand out for the number of patients they see. It appears that the booking interval is not related to the actual number of patients seen per hour. The absence of private Accident and Emergency clinics outside Auckland and Hamilton is reflected in the patterns of coverage and it is curious that Auckland appears to lag in computer use. There seems to be no obvious way in which Waikato practitioners differ systematically from their colleagues in Auckland and Taranaki. Table 8.5 gives the qualifications of the practitioner seen. It is of some interest that nurses see 8.3% of the patients independently and see 20.6% with the doctor.

Table 8.5. Type of professional seen, percentages.

<table>
<thead>
<tr>
<th>Type of Professional</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>General practitioner</td>
<td>68.2</td>
</tr>
<tr>
<td>Locum practitioner</td>
<td>2.1</td>
</tr>
<tr>
<td>FMTP Registrar</td>
<td>0.8</td>
</tr>
<tr>
<td>Practice nurse</td>
<td>8.3</td>
</tr>
<tr>
<td>Nurse and doctor</td>
<td>20.6</td>
</tr>
</tbody>
</table>
Practitioner attitude

Table 8.6 gives the responses to the practitioner attitude questions, for Hamilton and the Waikato. Table 8.7 gives the correlations between the individual questions and the distribution of an attitude index obtained by addition.

Table 8.6. Practitioner attitude questions - Percentage distribution of answers (3=patient-, 0=disease-, centered).

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No harm in patients looking up to their doctors</td>
<td>3.8</td>
<td>28.8</td>
<td>58.8</td>
<td>7.1</td>
<td>1.7</td>
</tr>
<tr>
<td>GP cannot always to deal with non-medical problems</td>
<td>5.4</td>
<td>19.6</td>
<td>67.4</td>
<td>7.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Some patients would not understand explanations</td>
<td>23.4</td>
<td>39.7</td>
<td>29.9</td>
<td>7.1</td>
<td>1.2</td>
</tr>
<tr>
<td>*Patients should not always see referral letters</td>
<td>12.5</td>
<td>55.4</td>
<td>27.2</td>
<td>4.9</td>
<td>1.2</td>
</tr>
<tr>
<td>*GP need not always explain medication in detail</td>
<td>16.8</td>
<td>56.5</td>
<td>23.9</td>
<td>2.2</td>
<td>1.1</td>
</tr>
<tr>
<td>*GP need not always be honest with cancer patients</td>
<td>41.3</td>
<td>53.8</td>
<td>3.8</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>*Patients do not always have the right to demand info</td>
<td>43.5</td>
<td>46.2</td>
<td>7.1</td>
<td>3.3</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Attitude Index - sum of above. Possible range 0-21.
#1  2  1  3  8  11 16 18 34 29 28 18 6 4 1 2 1 1
-----------------------------------------------
0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17
Mean value 8.3. Median value 7.

*Questions reversed in questionnaire. Missing values 0.
Table 8.7. Correlations between scores on attitude questions.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Looking up</td>
<td>1.00</td>
<td>0.18</td>
<td>0.15</td>
<td>0.14</td>
<td>0.07</td>
<td>0.17</td>
<td>0.09</td>
<td>0.53</td>
</tr>
<tr>
<td>2. Non-medical</td>
<td>1.00</td>
<td>0.14</td>
<td>0.02</td>
<td>0.07</td>
<td>0.04</td>
<td>0.06</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>3. Explanation</td>
<td>1.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.20</td>
<td>0.07</td>
<td>0.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Letters</td>
<td>1.00</td>
<td>0.12</td>
<td>0.21</td>
<td>0.20</td>
<td>0.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Medication</td>
<td>1.00</td>
<td>0.20</td>
<td>0.22</td>
<td>0.48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Cancer</td>
<td>1.00</td>
<td>0.56</td>
<td>0.62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Information</td>
<td>1.00</td>
<td>0.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Attitude index</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These results show a good range of responses; further, the answers are correlated but with a maximum coefficient of $r = 0.56$ ($R^2 = 0.38$). This confirms the value of this instrument for the measure of attitude.

These results were compared with the studies reported by Grol et al. (1990) in Belgium, England and the Netherlands. We modified the questionnaire by removing the neutral "0" response, neither agree or disagree, and reversed some of the statements to avoid "response set" bias. The European studies showed much higher values in the strongly agree category at the patient centered end. However, when agree/strongly agree, and disagree/strongly disagree were summed for the New Zealand figures and the percentage of patient centered responses were ordered, the order was the same, with the exception of one question, as that found in the European studies. Whether the lower scores represent a lower level of patient centeredness or merely a cultural reluctance to take up an extreme position is uncertain. A problem with such instruments is the appearance of a "right" answer - in this case patient centeredness.

We conclude from the results given above that there is no obvious
systematic difference between practitioners in the Waikato and those elsewhere in New Zealand. In addition, the measure of doctor attitude, developed elsewhere, appears to differentiate satisfactorily between individuals here. We turn now to the results of the survey of encounters.

The patient-practitioner encounters

The descriptive statistics for the encounters reported by the general practitioners in the Waikato are presented below. The data presented here were collected over six months and represents the first half of the data to be collected for Waimedca. Each practitioner had two opportunities to participate; the response rate, for practitioners was 81.5% on the first occasion and 60% on the second (which was complicated by the Christmas and the January holidays). The results which follow were based on 9477 completed encounter forms. It will be noted that there were considerable numbers of missing values; this reflects the conflict between clinical work and accurate form completion; it must weaken the validity of the data.

Patients and problems

Tables 8.8 and 8.9 compare the age, gender and ethnicity of the patient sample with the Waikato population.

Table 8.8. Age by gender of the patient sample and the population of the Waikato. Grouped 0-4 and by 10 years. Percentaged by gender.
<table>
<thead>
<tr>
<th>Age range</th>
<th>Sample</th>
<th>Waikato</th>
<th>Sample</th>
<th>Waikato</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>17.0</td>
<td>8.8</td>
<td>11.7</td>
<td>8.7</td>
</tr>
<tr>
<td>5-14</td>
<td>13.6</td>
<td>18.8</td>
<td>8.1</td>
<td>17.8</td>
</tr>
<tr>
<td>15-24</td>
<td>13.3</td>
<td>18.5</td>
<td>15.0</td>
<td>17.9</td>
</tr>
<tr>
<td>25-34</td>
<td>11.2</td>
<td>15.5</td>
<td>17.6</td>
<td>15.8</td>
</tr>
<tr>
<td>35-44</td>
<td>10.5</td>
<td>12.9</td>
<td>11.5</td>
<td>12.9</td>
</tr>
<tr>
<td>45-54</td>
<td>7.9</td>
<td>9.4</td>
<td>8.4</td>
<td>9.2</td>
</tr>
<tr>
<td>55-64</td>
<td>8.4</td>
<td>8.3</td>
<td>8.9</td>
<td>8.2</td>
</tr>
<tr>
<td>65-74</td>
<td>10.6</td>
<td>5.3</td>
<td>9.8</td>
<td>6.0</td>
</tr>
<tr>
<td>75+</td>
<td>7.4</td>
<td>2.6</td>
<td>8.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Total</td>
<td>41.5</td>
<td>50.2</td>
<td>58.3</td>
<td>49.8</td>
</tr>
</tbody>
</table>

N = 9622; missing values 145

In comparing the population and the sample in terms of the percentages in each age group, it will be noted that for both males and females, usage was disproportionately high in the 0-4s and after 55; in addition, women aged 20-24 were over-represented. It may also be noted that, in the sample, the only age at which the absolute number of males exceeded that of females was in the 5-14 age group; more detailed examination of the data shows that this preponderance was in fact confined to the 5-9 age range. Of all patients reported, 58.3% were female. With regards to ethnicity it will be noted that the percentage of Maori reported is between
the percentages from the Census for Maori origin and Maori descent. Our figure is based on the practitioners assessment and cannot be compared directly with the census; we feel, however, that it provides a valid measure of "Maoriness." Table 8.9.

Ethnicity of patient sample and the population of the Waikato.

<table>
<thead>
<tr>
<th></th>
<th>Sample</th>
<th>Waikato</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakeha</td>
<td>79.9</td>
<td>78.4</td>
</tr>
<tr>
<td>Maori</td>
<td>16.4</td>
<td>13.7(17.9)</td>
</tr>
<tr>
<td>Other Polynesian</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>All Other</td>
<td>2.9</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Note:- Census classification is self chosen; the sample was classified by the practitioner. Missing values 517.

Table 8.10 gives the occupational classification of the patients or of the main family earner and the data on welfare receipt. It should be noted that the classification used (Elley-Irving, 1985) assigns a value of zero when no occupation is recorded, as when "unemployed" or "retired" is entered. The large number of missing values reduces the usefulness of this measure. In contrast the GMS classification is accurate and relatively
complete but it does conflate the retired with those in receipt of other benefits. Because of these problems the classification of "class" is unfortunately relatively weak. It will be noted that beneficiaries are more frequent users of medical care than non-beneficiaries. In this connection, it is of interest that the practitioner's fee was reduced in 12% of cases and waived in 14%.

Table 8.10. Occupational classification (Elley-Irving) and general medical services benefit status of patient sample, percentages.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elley-Irving classification</td>
<td>10.5</td>
<td>4.2</td>
<td>28.9</td>
<td>17.0</td>
<td>19.5</td>
<td>13.8</td>
<td>6.1</td>
</tr>
<tr>
<td>General Medical Services Benefit claimed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>14.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>13.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>36.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>33.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8.11 records the number of visits reported for the previous year. The mean value of 6.9 is considerably higher than that usually reported. There are probably two reasons for this; those who see the doctor rarely will be under-reported and previous estimates have been based on GMS returns which exclude those for whom no claim is made. If correction for over-sampling of frequent attenders is made the average number of visits per year is 3.9
and if the assumption is made that 25% of the population do not visit the doctor at all in any one year, the mean annual population consultation rate is approximately three.

Table 8.11. Number of visits to GP in last year, percentages.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4.5</td>
<td>9</td>
<td>3.0</td>
<td>18</td>
<td>0.5</td>
</tr>
<tr>
<td>1</td>
<td>8.1</td>
<td>10</td>
<td>5.7</td>
<td>19</td>
<td>0.4</td>
</tr>
<tr>
<td>2</td>
<td>10.0</td>
<td>11</td>
<td>1.9</td>
<td>20</td>
<td>1.3</td>
</tr>
<tr>
<td>3</td>
<td>10.6</td>
<td>12</td>
<td>3.8</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>11.6</td>
<td>13</td>
<td>1.2</td>
<td>22</td>
<td>0.3</td>
</tr>
<tr>
<td>5</td>
<td>8.3</td>
<td>14</td>
<td>1.3</td>
<td>23</td>
<td>0.5</td>
</tr>
<tr>
<td>6</td>
<td>10.0</td>
<td>15</td>
<td>2.1</td>
<td>24</td>
<td>0.3</td>
</tr>
<tr>
<td>7</td>
<td>5.1</td>
<td>16</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>5.8</td>
<td>17</td>
<td>0.7</td>
<td>25+</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Mean value = 6.9   Missing values 1468

Table 8.12 gives information on the types of problem presented. It will be noted that 15.7% of the visits are doctor initiated, that half the problems are new and that a quarter of the problems are follow-up and chronic ones. It is of interest that 13.7% of patients were reported to have major disability (defined as "unable to fulfill usual obligations of a person of comparable age"), that 55.8% experience minor disability (defined as
"unable to fulfill some obligations") and that only 30.4% were disability free. Most disability was temporary with 18.9% having permanent disability and 6% having major permanent disability. Table 8.13 gives the number of reasons for the visit and the number of diagnoses made by the practitioner. It will be noted that two thirds of the patients had one problem and diagnosis.

Table 8.12. Aspects of problem presented - percentages.

<table>
<thead>
<tr>
<th>Doctor initiated</th>
<th>15.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem - new</td>
<td>51.1%</td>
</tr>
<tr>
<td>- follow-up</td>
<td>25.4%</td>
</tr>
<tr>
<td>- chronic</td>
<td>23.5%</td>
</tr>
</tbody>
</table>

Total number of problems 11,625. Missing data 1251.

<table>
<thead>
<tr>
<th>Disability - none</th>
<th>30.4%</th>
</tr>
</thead>
<tbody>
<tr>
<td>- minor</td>
<td>55.8%</td>
</tr>
<tr>
<td>- major</td>
<td>13.7%</td>
</tr>
</tbody>
</table>

Missing values 1975 (724)

| - temporary       | 80.3% |
| - permanent       | 18.9% |

Missing values 4567.

