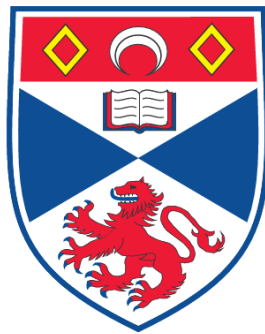


**QUALITY OF CARE FOR PEOPLE WITH MENTAL HANDICAP  
AND CHALLENGING BEHAVIOUR: AN INVESTIGATION OF THE  
IMPACT OF STAFF TRAINING IN GOAL ATTAINMENT SCALING  
AND BEHAVIOURAL PROCEDURES**

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**A Thesis Submitted for the Degree of PhD  
at the  
University of St. Andrews**



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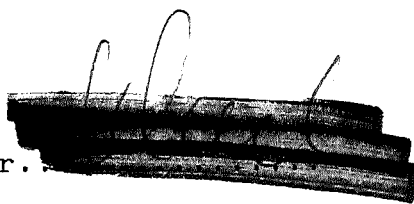
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Gratitude is expressed to the management, staff and residents of the hospital in which this study took place. Unfortunately, to preserve anonymity, these people cannot be named here.

Gratitude is also expressed to my supervisor, Professor Chris Cullen for his encouragement and support.

### Terminology

Throughout this thesis, the term 'mental handicap' has been used as opposed to the recently preferred term 'learning disability'. The author does not wish to offend any person by the use of this expression and believes that, as his professional qualification still bears the title mental handicap, this is the appropriate term for the time being.

The word 'client' is now in general use to refer to all recipients of health care, not just those people with a mental handicap. However, when referring directly to the clients involved in this study, the word 'resident' has been used in deference to the wishes of the staff involved in the project.

Abstract

This study examined the contribution to quality of care of a goal planning technique called Goal Attainment Scaling and its impact upon the quality of life of people with severe mental handicaps and challenging behaviour. The study also seeks to establish the utility of employing Goal Attainment Scaling as a means of evaluating clinical nursing performance.

This study essentially aims to bring about changes in the care practices of nurses using a comprehensive staff management procedure. The study was designed as a four phase intervention using a multiple baseline design across three wards in a hospital for people with mental handicaps. Staff on three wards (n = 41) were initially trained over three phases in the use of Goal Attainment Scaling and other procedures. Training was carried out by a combination of workshops and individual tuition which incorporated the use of individualised learning contracts for staff. The fourth phase consisted of establishing weekly meetings to set objectives for staff to achieve that were specifically related to material covered in training. If targets were achieved, staff performance was followed by letters of recognition from managers and by financial donations to ward funds.

Dependent measures included frequency of challenging behaviour, quality of staff-resident interaction and



engagement, ward activity, residents' adaptive behaviour, staff attitudes and goals set by staff. Results indicate that adaptive behaviour increased by small but statistically significant levels. Levels of challenging display a mixed pattern of results, as do levels of ward activity and quality of interaction, although encouraging trends may be identified. Despite some increases, residents still spend significant amounts of time unoccupied. The number of goals set increased throughout the study, particularly in phase four. Data for staff attitudes were not used because of the low compliance rate and changes indicated below.

Considerable problems were encountered with turnover of staff and other organisational changes outwith the researcher's control which compromised both the quality of training given to staff and, by virtue of this, the final results. Statistically significant relationships were found to exist between staff turnover and interaction.

The implications of this study are discussed and recommendations made for future research.

## CHAPTER ONE

### QUALITY ASSURANCE AND HEALTH CARE

#### Introduction

It could be argued that all employees responsible for providing health care each have their own expectations of what constitutes good quality care and how this care should be given. These ideas will be shaped by their training and experience. Although this might be considered a positive aspect of our health care services, this is of limited use to us should we wish to define and guarantee a certain level of quality of care to the public, as each person's values will inevitably differ.

The need to establish and define a system whereby health care may be formally evaluated has, therefore, long been recognised. Over fifty years ago Derryberry (1939), for example, reported on attempts to measure the effectiveness of nursing services in terms of the changing health status of the patient. More recently, professional nursing organisations in this country (Royal College of Nursing 1980) and abroad (American Nurses Association 1973, 1976) have examined ways in which their work may be defined and measured.

The professionals' concern to evaluate the care they provide has been given added impetus by the publication of several government reports and the political debate they have engendered. For example, the Salmon Report

(Ministry of Health and Scottish Home and Health Department 1968) recommended that senior nurses should take on greater managerial responsibility. By implication, this means the monitoring and maintenance of nursing standards. Subsequently, the Briggs Report on nursing (DHSS 1972) emphasised the need for nursing care to be evaluated in order that resources could be managed more effectively. In the early 1980s, Sir Roy Griffiths questioned the ability of the National Health Service to prove its effectiveness and his enquiry into health service management (DHSS 1983) called for the establishment of clear lines of accountability throughout the NHS.

The Griffiths Report introduced the concept of general management to the Health Service. As others had previously observed (Ham 1981), the Health Service had given the impression to many of being an organisation largely run on a crisis management format with few systems of performance monitoring. The examples of hospital enquiries discussed in Martin (1984) would appear to support this view. The implementation of many of Griffiths' recommendations has probably been the most significant development in the Health Service since its inception: a trend has now been established in which the efficient use of resources is a major consideration for anyone involved in NHS management.

Kitson (1986) identifies a further reason why the evaluation of health care has become a major issue. The growth of consumerism, she argues, has led to increased expectations of services which Government provides. In the past, Community Health Councils have been seen as a vehicle by which the public may become involved with health policy. However good the intentions of such bodies, their relationships with health districts have not attained earlier expectations (National Consumer Council 1984). Therefore, involving the public in formal evaluations of the quality of health services is a challenge which professionals are currently addressing. At the same time, the Government's latest reforms of the National Health Service (DHSS 1990) attempts to place the interest of the consumer firmly at the centre of everyone's concern and the recently constituted 'purchaser' and 'provider' separation will cause both to consult closely with the service user a great deal more than in the past.

We have, therefore, embarked upon a road in which health is seen as a commodity to be purchased either by individuals or on their behalf and those who are responsible for providing health care now have an obligation to do this effectively and efficiently. Thus the concept of quality of care is not solely a professional notion that allows one to distinguish between the value of one procedure over another, but is

also a question of how efficiently these procedures can be provided in terms of resources.

This development has inevitably led to a huge growth in formal evaluation methods whereby promises are not only made to consumers of health care but have to be guaranteed as well. This is the notion of quality assurance. Although quality assurance and evaluation are separate concepts, they are used interchangeably in the literature (see Wyszewianski 1988). Quality assurance itself is a term that has been imported from the world of industry and commerce. A leading author on this subject (Ishikawa 1985) describes quality in the commercial world as the effort to produce satisfactory goods at the right price for the consumer. Giving a specific example of this, the Japanese car industry, Ishikawa suggests that quality, to the consumer, means reliability and fuel efficiency.

Although the terminology may have been transferred to health settings with comparative ease, this has not been the case for understanding the concept of quality as it applies to health care. A convenient definition of quality eludes us at present. However, since the 1960s, the writings of Avedis Donabedian have provided the basic vocabulary by which quality may be described. Donabedian (1980) sees quality as an abstract concept which will have different meanings for the different

groups of people involved in health care. Thus, the professionals and technicians will be concerned with the technical quality of their work. The consumer's definition will be highly individualised and will take into account the functional quality of the service as it affects his values and expectations. A third group of people involved with defining quality will be society at large. The social definition, says Donnabedian, will be concerned with the net gain to society provided by health care taking into account the amount of resources needed to sustain it. Finally, Donnabedian identifies the emergence of a fourth group, namely the 'payers'. For those who have direct responsibility for committing resources to health care, quality means value for money based on a statistically defined norm of acceptable care.

Notions of what quality might be, therefore, must rely on an interplay and careful balance of these four factors. Since economic circumstances and cultural values are subject to change, quality itself cannot be seen as a static concept. Absolute definitions of quality do not exist.

#### The process of quality assurance

With this in mind, academics and professionals alike have concentrated on standardising the process of quality assurance. Figure 1 shows how this process is typically represented. This illustrates how any quality assurance

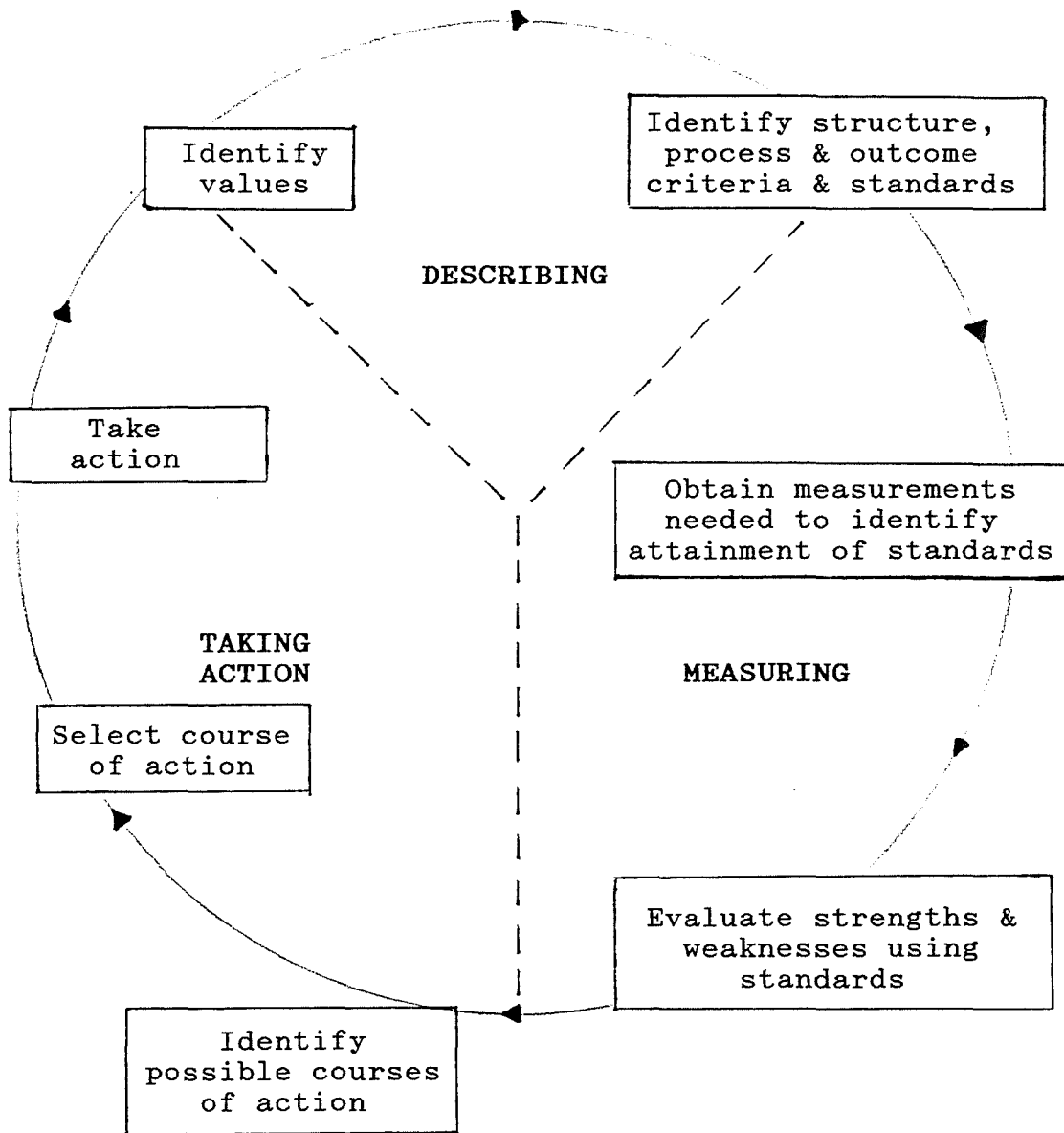


Figure 1. Diagram showing the cyclical nature of the quality assurance process. (Kitson 1986)

system should be continuous and cyclical. It should also concentrate on the three 'classic' elements in the delivery of health care, once again originated and defined by Donabedian (1966). These elements are described succinctly by Pearson (1987) as;

- a) Structure: the prerequisites for patient care which include the physical facilities, the organisation of the unit or institution and the resources, both human and other
- b) Process: the carrying out of the care including the intellectual processes and behaviour of the staff.
- c) Outcome: the patient's behaviour, health status, or knowledge including recovery or mortality rates and some element of patient satisfaction.

There is little dispute amongst academics that this is a useful way of conceptualising any health care delivery system. What is essential, however, is that these three elements should not be seen as separate, unrelated entities. Each one is dependent upon the other two. For example, to be successfully inoculated against a disease (outcome) will depend upon the vaccine being drawn-up and



injected correctly (process) by a person who is qualified and competent to carry out this procedure (structure). To assert the value or effectiveness of health care, measurement of one or all of these elements must take place. A further requirement is that, to make the measurement meaningful, a set of criteria or standards must be established. Only then can the judgement be made of whether something is poor, average or excellent with any confidence. It is at this point that controversy arises, namely,

- 1) how are these standards to be devised and by whom ?  
and
- 2) assuming that the standard can be devised, does this imply a minimum or optimum level of performance ?

