CHAPTER 1

1. INTRODUCTION

1.1. STATEMENT OF THE PROBLEM

The environment in South Africa has changed dramatically with regard to health services over the past five years, especially for state-funded hospitals in the public sector. There has been a reduction of the budget allocations to hospitals in the public sector because of a decision to increase funds for primary health care. Primary health care focuses on basic health services provided by clinics. Treatment of children under six and expectant mothers are treated at any public hospital at no cost to the patient. This concession has lead to an increased demand for these services at tertiary care hospitals such as the Johannesburg Hospital. This decision was taken in order to provide more adequate health services to the entire population of the country. In previous years persons living in rural areas were particularly neglected.

It was reasoned that should the provision of primary health care be adequate many secondary treatments would not be required. In spite of neglect of primary health care services under the previous government, excellent services were available in the public or state funded hospitals.

In South Africa, HIV/AIDS is becoming an escalating problem. South Africa can expect four to six million of the 43 million inhabitants to die by 2010 of AIDS. This would result in approximately 2 million orphans (The Economist, 24 Feb 2001). This will have a

major impact on the economy of the country. The occurrence of HIV/AIDS has an especially significant impact on all health services, particularly those in public hospitals. The admittance of patients suffering from various AIDS related chronic diseases is on the increase.

The admittance of chronic patients to the Johannesburg Hospital has increased considerably during the past five years, thus increasing the workload for physiotherapists. Much of the work of physiotherapists is related to the treatment of patients with chronic diseases, however, in spite of the increased workload for physiotherapists the staff complement of the Physiotherapy Department has decreased from forty-one to eighteen staff members due to severe budget constraints. Various opinions exist about whether or not the staff complement is adequate to deal with the number of patients requiring treatment.

This study focuses specifically on the effects of the various changes in the Physiotherapy Department of the Johannesburg Hospital and to determine the subsequent steps indicated to reach an optimal solution to the various challenges facing the department.

1.2. BACKGROUND ON THE PHYSIOTHERAPY DEPARTMENT

The Physiotherapy Department at the Johannesburg Hospital consists of eighteen full-time physiotherapists, six part time physiotherapists and five physiotherapy assistants. The eight treatment areas within the department are:

- Intensive Care Unit (ICU)
- Neurology
- Paediatric
- Orthopaedic
- Exercise Rehabilitation
- Medical
- Surgery and
- Adult Outpatient areas.

There is a joint professorial head i.e. Head of the hospital as well as the university department. Under this head there should be an assistant director who is head of the hospital and a senior lecturer who is head of the undergraduate teaching programme. During the time of the study there were serious staff restrictions and the position of assistant director was frozen. A senior physiotherapist acted in the capacity of the assistant director with significantly increased responsibility but without any additional financial rewards. This individual was totally disinterested but was the only one willing to accept the appointment.

The Physiotherapy Department treats patients who are ill and have been admitted to the hospital and there is also an outpatient section where patients come for once off or regular treatment. In the Physiotherapy Department the most common outpatients are patients with neuromusculoskeletal problems and dermatological problems.

Each of the staff members works in only one treatment area unless there is an emergency and input is needed elsewhere. There are five supervisors (senior personnel designated at 'chief physiotherapists') covering these treatment areas, each working in one of the treatment areas. The Surgical, Exercise Rehabilitation and Outpatient areas do not have supervisors but this is regarded as non-essential as some of the most senior physiotherapists work in the Surgical and Exercise rehabilitation areas. In the Outpatient area there are also experienced physiotherapists.

1.3. THE APPROACH OF THE STUDY

Due to the weakening economy in South Africa, available funding for all services have decreased. It therefore becomes essential to establish optimal practices to deal with the changing environment. It is however not always clear what the optimal approach is and therefore it requires active investigation to determine it.

The initiation of this study was to determine how to realign the department to the new circumstances. Identification of problems was the first concern and the second focus point was to find solutions to the problems in the Physiotherapy Department of a state-

funded hospital. Problems experienced in the Physiotherapy Department were probably generic to several departments in any state-funded hospital. It would be beneficial to see whether Industrial Engineering principles were applicable to a department in a state-funded hospital.

Industrial Engineering Principles were applied in the process of determining and addressing the relevant issues. Information was obtained by conducting workshops, by personal interviews with the physiotherapists and physiotherapy assistants, as well as the completion of timesheets and doing statistical analyses of the timesheets.

Workshops were facilitated and several known techniques such as the brainstorming technique and the nominal group technique were used. Due to the staff cuts capacity constraints were identified as a major problem. The available capacity would affect quality of treatment, motivation and quality of work life of employees. During this study it also became clear that low motivation was another major problem. Due to escalating costs, maintenance of equipment is not adequate, resulting in an unnecessary reduction of equipment life cycles. Lack of availability of equipment could have significant consequences and in extreme cases could even affect life expectancy. Other unrelated issues were salaries, communication and a dirty environment.

The approach followed with the statistical analysis was to use confidence intervals to compare the standard treatment times with the actual treatment times. Hypotheses testing were used to determine whether it would be possible to standardise on similar

treatments in different treatment areas. The required capacity calculations were based on the amount of time spent on direct patient care by the physiotherapists during the six-month period. In 2000 the Physiotherapy Department performed an audit and the results of the audit (De Charmoy and Eales, 2000) were compared to the results obtained in this study. The information of the audit was based on one day's data while the data collected for statistical processing in this thesis was collected daily for a six-month period.

In a working environment affected by limitation of funding it needs to be determined how to manage funds optimally and how to minimise costs while maintaining an acceptable level of quality.

1.4. ORGANISATION OF THE THESIS

Chapter 2 discusses the method of analysis and some results of the data collection process. Chapter 3 discusses the statistical methods used to analyse the timesheets. Statistical analyses were performed to determine standard times for treatments, whether work could be standardised across treatment areas within the Physiotherapy Department and what the load and required capacity was over a six-month period. Chapter 4 discusses the results of the statistical tests. Thereafter Chapter 5 addresses the major issues found during the analysis of the problem. Chapter 6 deals with recommendations.