Table 8.13. Number of reasons for visit and diagnoses per consultation.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.f.V</td>
<td>0.8</td>
<td>72.2</td>
<td>19.8</td>
<td>7.2</td>
<td>-</td>
</tr>
<tr>
<td>Diagnoses</td>
<td>1.5</td>
<td>67.4</td>
<td>21.7</td>
<td>7.4</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Missing values 1291
Table 8.14 gives the highest treatment objective for the cases in which medication was prescribed. It may be noted that half the patients were given medication with the expectation of complete cure and that a quarter were given maintenance or symptomatic treatment. Only 2.3% were given drugs for reasons of reassurance. McGavock (1988), using conservative criteria, found only 35% of drugs were prescriptions in the hope of cure.

Table 8.14. Highest treatment objective.

<table>
<thead>
<tr>
<th>Treatment Objective</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete cure</td>
<td>49.4</td>
</tr>
<tr>
<td>Maintenance</td>
<td>23.3%</td>
</tr>
<tr>
<td>Symptomatic</td>
<td>24.9%</td>
</tr>
<tr>
<td>Reassurance</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

Missing values 3709

The Process of the Consultation

The following tables give the distribution of the answers to questions concerning the process of the patient-practitioner encounter. Table 8.15 gives the site and time of visits and the relationship
between patient and doctor or practice.

Table 8.15. Site and time of visit, percentages.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients seen out of surgery</td>
<td>4.2%</td>
</tr>
<tr>
<td>Patients seen out of office hours</td>
<td>7.6%</td>
</tr>
<tr>
<td>Patients new to doctor</td>
<td>17.4%</td>
</tr>
<tr>
<td>Patients new to practice</td>
<td>8.4%</td>
</tr>
</tbody>
</table>

Table 8.16 gives the frequency of history taking and examination and Table 8.17 gives the frequency of tests, follow-up and referral.

The relative infrequency of a psychosocial history (3.5%) is noted as is the tendency always to make some suggestion for follow-up. Follow-up as necessary was given in 42.3% of cases and only 14.3% were given "no follow-up necessary."

Table 8.16. Frequency of history taking and examination

<table>
<thead>
<tr>
<th>History Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>6.5</td>
</tr>
<tr>
<td>Complete</td>
<td>17.4</td>
</tr>
<tr>
<td>Focussed</td>
<td>72.7</td>
</tr>
<tr>
<td>Psychosocial</td>
<td>3.5</td>
</tr>
</tbody>
</table>

126
Examination - none - 8.8
- limited 74.5
- general 16.7

Table 8.17. Levels of Follow-up, referral, tests, percentages.

<table>
<thead>
<tr>
<th>Follow up</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return at specified time</td>
<td>38.5</td>
</tr>
<tr>
<td>Telephone follow-up</td>
<td>4.7</td>
</tr>
<tr>
<td>Return as necessary</td>
<td>42.3</td>
</tr>
<tr>
<td>No Follow-up</td>
<td>14.3</td>
</tr>
</tbody>
</table>

Missing values 561.

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any test</td>
<td>13.2%</td>
</tr>
<tr>
<td>Any XRay</td>
<td>4.6%</td>
</tr>
<tr>
<td>Any Referral</td>
<td>10.4%</td>
</tr>
</tbody>
</table>

Table 8.18 gives the frequency of therapeutic activity. The total adds to more than 100% since some patients were given more than one treatment. It is of interest that in only 15.9% of cases was no treatment given. The prescription rate of 52.4% is lower than that recorded by Comedca (61.6%) but other figures are similar. This suggests that allegation of over-medication have been heeded. The advice/counseling category at 26.9% is probably mainly advice in view of the low figure for psychosocial histories reported above. The aggregation of time-off-work and certification, both examples of medical mediation, at 6.25% of visits, suggests that this is a small
but significant aspect of medical work. Table 8.18.
Frequency of therapeutic activities, percentage of all cases seen.

<table>
<thead>
<tr>
<th>Therapeutic Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No therapeutic activity</td>
<td>15.9</td>
</tr>
<tr>
<td>Prescription</td>
<td>52.4</td>
</tr>
<tr>
<td>Immunization</td>
<td>3.2</td>
</tr>
<tr>
<td>Dressing</td>
<td>5.7</td>
</tr>
<tr>
<td>Minor surgery</td>
<td>3.1</td>
</tr>
<tr>
<td>Advice/counseling</td>
<td>26.9</td>
</tr>
<tr>
<td>Certificate</td>
<td>3.9</td>
</tr>
<tr>
<td>Time off work advised</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Table 8.19 gives the practitioner evaluation of the encounter. Since the questions on uncertainty and rapport are answered subjectively their significance is difficult to judge. A range of answers were given, however, so they were meaningful to the responding practitioners. It is of interest that practitioners had some doubt as to the correct course of action in nearly half
This section has given a bald statistical description of the patient-practitioner encounters included in our survey.

Table 8.19. Practitioner Evaluation of encounter.

<table>
<thead>
<tr>
<th>Uncertainty</th>
<th>None - 55.6%</th>
<th>Some - 36.7%</th>
<th>High - 7.7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing values</td>
<td>355</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of rapport</th>
<th>Low - 1.9%</th>
<th>Medium - 44.4%</th>
<th>High - 53.7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing values</td>
<td>306</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length of encounter</th>
<th>Long - 15.4%</th>
<th>Average - 62.0%</th>
<th>Short - 22.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing values</td>
<td>514</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In this chapter we shall look at the outcomes and other information recorded by patients. In the next chapter we shall explore the possibility that these may be predicted on the basis of practitioner, patient, problem or process variables. All information in this chapter is based on the subsample (N=763) of patients who returned questionnaires. Of the patients on whom practitioners submitted reports, one-in-five was asked to complete two questionnaires. The first of these was intended to be filled in immediately after the patient-practitioner encounter, the second after an interval of two weeks. The response rate was approximately 65% for the first questionnaire and 43% for the second.

In the first section we shall compare the sample of patients completing the questionnaires with all who were reported upon by the doctors. Secondly, we shall present data available only on these patients: the patients' enumeration of the number of visits during the previous year; the assessment of the frequency with which medical care had been delayed because of financial constraints; a reclassification of "reason for visit;" the immediate outcome as recorded on the empowerment questions; the severity of the problem at the time of the visit; and the change in health state over the following two weeks.

Comparison of Samples

Table 9.1 compares the sample of patients reported on by
the doctors, the sample of patients completing the first questionnaire and the sample completing the second outcome questionnaire.

Table 9.1. Patient samples compared

<table>
<thead>
<tr>
<th></th>
<th>All patients N=9477</th>
<th>1st questionnaires N=763</th>
<th>2nd questionnaires N=462</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age - mean</td>
<td>34.95</td>
<td>39.10</td>
<td>41.25</td>
</tr>
<tr>
<td>- standard deviation</td>
<td>25.1</td>
<td>25.4</td>
<td>25.6</td>
</tr>
<tr>
<td>Percentage female</td>
<td>58.3</td>
<td>62.6</td>
<td>63.8</td>
</tr>
<tr>
<td>Percentage pakeha</td>
<td>79.9</td>
<td>80.3</td>
<td>84.5</td>
</tr>
<tr>
<td>Percentage beneficiaries</td>
<td>35.1</td>
<td>38.5</td>
<td>40.7</td>
</tr>
<tr>
<td>Percentage new problem</td>
<td>51.1</td>
<td>53.3</td>
<td>52.4</td>
</tr>
<tr>
<td>Percentage chronic problem</td>
<td>23.5</td>
<td>18.3</td>
<td>19.2</td>
</tr>
<tr>
<td>Percentage major disability</td>
<td>13.7</td>
<td>12.9</td>
<td>12.2</td>
</tr>
<tr>
<td>Percentage chronic disability</td>
<td>18.9</td>
<td>20.5</td>
<td>25.4</td>
</tr>
<tr>
<td>Mean number of problems</td>
<td>1.33</td>
<td>1.38</td>
<td>1.37</td>
</tr>
<tr>
<td>Percentage seen out of surgery</td>
<td>4.2</td>
<td>2.9</td>
<td>5.9</td>
</tr>
<tr>
<td>Mean usage previous year</td>
<td>6.6</td>
<td>7.2</td>
<td>6.9</td>
</tr>
<tr>
<td>Percentage seen by nurse</td>
<td>8.3</td>
<td>4.0</td>
<td>4.7</td>
</tr>
</tbody>
</table>

The fall off in response is associated with youth, the male gender and chronic problems. Pakeha, beneficiaries and those with chronic disabilities were more likely to respond. Doctors appear to have been more successful than nurses in gaining patient co-operation.

Information from patient questionnaires

Table 9.2 gives the distribution of answers to the patient question on usage of general practitioner services. It will be noted that the mean number of visits is 5.2; this compares with the mean from the doctor questionnaire of 6.9; the correlation between the two answers was 0.47. It should be noted that the patient questionnaire had a cut off value of "more than nine" which did not apply to the report completed by the doctors. Of the patients answering the question, 32.3% of 468 indicated that they had delayed seeking medical care because of cost and 30.1% of 472 indicated that they had delayed the purchase of medication.

Table 9.2. Number of visits to General Practitioner in last year - patient questionnaire. N=643.

<table>
<thead>
<tr>
<th>Number of Visits</th>
<th>0.</th>
<th>2.0</th>
<th>5.</th>
<th>7.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.</td>
<td>8.9</td>
<td>6.</td>
<td>10.9</td>
</tr>
</tbody>
</table>
For the outcome sample the reasons for visit were reclassified to conform to the theoretically derived categories developed in Chapter III. It seemed inappropriate, in the context of this thesis and in view of the outcome measures selected, to identify cases in which no treatment was required; information giving and reassurance are considered to be valid treatments. There was only one case in which psycho-social problems occurred alone. These two categories were accordingly eliminated from the analysis. A distinction could be made between patients on a maintenance regime on the basis of the presence or absence of symptoms; the maintenance category was therefore subdivided. Finally, birth control which is a service requested by the patient and of direct personal value to her, differs from requests for certification which is a form of mediation between patient and society; thus, these categories were distinguished.

The distribution of visit types is given in Table 9.3. It will be noted that the majority of the visits fall into two categories. The first comprises acute illness (38.8%), injury (6.0) and follow-up of these (17.8)% for a total of 62.6%. The second comprises maintenance, with (5.8%) or without (12.6%) symptoms, for a total of 18.4%. The remaining 19% are made up of prevention (6.0%), requests for service (1.7%), contraception (1.4%) and mixed types (9.6%).

Table 9.3. Distribution of reasons for visit by theoretical category. N=763.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illness = Symptom requiring diagnosis and treatment/advice.</td>
<td>38.8</td>
</tr>
<tr>
<td>Injury = Injury requiring diagnosis and treatment/advice.</td>
<td>6.0</td>
</tr>
<tr>
<td>Maintenance with symptoms = On-going treatment regime with</td>
<td></td>
</tr>
</tbody>
</table>
apparent symptomatology 5.8
4. Short term follow-up = FU for non-chronic condition. 17.8
5. Maintenance without symptoms = Ongoing treatment regime 12.6
6. Prevention = Preventative activity without symptoms 6.0
7. Service = Request for certificate 1.7
8. Birth control 1.4
9. Mixed = More than one category 9.6

Immediate outcome

In the first questionnaire there was a series of questions intended to judge the degree of empowerment experienced by the patient; the text of these are given in Table 9.4 and the distribution of the answers given to these questions is presented in Table 9.5.

Table 9.4. Patient Empowerment Questions.

1. Do you feel reassured about your health?
   (Label = Reassurance)
2. Do you now know more about your health?
   (Label = Knowledge)
3. Can you now look after yourself better?
   (Label = Lookafter)
4. Did you understand why your doctor or the nurse gave the advice he or she did? (Label = Whyadvice)
5. Do you feel satisfied with the visit?
   (Label = Satisfaction)
6. Did you get everything that you came for?
   (Label = Served)
7. Did you and your doctor agree about what to do?  