These are issues which will be returned to later, but some brief points may be made here. The first question might seem largely a matter for those responsible for giving the care. People who may be considered to be expert or proficient in their field should surely be expected to know what the requirements are for a given procedure, how to carry this out competently and what the outcome should be. In many instances this would be a naive assumption. Kroll and Mackenzie (1983), for example, examined the often contentious issue of discharging from psychiatric institutions patients who

had a history of violence. It might be assumed that psychiatrists could make reliable judgements based on the care given and the behaviour of their patients. However, it was discovered that health departments in the United States who were successfully sued following murders committed by recently discharged patients were prosecuted on the basis of administrative failure and not on the failure of psychiatrists to assess risk. Kroll and Mackenzie conclude that

"the courts have affirmed their acceptance that psychiatry is not an exact science, that there is disagreement about diagnosis and treatment."

This might seem an extreme example, but Cochrane (1972) points out numerous examples of medical and surgical intervention which is based largely on custom and practice rather than empirical evidence.

However surprised and even alarmed we might be at the idea that our doctors and other carers may not always use tried and tested methods, this does not mean that they have little idea of what constitutes quality in health care. Nor should we regard the measurement of quality as futile. The above examples indicate that there is often a tenuous link between the elements of structure, process and outcome. In particular, as Doris Bloch (1975) reminds us, discovering the link between process and successful

outcome in every case is a particularly arduous task and that no health care professional is ready for evaluation based solely on process and outcome. We might have become very sophisticated at determining the prerequisites of care in terms of equipment and resources and these are readily amenable to measurement. The matter of saying that a given action will produce a given result is still largely a matter of expectation rather than guarantee.

To summarise, there can be no short-cut answer to quality measurement. On the one hand, research into more effective ways of health care delivery and treatments must continue so that the promise of a higher standard of care can be made more certain. It would be a gross mistake on the part of academics and professionals, however, if changes in health services were dismissed out of hand by them until they possessed all the evidence. On the other hand, in the absence of absolute certainties, it would be wrong of the managers to allow their concerns about cost-efficiency and cost-effectiveness to override professional anxieties about falling standards of care. This can sometimes create an atmosphere of tension in health services which prevents real progress being made towards an acceptable definition of quality and how best this might be measured.

Quality assurance and mental handicap services

In many ways, the impetus to adopt and utilise quality assurance systems in mental handicap services is no different from other aspects of health care. However, there do appear to be four main, but interrelated, factors that make quality assurance a particularly pertinent idea.

Firstly, the health service has legal responsibilities under the Mental Health Act (DHSS 1983). This Act is the latest of a series of Acts of Parliament which has laid down circumstances under which a person with a mental handicap may be compulsorily detained. Historically, then, there has always been some obligation to inspect services to ensure that the law is being adhered to. This function is carried out in England and Wales by the Mental Health Act Commission and by the Mental Welfare Commission in Scotland. Both bodies report to their respective Secretaries of State on conditions relating to the care of people with mental handicaps who are detained.

Secondly, the very nature of mental handicap itself implies a degree of vulnerability amongst those so labelled. Services, therefore, have a particular responsibility to ensure and demonstrate that they are acting in the best interests of their clients.

This leads to a third, historical factor which makes quality assurance a more necessary device in this service. Mental handicap services have previously encountered grave problems in providing a high quality standard of care (Scull 1979). Martin (1984) chronicles a lamentable list of public and private inquiries over the past twenty years which have addressed issues of the physical and psychological abuse of residents in long stay hospitals. Following one such inquiry, the then Secretary of State for Health, Richard Crossman, established the Hospital Advisory Service (HMSO 1969). The HAS subsequently inspected facilities and made recommendations to each hospital to ensure standards relating to the more tangible aspects of the service, for example staffing ratios and skill mix, were being met.

The hospital inquiries referred to above led to a growing body of practitioners and academics alike advocating radical changes in the basis upon which services should be planned. Although the original motivation behind creating services for people with mental handicaps may have been one of seeking to protect a vulnerable group, such services have resulted in the segregation and, some would say, oppression (Oliver 1990), of this client group. When some of the more obvious consequences of such a policy were revealed to the public through the media, considerable weight was added to the notion that services should be planned to

allow people with mental handicaps the opportunity of leading more ordinary lives. Consequently, there has been an unprecedented shift in government policy which provides a fourth reason why services should be evaluated. Although it is now generally agreed what constitutes a poor quality service, we are obliged to investigate whether the proposed alternatives can provide clients with an enhanced quality of life and, should this be the case, in what ways can this quality be assured ? (see Sines 1988).

Given the additional pressures to evaluate the quality of care provided for people with mental handicaps, a newcomer to the literature might expect to find a range of sophisticated evaluation tools. Unfortunately this is not the case. A recently published directory of evaluation methods (Raynes 1987) shows a variety of measurements but considerable debate surrounds their utility. The Government's own attempts to evaluate all health services via a series of 'performance indicators' encountered great difficulty when addressing provision for people with mental handicaps. The Government's working group stated that;

"the shared understanding about the nature of performance does not exist in mental handicap. Without such a shared understanding it is not possible to have performance indicators."

(DHSS 1983)

Without official guidance, the different professional groups within mental handicap services have sought to develop their own standards of care and notions of what constitutes high quality. It is impossible to provide a critique of all of these methods here. However, some general points may be made.

Firstly, the directory compiled by Raynes illustrates how little empirical work has been carried out in producing the various methods of measurement. Even the most widely used method of evaluation, the Program Analysis of Service Systems, or PASS (Wolfensberger and Glenn 1975), explicitly requires the evaluator to use his or her subjective judgement about a service according to how it conforms to the philosophy of normalisation (Wolfensberger 1983). Normalisation itself is a concept which supposedly forms the basis of modern services, yet has never been empirically justified and has been the subject of growing doubt and criticism recently (Szivos and Griffiths 1988, 1989).

Secondly, some of the methods of evaluation, as pointed out by Hughson and Brown (1989), have been developed as a result of media attention or political pressure and have often been utilised on a short-term basis only in order to prove that matters are now better than they were. These authors go on to point out that some of the more serious questions related to mental handicap services

necessitate an examination of the longer term effects of the 'new' services.

Thirdly, and importantly, many instruments developed to measure quality seem to ignore the very basis of the service, namely, to ensure a positive outcome for the client in terms of quality of life. The impact of services on the person with a mental handicap can very much be life-defining. Whereas the person entering a hospital for surgery, for example, will recognise and accept the interruption in his/her lifestyle and its consequent inconvenience, the person with a mental handicap has comparatively limited capacities to control his/her life. In this sense, the two issues of quality of life and quality of care become interwoven.

The traditional response to this issue has been for services to concentrate their evaluation according to the more 'structural' aspects of care. Alaszewski (1978), for instance, criticises the pre-occupation with service 'inputs'. In his research he was able to demonstrate how staff ratios, the physical size and appearance of buildings made little difference to any therapeutic benefit accrued by residents in a mental handicap hospital. Similarly, Repp and Barton (1980) investigated differences between residences for people with mental handicaps which had been licensed and those which had not by the United States Joint Commission of the



Accreditation of Hospitals. The Commission lays down standards of care, amongst which are regulations insisting that staff produce written objectives for residents. As Repp and Barton discovered, however, this provided no guarantee that residents could be observed to be actively engaged in teaching activities. Furthermore,

"results showed that the licensed units were just as derelict as unlicensed units in providing active habilitative programming for their retarded residents."

Studies such as these have major implications for professionals, administrators and, ultimately, for those who fund mental handicap services. The recent National Health Service and Community Care Act (1990) pronounced that Social Service Departments would have to establish an inspectorate to evaluate the quality of care in community residences. Furthermore, the aim of the Act is also to introduce a "mixed economy" of care whereby services may be purchased on behalf of an individual by a care manager. In some ways this might seem an excellent quality control mechanism: if the services being offered to clients is not of the required standard to meet the needs of the individual, then the provider is forced to change in ways that meet those needs in a better way. Care managers, it is envisaged, will be able to 'shop around' for better services. In practice, it is debatable

whether this will happen precisely as planned. Firstly, as mentioned previously, it is not always known what constitutes a good quality service which means that care managers and other purchasers will not always be able to communicate to providers exactly what is needed. Secondly, even though needs may easily be identified in certain areas, they may not be as easy to meet because of the limits on expenditure set by government. Far from a mixed economy of care we might, at best, develop a different economy of care or, at worst, end up with an even more inflexible system than we have at present. The temptation will remain to evaluate services in more easily identifiable and quantifiable ways.

From the point of view of service planners, responsible for committing large sums of public money, global measures of the service's performance are extremely attractive. Whether they are reliable and valid measures is open to question. Their reliability must be questioned in terms of health care where individuals and their circumstances differ widely. Whereas the vocabulary of industry and commerce have been imported into the health care arena, hospitals and clinics most definitely are not factories, nor does the client behave in similar ways to the materials that factory workers handle each day. Most systems designed for use in the commercial world are concerned with consistency or 'sameness'. For example, can we produce the same cars for less money ?

Health care is vastly different. As Ashbaugh (1991) comments,

"it is difficult to think of human services where the central objective does not involve helping a client to change his or her situation and where this change is not...contingent on the client's particular situation and potential for change."  
(pp 119-120)

The main debate in quality assurance in health care, then, is not whether performance monitoring should take place, but how to make such measurement meaningful at an individual level so that each person's circumstances and the context in which this care is delivered can be taken into account.

## CHAPTER TWO

### GOAL ATTAINMENT SCALING

#### The background to Goal Attainment Scaling

From the discussion in the previous chapter, the impression may be gained that there exists a certain amount of tension between those who manage services and those professionals who work within them. In 1968, Thomas Kiresuk and Robert Sherman, both senior staff at the Hennepin County Mental Health Centre, Minneapolis, devised a technique called Goal Attainment Scaling which, they proposed, would reconcile the needs of the two groups mentioned above. Their method was first described in the Community Mental Health Journal (Kiresuk and Sherman 1968) and much attention has been paid to this technique by administrators and professionals alike since this time. The Programme Evaluation Resource Centre in Minneapolis subsequently became responsible for disseminating information about the technique and a scientific journal was also originated for the purposes of reporting research into the use of Goal Attainment Scaling. Lloyd (1983) reported that over two hundred references existed up until the year of her paper and Seaberg and Gillespie (1977) also reported that the American National Institute of Mental Health funded research projects into the use of Goal Attainment Scaling between 1970 and 1975 to the value of \$ 1,429,168.00. The resource centre in Minneapolis has now closed, though papers continue to be published on the use of Goal

Attainment Scaling. It is a technique which appears to have been used mainly in the United States, with few published papers in this country. It is also a technique which has been adapted for use in a variety of settings: for example with disturbed children (Holroyd and Goldenberg 1978), psychiatric inpatients (Guy and Moore 1982), people with mental handicaps (Bailey and Simeonson 1988) and neurologically handicapped children (Maloney et al 1978). This list is by no means exhaustive and a more comprehensive guide can be found in the review by Cytrynbaum et al (1979).

#### Methodology

Kiresuk and Sherman wished to devise a technique which would allow for meaningful comparison between services or aspects of services. At the same time, Goal Attainment Scaling would permit outcomes for individual clients to be compared, irrespective of their problems. The authors also wished to set this evaluation technique within a research framework in order to provide the most objective measurement possible. To achieve these aims, Kiresuk and Sherman laid down strict criteria for the use of Goal Attainment Scaling. In terms of their own setting, mental health, these guidelines were as follows;

- 1) after referral to the service, a goal selector or goal selection committee considers the client's circumstances, presenting problems, previous history

and other relevant information.

- 2) following this, realistic and achievable goals are selected for the individual based on his particular circumstances. A scale for each goal is then constructed ranging from least to most favourable outcome. The original example given by the authors is included here and shown in figure 2. As defined by the authors, "at least two points on the scale should have sufficiently precise and objective descriptions to enable an unfamiliar observer to determine whether the patient lies above or below that point." Each point on the scale is given a standard numerical value which is '-2' for the least favourable and '+2' for the most favourable outcome. The outcome considered to be most likely is given the value '0'. It can be seen from figure 2 that it is not always necessary for five outcomes to be defined for each goal. In certain cases this may be impossible or irrelevant.
- 3) following the selection and scaling of goals, each goal is assigned a series of weights. The weights assigned are a reflection of their respective importance. The weights may be given values such as 1,2,3 and so on, or they can be assigned values of 10,20,30 etc.
- 4) once the goals and weights have been agreed, the client is randomly assigned to a particular treatment programme or therapist. Kiresuk and

**Figure 2:** Example of Goal Attainment Scale (Kiresuk and Sherman 1968)

Goal Weights Outcome Value	G O A L S				
	Fear of Sex Involvement  20	Dependency on Mother  30	Decision- making  20	Social Functioning  30	MMPI - 78
Most unfavourable treatment outcome thought likely (- 2)	Avoidant No dating No sex	Lives at home Does nothing without mother's approval	No new decisions made, still weighing same alternatives (job, vocation)	Institutionalized prison or hospital	Up at all over previous score
Less than expected success with treatment (- 1)			Complains of being unable to make up mind	On probation Further arrests	Remains in double prime range
Expected level of treatment success (0)	Dating	Chooses own friends, activities without checking with mother	Makes up mind on vocation, other major items	On probation No further arrests for peeping	Mid 60's T-score
More than expected success with treatment (1)	Some satisfactory intercourse	Returns to school		No contact with police, states peeping no longer problem	
Best anticipated treatment success (2)	Regular dating Regular satisfactory intercourse Marriage	Establishes own way of life Chooses when to consult mother			40-60 T-score

Sherman do not explicitly state that the therapist should be aware of the goals already decided upon. However, in their original paper, they state that it is their belief that the therapist should be free to chose his/her own goals without reference to those chosen by the selection committee.

- 5) the treatment must then be administered. After a pre-determined interval (one year in the original paper) a "follow-up" unit contacts the client and reviews any progress made. This unit is independent of both the treatment team and the goal selection process. The follow-up provides the opportunity for recommendations to be made for future treatment but, more importantly in this case, allows the client's position to be determined according to the goal attainment scales.
- 6) once the outcome for each of the patient's goals has been identified, a 'T' score is calculated using the following formula;

$$T = 50 + \frac{(10 \sum W_i X_i)}{\sqrt{(1 - r) \sum W_i^2 + r (\sum W_i)^2}}$$

$W_i$  represents the weighting given to particular goals.

$X_i$  represents the outcome score for each behaviour i.e. a value between -2 and +2.

The value of  $r$  reflects the estimated average



intercorrelation for the outcome scores. Kiresuk and Sherman argue that an  $r$  value of .30 can be safely assumed and used as a constant in the formula. The  $T$  value is a standardised score with a mean of 50 and a standard deviation of 10. Therefore, a 'perfect' goal attainment score (i.e. one whose outcome on the scale is 0) is 50. A score of less than 50 would mean that the client's outcome was less than expected. A score of over 50 would indicate that the client's outcome was better than expected. A worked example using the information supplied in table 1. is given below.

$$T = \sqrt{\frac{50 + (10 \times 7)}{(.70 \times 30) + (.30 \times 100)}}$$

$$T = \sqrt{\frac{50 + 70}{51}}$$

$$T = 50 + 9.80$$

$$T = 59.80$$

GOAL	Wi	Xi	WiXi	Wi
A	4	0	0	16
B	3	+2	+6	9
C	2	+1	+2	4
D	1	-1	-1	1
	<hr/>		<hr/>	<hr/>
$\Sigma$	10		7	30

Table 1. Table showing goal attainment results for hypothetical client.

It is important to note that goal attainment scores can be calculated for single clients or groups of clients, thus enabling comparisons to be made between therapists, wards or entire services.

#### Critique of Goal Attainment Scaling

It is difficult to appraise the use of Goal Attainment Scaling with any success since few studies have used the 'classic' methodology described above. In the major review of Goal Attainment Scaling carried out by Cytrynbaum et al (1977) only five out of ninety-one published papers had adhered to Kiresuk and Sherman's original design. The review concluded that Goal Attainment Scaling is, perhaps, more of an ideology than a technique. This comment echoed the previous view put forward by one of the main proponents of the technique who stated that,

"Goal Attainment Scaling is much more of an approach than it is a technique or a test or a particular form or group of questions...Goal Attainment Scaling is a series of ways of looking at and handling some typical situations that would arise within human service settings." (Garwick 1974a. p 15.)

The many and significant variations on the original methodology will be discussed later. The following is a critique of Kiresuk and Sherman's initial idea.

Any measurement used for evaluation purposes must conform to basic notions of reliability and validity. The question of the validity of Goal Attainment Scaling is perplexing. The majority of studies carried out to address issues of validity have concentrated on the concurrent validity of the technique. Investigators have correlated goal attainment outcome scores with changes in widely used measures of treatment outcome such as the Minnesota Mutiphasic Personality Inventory. In one such study, Mauger et al (1974) found the correlation to be non-significant. Client's own ratings of the effectiveness of treatment were also found not to correlate with goal attainment scores by Lefkowitz (1974) although a similar study by Smith (1975) discovered a significant correlation on consumer satisfaction scores. A well constructed study by Willer and Miller (1976) found a significant positive correlation between client

goal attainment scores and client satisfaction but failed to find a similar relationship between therapist goal attainment ratings and the same client satisfaction measure. The conclusion from this is that the studies provide conflicting evidence for the concurrent validity of Goal Attainment Scaling assuming, of course, that one accepts the validity of consumer satisfaction rating scales themselves.

Other studies in this area have also attempted to use independent behavioural ratings by teachers, parents and clinicians (Garwick 1974b. Weinstein and Ricks 1977). Results here again provide conflicting evidence for the validity of Goal Attainment Scaling. The proponents of Goal Attainment Scaling have responded to criticism in this area by suggesting that, since Goal Attainment Scaling is an individualised method of establishing treatment goals, then it would be highly unusual if standard rating scales did correlate with goal attainment scores. In one sense this argument seems valid, as the authors' original reason for devising Goal Attainment Scaling was that there existed few, if any, measures that would be sensitive enough to allow for comparison across treatments, therapists or services. On the other hand, it might be expected that goal attainment scores would have some association with other measures, particularly those based on independent behavioural ratings.

Studies addressing the content validity of Goal Attainment Scaling are extremely rare. Sherman (1974) defends the content validity of his technique by stating that,

"content validity is validity established by the fact that the measure in question is composed of a random sample of behaviours (or 'items'), the totality of which is the entity we represent to measure." (p. 81)

The studies that have examined content validity have similarly concentrated on the appropriateness of goals chosen for particular groups of clients. In asking other experienced clinicians to rate goals according to their 'reasonability', 'relevance' or 'completeness', Garwick and Lampman (1972) and Lampman et al (1977) conclude that agreement was high.

By far the most perplexing issue arises from examining the construct validity of Goal Attainment Scaling. Defending the technique, Garwick (1974c) argues that the construct being examined is 'outcome' or 'attainment of expectations'. This is a somewhat vague comment that poses as many questions as it seeks to answer. The construct validity of Goal Attainment Scaling may be better understood by considering the basic questions asked during service evaluation, namely,

on-going evaluations, as part of a quality assurance initiative, or where it would be impossible or unethical to manipulate treatments, a further method is required which will seek to answer the third question posed earlier, namely, has the service brought about the necessary change in the client ?

Goal Attainment Scaling is a measurement system that would fall into this category. Goal attainment systems, in general, need not compare results with baseline scores. It is more useful, here, to judge effectiveness by measuring the end result against predetermined goals for the service. This, in itself, raises questions. Firstly, who decides what these goals will be ? Secondly, how will it be known if the outcome is significant ?

In many areas of health care goals have already been established by research. For example, inoculation against polio considerably reduces the risk of contracting the illness, stopping smoking reduces the risk of developing lung cancer and taking paracetamol will reduce the sensation of headache in the majority of cases. In other areas of health care, matters are not so straightforward. As Stanley (1984) reminds us, selecting goals in the field of psychiatry, care of the elderly and mental handicap is a more hazardous process. This is partly due to a lack of research to determine consistent outcomes,

but also because the philosophy of care has changed. How, then, may goals be decided upon and who is the best judge ?

In constructing their argument for Goal Attainment Scaling, Kiresuk and Sherman pose similar questions in the area of psychiatry. The use of global rating scales, they argue, might be appropriate for assessment purposes, but provide little clue as to what goals to set for each client. Measuring the effectiveness of a service on such dimensions is also meaningless if they do not take into account the unique nature of the person's problems. Furthermore, because no standard rating scale exists, comparison between services is futile. Kiresuk and Sherman decided that experienced clinicians would be in the best position to set goals for clients. In this way, their approach is similar to the concepts of social validity (Wolf 1978) and social evaluation (Kazdin and Matson 1984). Social validity essentially considers the social context in which treatment takes place. In areas that are highly subjective, for instance quality of life, it would be possible to construct socially valid criteria for its measurement. These may be arrived at, for example, by considering what the general public considered to be a good quality of life. If this investigation was carried out in an empirical fashion, then it would also be possible to judge under what

circumstances and to what extent someone was enjoying a good quality of life.

By using experienced clinicians, the acceptability of the focus of and purpose of treatment is being established by socially valid criteria. However, it might be satisfactory to determine what objectives should be set for individuals, but at what point can it be determined that the person has changed enough and that the service has accomplished its task ?

Traditionally, statistical tests of significance have been used to indicate that sufficient change has taken place. More recently, the value of such tests has been questioned and the notion of clinical significance has become more prominent (Jacobsen 1988). Essentially, the use of statistical tests relies on the comparison of group means and takes little account of the variability of treatments. Furthermore, the notion of statistical significance reinforces the false impression that a person may be seen as 'well' or 'not well' or 'improved' or 'not improved'. In reality, as Kendall and Norton-Ford (1982) point out, change cannot be seen as a dichotomous concept and it is far better to conceive of a range of outcomes in treatment. In terms of Goal Attainment Scaling, statistical tests cannot be applied as it is an individualised measure and, more importantly, does not



compare a person's outcome score to one obtained at baseline. Instead, this technique requires a range of possible outcomes to be selected by socially valid criteria and the T test is used to give some indication of the extent to which the expected outcome has been attained.

To summarise, the essential concept, or construct, underlying Goal Attainment Scaling as a service evaluation measure is to provide as close an indication as possible of the extent to which the care given to individuals attains the expectations of the service given the unique nature of that person's circumstances and the context in which care takes place. It is not an indicator of client progress or improvement, since the current levels of functioning need not appear on the scales. This is an important aspect of the measure, since in certain areas of health care, progress or improvement may not be the anticipated outcome. For example, there may be many instances in which the efforts of staff will be directed at maintaining a client at one level of functioning in order that there will be no deterioration. Using Goal Attainment Scaling would allow such staff to adjust their expectations and subsequently receive recognition for their work.

Modifications to the original technique

The adoption of any innovation is never an all-or-nothing process. It is inevitable that new techniques will be adapted and changed. There is nothing inherently wrong with this, as long as those who alter procedures and techniques can provide valid reasons for doing so and state these explicitly.

Goal Attainment Scaling is a technique that has been the subject of many adaptations. Advocates of the technique have usually welcomed the variations that have been devised and Smith (1981) argues that Goal Attainment Scaling was always intended to be a flexible evaluation tool.

Most of the variations on the original idea are discussed below but it is worth pointing out initially that an extensive criticism of these changes is difficult to accomplish given the nature of how they have been described in the literature. Many papers report adaptations that have been made and evaluated as part of a 'one-off' study. Under these circumstances it is hard to judge their overall success as a service evaluation instrument and how these changes have been received by those services.

A brief telephone survey carried out by Calsyn, Tornatzky and Dittmar (1977) investigated the use of Goal

Attainment Scaling. Seventy-one users of the technique responded to their survey. Thirty-one reported that they had discontinued its use. Seven of these said it had been used only for a single evaluation and only six reported that they had replaced Goal Attainment Scaling with a superior method. The remaining eighteen previous users commented that administrative problems had forced them to discontinue their evaluations. The precise reasons for this are not given but included financial and time constraints and also the fact that key personnel familiar with the technique had left the service.

From all of those surveyed, the authors questioned the respondents about the purposes to which Goal Attainment Scaling had been put. Only sixteen of the seventy-one users reported that the technique had been used exclusively for service evaluation purposes. Twenty-eight said the technique had been used for the benefits of service evaluation and treatment. In fact, a further nineteen users said Goal Attainment Scaling was used solely for therapeutic purposes. The remaining eight users could not be classified in either category. Of the forty-four respondents using the technique for evaluation, sixteen evaluated both the outcome of treatments and the skills of the therapists, twenty-four evaluated only the treatment outcome and four used the technique for therapist only evaluation.

Whilst this survey is interesting from the point of view that Goal Attainment Scaling has been modified, it is not clear precisely whether the adaptations have improved or compromised the original idea. For example, little mention is made of for how long the various services have been using the technique and to what extent staff feel that this method of evaluation is superior to others.

From other reported studies, it is apparent that the random assignment of clients to different treatment programmes has been abandoned. In one sense this weakens the technique as an objective measurement. In other words, any differences in outcomes for individuals or groups could now be attributed to the initial characteristics of the clients or an interaction of other variables that have little or nothing to do with the intervention. These differences could be controlled for, as others have suggested (Calsyn and Davidson 1978), by taking some form of measurement of group characteristics, but there is no evidence from most studies that this has been carried out.

In other studies, further requirements of the original design have been abandoned. A disturbing trend is that which questions the value of using independent follow-up raters (Maloney et al 1984). This is disappointing, since an element of bias is automatically introduced into the technique.