(Label = Agree)

Table 9.5. Answers to Empowerment - Percentage across N = 697

<table>
<thead>
<tr>
<th>Score</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reassurance</td>
<td>15.1</td>
</tr>
<tr>
<td></td>
<td>N = 681</td>
</tr>
<tr>
<td>2. Knowledge</td>
<td>24.9</td>
</tr>
<tr>
<td></td>
<td>N = 680</td>
</tr>
<tr>
<td>3. Lookafter</td>
<td>27.3</td>
</tr>
<tr>
<td></td>
<td>N = 662</td>
</tr>
<tr>
<td>4. Whyadvice</td>
<td>11.0</td>
</tr>
<tr>
<td></td>
<td>N = 687</td>
</tr>
<tr>
<td>5. Satisfaction</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td>N = 696</td>
</tr>
<tr>
<td>6. Served</td>
<td>10.7</td>
</tr>
<tr>
<td></td>
<td>N = 690</td>
</tr>
<tr>
<td>7. Agree</td>
<td>10.2</td>
</tr>
<tr>
<td></td>
<td>N = 692</td>
</tr>
</tbody>
</table>

Mean% | 15.7 | 18.4 | 67.1 | 1.5 |
In general, on this measure of empowerment, patients rated the encounter highly with two thirds giving the highest score ("a lot"). It is of interest that the mean score on all questions exceeds one; this reflects the usual finding that most patients express a positive evaluation of doctor visits. The scores on knowledge and ability for self-care are lowest, suggesting some deficiency in these areas. It is interesting that lack of information, well established as a cause of patient distress, was less than ideal in 61% of visits. The higher score on "reason for advice" (#4) suggests limited expectation of professional explanation; it had been expected that patients would rate this aspect of the consultation lowest. Given patients' predisposition to praise their doctors, the 14.4% who had less than full agreement with the practitioner is of some significance.

The distribution of total scores is given in Table 9.6 and it will be noted that the largest number of patients gave their doctor "full marks." The distribution is markedly skewed.

Table 9.6. Distribution of Index of Empowerment (Sum of answers to individual questions, possible range 0-14

<table>
<thead>
<tr>
<th>Distribution - % cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.14</td>
</tr>
</tbody>
</table>

Scores
Table 9.7 gives a correlation matrix for the scores on the individual empowerment questions. All exceed 40, suggesting that each question addresses different aspects of the same phenomenon.

Table 9.7. Correlations between empowerment questions.

<table>
<thead>
<tr>
<th>Empowerment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reassurance</td>
<td>.67</td>
<td>.75</td>
<td>.67</td>
<td>.48</td>
<td>.56</td>
<td>.50</td>
<td>.48</td>
</tr>
<tr>
<td>2. Knowledge</td>
<td>.60</td>
<td>.49</td>
<td>.48</td>
<td>.46</td>
<td>.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Lookafter</td>
<td>.41</td>
<td>.41</td>
<td>.41</td>
<td>.42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Whyadvice</td>
<td>.77</td>
<td>.75</td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Satisfaction</td>
<td>.78</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Served</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Agree</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Severity of the problem

A second series of questions in the patient questionnaires measured the severity of the problem. In the following tables the answers to these questions are presented. In Table 9.8 results from the
immediate questionnaire relating to the severity of the problem at the time of the visit are given. An index of severity has been calculated by addition and the distribution of this variable is presented. It will be noted that there is a wide spread of answers; with a possible range of 0-12, each value was represented. Table 9.9 gives the correlations between the scores on the individual questions; in general, they are high, suggesting that the questions address different aspects of the same experience but the "direction of change" variable is less well correlated than the others. The relative evenness of distribution is interesting and the scores on anxiety suggest that this is as important as discomfort in precipitating a visit to the doctor. That 49% of the sample had moderate to extreme limitation of activity, shows that there is a considerable reduction in capacity among the general practice patient population.

Table 9.8. Severity of problem, percentages (0=none, 1=some, 2=moderate, 3=considerable/extreme). N = 696.

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of discomfort</td>
<td>33.2</td>
<td>22.7</td>
<td>25.0</td>
<td>19.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Level of anxiety</td>
<td>25.1</td>
<td>35.4</td>
<td>25.2</td>
<td>14.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Limitation of activity</td>
<td>22.6</td>
<td>28.2</td>
<td>33.5</td>
<td>15.5</td>
<td>1.4</td>
</tr>
</tbody>
</table>
Change*    15.5  38.0  26.7  19.8  1.5

Severity index - Score and percentage distribution.
Possible range 0 -12.

Distribution - % of cases

<table>
<thead>
<tr>
<th>Score</th>
<th>% of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>6.6</td>
</tr>
<tr>
<td>6.5</td>
<td>7.5</td>
</tr>
<tr>
<td>7.5</td>
<td>10.3</td>
</tr>
<tr>
<td>12.2</td>
<td>12.8</td>
</tr>
</tbody>
</table>

Scores

<table>
<thead>
<tr>
<th>Score</th>
<th>% of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Mean 7.2    Median 7

(*Change, 0=not present, 1=improving, 2=stable, 3=worsening)

Table 9.9. Correlations between measures of severity.

<table>
<thead>
<tr>
<th>1. Discomfort</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.58</td>
<td>.58</td>
<td>.35</td>
<td>.80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Anxiety</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.56</td>
<td>.15</td>
<td>.77</td>
<td></td>
</tr>
</tbody>
</table>
Improvement in health state

The questions on severity were repeated in the second patient questionnaire allowing the change over the two weeks following the consultation to be calculated. The following tables give the results. In measuring the change in severity for the individual questions, cases where the value at both times was zero have been excluded; it seems misleading to include people without a particular problem in the "no change" category since there is no possibility of improvement.

Table 9.10. Change in Severity of problem, percentages

<table>
<thead>
<tr>
<th>Score</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>+1</th>
<th>+2</th>
<th>+3</th>
<th>Mean</th>
</tr>
</thead>
</table>

Discomfort  
N = 308
Anxiety     
N = 311
Limitation  
N = 400
Change      
N = 137
N = 370

Change in Severity Index - score and percentage distribution. N = 392

Distribution - % of cases

<table>
<thead>
<tr>
<th>Score</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>9.4</td>
</tr>
<tr>
<td>-3</td>
<td>6.9</td>
</tr>
<tr>
<td>-2</td>
<td>3.8</td>
</tr>
<tr>
<td>-1</td>
<td>7.1</td>
</tr>
<tr>
<td>0</td>
<td>2.6</td>
</tr>
<tr>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>3</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Scores

Improved 65.6, Unchanged 20.7, Worse 13.7.

Mean +2.4  Median +2

It will be noted that the percentage of responses at each value for the first two and for the last two questions are similar. The distribution of values in a Change of Severity Index, calculated by addition, are given. With a possible range of -12 - +12, the range was -4 - +11. Table 9.11 gives the inter-correlations between the measures of improvement. It will be noted that the measures of change in severity, with the exception of the direction of change variable, were highly inter-correlated (r = .39 - .69). Both the individual measures of improvement and the improvement index correlate even more closely with the index of severity (at time visit). Table 9.11. Inter-correlations between measures of improvement and the measure of overall severity.

<table>
<thead>
<tr>
<th>1. Improvement Index</th>
<th>1.00</th>
<th>.56</th>
<th>.81</th>
<th>.74</th>
<th>.71</th>
<th>.59</th>
</tr>
</thead>
</table>

138
A measure of the actual severity of the problem at two weeks after the visit, is presented in Table 9.12. It may be noted that the median value on the severity index has declined from 7 at the time of the visit to 3 (scale 0-12).

Correlations between variables will be considered in the next chapter.

Table 9.12. Severity of problem at two weeks, percentages (0=none, 1=some, 2=moderate, 3=considerable/extreme). N = 467.

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of discomfort</td>
<td>57.6</td>
<td>26.2</td>
<td>11.3</td>
<td>4.9</td>
<td>0.6</td>
</tr>
<tr>
<td>Level of anxiety</td>
<td>54.4</td>
<td>31.7</td>
<td>8.6</td>
<td>5.4</td>
<td>0.7</td>
</tr>
</tbody>
</table>

139
Limitation of activity

<table>
<thead>
<tr>
<th>Score</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>46.3</td>
</tr>
<tr>
<td>1</td>
<td>29.8</td>
</tr>
<tr>
<td>2</td>
<td>18.0</td>
</tr>
<tr>
<td>3</td>
<td>5.4</td>
</tr>
<tr>
<td>4</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Change*

<table>
<thead>
<tr>
<th>Score</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>28.9</td>
</tr>
<tr>
<td>1</td>
<td>31.0</td>
</tr>
<tr>
<td>2</td>
<td>37.0</td>
</tr>
<tr>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>4</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Severity index at two weeks - Score and percentage distribution.

Possible range 0 -12.

Distribution - % of cases

<table>
<thead>
<tr>
<th>Score</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20.8</td>
</tr>
<tr>
<td>1</td>
<td>11.9</td>
</tr>
<tr>
<td>2</td>
<td>13.8</td>
</tr>
<tr>
<td>3</td>
<td>11.2</td>
</tr>
<tr>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>5</td>
<td>10.4</td>
</tr>
<tr>
<td>6</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Scores

<table>
<thead>
<tr>
<th>Score</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6.4</td>
</tr>
<tr>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>3</td>
<td>0.6</td>
</tr>
<tr>
<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td>5</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Mean 3.2   Median 3

(*Change, 0=not present, 1=improving, 2=stable, 3=worsening)
Chapter X

INTER-RELATIONSHIPS BETWEEN VARIABLES

Relationships between input and process variables
In the following section each group of variables, practitioner, patient, problem and process, will be considered in turn. Inter-correlations within each group will be given and then correlations with logically antecedent variables will be specified. For simplicity all correlations will be given, unless otherwise indicated, as Pearson standardized correlation coefficients (r) but it should be remembered that some correlations will be between binary variables - in this case the measure of association would usually be referred to as phi; this has the same value as r and may be obtained using the same formula. In some cases partial correlation coefficients were obtained and are given as "rp." Correlations, unless otherwise qualified, are all statistically significant at the level of p = <0.01. This section is unavoidably dense; the correlations of most interest are summarized in Table 10.1.

Practitioner variables - Values of the measures of busyness and of attitude were correlated with practitioner age and gender. Older practitioners saw fewer patients (r = -0.06); inspection of a scatter plot did not suggest that this weak correlation concealed an inverted U association as might be expected if younger doctors were significantly under-employed. Older practitioners also tended to be less patient centered (r = -0.11). Male practitioners saw more patients and were less patient centered. The mean number of patients seen was 148.5 for males
and 80.8 for females; the mean score on the attitude questions was 19.3 for males and 20.1 for females (nurses are excluded from this analysis which is based on the practitioner questionnaires). Urban practice seems to be related to a patient-centered attitude ($r = 0.20$); the mean value of the attitude index was 20 in Hamilton and 19 elsewhere in the Waikato.

Patient variables - Patient age is related to receipt of a benefit ($r = 0.68$) and to the frequency of doctor visits ($r = 0.11$). The first relationship is trivial since benefits include the old age pension and the second represents a U shaped relationship, with the young as well as the old being frequent attenders. Of more interest is the fact that financially induced delay in visiting the doctor or in obtaining prescription medication is related to youth ($r = 0.22$) and to Maori ethnicity ($r = 0.16$).

Patient variables and the practitioner - Age and gender of patient are related to age and gender of the practitioner (age - $r = 0.10$; gender - $r = 0.16$). Of patients seeing male practitioners 60% were female, compared with 64.2% of those seeing female practitioners (these figures are higher than those given earlier since patients seeing nurses are excluded). Doctor age was negatively associated with financially induced delays in obtaining medical care ($r = -0.15$).

Busy doctors saw more young patients ($r = -0.15$), especially more under 15 years ($r = -0.19$ for binary classification) and more patients of lower occupational class ($r = 0.14$). Pakeha patients saw the doctor, rather than the nurse, more frequently than others ($r = 0.12$).

Problem variables - There were some moderate inter-correlations
between problem variables. Thus current disability was related to the severity of the problem \((r = 0.43)\) and to treatment objective \("curability" r = 0.23\), and permanent disability was related to the number of reasons for visit \((r = 0.19)\). These correlations are of little interest, being expected, but do tend to validate the measures used.

More interestingly, severity was directly related to treatment objective \((r = 0.16)\) suggesting that the most distressed patients are those with treatable problems requiring curative treatment. This was confirmed by the correlations between treatment objective and the components of the severity measure \((\text{Discomfort } r = 0.15, \text{Anxiety } r = 0.16, \text{Limitation of activity } r = 0.14)\).

Problem variables and the practitioner - Busy, young, practitioners saw patients with problems of greater severity \((\text{busyness, } r = 0.16; \text{doctor age, } r = -0.12)\) a relationship which was unchanged when patient age was controlled. Patient-centered practitioners saw fewer patients for maintenance \((r = -0.11)\). Nurses saw patients with problems that were less severe \((r = -0.13)\), and were associated with less temporary \((r = -0.19)\), but more permanent, disability \((r = 0.13)\).

Problem variables and the patient - Patients new to the practitioner had problems of greater severity \((r = 0.13)\). The female gender was associated with problems showing more temporary disability \((r = 0.13)\) but there was no relationship between gender and subjective severity of the illness.

Age was associated with more temporary disability \((r = 0.12)\), more permanent disability \((r = 0.46)\) and larger numbers of reasons
for visit \((r = 0.14)\).

Maori ethnicity was associated with increased discomfort and anxiety at the time of the visit; however, when age was controlled these relationships disappeared. With age controlled, a strong relationship between Maori ethnicity and chronicity (maintenance regimes plus symptoms) appeared \((rp = 0.38)\). More frequent users of medical care tended to have more severe problems \((r = 0.13)\) and more temporary \((r = 0.25)\) and more permanent \((r = 0.24)\) disability. There was no relationship between occupational status and either severity or temporary disability.

Process variables - The taking of a complete history was associated with the performance of a complete physical examination \((r = 0.41)\) and with longer visits \((r = 0.18)\). Specified follow-up was positively associated with the performance of tests \((r = 0.11)\) and with duration of visit \((r = 0.12)\) but negatively with referral \((r = -0.10)\). Duration was negatively associated with the ordering of tests \((r = -0.19)\). Practitioner uncertainty was associated with higher treatment objectives \((r = 0.12)\).

Process variables and the practitioner - Older practitioners did less counseling \((r = -0.15)\), and reported shorter visits \((r = -0.12)\) with less rapport \((r = -0.15)\). Surprisingly, practitioners with a patient centered attitude were less likely to take a psycho-social history \((r = -0.15)\) but more likely to do a physical exam \((r = 0.12)\). Visits of longer duration were associated with practitioner uncertainty as to what should be done \((r = 0.14)\) and with visits involving both doctor and nurse \((r = 0.12)\). Nurses do much of the counseling \((r = 0.11)\).
Process variables and the patient - Patients new to the practitioner were more likely to be seen away from the surgery \((r = 0.27)\), presumably a reflection of out-of-hours coverage, and were less likely to be given a definite follow-up \((r = -0.11)\). They were more likely to be examined \((r = 0.09)\) and, if new to the practice, more likely to be referred-on \((r = 0.11)\).

Higher rapport was reported with new patients \((r = 0.12)\), the young \((r = 0.10)\) and Maori \((r = 0.09)\), but lower rapport with frequent users \((r = -0.15)\).

Older patients were less likely to be new to the doctor \((r = -0.14)\) and to be examined \((r = -0.11)\), but more likely to be given a follow-up appointment \((r = 0.17)\). They were less likely to be seen at the surgery \((r = -0.13)\) but more likely to be seen during office hours \((r = 0.12)\).

When age was controlled, there was an association between Maori ethnicity and uncertainty \((r = 0.29)\) but this disappeared when severity was also controlled.

Process variables and the problem - Problems of greater severity were associated with more practitioner uncertainty \((r = 0.12)\), required longer visits \((r = 0.11)\) but were less followed-up \((r = -0.10)\).

Visits initiated by the practitioner involved fewer new patients \((r = -0.16)\), generated fewer histories \((r = -0.12)\), were of shorter duration \((r = -0.13)\), were associated with less rapport \((r = 0.10)\) but generated more specified follow-up \((r = 0.10)\).

Permanent disability was associated with fewer new patients \((r = -0.13)\) but generated more psycho-social histories \((r = 0.14)\) and specified follow-up \((r = 0.16)\). Increased numbers of reasons for
visit were strongly associated with longer visits ($r = 0.26$).

Table 10.1. Selected inter-correlations of practitioner patient, problem and process variables. All $p < 0.01$.

<table>
<thead>
<tr>
<th>Practitioner - Busyness</th>
<th>Patients &lt;15 $r = -0.19$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Occupation $r = 0.14$</td>
</tr>
<tr>
<td></td>
<td>Severity index $r = 0.16$</td>
</tr>
<tr>
<td></td>
<td>Patient cr. Examination $r = 0.12$</td>
</tr>
<tr>
<td></td>
<td>Psyche hist. $r = -0.15$</td>
</tr>
<tr>
<td>Nurses - Pakeha pats $r = -0.12$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severity index $r = -0.13$</td>
</tr>
<tr>
<td></td>
<td>Temp. disab. $r = -0.19$</td>
</tr>
<tr>
<td></td>
<td>Perm. disab. $r = 0.13$</td>
</tr>
<tr>
<td></td>
<td>Counseling $r = 0.11$</td>
</tr>
</tbody>
</table>

| Patients - Age | Delay $r = -0.22$ |
|               | Rapport $r = -0.10$|
| Female - Temp. disab. $r = 0.12$ |
| Maori - Delay $r = 0.16$ |
| New - Severity index $r = 0.13$ |
|                        | Rapport $r = 0.12$    |
| High users - Severity index $r = 0.13$ |
|                        | Temp. disab. $r = 0.25$ |
|                        | Perm. disab. $r = 0.24$|

| Problems - Severity | High Rx obj $r = 0.16$ |
|                     | Follow up $r = -0.10$  |
|                     | Uncertainty $r = 0.12$ |
| Perm. disab. - Psyche hist. $r = 0.14$ |
|                     | Follow-up $r = 0.16$   |
| High Rx obj- Uncertainty $r = 0.12$ |

Outcome variables - The inter-correlations between outcome variables have been given in the previous chapter. The following section will deal with the prediction of the immediate outcome, empowerment, and the delayed outcome, improvement in health state.

Empowerment

Despite its theoretical base and internal evidence that empowerment, as measured, is a valid concept, correlation between empowerment
and antecedent variables is weak or contradictory. It was anticipated that patient empowerment would be related to practitioner variables, in particular to patient centeredness. In the event there was no correlations \( (p = 0.77) \). Similarly, there was no relationship between size of practice group and empowerment.

Surprisingly, the practitioners' evaluation of rapport was negatively related to the patients' reported empowerment \( (r = -0.14) \), including the components knowledge \( (r = -0.13) \), satisfaction \( (r = -0.15) \) and receipt of desired service \( (r = -0.12) \). There were two further negative correlations - injury reduced empowerment \( (r = -0.10) \) and so did duration of the visit \( (r = -0.15) \).

Given the relationship between improvement (see below) and biological determinants of health, a search was made for relationships between antecedent variables and empowerment, controlling for severity of problem and age. It was thought that the expectation of improvement might be reflected in the values for empowerment. Weak relationships between empowerment and patient centeredness \( (rp = 0.09, p = 0.08) \), examination \( (rp = 0.10, p = 0.07) \) and the issuance of a prescription \( (rp = 0.11) \) were noted but these were at a lower level of statistical significance. The negative relationship between rapport and empowerment increased in strength \( (rp = -0.16) \) and the relationships with injury and duration disappeared.

When an attempt was made to predict the seven components of empowerment individually, a number of weak correlations were discovered; the highest was a negative relationship between
reassurance and severity of anxiety ($r = -0.16$) suggesting that reassure is more problematic in the presence of anxiety. When these correlations were used in multiple regression equations little variance was explained - increase in $R^2$ varied from 0 - 0.036 for the four components. The significance of these low correlations will be evaluated in the next chapter.

Improvement

Practitioner variables and improvement - The only practitioner variable related to improvement was busyness ($r = 0.16$). This reflects the association of busy doctors with younger and more acutely sick patients and disappeared when age and severity of problem were controlled. When these variables were controlled a weak relationship between patient centeredness and improvement ($r_p = 0.10$, $p = 0.054$) was noted but at a low level of statistical significance.

Patient variables and improvement - Younger patients had consistently better outcomes; youth was associated with the improvement index ($r = 0.26$) and with each of its components (Discomfort $r = 0.18$; Anxiety $r = 0.18$; Limitation $r = 0.24$; Change $r = 0.23$). Beneficiaries had poorer results for limitation of activity ($r = -0.18$) and change ($r = -0.15$) but these disappeared when age and severity was controlled and beneficiary status had no significant effect on the chances of reduced discomfort or anxiety.

There was a correlation between new patienthood and improvement ($r = 0.17$) which did not survive controlling for biological determinants. There was initially no correlation between
frequency of usage and improvement (p = 0.2) but a weak negative
correlation emerged when age and severity was controlled (rp =
-0.11, p = 0.04).

Previous financially induced delay in seeking medical help was
associated with greater improvement at two weeks (r = 0.15).
Control of biological determinants reversed this relationship
(rp = -0.16) and revealed a positive relationship between pakeha
ethnicity and improvement (rp = 0.15).

There was no association between patient gender or ethnicity and
improvement. However, when age was controlled Maori ethnicity
was negatively related, although at a lower level of
significance, with improvement (rp = -0.11, p = 0.04). This
relationship was further explored by controlling for initial
severity; the negative correlation increased (rp = -0.17), and
survived control for occupation (rp = -0.09). Maori ethnicity
was also related to severity at two weeks (rp = 0.17) when age
was controlled.

Problem variables and improvement - As might be expected the severity
and nature of the problem was the best predictor of improvement.
A high correlation was found between the severity and
improvement indices (r = 0.58). Severity also predicted the
components of the improvement index (Discomfort r = 0.42;
Anxiety r = 0.38; Limitation r = 0.42; Change r = 0.21). Inversely,
permanent disability predicted reduced improvement (Overall
improvement index r = -0.31; Discomfort r = 0.28; Anxiety r =
0.20; Limitation r = 0.31). Illness as a reason for visit was
associated with greater improvement (r = 0.19) and maintenance
with less (r = -0.27).
Process variables and improvement - Follow-up was associated with improvement ($r = 0.20$), suggesting that this is used to check on sick people who should get better; when age and severity were controlled the relationship reversed ($r_p = -0.13$). Medication was related to improvement when these variables were controlled ($r_p = 0.11, p = 0.028$).

Empowerment and improvement - Empowerment was correlated with improvement ($r = 0.16$) and with the components discomfort ($r = 0.20$) and anxiety ($r = 0.22$) but not limitation of activity or problem change. The relationship increased in strength when age and severity were controlled ($r_p = 0.21$).

Multiple correlation - When the variables identified above were entered into a regression equation much of the variation in improvement was explained. The values of $R^2$ for the measures were as follows. The value for, first, biological and, second, social, variables alone is given in brackets:

- Improvement index, $R^2 = 0.49$ (0.45/0.12).
  (biological variables - age, severity, current disability, permanent disability, illness; social variables - busyness, new patient, beneficiary, delay in seeking attention, follow-up, empower).

- Change in discomfort, $R^2 = 0.54$ (0.52/0.04).
  (biological variables - age, current disability, permanent disability, discomfort, anxiety, limitation of activity; social variables - empower).

- Change in anxiety, $R^2 = 0.44$ (0.38/0.05).
  (biological variables - age, permanent disability, discomfort, anxiety, maintenance, immunization; social variables - empower).

- Reduced limitation of activity, $R^2 = 0.40$ (0.36/0.05).
  (biological variables - age, permanent disability, discomfort,
anxiety, limitation in activity, maintenance, follow-up visit; social variables - busyness, new patient, beneficiary).

Change in progression of problem, $R^2 = 0.47 (0.46/0.02)$.

(biological variables - age, initial direction of change, illness, maintenance, any follow-up; social variables - new patient).

It will be noted that the part of the explained variance due to adding "social" variables was: improvement index, 0.04; discomfort 0.02; anxiety 0.06; limitation 0.04; change 0.01.

Given the low values and marginal significance of these results it was considered possible that the spectrum of cases was too wide, that inclusion of visits for repeat prescriptions or certification might obscure some interesting relationships. Accordingly, the correlations were repeated after exclusion of all but visits for illness and following injury. The levels of correlation were not improved and the size of the sample was reduced to 342 for empowerment question and to 169 for improvement. The only significant new correlation was a negative one between empowerment and counseling ($r = -0.15$).

The severity component "change in problem" was less well correlated with the other severity index than the others. A revised index, leaving out this fourth component, was tested but correlations were not improved and this exploration was abandoned. The results of the correlations are summarized below in Table 10.2.