A further threat to the internal validity of Goal Attainment Scaling is the involvement of others in the goal selection process. For therapists wishing a favourable evaluation, there may be a temptation, should they be exclusively responsible for setting goals, for easily attainable targets to be set. This potential danger has been compensated for in many studies, however, by involving as many people as possible in the goal setting process, for example parents, the client him/herself and other professionals involved in treatment. In this situation, the result would appear to be that more realistic goals are established (Jones and Garwick 1973). This is encouraging, since the involvement of others in treatment and service planning has long been recognised as having many benefits (Porterfield, Evans and Blunden 1984).

Whereas this departure might be seen as positive, other trends away from Kiresuk and Sherman's original idea may not be so. The authors originally thought that their technique would provide objective measurements based on truly individualised goals. The task of the goal setters is clearly to take into account the individual's circumstances and the context in which care is being given. Whereas using standard ratings for assessment purposes might be acceptable, there has been a temptation to use such tools as a means of defining scales for each person. For example, Maloney et al (1984) used Goal

Attainment Scaling to evaluate treatment outcome for a group of neurologically handicapped children. Each child's goals were determined by establishing baseline scores on five areas compiled from two developmental checklists. The goal setters then utilised the parameters set out within these checklists to determine scales for each child. Although this eventually provided individual goals for each child, they cannot be said to be individualised, since a standard assessment tool was used to determine them.

It has previously been demonstrated that this approach may be acceptable in certain circumstances. For example, Guy and Moore (1982) describe the use of Goal Attainment Scaling with groups of schizophrenic clients. Scales were constructed with reference to a rating scale which had been devised following the authors' extensive experience of individualised goal setting in this area. This process is similar to that of 'core' planning which is to be distinguished from 'care' planning because of the way in which it makes use of standard plans of care, irrespective of individual circumstances. Core planning has been developed successfully in the general nursing area where, under certain conditions, research would suggest that care planning can become more efficient (Wright 1987). However, it would be wise to proceed with caution in adopting such an approach in every instance.

An interesting departure from the original use of the technique has been using Goal Attainment Scaling to evaluate therapists themselves. Conceptually, Goal Attainment Scaling is not a measure of client progress but a measure of the extent to which expected outcome has been achieved. In this sense, important information is fed back to the therapist concerning their own abilities at predicting outcome and conducting therapy. Holroyd and Goldenberg (1978) describe the use of Goal Attainment Scaling with disturbed children. Their study highlighted, in quantifiable terms using the T score, to what extent therapists under or over estimated outcomes for their clients in common areas, for example maladaptive behaviour and skill acquisition. This would be useful in the field of mental handicap where expectations of clients' abilities and potential for change has traditionally been very low.

Continuing the trend away from a purely service evaluation technique, considerable interest has been expressed in the literature in the use of Goal Attainment Scaling for therapeutic purposes. Many studies have demonstrated that clients who have treatment goals established in objective, measurable terms, have shown greater improvement than clients who have not (La Ferriere and Calsyn 1978). This study also showed that clients who had been involved in goal setting showed greater motivation for change than those who had not.

Similarly, Galano (1977) compared four levels of client participation in goal setting and also concluded that the greater the involvement from clients, the more effective treatment seemed to be.

#### The potential of Goal Attainment Scaling

However interesting these studies appear to be, they may only demonstrate that goal setting is better than no goal setting. It would be significant if research could demonstrate the superiority of Goal Attainment Scaling over other goal setting methods. In an attempt to answer this question, Weinstein and Ricks (1977) examined the influence of Goal Attainment Scaling on the extent to which goals were more specific and more relevant to the individual's problems than other techniques. This well controlled study indicated advantages for clinicians trained in Goal Attainment Scaling methodology.

Despite the amount of money and the extent of research carried out on the technique, this brief review shows that Goal Attainment Scaling has yet to receive widespread adoption as a service evaluation technique. From the literature, the reasons for this may be inferred to be as follows.

Firstly, the correct use of Goal Attainment Scaling may place huge administrative burdens on services. The technique requires an intake committee of considerable



expertise to establish goals for each client within the service who would, in the light of their task, be carrying out few other duties apart from this. Secondly, an independent follow-up team would need to be employed whose sole task would be to contact clients following treatment. Added to this would be the consequent administrative support. It could be argued that any service seriously committed to the use of Goal Attainment Scaling would make the necessary financial adjustments to accomodate the change although this is rarely the case in practice. It may be no coincidence that the two aspects of the original methodology that are consistently omitted in the reported application of the technique have been the use of an intake committee and a follow-up team.

For any evaluation technique to be universally accepted, it must answer the types of questions that are most frequently asked of the service. As previously shown, in recent times these questions will vary depending on whether the consumer, the administrator or the funder of the service is posing them. However, the overriding concern will be with the impact the service is having on the clients (Datta and Perloff 1979). Goal Attainment Scaling provides some measure of outcome but it is outcome based on the expectations of clinicians given the context of care in which they practice. For consumers and funders of the service, this may not be sufficient or may not justify the amount of resources that would need to be

committed to the technique. As one review of Goal Attainment Scaling summarised;

"'goals attained may not be a satisfactory criterion of success for most publicly funded programmes which are accountable to public officials as well as to clients and service providers. Most funding sources will want outcome data on specific criteria." (Calsyn and Davidson 1978)

Currently, many 'embarassing' questions are being asked of professionals concerning their role and the issue of accountability is becoming more prominent. It might be imagined, therefore, that others would want greater control over the clinicians' decision making process rather than an evaluation technique based on outcome criteria defined by the professionals alone. Whether this situation is good or bad, there is mounting pressure on professionals to produce results which are more easily understood by those for whom they provide services and those for whom they work. This situation not only applies to health care but to other aspects of public services, hence the recent debates emphasising standards of performance in the three 'Rs' in our schools.

Furthermore, doubts still remain regarding the reliability and validity of Goal Attainment Scaling that would be sufficient to deter services from adopting the

technique and committing resources to it. It may not be sufficient, as some have argued, that the technique should be accepted because it is at least as robust a measure as any other (Garwick 1974b).

As far as future research is concerned, it would perhaps be better to continue the trend away from developing Goal Attainment Scaling as a service evaluation technique and explore its value as a clinical evaluation method. From previously cited studies, there is evidence to suggest that the quality of care may be improved using the technique and that goal attainment scores might provide a valuable source of feedback to staff. This would further conform to the essential nature of quality assurance within service systems, that being to identify means of **improving** as well as **preserving** the quality of what is offered to clients. As mentioned above, there may have been an over reliance on the measurement of the more structural aspects of care and an almost slavish adherence to the **process** of quality assurance. Goal Attainment Scaling may not be able to answer all of the questions concerning the effectiveness and efficiency of services. Should it be able to make a contribution to the improvement of care for clients, then further investment of effort into its development is warranted.

### CHAPTER THREE

#### GOAL ATTAINMENT SCALING AND THE DELIVERY OF NURSING CARE

##### The potential for mental handicap nursing

The previous chapter has shown how Goal Attainment Scaling may be considered to have several advantages as a clinical evaluation technique. These advantages may be summarised as follows.

Firstly, Goal Attainment Scaling is a flexible evaluation tool. It can be used with a variety of client groups within a range of health care settings. Its methodology, with certain exceptions discussed earlier, is also capable of being adapted. This is a feature of the technique which contrasts sharply with other evaluation methods that are usually designed for use in specific areas (Kiresuk and Sherman 1968).

Secondly, Goal Attainment Scaling would appear to complement rather than compromise the manner in which clinicians make decisions concerning care for their clients. Any professional must firstly be able to draw upon a body of knowledge as a basis for his or her practice. This knowledge must, however, be adapted to the particular individual for whom he is caring and be set within the context in which the care is taking place. In this way, a plan of care which is unique for that

individual will be devised and outcomes for that care will be predicted. The methodology outlined by Kiresuk and Sherman shadows this process and also requires the expected outcomes to be explicitly stated and to be capable of independent validation. This introduces the important aspect of accountability to the professional's role. Holroyd and Goldenberg (1978) comment that, whereas professionals have traditionally resisted attempts by others to formally appraise or evaluate their work, Goal Attainment Scaling could possibly be perceived by them to be less threatening because of the clear link between its methodology and their own process of clinical decision making.

A third important advantage of Goal Attainment Scaling is its potential to enhance the status of emerging health care professions, particularly nursing. Nursing is rapidly developing its identity as an independent profession (Salvage 1990) and no longer sees its role as a passive one, undertaking tasks delegated by doctors. Nurses are now seen as a more proactive and problem solving workforce within the health care system. To compliment this rise in status, nurses have developed a system called the nursing process (Kratz 1979) which introduced the practice of making nursing assessments, planning a regimen of care, implementing such care and evaluating its outcome.

The literature on the nursing process is extensive and a useful paper by De La Cuesta (1983) charts its main developments. Conceptually, the nursing process is no different to decision making models used by other professional groups (Henderson 1982) but its significance lies in the emphasis on nursing being an autonomous health care discipline. Since the adoption of the nursing process, however, nurses have been criticised for its somewhat ritualistic application (Manthey 1980) and the apparent neglect of nurses to link evaluation to every stage of the process (Waters 1986). Critics point out that nurses frequently reach the evaluation stage of the process and have little or no means of demonstrating the extent to which the client has progressed or even the extent to which nursing intervention has been useful. Part of this problem is certainly attributable to the emerging, but not yet substantial, body of nursing research knowledge upon which to base any planned intervention. Nurse decision making, however, does not draw solely on such a knowledge base. Woods and Catanzaro (1988) describe other sources of knowledge as being aesthetic, personal and ethical. Without elaborating upon these, such components could be described as the more intuitive aspects of care. As suggested in the previous chapter, Goal Attainment Scaling could greatly assist nursing in strengthening its scientific **approach** in the absence of a large body of existing research knowledge.

This could be a considerable advantage in branches of nursing where the empirical basis of care is comparatively sparse, for example mental handicap and psychiatric nursing. Partly due to the lack of research knowledge, greater emphasis is placed on multidisciplinary teamwork to take decisions concerning the best form of care. Although teamwork has sometimes been criticised as providing an inferior service to clients (Noon 1988), this has largely been because of poor co-ordination of the different professions (Oswin 1984). With its emphasis on the prediction and measurement of outcome, Goal Attainment Scaling could be a useful vehicle for unifying the efforts of the team members. What would be significant for nursing staff is that they would be in the best position to co-ordinate the goal attainment process. In the fields of mental handicap and psychiatry nurses have long been recognised as having a crucial impact upon the personal growth of their clients (Milne 1986). Unfortunately, this recognition has rarely been converted into actual practice. The main reason for this has been suggested as one of nursing staff not possessing a means of exercising this responsibility (Milne 1985). If nursing staff became skilled in the use of Goal Attainment Scaling, this could enhance their status as well as providing a better service for their clients and carers. In short, if any profession should be trained in the use of the Goal

Attainment Scaling methodology, it should be nursing staff.

#### Barriers to adopting Goal Attainment Scaling

Three potential barriers exist to realising this eventuality which could be described as professional, technical and organisational. Firstly, mental handicap nurses in particular have faced considerable pressures over the past three decades both from within and outwith their own profession. Reports have both recommended the demise of mental handicap nurse training (DHSS 1979) and its maintenance (DHSS 1991). Despite evidence to the contrary (Lahiff 1990), the stereotype still exists of the mental handicap nurse as someone who performs relatively low level skills in an institutional environment. The implicit criticisms of nursing staff following the hospital inquiries referred to in Chapter One could suggest to some that they are an unlikely workforce to deliver services in line with the philosophy of an ordinary life. Furthermore, the new arrangements for community care (DHSS 1990) require explicit statements from Health and Local Authorities as to what are the health and social needs of the population for whom they are responsible. In some people's view, mental handicap nurses provide little in the way of specialist health care, thus reducing their contribution to future services to the extent of caring for a minority of the population who have severely challenging behaviour or multiple handicaps. Whereas this might provide nurses



with some sort of role in future services, this option is very much seen as a "cul-de-sac" (Brown 1991) which would deny nursing staff the opportunity to realise their full potential. Others prefer a more pro-active future for nurses (Sines 1990) which would see them contracting their skills to others to provide a range of social and health care services. Coupled with this vision is the need for nurses to take on a more executive function and develop specialities in quality assurance, care management and the co-ordination of the activities of other professions (RCN/Society of Mental Handicap Nursing 1991). In order to achieve this objective, skills in techniques such as Goal Attainment Scaling would affirm their value to others.

From a technical viewpoint, evidence would suggest that training professionals in the use of Goal Attainment Scaling has not proved as easy as first imagined (Choate et al 1981). It was anticipated, for example, that experienced clinicians were already in the habit of setting clear, measurable objectives and that Goal Attainment Scaling would very much be seen as a minor addition to this process. Choate and his colleagues found that this was far from the case and consequently used Goal Attainment Scaling as the sole method of teaching general goal setting ability. Further evidence concerning nursing's attempts to introduce a more individualised and systematic approach to care could cast doubt on the

wisdom of giving staff the responsibility for implementing and co-ordinating the process of Goal Attainment Scaling. An evaluation of nursing activity in acute settings (RCN 1980) revealed alarming evidence about standards of care. The report concluded that,

"there was no evidence of anyone in charge of and managing the nursing. There was little evidence of skilled nursing practice, no supervision or teaching of unskilled nurses. No-one appeared knowledgeable about, or responsible for, individual patients. There was no evidence of any assessment of patients' needs, of any planning or co-ordination of work or review of work that had been done."