<table>
<thead>
<tr>
<th></th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Empowerment and rapport</td>
<td>-0.14</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>2. Improvement and age</td>
<td>-0.26</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>and severity</td>
<td>0.58</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>and perm disab</td>
<td>-0.31</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>and delay</td>
<td>0.15</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>and follow-up</td>
<td>0.20</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>and empowerment</td>
<td>0.16</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
Age and severity of problem controlled: -

4. Empowerment and rapport – rp = -0.16 p <0.01

5. Improvement and delay – rp = -0.16 p <0.01
and follow-up – rp = -0.13* p <0.01
and empowerment – rp = 0.21 p <0.01

and Maori ethnic. – rp = -0.17 p <0.01
and usage – rp = -0.11 p 0.04

and medication – rp = 0.11 p 0.03
and counseling – rp = -0.15 p <0.01

(illness and injury only)

Health state

Given the high correlations between change in the severity variables and their values at the time of the visit, it was speculated that severity at two weeks after the encounter might be a more interesting end-point. A practice which was 100% effective would return all patients to a symptom free state irrespective of the severity of the problem. All variables correlated with severity at two weeks were entered into a multiple regression equation. The $R^2$ value was 0.36 with all variables, 0.30 with biological variables (age, severity at visit) and 0.16 with social variables (ethnicity, beneficiaries, usage, empower). Using absolute health state does not increase the predictive power of the model.

Reason for visit reclassification

The reclassified reasons for visit was entered into the data set as a series of dummy variables; this may obscure the influence of a particular type of reason on outcome variables especially if the type of reason is less common. Table 10.3 gives mean scores
for all "evaluative" (some process and the outcome) variables by type of reason for visit. The table gives some idea of the density of the data.

Table 10.3. Mean value of outcome variables by type of reason for visit.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Illness (N=296)</th>
<th>Follow-up (N=136)</th>
<th>Maintain (N=96)</th>
<th>Service (N=13)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>2.02 2.00</td>
<td>1.89 2.28</td>
<td>1.86 1.90</td>
<td>1.77 2.30</td>
<td>2.00</td>
</tr>
<tr>
<td>Rx object</td>
<td>0.23 0.50</td>
<td>0.21 0.38</td>
<td>0.15 0.10</td>
<td>0.50 0.21</td>
<td>0.28</td>
</tr>
<tr>
<td>Uncertain</td>
<td>1.04 0.96</td>
<td>1.01 1.04</td>
<td>0.82 0.81</td>
<td>0.71 0.98</td>
<td>0.92</td>
</tr>
<tr>
<td>Rapport</td>
<td>0.60 0.64</td>
<td>0.59 0.57</td>
<td>0.55 0.44</td>
<td>0.84 0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>Empower</td>
<td>11.8 10.6</td>
<td>11.5 11.1</td>
<td>11.9 10.2</td>
<td>11.4 11.2</td>
<td></td>
</tr>
<tr>
<td>Reason</td>
<td>1.64 1.41</td>
<td>1.65 1.38</td>
<td>1.55 1.71</td>
<td>1.67 1.68</td>
<td>1.59</td>
</tr>
<tr>
<td>Know</td>
<td>1.34 0.98</td>
<td>1.27 1.23</td>
<td>1.37 1.36</td>
<td>1.11 1.19</td>
<td>1.23</td>
</tr>
<tr>
<td>Care</td>
<td>1.35 1.08</td>
<td>1.21 1.29</td>
<td>1.43 1.18</td>
<td>1.22 1.17</td>
<td>1.12</td>
</tr>
<tr>
<td>Understand</td>
<td>1.87 1.88</td>
<td>1.88 1.71</td>
<td>1.93 1.95</td>
<td>1.67 1.88</td>
<td>1.85</td>
</tr>
<tr>
<td>Satisfact.</td>
<td>1.87 1.76</td>
<td>1.86 1.82</td>
<td>1.87 1.93</td>
<td>1.81 1.94</td>
<td>1.86</td>
</tr>
<tr>
<td>Service</td>
<td>1.91 1.79</td>
<td>1.89 1.87</td>
<td>1.97 1.98</td>
<td>1.91 1.92</td>
<td>1.91</td>
</tr>
<tr>
<td>Agree</td>
<td>1.93 1.88</td>
<td>1.94 1.92</td>
<td>1.98 1.81</td>
<td>1.94 1.92</td>
<td></td>
</tr>
<tr>
<td>Improve</td>
<td>3.04 3.54</td>
<td>3.07 3.00</td>
<td>0.38 1.04</td>
<td>0.25 1.76</td>
<td>1.76</td>
</tr>
<tr>
<td>Discomfort</td>
<td>1.06 1.15</td>
<td>1.25 1.17</td>
<td>0.46 0.33</td>
<td>0.67 0.87</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.87 1.44</td>
<td>0.91 0.84</td>
<td>0.35 0.69</td>
<td>0.57 0.81</td>
<td></td>
</tr>
<tr>
<td>Limitation</td>
<td>0.57 0.50</td>
<td>0.84 0.57</td>
<td>0.11 0.11</td>
<td>0.40 0.44</td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>0.79 0.86</td>
<td>0.44 0.43</td>
<td>-1.12 0.45</td>
<td>0.50 0.56</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Using a criteria of a departure from the mean of 20%, the following associations emerge:-

1. Illness is associated with low treatment objectives and high ability for self care, reduction in limitation of activity and change in direction of the condition.

2. Injury is associated with lower levels of information and greater improvement in the condition including reduction in anxiety and change in direction of condition.
3. Follow-up is associated with lower treatment objectives and greater reduction in limitation of activity.

4. Visits for maintenance associated with symptoms is associated with longer visits, lower treatment objectives but increased reduction in limitation of activity.

5. Visits for maintenance are associated with low treatment objectives, low practitioner uncertainty, low improvement variables and high ability for self-care.

6. Prevention is associated with low treatment objectives, lower rapport and little objective improvement; interestingly, there is significant reduction in anxiety.

7. Service is naturally associated with short visits, low uncertainty and improvement but results in high estimations of rapport achieved.

8. Mixed reasons for visit are associated longer visits and low treatment objectives.

In summary, it is of interest that with illness the treatment objective is lower, that with injury there is less informing, and that, with prevention, average rapport is lower but there is considerable anxiety. We move, in the next chapter, to a social and sociological description of general practice.
The first intention of this research project was to describe general practice in social terms. In the first section of this chapter the results given in the previous three chapters will be summarized with this in mind. Where available, comparable data from the literature is given; however, most surveys of general practice have been medically inspired and have not presented information on the variables of most interest to us. It has been shown that practitioners of the Waikato differ little from those in other regions of New Zealand; there is no reason to suppose that patients differ by area; it is therefore suggested that the following findings may apply to New Zealand as a whole.

The second intention was to explain the outcomes of general practice encounters in terms of practitioner, patient, problem and process variables, and, in particular, to assess the contribution of social variables. This will be covered in the second section.

In the third section we will compare general practice as it has emerged from the research with the picture of the institution of medicine culled from the sociological literature.

The description of general practice

Practitioners

We have identified practitioner qualifications, gender, age and attitude as relevant to the social description of the patient-practitioner encounter (Table 5.1). Since general
practitioners have similar qualifications, we have not used medical qualifications as a variable; some patients are seen by practice nurses and this group has been distinguished. The variable "busyness" has been included since the work load varies markedly between practices; the size (number of practitioners) and situation (urban / rural) of practices has also been considered.

Doctors work about 36 hours per week and see between 3 and 4 patients per hour for a weekly total of about 130. This is less than the approximately 165 reported from Comedca (Young, 1985) and the USC study from California (Rosenblatt et al., 1982). The busiest doctors see as many as 350 patients per week; younger practitioners see more patients and female practitioners often work part time. Only about 5% of doctors maintain round the clock personal coverage and the majority sign out, at night and on the weekend, to colleagues, or to emergency clinics where these are available.

Nurses see 8% of the patients alone and another 21% are seen by both doctor and nurse; locums and trainees see about 3% of patients. The medically trained practitioners are more disease centered than European general practitioners (Grol et al., 1990); this is more marked among older doctors and those working in rural areas and less among females. In particular, some value is seen in withholding information from patients in certain circumstances. Unlike other studies (Rosenblatt et al., 1982), we have shown no correlation between doctor age and frequency of prescribing or ordering tests. However, older doctors are less likely to counsel patients. Despite the theoretical suggestion (Freidson,
1970a) that solo practitioners will be more concerned with patient opinion, we have found no evidence that group size has any effect on the parameters of practice we have measured.

Patients
We have identified patient gender, age, occupation, and ethnicity as relevant to the social description of the patient-practitioner encounter (Table 5.1). We have added frequency of attendance, previous delay in affording medical care and receipt of a benefit as additional variables.

The distribution of patienthood by age and gender is typical of other studies (Gilmore and Madarasz, ND; Cypress, 1983; RCGP, 1986) with over representation of the young and old; females outnumber males by a factor of 1.4. Medical care or treatment has been delayed for financial reasons by 32% of patients and this is less common amongst the old and Pakeha. This is not an over-estimation for the population because usage is not correlated with delay. Surprisingly, there is no significant relationship between delay and occupation.

Visits
The average number of visits per patient per year, corrected for over-sampling, is about three. This compares with a rate of 3.4 for the Comedca data (Gilmore and Madarasz, ND). Patients new to the doctor make up 17.4% of the case load; Comedca recorded a rate of 10%. Patients new to the practitioner group make up 8.4%. 15.7% of visits are practitioner initiated and, being associated with follow-up, are often part of an on-going surveillance program. Home visits make up 4.2 percent of the case load and are associated with increased patient age. Out-of-hours
encounters make up 7.6% of the total and are associated with younger patients. We have no comparable New Zealand data on these rates.

Problems

We have identified stage of illness, treatability and type of reason for visit as relevant to the social description of the patient-practitioner encounter (Table 5.1). We have added practitioner assessment of disability and a patient assessment of severity to the analysis.

When the reasons for visit were reclassified 44.8% were for new, acute problems and 17.8% were for short term follow-up. 18.4% were for chronic problems, mostly symptom-free. Nylenna and Bruusgaard, (1987), found that 64.9% of general practice patients presented symptoms or complaints; our figure would be 68.4%, which is similar.

On a scale of 0-3, the average patient scored 1.3 on discomfort and anxiety and 1.4 on limitation of activity. 33.2% of patients had no discomfort, 25.1% no anxiety and 22.6% no limitation of activity at the time of the visit. Conversely, considerable or extreme levels of these problems occurred in 19.1%, 14.1% and 15.5%, respectively. Practitioners reported that 55.8% of patients had some disability and that 13.7% had major disability. This disability was associated with the female gender and non-pakeha ethnicity as well as with age and frequency of visits. Permanently disability affected 18.9% of the practice population.

Of conditions treated with medication, 50% were curable and an additional 25% were susceptible to symptom control. 23% of
medication was prescribed as part of a maintenance regime. The treatment objective was lower with illness than with injury. Only 2% of medications were given for reassurance.

Process of the encounter

In this section, figures from the Comedca survey (Gilmore and Madarasz, ND) are given in brackets. A complete history was only required in 17% (13.4) of cases and a psycho-social history was only obtained in 4% (1.9%). General examination was performed in 17% of cases and this was closely associated with a complete history. Patient centered doctors examined more often and obtained fewer psycho-social histories. In 16% (13.9%) of cases there was no treatment; prescriptions were issued in 52.4% (61.6%) advice or counseling given in 27% (22.5%), dressings or minor surgery performed in 8.8% (8.5%) and immunization done in 3.2% (2.5%). Specified follow-up, laboratory tests, XRay examination and referrals were arranged in 43.2% (42.7%), 13.2% (15.7%), 4.6% (3.6%) and 10.4% (7.9%) of cases, respectively. We are not concerned here to compare, in detail, the Waimedca results with those from Comedca, however, it will be noted that the figures from the two studies are similar; this contributes to the validation of our results.

Visit length was short in 22.6% of cases and longer than usual in 15.4%. Long visits were associated with younger doctors, sicker and older patients, shorter ones with certification and contraception.

Evaluation

The practitioners evaluated rapport on a scale of 1-3 and averaged 2.5; only 2% of encounters were considered to entail low rapport.
Practitioners achieved higher rapport with patients requiring birth control or certification; there was no association between rapport and severity of problem. Practitioners experienced some uncertainty in 44.4% of cases and this was associated with most indicators of problem severity including symptoms, higher treatment objectives and follow-up.

Outcome – Empowerment and Improvement

Empowerment was scored 0-14; the majority of patients scored high with only 6.5% in the lower half of the range and 60% in the top fifth. Patients denied benefit most frequently in answering the questions concerning acquisition of knowledge (24.9%) and improved ability for self-care (27.3%).

The patients reported improvement at two weeks in the majority of cases with only 13.7% being worse and 20.7% being unchanged. The mean value for the severity index decreased from 1.4 to 0.8 out of three. Examination of Table 11.1 shows that discomfort was most susceptible to improvement with anxiety second. Limitation of activity and the direction of change was ameliorated in less than half of cases. Since other categories are less susceptible to improvement, the figures were re-calculated for illness and injury alone and are given in brackets. There was a shift to the right for discomfort and anxiety and there was a shift away from the unchanged category for limitation of activity. These findings are similar to those of Britton (Britton et al., 1980) and of Bass (Bass et al., 1986) mentioned above, however comparability is low.

Table 11.1. Change in severity at two weeks. Values in brackets for illness and injury only. Percentages.
<table>
<thead>
<tr>
<th></th>
<th>Worse</th>
<th>Same</th>
<th>Better</th>
<th>Means</th>
<th>Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discomfort</td>
<td>11.9</td>
<td>19.8</td>
<td>68.1</td>
<td>1.3</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>(9.8)</td>
<td>(17.5)</td>
<td>(72.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>7.7</td>
<td>32.8</td>
<td>59.1</td>
<td>1.3</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>(5.7)</td>
<td>(27.1)</td>
<td>(67.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limitation</td>
<td>7.8</td>
<td>51.7</td>
<td>40.6</td>
<td>1.4</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>(9.6)</td>
<td>(48.8)</td>
<td>(44.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>15.7</td>
<td>40.3</td>
<td>44.3</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>(16.0)</td>
<td>(27.8)</td>
<td>(56.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severity</td>
<td>13.7</td>
<td>20.7</td>
<td>65.6</td>
<td>1.4</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>(8.9)</td>
<td>(13.0)</td>
<td>(78.1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In view of these findings, it must be accepted that a positive view of medical practice is appropriate. Most patients are pleased with their visit to the practitioner and two thirds have less discomfort and anxiety two weeks later. Whether the experience could, nevertheless, be improved, and what level of improvement would occur without medical help cannot be assessed from our data.

Explanation of outcomes

It has proven impossible to explain variation in empowerment using any of the patient or problem variables; it would appear that a sense of empowerment, as measured, is distributed equally across patient and problem categories. Two reasons for this present themselves. First, obtaining information and service may be a skill that is personal and not influenced by age, education (as represented by occupation) or other social variables. It would have been interesting to have had some
psychological measure, perhaps of locus of control, to correlate with empowerment. Secondly, patients may tailor their expectations according to their possession of this skill. Then, high scores would have been recorded irrespective of the objective amount of information and service obtained. This reason seems the most likely. Also, it was noted, during the pilot study, that the patients interviewed at home were more openly critical of their practitioners. Exaggerated empowerment scores may have been recorded since the relevant questionnaire was answered immediately after the visit and often on the doctors' premises. However, considerable variation does exist and this remains unexplained.

In contrast, improvement was well explained by the variables measured. The percentage of the variance in the improvement index explained, using all correlated variables, was 49%. Biological variables, such as patient age and the severity and nature of the problem, explained 45% of the variance. Social variables, such as practitioner busyness, new patient status, previous delay in seeking medical aid and empowerment, explained 12% of the variance but only added 4% to the explanatory power of the model. Empowerment, controlling for patient age and the initial severity of the problem, correlates quite strongly with improvement (r = 0.21) and, negatively, with severity of symptoms at two weeks (r = -0.21).

The sociological view of medical encounters

The sociological view of medical practice, summarized in Table 4.1, was derived from a review of the literature and from a
consideration of the social context within which medicine developed and continues to evolve. The view asserts that medicine may be seen as a technologised process which expresses societal power arrangements and serves some categories of people better than others. Each of these assertions will be evaluated in terms of our data.

Medical care as a technological enterprise will be discussed under three headings.

First, medical care has been seen as neglectful of both the patients' social context and of their subjective experience. The research has shown that systematic inquiry into the patient's situation is uncommon. A psycho-social history was taken during 3.5% of encounters; however, the association between such a history and both permanent disability and chronic sickness, suggests that its purpose was often to evaluate the need for additional practical support in the home. This supposition is reinforced by the negative association between practitioner patient-centerdness and such a history. It, therefore, seems likely that socio-psychological inquiry is a rare event.

As has been discussed, Balint (1964) and McWhinney (1983) advocate the evaluation of patients' psycho-social situation in order to mobilize the ability for self care; in particular Balint felt that all but the most straight forward complaints require a psychological assessment. Unless the question was systematically misunderstood by the practitioners who completed our questionnaires, and it is difficult to believe that a formal inquiry into the patient's social situation and personal experience would not have been entered, such an approach has
little currency in the Waikato.

A priori, it might be anticipated that high rapport would indicate the subjective experience of an empathy based on a common perception of the situation. Interestingly, higher rapport was reported by practitioners in visits for service and with new patients. It might be thought that little exploration of the patients' subjective world would have been necessary in the former case or possible in the latter. We suggest that good rapport is reported when the interaction is easy, either because the clinical situation is untaxing or because newly met doctor and patient have not yet discovered each others' limitations.

This interpretation is strengthened by the negative association between rapport and empowerment. If empowerment requires the patient to be assertive, request information and put forward their own point of view so that a mutually satisfying "explanatory model" can be negotiated, the encounter may not be easy. Similarly, rapport was low at preventive visits; if these represent occasions for well patients to question the practitioner, then, again, the encounter may not be so easy. Finally, the higher rapport recorded at consultations involving Maori, might be interpreted as resulting from a lack of challenge to practitioners in this situation. The practitioners' evaluation of rapport suggests that challenging discussion is neither encouraged nor seen as positive. The discomfort of practitioners with assertive patients has been documented previously by Shye et al. (1990).

Second, the process of medical care has been seen as lacking in
satisfactory communication. This contention is supported by our data on empowerment. The two questions relating to information and the ability for self care had the lowest mean scores and the largest proportion of zero responses of the seven individual questions. Similarly, the absence of a correlation (r = 0.02, p = 0.53) between "health advice or counseling" and empowerment suggests that such communication is unsatisfactory. It might have been expected that this activity would be directly productive of empowerment as defined.

Third, and finally, it has been suggested that medicine over-emphasises diagnosable disease and its technical treatment. In this context it is interesting that in only 1.5% of visits was no diagnosis recorded; this suggests a preference for a clearly labelled abnormality. If the analysis of the previous paragraphs is accepted, lower rapport in more problematic cases might suggest some deficiency of support. However, this does not appear to be a problem for patients on maintenance regimens; their scores on empowerment suggest that most are satisfied with the care they receive despite lack of curability. It would appear that technological amelioration of chronic conditions is acceptable and welcomed. The frequency of medication, minor surgery and referral cannot be taken as indicating an excessive display of technology in the absence of any comparison.

In summary, it is suggested by our data that medicine is practised as a technological exercise. There is no reason to suppose that patients are treated inhumanely but little effort appears to be put into exploring their subjective worlds. In this sense the potential paradigm shift in medicine, described above, does not
seem to have occurred. Szasz and Hollander (1956) might have suggested that many encounters involve "guidance-cooperation" but that few have moved to "mutual participation."

Power relations in medical care will also be discussed under three headings.

First, the position of the practitioner in society requires an adequate income and the fees charged may reduce access to care for the poorer sections of society. That this is indeed the case is demonstrated by our finding that a third of patients have delayed seeking medical care or purchase of a prescribed medication. This is associated particularly with young adults and Maori ethnicity. The significance of delay is indicated in the relationship between it and severity of problem at the visit and the fact that, when severity is controlled, improvement is negatively correlated with delay. Among those who have delayed seeking care absolute health state at two weeks is worse.

Thus, the provision of medical care among those less well off might be seen as "disciplinary" in Ehrenreich's sense (1988). However, delay is not related to occupation and this raises the possibility that it represents a lower priority given to health care as well as a scarcity of resources.

Second, willingness to pay for medical care depends on a belief in its value and superiority to other help available. It may be in the interest of the practitioner to exaggerate the value of the care and to suggest that only medically qualified professionals can be of assistance. We have no direct evidence on this. It is of interest that 63% of practitioners offer complementary
therapies perhaps as a means of preempting the resort to other healing disciplines. That 44% of visits involve some practitioner uncertainty as to the appropriate course of action could suggest, either, that they are improperly trained, or that the medical endeavour does require high levels of skill. The association of uncertainty with severity of the problem points to the latter conclusion since criticism of medical training has been directed at the deficiencies in social, rather than technical, skill.

Third, it has been suggested that the practice of medicine reinforces the class structure of society and maintains the existing power structure. We have little direct evidence on this. The fact that 1.7% of visits are for certification indicates that doctors exercise a mediating function between patient and society. Only 1.2% of all patients were advised to take time off work; initiation of relief from social responsibilities seems to be a small part of the medical work load. Possible bias in medical work will be discussed in relation to the poor, women and non-pakeha ethnicity.

It has been asserted that the poor are less well served by traditional medical institutions. The data we have gathered show no correlation between occupation and problem, process or outcome variables. Thus, those at the lower end of the occupational scale appear to have the same range of reasons for visit as others and are no more distressed. It is particularly interesting that they report the same levels of empowerment and improvement after the patient-practitioner encounter as others. Further, they are no more likely to be counseled than other patients. There are some
correlations between beneficiary status and severity and other variables; these are merely a reflection of the increased age of that group which includes pensioners. Thus, we have not been able to demonstrate any effect of occupational status on any aspect of medical care. We have documented the negative effects of delay in seeking medical care but it appears to be independent of occupational classification.

Women have been critical of the care they have received however we have been able to demonstrate only minor correlations between gender and other variables. Women attend the doctor more frequently than men for preventative services and more often have mixed types of reasons for the visit; practitioners report higher levels of disability for them but the women themselves score essentially the same as men on severity and on all its components including anxiety and limitation in activity. This suggests that practitioners do see women as sicker than men given the same level of subjective distress. In fact the correlation between the female gender and doctor reported current disability (r = 0.12) is unchanged when patient reported severity is controlled. It has been reported (Stewart, 1984b) that women receive more support and men more information; there was no correlation between gender and the relevant questions on the empowerment measure.

Females form a majority (58%) of patients but the mean number of annual visits reported differs little by gender. (Uncorrected annual rates - men 6.89, women 7.34). This difference in visit rates would generate a female preponderance among patients of only 52%. Thus, it appears that more men avoid doctor visits but that men
who do become patients visit with almost average frequency. We can say that a larger proportion of women visit the doctor and that, as predicted by feminist analysis (see Chapter IV), they are perceived as sicker. However, we have no evidence that, in comparison to men, they are more dissatisfied with the encounter or less improved at two weeks after it.

It has been found that some ethnic groups or other minorities are less well served by medicine than the dominant culture. Our data show that, when age is controlled, Maori experience of medical care is similar to others'. There is, however, a moderate negative correlation with improvement when age and initial severity is controlled which survives controlling for occupation. There is no association between ethnicity and empowerment. A modest association between Maori ethnicity and practitioner reported rapport may indicate that Maori create fewer challenges to practitioner authority.

We may conclude that the medical system serves the non-pakeha less well. This does not seem to be explained by the effect of socioeconomic status.

Sociological studies have emphasized the importance of social variables in evaluating the causes of illness and the effectiveness of medical care. We have demonstrated no correlations between severity of problem and social variables, with the exception of an association between Maori ethnicity and the occurrence of chronic problems with symptoms. However, when cost is an impediment to medical care, severity increases and outcome deteriorates. Improvement at two weeks is associated with empowerment at the visit and with non-Maori ethnicity.
Controlling for the biological variables of age and severity of problem, social variables explain 5% of the variance in improvement. We may conclude that social variables play only a small part in determining general practice outcomes.

In summary, we have some evidence that medical care is technically oriented and that cost is a barrier to ideal care. We have shown that women, with subjectively average levels of illness, are perceived as sicker by their doctors but that their outcomes are comparable to that of men. Occupational level appears not to affect medical care but non-pakeha status is associated with some reduction in positive health change. In explaining outcome, biological factors have a much greater influence than social variables. In the following, and final chapter we shall discuss the significance of these findings.
Chapter XII

DISCUSSION

In this final chapter we will review the achievements of the research, discuss the strengths and weaknesses of the research project and evaluate the implications of the findings for medical practice and for sociology.

Key research findings

We have described general practitioners, the people who visit them, the problems presented, the process of the consultation and the outcome, immediate and at two weeks. The findings may be summarised, as follows:-

1. Practitioners have a somewhat "disease centred" approach and take the view that information should sometimes be withheld.