To describe this as a report that would fail to inspire confidence in nurses' abilities would be an understatement. Similarly, the conclusions of a project aimed at introducing the nursing process in a general hospital (Gooch 1982) pronounced it a failure despite the good intentions and willpower of staff. In psychiatry and mental handicap settings, similar doubts are expressed about nurses' ability to formulate treatment goals (Heffrin and Hunter 1975a. 1975b) or even commence the process of care due to a lack of knowledge of assessments (Beaill and Cook 1987).

Elsewhere, evidence exists to demonstrate the value of training staff in the use of goal planning techniques. For example, Sturmev et al (1988), Montgomery et al (1988) and Martin and Ticktum (1987) are all examples of how a more individualised and systematic approach to care have been introduced at relatively little cost and disruption into mental handicap settings. Similarly, comparable papers regularly appear on the nursing process concerning other types of setting (Chiarella 1985).

If any conclusions are to be drawn from such evidence it would seem to be that, as far as nurses are concerned, the difficulties in adopting innovations seem not to be so much a problem of competence but of performance. If nursing staff were to be trained in the use of Goal Attainment Scaling, careful attention would need to be paid to the organisational aspects of the environments in which nurses practice. Examples are given below of organisational changes that have been made in several areas to bring about improvements in the quality of life for people with mental handicaps. Such evidence needs to be examined carefully if Goal Attainment Scaling is to have any chance of being adopted successfully.

#### Overcoming the obstacles

##### **a) The scale of the problem**

Health care settings are complex environments. Whatever the good intentions of would-be change agents, simplistic

solutions to complex problems are rarely going to be of any use. As far as mental handicap services are concerned, despite the initial success of behavioural interventions in the 1960s and the subsequent enthusiasm for the philosophy of normalisation, real progress in enhancing the quality of life for clients has been difficult to achieve (Emerson 1985). Whereas the deinstitutionalisation movement may have benefitted some clients (Bell 1976. MacEacheron 1983), those with more complex needs do not appear to continue to make gains upon leaving hospitals as was first anticipated (Pedlar 1990. Intagliata et al 1986). Intervention designed to meet the needs of clients with challenging behaviour, for example, has traditionally relied upon individualised programmes of behaviour change. Gradually, however, it has become apparent that this approach alone may be insufficient to bring about lasting change in people's lives and attention has moved to the design of more elaborate systems which include changing several aspects of the person's life at one time. Such initiatives may include altering staff habits and routines or changing the physical environment in some way. Unfortunately, it seems that such initiatives have been susceptible to the identical problems of maintenance and generalisation. As Partridge et al (1985) comment, recent literature is full of " 'it would have worked...but' " types of projects. Such projects have continued to reveal additional

variables that were not taken into account fully when designing studies.

The realisation that 'quick fix' solutions do not generally produce the desired result has led to enquiries into obtaining an even more 'ecological' view of organisations in order to further clarify important variables that affect the quality of care. An ecological perspective (Willems 1974) seeks to examine the system-like relationship between individuals, their behaviour and the environment in a much broader context than before. An extensive, but by no means exhaustive, list of relevant factors that affect quality of life and quality of care has been described by Meinhold and Mullick (1990). These authors list the following major obstacles to the personal growth of clients in care organisations;

- staff absenteeism
- staff turnover
- low levels of skilled staff
- staff attitudes
- institutional regulations
- size of the living environment
- quality of the physical environment

Such a list is daunting in its implications and attempts at change have rarely sought to act on every aspect of

the service at once. The list may roughly be divided into aspects of staff behaviour and the physical environment and the following briefly gives examples of initiatives taken already in this area. It may be important to consider these in order to maximise the effectiveness of any training undertaken in Goal Attainment Scaling.

**b) The use of integration**

A major initiative in this country over the past two decades has followed examples from abroad in aiming to reverse the segregationalist policies which have been thought to inhibit the quality of life of people with mental handicaps. The observations of investigators such as Goffman (1961) and other sociological studies have outlined specific problems faced by residents within institutions. Social policy since the 1970s has been aimed at creating new patterns of care in community settings coupled with implied assumption that hospitals will contract in size and eventually close. The deinstitutionalisation movement, as Bachrach (1981) observes, is essentially ideologically rather than empirically driven and is "dedicated to the dignity of individuals". There is little inherently wrong in this approach but it has been discovered that the simple physical relocation of people in the community has not brought about the anticipated benefits in terms of improved quality of life (Landesman-Dwyer 1981). Experiments in the relocation of clients to smaller, more

homely dwellings, may bring about initial improvements, but it would appear that this trend cannot be maintained. Saxby (1988) and McConkey et al (1982), for example, demonstrated that new opportunities may be presented to individuals to participate more in the life of the community but these benefits must be viewed in context. The study by Cheseldine and Jeffree (1981) examined the use of leisure time by people with mental handicaps and found that much of this was spent in solitary activities. More recent studies (Causby and York 1991) continue to show that friendships and meaningful contact with non-handicapped people are difficult to achieve. For some groups of clients, especially those with challenging behaviour, there are considerable risks of readmission to hospital (Intagliata and Willer 1982). This is a rather disappointing scenario but it should not deflect the efforts of services to continue to examine other means of enhancing the lifestyles of people with mental handicaps.

#### c) Changing attitudes

Altering the personal qualities of direct care staff and how they are trained and organised is a further major initiative that has been taken in order to bring about better services to clients. Possession of the right attitude is frequently cited as being a major factor in determining the quality of care delivered to clients, especially since the change in philosophy from segregated to more integrated services. Many service evaluation

systems have attempted to include some measurement of staffs' values and beliefs (Chamberlain and Bradbury 1990). One of the immediate problems of such an approach is that of definition, namely that no satisfactory explanation exists as to what might constitute the right attitude. In the opinion of many, a person's attitude might be construed as positive if it is in line with the principles of normalisation as outlined by Wolfensberger (1983). The aim of this philosophy is that staff should seek to maintain and develop valued social roles for their clients in a way that is humane. Research has often attempted to demonstrate that low levels of interaction between staff and clients could be directly attributable to the beliefs of staff. Grant and Moores (1976), for example, categorised staff as being either "optimistic" or "pessimistic" about their clients and they achieved some success in showing that those who were pessimistic about the potential of their clients spent less time in meaningful activity with them. The authors of such studies have found their views echoed by statements in official reports. The Jay Committee (DHSS 1979) severely criticised nursing staff attitudes and suggested that hospitals were poor environments due to the impoverished beliefs and values of the staff. Whereas some truth might be found in this, more recent studies (Lahiff 1990) have shown nursing staff to be overwhelmingly in favour of normalisation principles. If this is the case, then why are services still criticised ? The answer must surely be



that, whereas beliefs may have altered the planning processes for services this has been insufficient, in itself, to bring about lasting benefits to the clients themselves.

#### d) Staffing

Further attempts to change the lifestyle of clients by changing the behaviour of staff have been made by paying increasing attention to staff ratios. The effects of overcrowding on behaviour such as aggression has already been demonstrated elsewhere (Hutt and Vaizey 1966) and large living areas conjure up images of an overworked staff performing basic care tasks only with little time for training activities and more informal contact with clients. A frequently proposed hypothesis is that which supposes that an increase in staff:client ratio will bring about improvements in learning and quality of life for those in care. Studies have concentrated on improving staff ratios in two ways. One method is to reduce the numbers of clients whilst keeping staff numbers constant. The other method involves increasing the number of staff. Many studies may be used to provide conclusions in this area but the one conducted by Harris, Veit and Chinsky (1974) is the one most frequently cited. This study manipulated ratios by adding staff to an institutional unit caring for children and compared the effects of this upon quality of interaction with subsequently reducing resident numbers. Adding staff to the unit did not

significantly effect the quality of interaction although the average amount of staff-initiated contact increased. Reducing numbers of residents did, however, positively affect the quality of contact between staff and residents. In this country, Felce, Mansell and Kushlick (1980) demonstrated that the addition of staff did not result in a proportional increase in interaction and the study conducted by Mansell et al (1982) showed once again that staff spend a diminishing amount of time interacting with clients proportional to the amount of staff added to a situation. It may be concluded from this that improvements can be made in the quality of interaction by manipulating staff ratios. However, the issue may be further complicated by other research to suggest that it may not be the addition of the staff member or the reduction in client numbers that is important. Le Laurin and Risley (1972) showed that improvements in interaction can be brought about by allocating staff to specific tasks rather than specific individuals. In other words, it is the extent to which the staff member's role is specified in a unit that is important.

#### Effective staff management

All of this has been described to demonstrate that simple manipulations have little chance of success. An ecological analysis might be useful in identifying aspects of an organisation that needs to be changed but it cannot, in itself, identify the ways in which these

changes may be brought about. We know, for example, that the nursing process or even Goal Attainment Scaling have potential benefits but staff need a greater incentive to introduce such innovations into their work other than the fact that they, too, believe that they are a good idea. As Cullen et al (1983) succinctly conclude,

"the problem of persuading direct care staff to change the way they interact with residents from present patterns to care more in line with that specified by the nursing process...is this: why should they ?"

If staff behaviour is going to change, these staff must be given the correct framework in which to practice new patterns of care. As Reid and Schepis (1986) point out, previous interest in staff training as a means of changing staff behaviour has now been superseded by an interest in the wider issues of effective staff management. This subject has recently been addressed by the emerging technology of organisational behaviour management. Organisational behaviour management seeks to alter the manner in which staff apply previously acquired skills. The essential features of this approach are described by Reid and Shoemaker (1984) as including,

- a) a focus on specific work behaviour of staff
- b) a systematic means of monitoring work behaviour

c) methods of reinforcing desirable work performance

Organisational behaviour management now has a substantial body of literature to demonstrate its effects and comprehensive reviews have been carried out by Prue et al (1978), Reid and Whitman (1983) and Egleston (1986). Essentially, the approach adopts a behavioural orientation to staff management. As in the use of behavioural methods with individual clients, the studies carried out may be divided into the following categories;

antecedent procedures

consequence procedures

self-management or participative procedures

multi-faceted procedures

Antecedent procedures are concerned with manipulating conditions prior to certain staff behaviours in order to increase the probability of such behaviours occurring. Shoemaker and Reid (1980), for example, provided staff with clearly laid out instructions and explanations concerning a procedure on absenteeism. Fielding et al (1971) carried out some early investigations describing the effects of providing staff with explicit written instructions concerning their roles. Moving away from written instructions, Gladstone et al (1977) used modelling techniques to demonstrate to direct care staff how to improve the self-care behaviours of children with

mental handicaps. Although these studies achieved moderate amounts of success, the effectiveness of antecedent procedures alone has generally been found to be weak. In a less empirical fashion, organisations already utilise antecedent procedures in the form of job descriptions, written policies and verbal directives from managers. In general, such devices may be described as ineffective, partly because of their inability to give precise instructions to staff but also because the consequences of performing certain tasks are equally vague.

Because of this, greater interest has been paid in the literature to procedures which manipulate the consequences of staff behaviour. Consequences, of course, can be either positive or negative. The use of negative procedures alone to reduce undesirable behaviour is comparatively rare. However, Repp and Deitz (1979) successfully improved the administrative behaviours of staff by removing staff from their posts as a consequence of inadequate performance. The most popular approach in this area is using positive consequences as a means of improving desirable work behaviour. The main issue here has been not whether such procedures have the desirable effect but how practical they are to implement on a wide scale due to the cost involved. For instance, Iwata et al (1976) improved staff care practices by using a lottery scheme as a means of rewarding appropriate behaviour.

This scheme may be too expensive a means of staff management for many services. A recent survey by Green and Reid (1991) demonstrated that many facilities in the United States for people with mental handicaps already claim to use positive approaches to staff management. The comprehensive list of methods produced by this survey illustrate that the most frequently used reinforcements may be described as the most inexpensive. Written feedback was the most popular method followed by some form of formal recognition such as being named "employee of the month". When asked to rate how effective managers believed the various options to be, however, feedback was only felt to be moderately effective. Time off and monetary incentives were rated as the most effective but such procedures were infrequently used because of the costs involved to the service.

Partly because of this issue, some interest has been shown in the use of self-management to improve or maintain staff performance. By self-management, this means asking staff to monitor their own performance (Burg et al 1979) or monitor and evaluate their behaviour (Kissel et al (1983)). A more complex study in this area was carried out by Burgio et al (1983) to increase levels of interaction between care staff and clients with mental handicaps. In this study, staff not only recorded their own behaviour but participated in setting goals for their

own performance and reinforced this performance themselves following self-evaluation.

By far the most effective means of staff management is that using a multi-faceted approach. These approaches are more comprehensive in that they combine antecedent and consequence techniques. Ivancic et al (1981), for example, describe an experiment designed to increase language training activities for children with profound mental handicaps. Firstly instructional sessions were given to staff in how they might increase utterances in the children. Secondly, prompts were delivered in the form of written instructions posted within the facility as well as verbal prompts and modelling delivered by trainers. Thirdly, feedback was supplied consisting of verbal praise and publicly posted results. The study resulted in increases in verbal interaction as well as demonstrating that this was achieved with no disruption to existing routines and at relatively little cost. These multi-faceted approaches may be seen as the most effective in achieving the aim of altering staff behaviour patterns. A model of the principle components of such an approach is shown in figure 3.

To summarise, if Goal Attainment Scaling is to be used within mental handicap services, it would be advantageous to use a staff management approach similar to that outlined above. This would necessitate paying careful

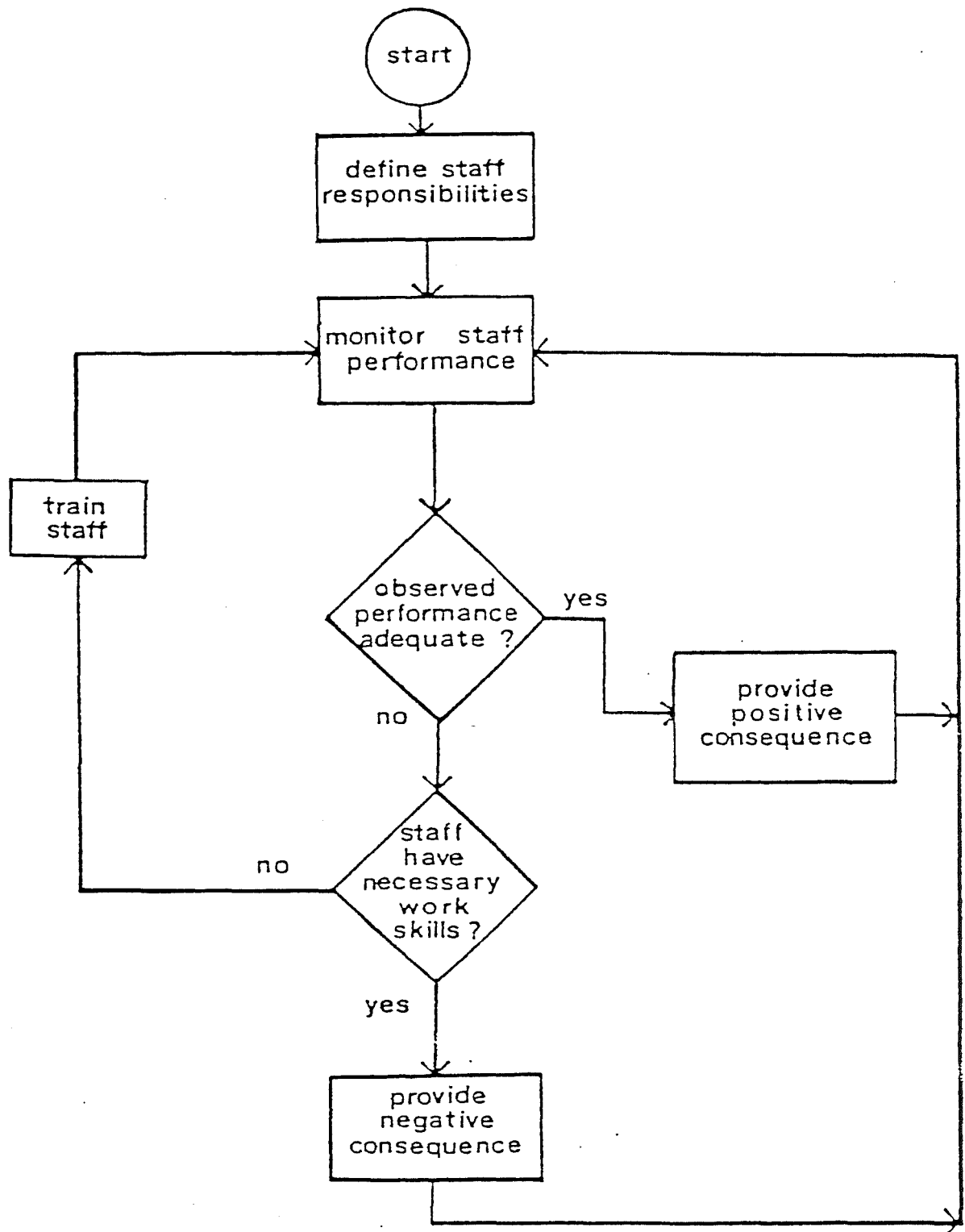


Figure 3. Model of staff management process  
(Reid et al 1989)



attention to the antecedents and consequences of staff  
behaviour within a particular setting

CHAPTER FOUR  
AN EXPERIMENT TO INTRODUCE GOAL ATTAINMENT SCALING  
WITHIN A MENTAL HANDICAP HOSPITAL SETTING

Introduction

The previous section has detailed the main advantages of Goal Attainment Scaling and the need to take a comprehensive staff management approach rather than merely using staff training to introduce Goal Attainment Scaling as a technique into health service settings. It has been demonstrated how the technique may have advantages in a variety of settings but in mental handicap services in particular.

Although the terminology and language used by services to describe their aims may differ, the general aims of services for people with mental handicaps may be seen as the increased independence and personal growth of the client. This aim is usually achieved, on a day-to-day basis, through written plans of action detailing training and teaching activities. In some countries, such written objectives have become a legal requirement (State of Victoria 1986). Similarly, in the United States, official bodies such as the Accreditation Council for Facilities for the Mentally Retarded ( 1971) and the U.S. Department of Health, Education and Welfare (1974) establish regulations concerning training programmes. In the United

Kingdom such regulations do not exist, although recent legislation (DHSS 1990) mandates an assessment of an individual's needs. It is generally left to health authorities to specify the requirements for planning care through policies.

It is not apparent to what extent legislation contributes to the quality of services. As reported earlier, Repp and Barton (1980) discovered the levels of interaction in accredited facilities to be generally as poor as those in non-accredited residences in the United States. It could be the case, as Holburn (1990) suggests, that the over-zealous use of rules and regulations has resulted in staff paying greater attention to their accountability requirements than to the actual quality of life experienced by their clients.

#### Services for people with challenging behaviour

For one group of people with mental handicaps it has been extremely difficult to provide high quality services. Such people are those who may display inappropriate behaviour which may be difficult to control or dangerous to themselves or others. Consequently, this group have been euphemistically referred to as having 'challenging behaviour' (Emerson et al. 1987) to describe the task that is presented to services. Strict definitions of challenging behaviour do not exist. The extent to which a person's behaviour may be described as challenging relies

upon the interaction of several factors which include the behaviour itself and the ability of the environment to "absorb" (Leudar and Fraser 1987) this behaviour. Because of this, estimating precise numbers of clients who would fall into this group is hazardous. Jacobsen (1982), for example, proposed that up to thirty-five per cent of people with severe mental handicaps exhibit problem behaviour. The survey conducted by Kushlick and Cox (1967) considered that, within a total population of 100,000, between ten and twenty adults display severely challenging behaviour.

Whatever the estimate of numbers may be, it is clear that this group expose fundamental deficiencies in mental handicap services. The subjective impression gained by many is that services often respond to such individuals by attempting to refer the 'problem' on to increasingly custodial forms of care (see Cameron et al 1984).

Research tends to confirm this impression: studies by Sutter et al (1980) and subsequently by Intagliata and Willer (1982) showed that challenging behaviour is the main reason for readmitting clients to hospital facilities following discharge into the community.

Even when admission to hospital is resisted, it should not be assumed that services are coping adequately. A survey by Oliver et al (1987) showed that only two per cent of the 596 cases of self-injury they had identified

had any form of written psychological treatment programme. Furthermore, comparisons of care staff behaviour towards people with challenging behaviour in hospitals and the community (Intagliata et al 1986) showed that staff possessed little idea of how to manage and treat challenging behaviour appropriately.

Despite this somewhat pessimistic scenario, examples of good practice can be found both in institutional settings (Marshall et al 1983. Slama and Bannerman 1983) and in the community (see Allen et al 1991). From these accounts, however, it is interesting to note that their success is reported to be derived from good staff management procedures, irrespective of the fact that the settings differ in their physical appearance and location. The central issue, here, is that services should not continue to repeat mistakes as they strive to support clients in less institutional surroundings. As far as people with challenging behaviour are concerned, Emerson et al (1987) point out that

"(the) failure to serve people whose behaviour presents a challenge has far-reaching consequences, not only for the people themselves...but also for the future of community based services."

The setting for the study

It was decided that the present study should be concerned with clients who have challenging behaviour. More specifically, the aims of the study were;

- a) to examine the effect upon care practice of training staff in the use of Goal Attainment Scaling
- b) to investigate the utility of Goal Attainment Scaling as a means of providing feedback to staff concerning their goal setting practice
- c) to examine the utility of Goal Attainment Scaling as a clinical evaluation technique

The study took place within a hospital providing a service for approximately three hundred clients. At the time of the study plans were being implemented to discharge between thirty and fifty residents per year into staffed homes in the community which were to be organised and staffed by the Local Authority Social Services Department.

The areas chosen for the study were three wards providing a home for people with severe mental handicap and challenging behaviour. The precise numbers of residents and staff at the commencement of the research are shown in table 2. Night staff are excluded from the figures as they were not specifically allocated to a ward. In

addition, student nurses are also excluded because of the temporary nature of their work on wards.

	RESIDENTS	PERMANENT STAFF
WARD A	19	17
WARD B	20	14
WARD C	22	10
	<hr/>	<hr/>
	61	41

Table 2. The numbers of permanent staff and residents  
on the three wards involved in the study

Apart from nursing staff, each ward was also served by a domestic assistant and a housekeeper. The nursing staff reported to a nursing officer who, in turn, was responsible to a senior nursing officer. Throughout the time of the study the post of Director of Nursing Services for the hospital was kept vacant although the management of the hospital was overseen by the Hospital Manager. Clinical psychology support was provided to each ward consisting of a referral system for individual resident as well as training and developmental work carried out as required. This situation continued

throughout the course of the project. Medical support was provided to the ward via a consultant psychiatrist and a registrar.

## Method

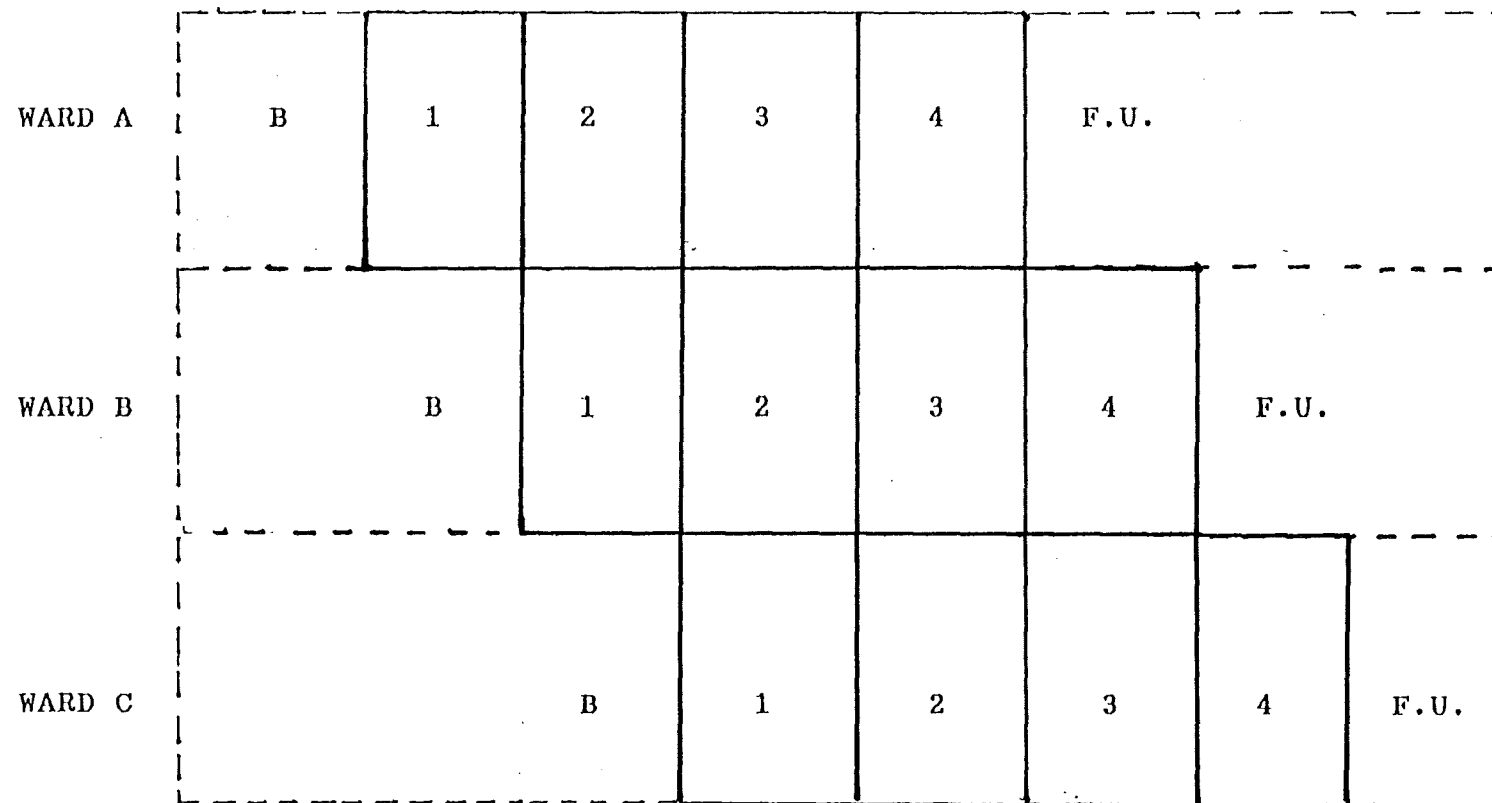
### **Study design**

This study employed a four stage intervention set within a multiple baseline design across wards (Johnston and Pennypacker 1980). The sequence of wards was chosen on a random basis and this is illustrated in figure 4.