2. Nearly a third of patients delay seeking medical care, ostensibly for reasons of economy.

3. Occupational level appears to have no effect on medical problems presented or on the receipt of medical care.

4. Female gender appears to have no effect on the subjective severity of medical problem or on outcome, but is associated with increased practitioner perception of disability.

5. Maori ethnicity is associated with a less improvement at two weeks after the visit, despite high rapport.

6. Acute problems make up 63%, maintenance 18% and prevention 6%, of general practice visits.

7. Most patients rate their experience of the consultation highly.

8. Out of a possible score of 12, the average patient rates his or her problem severity as seven at the time of the visit and as three at two weeks.

9. Psycho-social investigation is rare.
10. Practitioners experience some uncertainty in 44% of cases.

11. Inadequate information is the major patient-identified criticism; it is associated with injury and minor surgery.

12. Higher patient-reported empowerment is associated with lower practitioner-reported rapport.

13. Counseling does not empower patients (as measured).

14. Empowerment predicts improvement.

15. Biological variables explain 45%, and social variables 5%, of the variance in improvement.

The research project

Waimedca has been a survey of general practice and manifests the advantages and disadvantages of this research strategy. It has enabled information on a large number of patient-practitioner encounters to be gathered and analyzed using quantitative statistical techniques. The information was obtained from both practitioners and patients in such a way that accounts from each source could be linked. No large surveys have come to our attention which have achieved this.

Waimedca has taken an holistic approach to practice; we are not aware of any large representative survey of general practice covering patient, problem, process and outcome variables. Having sought to draw a comprehensive picture of general practice, our intention has been to explore the field and suggest areas for more detailed study that might confirm and explain some of our findings.

The comparison of the Waikato with other regions of New Zealand supports the contention that our results are widely applicable.
Indeed, where international comparisons are possible, as in the response to the practitioner attitude question and the frequency of various diagnoses and treatments (not reported here), similarities are so great that it is likely that our results may be valid in other anglophone countries.

The immediate outcome measure adopted, empowerment, has theoretical justification, especially its reflection of the values implicit in critiques of medical practice from both consumers and the profession. The measure of improvement has been developed elsewhere and, in addition, has intuitive validity. Both measures generated a satisfactory range of responses, although the empowerment measure showed a clustering to the upper end which it had been intended to avoid.

The data gathered suffer from a number of deficiencies. First, the ultimate response rate is relatively low. Only about 71% percent of the practitioners contributed to the survey and, of those who declined, a disproportionate number were the busiest ones who found the extra work unacceptable. The response rate of patients, 65% on the first and 43% on the second questionnaire, reduces the effective patient response of those who would have been asked to respond to 42% and 30%, respectively. In mitigation, it might be argued that there is no reason to suppose that the effect of selection bias at each step should be in the same direction. Further, internal evidence of an adequate range of responses, which conform to expectations, suggests that our results remain reasonably representative.

Two deficiencies remain to be acknowledged, both recognized in advance and unavoidable with the strategy employed. First, the
sampling procedure, leading to a maximum of 20 patient reports per practitioner, will not enable an inter-practitioner comparison to be made. Second, the absence of qualitative information leaves in doubt the real significance of some of the findings. In addition, it became evident in retrospect that psychological evaluation of the patients would have been useful in interpreting patient responses.

Implications for medical care

We have advanced some evidence for the technical bias of medical care. However, unlike Daly (1989), we have no evidence of overall negative effects from technology.

Perhaps the most relevant finding is that some patients consider information insufficient. This has been much reported in the sociological literature; we can add that the phenomenon is most marked in cases of injury and when minor surgery is undertaken. These may be situations where the doctor experiences the least doubt about the necessity of, and the benefit from, his actions. In such cases it may be well to remember that explanation is of as much value as when it is the main, or the only, service applicable.

However, communication of facts is not in itself sufficient; it has been advocated elsewhere (Kleinman, 1980; Tuckett et al., 1985) that the information should be fitted to the patients' previous understanding and that comprehension should be evaluated by the solicitation of "feed-back." Perhaps it is failure in this regard which is behind the absence of correlation between "health advice/counseling" and empowerment. Training is
necessary to ensure the success of this process. In particular, the discomfort practitioners may feel with assertive patients, mentioned in the literature and supported by our findings, should be addressed.

This brings us to a consideration of the ingredients necessary to educational and psycho-therapeutic interactions. If patients' personal experience is to be understood and their social environment to be explored, an appropriate technique must be employed. In his innovative discussion of this process, Balint (1964) asserted that his doctor trainees, in order to be effective, had to undergo a change in personality. He also found that a significant number of those who attended his sessions were unable to accommodate this reorientation. The work of Walker (1988) on the education of general practice trainers suggests that the direction of change is counter to that encouraged by medical schools. We may suggest here that psycho-social evaluation, and subsequent efforts to ameliorate problems, is a specific skill, that there is some evidence that practitioners lack this skill and that this has demonstrable effects on patient outcomes.

Further, given that medical training encourages practitioners to take over responsibility for patients' treatment, and that psycho-social issues require patients to take an active part in their resolution, it may be that different individuals should undertake medical treatment and patient counseling. The habits of mind and behavior intrinsic to clinical care may be antithetical to those required in therapy. Since much counseling was undertaken, in our study population, by nurses, it does not
appear that these professionals are better suited to the task than general practitioners. Indeed, it might be speculated that their training in hospitals caring for the acutely ill is even less appropriate to counseling ambulant patients than that of medical personnel.

Some precedent exists for such a step. Some health maintenance organizations in the United States have employed psychologists and have found that they reduce the cost of care (No reference). We have documented how competing professions, such as chiropractors and naturopaths, have found a niche in Western societies, and other societies often support the practitioners of rival healing systems competing for custom on a more equal basis (Kleinman, 1980; Waxler-Morrison, 1988). Presumably, the survival of these alternatives depends on recognition of a distinct value associated with them. In Western societies one such service might well be those skills appropriate to support and counseling. Glik (1990) has researched people who attend spiritual healers and found that improvement was related to a willingness to redefine the situation. No medical school has, to our knowledge, taught future practitioners this skill. Indeed, the process of diagnosis and treatment has a tendency to fix and maintain the situation.

In summary, we would recommend that patient education and counseling become a special field of endeavour, separate from the care of the acutely ill but not withheld from them. It may involve psychotherapeutic, educational and even spiritual skills, as well as the ability to communicate facts.

The discussion of counseling skills and their association with
patient autonomy leads finally to a consideration of power relations in the clinic. We have no direct evidence of the inappropriate use of power by doctors or nurses. Such evidence in the literature usually emerges from the evaluation by the researcher of the actual process of the encounter. In fact the high levels of agreement between practitioner and patient suggest that patients perceive their doctor as extraordinarily benign. Further, we agree with Maseide (1991) that the exercise of power by practitioners is "often benign, always necessary and [only] possibly abusive." Maseide has argued that the idea of a "cooperation model" as universally applicable to medical practice is naive. This point reinforces, however, our argument that medical practice may be incompatible with true counseling skills.

As a final recommendation, the deleterious effect of financially induced delay in obtaining medical services, suggests that this problem should be addressed. It seems unreasonable to insist that practitioners should deal with this issue by waiving fees and we have evidence that fees are already waived or reduced in 26% of cases. They could, perhaps, be more active politically in ensuring that societal arrangements enable those most in need of medical care have appropriate access.

Implications for sociology

The implications of the research for sociology will be considered under four headings: methodology, perceptions of medical practice, sociological theory and further research.
Methodology - It is interesting that our research has demonstrated little dissatisfaction with medical care as provided by general practitioners in the Waikato. This is related to the survey strategy employed and suggests the more general principle that surveys of participants will record the successful overt working of an institution rather than any negative covert effects, intentional or unintentional. Covert effects can only be inferred. Thus, we have been able to show that expectations are met but not whether more hidden agendas are in operation nor how far the reality is from an ideal of care. The satisfaction expressed by women with their treatment is an important example of this.

We must agree with Willis (1990) that surveys must be fleshed out with qualitative studies to achieve their full meaning. The status of qualitative knowledge and the effect of the researcher on such knowledge will be taken up below.

The low correlations found between social variables, expected, in advance, to be related, raises the issue of personal variation. We have noted considerable variation in patient empowerment but have not succeeded in relating this convincingly to antecedent variables. It may be that studies such as this, based on the individual, should incorporate psychological variables, especially when the unit of analysis is the individual encounter and involves the interaction between two people. The work of Davis and Lay Yee (1989), with the Comedca data, showing the impact of doctor identity on service levels validates this suggestion.

Perceptions of medical practice - Key sociological attributes of
healing were summarized in Table 2.1 and will be discussed in turn. We cannot contribute to the discussion of the relative importance of the various causes of illness beyond noting the absence of any correlation between the severity at visit and occupation. We have described patients' level of suffering and limitation of activities but have no information on unwillingness to fulfill roles. We have no evidence of deleterious labeling occurring during the patient-practitioner encounter. In fact, doctor initiated visits and visits for maintenance without symptoms, both situations where the problem could be seen to be practitioner induced, are not associated with low empowerment scores. We have no clear evidence of conflict between patient and practitioner beyond the fact that rapport and empowerment questions did not receive top scores in all cases. We have shown that some patient-society mediation is accomplished (including certification, recommending time off work or arranging the use of medication or specialist services). We have demonstrated that considerable improvement occurs in the health state of the individual after a visit to the practitioner. In the majority of cases, all dimensions of severity of problem were reduced at two weeks. We are not in a position to determine the relative contribution of treatment and the passage of time to this change but the relationship between medical treatment and improvement does suggest that treatability carries a positive prognosis. The high levels of empowerment reported by the majority of patients suggest, further, that the encounter is a positive experience, productive of information and reassurance.
The view that patient-practitioner encounters are conflictual and unsatisfactory, gained from micro- and conflict sociologies, cannot be verified from our data. The scores on the empowerment index are high, especially those components relating to satisfaction, agreement with the practitioner and obtaining what was wanted.

We would like to speculate here on the nature of the benefit obtained from medical consultations. It is at least possible that the experience of empowerment and the benefits of treatment are not adequate to explain the popularity of these encounters. In fact, we would like to suggest that the success of the medical enterprise may be associated with the first two aspects of the sick role as described by Parsons (1951). Parsons identified the absence of responsibility for sickness and the obligation to seek medical aid as key aspects of the role. The importance of these has been somewhat overshadowed by the other aspects of the sick role, namely the obligation to recover and the function of the practitioner in the legitimation of the relief from social duties.

It is possible that the receipt of absolution may partially explain the general satisfaction with medical care. It is a benefit independent of empowerment and improvement and, if important, might go some way to explaining the reluctance to explore psycho-social issues. These introduce morality; a sore throat is blameless but a difficult marriage hints of fault. Indeed, the whole move to counsel patients implies that they could manage themselves better. It is possible that people prefer "monistic materialism" (Kirkmayer, 1988); while it hides political
responsibility for illness it also conceals personal blame. We would also suggest that seeking care is, in itself, seen as beneficial. Independent of incapacity, of need for treatment or hope of recovery, visiting the doctor tends to legitimate the person as a normal member of society. This might be especially important, when, as in smoking related diseases, rugby injuries or unwanted pregnancy, the patient cannot be absolved of responsibility for his or her problems. In fact, a feature of empowerment might actually be the sense of doing what is socially correct. Perhaps one could say that many social activities have the latent function of making participants normal members of society irrespective of the manifest intention.

If "absolution and legitimation" are key benefits of medical consultation, some inter-practitioner variations may be seen as explicable. If a test or a treatment is essentially socio-psycho-therapeutic, then the choice of intervention is less critical. Parsons (1951) drew attention to the covert psychotherapy of the medical consultation; would it be going too far to see the first two aspects of the sick role as a major avenue of such help?

Medical care has been seen as exploitative, overservicing those who can pay. It might be suggested that medical encounters that merely legitimate the person in this way are exploitative but this cannot be sustained in the absence of alternate agencies of legitimation. A more promising avenue of research would be into the use of unproven regimes and, especially, the extension of established regimes into areas where their value is uncertain. We have presented no definite evidence in this area which is the
proper domain of medical research.

Sociological theory - In this section we wish to comment on two points - the influence of researchers on social knowledge and the nature of social control. Sociological information, critical toward medicine, has often emerged from the intervention of sociologists; patients are usually pleased with the care they have received. Either, artificial situations have been contrived in which people have developed a critical stance towards medicine (e.g. Stimson and Webb, 1975) or the researchers have interpreted their data in a critical way (e.g. Waitzkin, 1979; Fisher, 1988). Criticism is based on an ideal of care which is not met. We do not refer here to work on the institution of medicine conducted separate to the accounts of patients. Both satisfied patient accounts and researcher critiques are valid forms of understanding. It would, perhaps, be correct if the researchers always specified the ideal against which they judge the imperfections of the real world.

Social Control - The most acceptable sociological account of medical practice is based on the concept of social control (Maseide, 1991). This was the underlying function of medicine identified by Parsons and is the proper concern of a sociology intended to examine the latent functions of institutions. Placed at the junction of medicine and sociology, this thesis has insisted on recognizing the manifest function of medical care, namely the improvement of health state. It has also recognized the cooperative as well as the conflictual nature of medical activities.

Here we wish to discuss the nature of social control. Our data do not
lend themselves to an interpretation of medical care as the arena in which individuals are indoctrinated, exploited and forcibly returned to the work force. We have argued that exploitation may occur but cannot accept the view that people are so lacking in perception as to be satisfied with a service that is fundamentally abusive. Rather we would agree with Foucault (1976/1980), that all knowledge, and medical knowledge in particular, is simultaneously a source of domination and of meaning. Thus, while the doctors' position is enhanced, the work force maintained and capitalist society legitimated, sense is being made of the patients' experience and situation. Following Foucault (1976-1980) again, domination automatically induces resistance. We have little evidence of patient resistance - this implies that medical care is not perceived as domination. It is perhaps the case that patients see such care as a means to dominate their own world. They are simultaneously helped to an understanding of the situation, relieved of responsibility for the illness and legitimated as normal members of society. One might posit that a three-way deal has been struck; for social elites negative effects of social arrangements are made invisible; for practitioners a power position is maintained; and for the patient responsibility for problems are forgotten.

The picture of manifest medical practice and of latent social control that emerges from our research and from the above speculation can now be compared with the sociological models of illness as identified by Gerhardt (1989b). The negotiated model of illness fits best our concept of a latent patient function - the receipt of absolution and legitimation. Other micro-sociological views
have received little support - the events described by the crisis model are perhaps rare in general practice and we have not inquired at a level where the phenomenological model (trouble) would have been perceptible. Conflict models (loss and deprivation) are similarly concealed by our methodology. Parsons' incapacity model would seem to describe medical encounters where capacity is actually impaired and where treatment is likely to be successful. The position of Parsons' deviancy model is more interesting. First, we have no direct evidence that people are unwilling rather than unable to fulfill their normal social roles. Second, we have some suggestion that practitioners support any deviancy there is by labelling it incapacity and we have asked if this might be identified as covert psychotherapy. The effect could be to imply that reluctance to work is a medical problem which will be resolved when medical treatment has been effective.

In summary, we suggest that medical practice may have a latent "psychological" function as well as a latent "social" one. It is hard to see how this function could be researched; to ask someone if they feel legitimated is tantamount to de-legitimating them; it is, in a sense, the very secrecy of the process which makes it effective.

Further research

The deficiencies of the research project reported above suggest further avenues of inquiry. First, it would be of interest to conduct a population survey of health state so that the severity of problems presented by patients could be compared with those
of non-consulters. It might be possible to follow-up a group of
the latter so that change in health state with, and without,
medical care could be compared.
Second, a study of outcomes could be undertaken in which patient
psychology could be included as an independent variable; it
could be designed so that the impact of practitioner identity
could be assessed. In addition, the reality of delay in seeking
care could be explored and the relative importance of limited
resources and lower priority for medical care could be assessed.
Finally, the validity of the outcome measures we have used could be
evaluated with more detailed patient interviews. These might
also explore issues of legitimation.
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In the following pages bivariate correlations between practitioner, patient, problem and process variables with evaluative and outcome variables are given. The keytable gives the names used within the statistical software for the variables discussed within the text.

Anxiety at two weeks = ANX2
Anxiety at visit = ANX1
Anxiety change = ANXD
Beneficiary = GMS
Delay in getting care = COST
Direction of change at two weeks = PROB2
Direction of change at visit = PROB1
Direction of change changed = PROBD
Disability current = DIS1N
Disability permanent = DIS2N
Discomfort at two weeks = DISK2
Discomfort at visit = DISK1
Discomfort change = DISKD
Empowerment = EMPOWER
Examination general = EXAM1
Follow-up specified = ANYFU
History general = HIST1
History psycho-social = HIST2
Improvement over two weeks = IMPROVE
Length of visit = DUR
Limitation of activity at two weeks = LIMIT2
Limitation of activity at visit = LIMIT1
Limitation of activity change = LIMITD
Maori ethnicity = ETHNICN
New to practice patient = STATB
New to practitioner patient = STATA
Number of reasons for visit = NRFV
Nurse only seen = TYPE3
Occupational code = OCCUP
Patient age = AGEN
Patient gender = SEXN
Patient over 15 = AGE15N
Practice size = SOLO
Practitioner age = DAGE
Practitioner and nurse see = TYPE2
Practitioner attitude = DQ20TOTA
Practitioner busyness = BUSYNESS
Practitioner gender = DSEXN
Practitioner rapport = RAPP
Practitioner seen = TYPE1
Practitioner uncertainty = UNCER
Referral = ANYREF
Rural/Urban = RURBAN (= Hamilton)
Severity index at two weeks = SEV2
Severity index at visit = SEV1
Site of visit = SITEN (= Surgery)
Test ordered = ANYTEST
Time of visit = TIMEN (= In hours)
Treatment objective = TRTOBJN
Treatment - medication = RXBN
Treatment - none = RXAN
Visits previous year = USAGE
Who initiated = INITN (= Patient)
### Table 11.1. Change in severity at two weeks. Values in brackets for illness and injury only. Percentages.

<table>
<thead>
<tr>
<th></th>
<th>Worse</th>
<th>Same</th>
<th>Better</th>
<th>Visit 2/52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discomfort</td>
<td>11.9</td>
<td>19.8</td>
<td>68.1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>(9.8)</td>
<td>(17.5)</td>
<td>(72.7)</td>
<td>0.6</td>
</tr>
<tr>
<td>Anxiety</td>
<td>7.7</td>
<td>32.8</td>
<td>59.1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>(5.7)</td>
<td>(27.1)</td>
<td>(67.2)</td>
<td>0.7</td>
</tr>
<tr>
<td>Limitation</td>
<td>7.8</td>
<td>51.7</td>
<td>40.6</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>(9.6)</td>
<td>(48.8)</td>
<td>(44.1)</td>
<td>0.8</td>
</tr>
<tr>
<td>Change</td>
<td>15.7</td>
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<td>44.3</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>(16.0)</td>
<td>(27.8)</td>
<td>(56.2)</td>
<td>1.1</td>
</tr>
<tr>
<td>Severity</td>
<td>13.7</td>
<td>20.7</td>
<td>65.6</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>(8.9)</td>
<td>(13.0)</td>
<td>(78.1)</td>
<td>0.8</td>
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### Table 9.5. Answers to Empowerment - Percentage across N = 697

<table>
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<tr>
<th>Score</th>
<th>0</th>
<th>12</th>
<th>Mean</th>
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<td>1. Reassurance</td>
<td>15.1</td>
<td>26.2</td>
<td>58.7</td>
</tr>
<tr>
<td>N = 681</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Knowledge</td>
<td>24.9</td>
<td>36.0</td>
<td>38.9</td>
</tr>
<tr>
<td>N = 680</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Lookafter</td>
<td>27.3</td>
<td>34.1</td>
<td>38.5</td>
</tr>
<tr>
<td>N = 662</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Whyadvice</td>
<td>11.0</td>
<td>9.8</td>
<td>79.0</td>
</tr>
<tr>
<td>N = 687</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Satisfaction</td>
<td>10.5</td>
<td>8.4</td>
<td>81.1</td>
</tr>
<tr>
<td>N = 696</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Served</td>
<td>10.7</td>
<td>6.2</td>
<td>83.0</td>
</tr>
<tr>
<td>N = 690</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Agree</td>
<td>10.2</td>
<td>4.2</td>
<td>85.5</td>
</tr>
<tr>
<td>N = 692</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean%</td>
<td>15.7</td>
<td>18.4</td>
<td>67.1</td>
</tr>
</tbody>
</table>

### Table 9.6. Distribution of Index of Empowerment (Sum of answers to individual questions, possible range 0-14)

<table>
<thead>
<tr>
<th>Distribution - % cases</th>
<th>0.14</th>
<th>0.43</th>
<th>0.29</th>
<th>0.72</th>
<th>0.29</th>
<th>0.20</th>
<th>2.59</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
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</table>
Scores

<table>
<thead>
<tr>
<th>4.30</th>
<th>6.02</th>
<th>9.04</th>
<th>15.06</th>
<th>20.52</th>
<th>13.79</th>
<th>24.82</th>
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</thead>
<tbody>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
</tbody>
</table>

Mean 11.5  Median 12

Table 9.8. Severity of problem, percentages (0=none, 1=some, 2=moderate, 3=considerable/extreme). N = 696.

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of discomfort</td>
<td>33.2</td>
<td>22.7</td>
<td>25.0</td>
<td>19.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Level of anxiety</td>
<td>25.1</td>
<td>35.4</td>
<td>25.2</td>
<td>14.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Limitation of activity</td>
<td>22.6</td>
<td>28.2</td>
<td>33.5</td>
<td>15.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Change*</td>
<td>15.5</td>
<td>38.0</td>
<td>26.7</td>
<td>19.8</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Severity index - Score and percentage distribution. Possible range 0 -12.

Distribution - % of cases

<table>
<thead>
<tr>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Mean 11.1  Median 8.6

(*Change, 0=not present, 1=improving, 2=stable, 3=worsening)

Table 9.10. Change in Severity of problem, percentages

<table>
<thead>
<tr>
<th>Score</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>+1</th>
<th>+2</th>
<th>+3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discomfort</td>
<td>2.2</td>
<td>9.7</td>
<td>19.8</td>
<td>33.4</td>
<td>25.0</td>
<td>9.7</td>
<td>+.94</td>
</tr>
<tr>
<td>N = 308</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.3</td>
<td>7.4</td>
<td>32.8</td>
<td>36.0</td>
<td>21.2</td>
<td>1.9</td>
<td>+.99</td>
</tr>
<tr>
<td>N = 311</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limitation</td>
<td>1.8</td>
<td>6.0</td>
<td>51.7</td>
<td>24.3</td>
<td>14.3</td>
<td>2.0</td>
<td>+.49</td>
</tr>
<tr>
<td>N = 400</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>1.6</td>
<td>14.1</td>
<td>40.3</td>
<td>23.0</td>
<td>15.4</td>
<td>5.7</td>
<td>+.54</td>
</tr>
</tbody>
</table>

Mean 7.2  Median 7
N = 370

Change in Severity Index - score and percentage distribution. N = 392

Distribution - % of cases

<table>
<thead>
<tr>
<th>Score</th>
<th>0.5</th>
<th>1.0</th>
<th>5.1</th>
<th>7.1</th>
<th>20.7</th>
<th>11.2</th>
<th>12.0</th>
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<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Scores

<table>
<thead>
<tr>
<th>Score</th>
<th>9.4</th>
<th>6.9</th>
<th>3.8</th>
<th>7.1</th>
<th>2.6</th>
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<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>

Improved 65.6, Unchanged 20.7, Worse 13.7.

Mean +2.4 Median +2

Table 9.12. Severity of problem at two weeks, percentages (0=none, 1=some, 2=moderate, 3=considerable/extreme). N = 467.

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of discomfort</td>
<td>57.6</td>
<td>26.2</td>
<td>11.3</td>
<td>4.9</td>
<td>0.6</td>
</tr>
<tr>
<td>Level of anxiety</td>
<td>54.4</td>
<td>31.7</td>
<td>8.6</td>
<td>5.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Limitation of activity</td>
<td>46.3</td>
<td>29.8</td>
<td>18.0</td>
<td>5.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Change*</td>
<td>28.9</td>
<td>31.0</td>
<td>37.0</td>
<td>3.0</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Severity index at two weeks - Score and percentage distribution. Possible range 0 -12.

Distribution - % of cases

<table>
<thead>
<tr>
<th>Score</th>
<th>20.8</th>
<th>11.9</th>
<th>13.8</th>
<th>11.2</th>
<th>12.5</th>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Scores

<table>
<thead>
<tr>
<th>Score</th>
<th>6.4</th>
<th>3.0</th>
<th>2.1</th>
<th>0.6</th>
<th>1.5</th>
<th>0.4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

Mean 3.2 Median 3

(*Change, 0=not present, 1=improving, 2=stable, 3=worsening)