Multiple baseline designs demonstrate the effectiveness of the intervention by showing that change is associated only with the introduction of the intervention at different points in time. This design was chosen for three reasons. Firstly, each ward was significantly different in terms of the numbers and gender of both residents and staff, the experience and ages of staff and the abilities and behaviour of residents. This excluded the use of a control group. Secondly, the intervention was designed to build up the skills of staff in a sequential manner and it was important that there should be no deterioration in the use of these skills. This therefore precluded the use of a reversal design.

Thirdly, it could be supposed that the mere presence on one of the wards of a researcher could have significantly altered the culture of the organisation so as to transfer effects to other wards prior to the intervention being





B = Baseline

1 = A Constructional Approach

2 = Goal Setting

3 = Behavioural Techniques

4 = Organisational Change

F.U. = Follow-up

Figure 4. Diagram showing multiple baseline design used within

the present study.

commenced. The multiple baseline design would indicate whether this effect had taken place. The first three stages of the intervention were teaching phases and the fourth stage introduced organisational changes similar to those procedures described in the previous section. All of these stages will be described in detail below. Firstly, however, it will be necessary to outline the specific manner in which the training was carried out.

It was planned to deliver the training over a thirty-six week period. The training would essentially serve two purposes. Firstly, new material would need to be assimilated. Secondly, and perhaps more importantly, the training would fulfill the purpose of exercising some degree of antecedent control over staff behaviour by specifying what tasks the staff were expected to perform in their workplace. The method of training would, therefore, need to be practical, relevant and specific to the workplace. Furthermore, the training would need to take into account the different academic abilities, experience and motivation of the members of staff on the three wards. To fulfill these diverse requirements, two different methods of training were planned. Initially, the first six weeks of each teaching phase were spent training staff using a workshop format. In practice, two consecutive days each week were chosen to hold a one and a half hour workshop and staff attended either workshop

as their duty rota permitted. During the second six week period of each phase, it was planned that individual sessions lasting approximately one hour would be held with each member of staff. During these sessions, staff would have the opportunity of learning in what ways the subject matter introduced during workshops could have a practical value in their workplace. It was anticipated that there would be some degree of turnover on the wards during the course of the training. It was planned that new staff to the ward would receive an intensive updating as much as this was possible. The issue of turnover became a significant issue over the course of the study and this will be discussed later. Although it was hoped that the training format would take into account the diversity of staff characteristics, an additional device was used to emphasise this aspect of training. This is described briefly below.

#### **The use of contract learning**

Whereas the training carried out in the study was part of a larger research project, it must also be seen as a major initiative in continuing education. Traditionally, continuing education has been regarded as a luxury rather than a necessity with the consequence that its delivery has been fragmented and the individual member of staff often feels unsupported by the organisation (Keyzer 1980). The aim of any form of education must be to personalise the instruction to the extent that the

individual characteristics of the learner are taken into account. This is, perhaps, even more important in continuing education. One means of supporting and personalising continuing education is by using individual learning contracts. A learning contract is a formal document drawn up between the learner and tutor which specifies what the person will learn, how this will be accomplished, within what period of time and what the criteria for evaluation will be. Learning contracts have been in use in some form since the beginning of this century (De Tornay and Thompson 1987). However, it was Knowles (1975) who first investigated their use in adult education. This development may be seen as a continuation of the efforts of education to move away from a didactic approach to learning to one in which the learner is given more responsibility for his own education. This "redistribution of power" (Keyzer 1986) has been discovered to have positive effects in terms of motivation to learn, particularly in the area of continuing nurse education (Martens 1981). Its particular advantage in terms of the present study is that learning contracts have been shown to clarify nurse's expectations by specifying learning outcomes (Reinhart 1977).

The mechanism for establishing and operating a contract learning system are described in detail in De Tornay and Thompson (1987). Using these guidelines, the following describes how contract learning was operationalised in

the present study. It was decided to use two contracts for each of the three training phases of the project, one for the workshop stage and one for the individualised component. Prior to the training commencing on each ward, all staff were given a half hour presentation on contract learning. The next step was to meet with each member of staff on the relevant ward to negotiate a contract for the six workshops. An immediate problem was presented at this early stage, namely, that learning contracts are supposed to specify **individualised** learning objectives. Many learning contracts allow objectives to be negotiated as well as study methods to be customised to suit individual needs. These details had already been established for the workshops. However, individual choice was permitted by using a system of 'weights' which allowed staff to prioritise outcomes for the evaluation stage of the contract as well as choosing the actual means of evaluation. An example of a learning contract from the workshop stage of phase one is shown in figure 5. with the individualised component indicated in bold characters.

During the individual instruction stages, it was easier to use learning contracts to their fullest extent. An example of such a contract is shown in figure 6. Any staff joining the ward in the middle of a phase were excluded from the learning contract system for organisational reasons.

# INDIVIDUAL LEARNING CONTRACT

Name of Trainee: \_\_\_\_\_ Grade: \_\_\_\_\_ Signed: \_\_\_\_\_ (Trainee).

Ward: \_\_\_\_\_ Contract Number: \_\_\_\_\_ Signed: \_\_\_\_\_ (Trainer).

Date: \_\_\_\_\_

Learning Objective	Resources	Strategy/Activity	Means of Evaluation	Criteria
To understand the role of the nurse in relation to people with mental handicaps and to identify skills and other factors necessary to bring about positive practice.	6 x 1½ hour workshops. Written handouts. Personal communication from tutor.	Attend workshops. 60 Participate in workshop exercises. 60 Complete written exercises. 60	Self evaluation and discussion with tutor.  Allocation of scores to learning strategies.	Half marks for each learning strategy.
				Date of Review _____
				Outcome _____

The Trainer Will Contract to Provide Resources and Arrange Learning Activities as Outlined Above.

Figure 5. Example of learning contract from workshop stage of phase one.

# INDIVIDUAL LEARNING CONTRACT

Name of Trainee: \_\_\_\_\_ Grade: \_\_\_\_\_ Signed: \_\_\_\_\_ (Trainee).

Ward: \_\_\_\_\_ Contract Number: \_\_\_\_\_ Signed: \_\_\_\_\_ (Trainer).

Date: \_\_\_\_\_

Learning Objective	Resources	Strategy/Activity	Means of Evaluation	Criteria
1. To identify one area of conflict on the ward and list possible reasons. 2. Construct a plan of action to rectify conflict. 3. Examine and evaluate current state of communication between night and day staff. 4. Prepare solutions to improve communication.	1. Personal communication with ward staff. 2. Interview with Nursing Officer. 3. Written text.	1. Construct questionnaire for staff. 2. Read 'Human Relationship Skills' by Nelson Jones. 3. Prepare brief notes on book. 4. Discuss plans with colleagues. 5. Interview night and day staff. 6. Write 2,000 word report.	Self evaluation and assessment of report by tutor.	Completion of report in draft form within 6 weeks at least.        Date of Review _____ Outcome _____ _____ _____

The Trainer Will Contract to Provide Resources and Arrange Learning Activities as Outlined Above.

Figure 6. Example of learning contract from individualised stage of phase one.

### **The content of training**

The content of the workshop sessions was carefully constructed to be as relevant and as practical as possible. These sessions are now described along with a brief rationale for their inclusion in the training. A list of workshop titles is shown in figure 7.

Although the purpose of the training phases was to pass on knowledge and skills in goal setting to staff, this cannot adequately be achieved without a component to determine the value base for the exercise. Planning care for clients is essentially an ethical issue as it involves choices which will affect the well-being of the client (Marks-Maran 1988). It would be of little use, for example, teaching goal setting techniques if the staff possessed a custodial attitude towards people with mental handicap. For this reason, phase one of the training was primarily concerned with establishing this value base. Staff were asked to examine the concept of normalisation (Wolfensberger 1983) and to list ways in which these principles could be operationalised within their ward setting. Exercises outlined in the 'Lifestyles' training package (Brown 1985) were extensively used during this session.

As the clients cared for by this staff group had varying degrees of challenging behaviour, it was essential to examine the concept of challenging behaviour itself and



PHASE 1    A VALUES BASED APPROACH

Normalisation

The Constructional Approach

The Role of the Nurse

Communication

Working Relationships & Teamwork

Managing Change

PHASE TWO    GOAL SETTING

Goal Attainment Scaling - Outline

Assessment

Prioritising Goals

Goal Attainment Scaling - Constructing Scales

Effective Teaching

Evaluation

PHASE THREE - BEHAVIOURAL TECHNIQUES

How people learn

Observing Behaviour

Gentle Teaching

Positive Techniques

Negative Techniques

Ethics

Figure 7.    List of workshop titles carried out in each training phase.

also to outline a general orientation to people labelled as such. Staff were therefore asked to consider the "constructional approach" to behaviour modification, first described by Goldiamond (1974), which now forms the central theme of intervention in the area of challenging behaviour (see Blunden and Allen 1987). Essentially, the constructional approach encourages staff to concentrate on building behavioural repertoires in clients to replace inappropriate behaviour rather than aim to eliminate such actions. This approach, therefore, is not composed of a single set of techniques but provides a framework in which staff should work.

To prepare staff for their tasks later in the training, it was important that they should view their role as one of an educator or facilitator rather than one which provides basic or custodial care. A session on this theme was therefore included.

The remaining three sessions in this phase further concentrated on introducing concepts that would become increasingly relevant as the study proceeded. It was necessary for staff to examine their means of communication with each other and their clients and to reflect on their own teamwork.

Phase two of the training began by outlining the principles of Goal Attainment Scaling and encouraging

staff to compare their current methods of delivering care with that of a more systematic approach. Workshops concentrated on the four main elements of a systematic approach. At the outset of this phase, staff were asked to select three clients on their ward with whom to carry out the necessary stages of such an approach. A vital component of this phase was to introduce staff to a framework or system within which to practice. Goal Attainment Scaling itself is a systematic approach to care but it was felt necessary to operationalise in greater detail the mechanism by which staff would arrive at their decisions in a ward situation. This point was stressed in one of the few papers dealing exclusively with training in Goal Attainment Scaling (Choate et al 1981). Vital components of this modification included designating which staff would be responsible for which stage of the process and also what written forms of communication would be used. This is an aspect of goal planning which is often omitted during training and failure to address the practical implications may be one of the reasons why a systematic approach is often rejected by staff as being impractical (Kirwin 1980). To assist in this process, aspects of the Bereweeke Skill Teaching System (Mansell et al 1986) were selected. In a recent review of goal planning systems by Sturmey (1990), the Bereweeke system ranked high on measures of readability and interest and was generally considered to be 'user friendly'. In setting Goal Attainment Scaling

within aspects of this system, a model was presented to staff which is shown in figure 8. This system also succeeded in reducing paperwork to a minimum.

Although staff were encouraged to use their goal planning skills to identify and teach behaviours within the context of a constructional approach, it was considered necessary to introduce the staff to procedures that have been designed specifically for use with their client group. Consequently, phase three of the training instructed staff in the practice of behavioural methods. Staff were introduced to the principles of operant conditioning (Skinner 1953) and were trained in the use of procedures outlined principally in Kazdin (1975) and Yule and Carr (1987). In addition, it was thought appropriate to briefly cover recent developments in the area of challenging behaviour. Therefore, a session examining gentle teaching (McGee et al 1987) was included. Gentle teaching itself has yet to establish itself as a technique in its own right (Turnbull 1990) but the ethical debate it engenders was regarded as an important addition to the training.

As in phase two, staff were asked to identify three clients at the beginning of this phase for whom this aspect of the training was considered applicable. Staff were also instructed to use the same model of goal

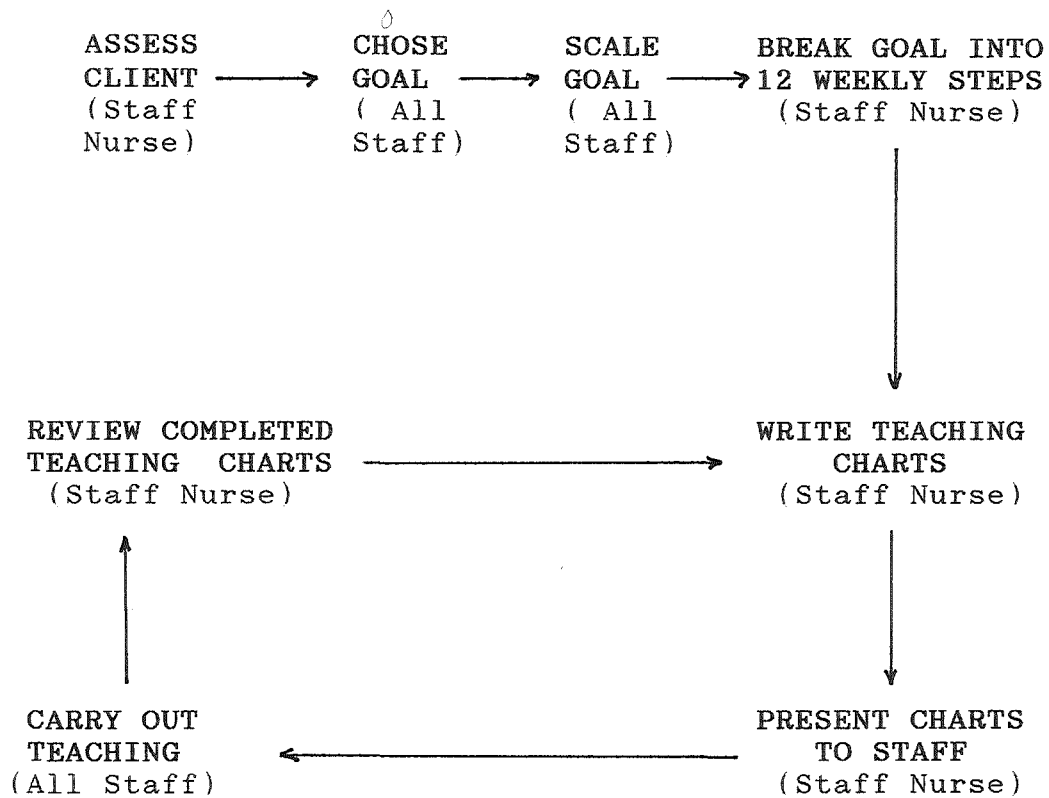


Figure 8. Model of goal planning system used during the study (adapted from Mansell et al 1986)

setting to carry out their objectives. This included the scaling of goals.

Details of the individual component of training carried out in the six weeks following each workshop stage are too extensive to list here. However, it may be said that all of the subject areas covered in the workshops were reinforced during these sessions and staff were shown practical methods of implementing many of the issues introduced previously. It should also be pointed out, here, that all workshop sessions were anonymously evaluated by participants and this information is given in appendix 1.

#### **Organisational changes**

Throughout the training, although staff were encouraged to implement the material covered, there was no compulsion to do so. However, as part of the aims of the study, organisational changes were introduced during phase four which, it was hoped, would provide the necessary incentives for staff to utilise Goal Attainment Scaling on their wards. As the previous section concluded, staff behaviour should be monitored regularly and consequences provided for such behaviour. Previous research (Reid et al 1989) has suggested a variety of items or procedures that can be used to positively consequate staff behaviour. An essential point made by

researchers in this area is that any devices chosen should,

- a) be desirable by staff.
- b) be ethically acceptable.
- c) be cost-effective

The first issue is basic to any reinforcement procedure. No-one will be motivated by something they do not regard as rewarding. This may prove difficult in any large scale reinforcement procedure in selecting rewards that would be acceptable to a large number of people at the same time. The second issue is important in that any staff should be rewarded for behaviour that is primarily in the interests of the client. The third issue is a question of weighing the gains to an organisation of any reinforcement procedure against the cost involved. Returning to the first issue, it does not necessarily follow that expensive rewards will be those that are the most acceptable to staff.

Phase four was therefore planned with these issues in mind and the following was deemed to be the most acceptable method. Firstly, weekly meetings were established between the researcher, the nursing officer and staff representatives on each ward. The purpose of the first meeting was to negotiate a set of objectives for the forthcoming week for the staff team to achieve. These objectives related only to material that had been covered during the training and included tasks related to

the assessment of individuals, plans regarding care and evidence that care had been carried out and evaluated. An example of the objectives set for one ward for the twelve week period of phase four is shown in figure 9.

Subsequent meetings evaluated progress towards these weekly targets and set new objectives for the coming week. There were two main reasons for evaluating the ward objectives in this manner. Firstly, this system would provide a means of monitoring and evaluating staff performance. Secondly, it was hoped that the system would provide an example, or 'model', for the hospital management in how staff performance could be monitored and reinforced. The reinforcement schedule was established as follows. If objectives had been attained, a monetary donation of one pound was made to ward funds on behalf of each member of staff working for at least three shifts on the ward in the previous week. In addition, it was arranged that letters of recognition be sent to all staff by an ascending hierarchy of hospital management for every third target achieved. This hierarchy consisted of,

- the nursing officer for the ward
- the senior nursing officer
- the director of nursing for the priority care unit
- the chief nursing officer
- the chairman of the health board



# PHASE FOUR OBJECTIVES - WARD A

<u>Week No.</u>	<u>Client No.</u>							
	Skills Teaching					Behavioural		
	1	2	3	4	5	1	2	3
1.	A	C						
2.	P	A	C					
3.	I	P	A					
4.	I	I	P					
5.	I	I	I			C		
6.	I	I	I			A	C	
7.	I	I	I			A	A	C
8.	I	I	I	C		P	A	A
9.	I	I	I	A	C	I	P	A
10.	I	I	I	P	A	I	I	P
11.	I	I	I	I	P	I	I	I
12.	I	I	I	I	I	I	I	I

KEY: C = Consider client for intervention  
A = Assess client  
P = Plan intervention  
I = Implement plan

Figure 9. Outline of objectives set for ward A

Following completion of phase four, it was also arranged that staff should be invited to a reception to receive certificates of completion of training. The above officers were also invited together with local press representatives.

Following phase four, the weekly meetings were cancelled and the ward entered the follow-up period.

### Measures

In a large scale study such as this, it was considered best to include as wide a variety of measures of staff and client behaviour as possible. Consequently, the following measures were used.

### **Challenging behaviour**

One of the principle objectives of the study was to measure the effectiveness of such a staff management procedure upon the incidence of challenging behaviour. With a comparatively large number of clients on each ward, detailed descriptions of incidents would have been time consuming. It was therefore decided to use a sampling measure which would obtain data on the number of incidents only. Initial discussions with staff concluded that there seemed to be a 'core' of particular types of behaviour which were seen as problematic. This was formally tested prior to baseline by arranging for ward staff to complete Part Two of the Adaptive Behaviour

Scale (Nihira et al 1975) for each resident. Analysis of the results revealed six areas of behaviour that were the most frequently performed and these were operationalised for recording by staff as follows;

- 1) Assault: hitting, kicking, punching, throwing objects, biting or any other physical contact intended to do harm to an individual.
- 2) Destruction to property: ripping clothing, breaking windows or other damage to the ward fabric. Pulling down curtains, pictures or other ornamental items.
- 3) Temper tantrums: unacceptable displays of anger which include a client throwing him/herself to the ground, shouting and screaming. Any action included in other categories which is associated with a strong emotional expression.
- 4) Inappropriate exposure of body: in the public areas of the ward in a state of semi or complete undress.
- 5) Anti-social conduct: spitting, screaming, shouting or items included above which may cause annoyance to others rather than harm.
- 6) Self-injury: deliberate striking of him/herself by the client.

Because of the reported high frequency of such behaviours it was considered more appropriate to take a sample of

such behaviours throughout the day. Initially, staff were asked to count the occurrence of any of the above between the hours of 7.00 a.m. and 7.00 p.m. each day. To assist the staff in collecting such large amounts of data, it was felt that some sort of portable counting device would be the most convenient method. A relatively inexpensive device, a golfer's score counter, was discovered to be an excellent means of counting incidents. The counter was six inches long and could be carried in a pocket. The counter was divided into eighteen sections, the first six of which were used by staff to match the six categories of behaviour to be recorded. Staff reported that counting, or 'clicking off' incidents in no way interfered with their normal duties. Staff were assigned groups of clients to observe to avoid duplication of recording. If their duties meant that some of these clients were unobservable at certain points during the day, this was considered acceptable, as the principle aim of the recording was to establish consistency of recording rather than absolute accuracy. At the end of each hour, staff were instructed to transfer their results to a master sheet in the ward office. At the end of the week, this sheet was collected by the researcher and a new one issued. Staff recorded the clients' behaviour in this manner for an eight week period. Considering the length of time that staff would need to collect these data and the relative stability of the data, it was considered only necessary to obtain this

information once every four weeks from this time onwards. Reliability for this measure was calculated by percentage agreement obtained by the researcher observing a group of clients simultaneously for one per cent of the total recording time. Results of this are presented in figure 10. In total, 7,840 hours of recording was obtaining throughout the course of the project.

#### Client Adaptive Behaviour

It was hypothesised that the staff training and management system introduced would lead to the acquisition by clients of further adaptive skills. To measure changes in this area, the Vineland Adaptive Behaviour Scale (Sparrow et al 1984) was used. Each client on the wards was assessed using this instrument by interviewing a member of staff who knew the client well. The Vineland interview edition is perhaps not the most sensitive instrument for clients who have severe mental handicaps. However, this point was considered a positive advantage as any significant changes brought about would be a strong indicator of the success of the study. Another practical reason for selecting this scale was that each individual assessment takes approximately fifteen minutes to complete, thus saving time. All clients were assessed once every three months during the study, thus yielding one assessment per phase.

Assault	92 %
Destruction to Property	91 %
Temper Tantrums	89 %
Exposing Body	95 %
Anti-social Conduct	83 %
Self-injury	96 %

Figure 10. Reliability figures for categories included in the challenging behaviour measure.

Functional Active Treatment	70 %
Non-functional Active Treatment	76 %
Engaged Behaviour	86 %
Self-care Activity	80 %
Receiving Care	98 %
Aggressive/disruptive Behaviour	96 %
Off task	91 %
Unobservable	99 %
Prompting/training	37 %
Neutral Interaction	68 %
Instruction/command	66 %
Negative Interaction	(none observed)
No Interaction	94 %

Figure 11. Reliability figures for categories included in resident interaction measure

Office Duties	94 %
Domestic Activity	94 %
Supervision	87 %
Personal Care	79 %
Training	100 %
Positive Interaction	88 %
Negative Interaction	(none observed)
Appropriate Behaviour	87 %
Inappropriate Behaviour	83 %
Neutral	88 %

Figure 12. Reliability figures for categories included in the Ward Activity measure.

It was considered unnecessary for reliability to be calculated for this measure as it is a well established instrument widely used in research studies.

#### **Client interaction**

A primary concern for anyone involved in the provision of services for people with mental handicaps is that clients should be actively engaged in interacting with their environment. As previously mentioned, much of the time spent by people with mental handicaps could be spent in more purposefull activity. It was therefore considered essential to measure any changes in the therapeutic quality of interaction between the client and his surroundings which would include members of staff. A hierarchy of behaviours was constructed, ranging from most to least therapeutic, based on a previous study by Parsons et al (1989) and is operationalised below;

- 1) Functional Active Treatment: a client being instructed in a new skill or assisted in maintaining an existing skill that the client would previously have had performed for him.  
e.g. feeding, dressing.
- 2) Non-functional Active Treatment: a client being instructed in a new task which the client would not need to perform independently. e.g.  
reciting a nursery rhyme.
- 3) Engaged Behaviour: the client is involved in an



activity by himself or with others which is purposeful e.g. listening to music, actively listening or gesturing to others.

- 4) Self-care Activity: a behaviour already acquired by the client which is essential to his basic care e.g. feeding, dressing.
- 5) Receiving Care: passively accepting assistance from someone in basic care activities e.g. being fed, dressed, receiving medication.
- 6) Aggressive or Disruptive Behaviour: any action causing harm to self or harm and annoyance to others e.g. hitting, biting.
- 7) Off Task: a behaviour that has the minimum amount of interaction with the environment and appears purposeless e.g. rocking, pacing, wandering.
- 8) Unobservable: occasions when the client is not able to be observed.

At the same time as recording the client's behaviour, it was considered appropriate to record aspects of the staffs' interaction, if any, with the client being observed. Firstly, the number of staff available to interact with the client was recorded. Availability to interact was defined as a member of staff being within twelve feet of the client and not involved in any interaction with another person. Secondly, categories of

staff behaviour were defined in a similar descending order of therapeutic benefit as follows;

- 1) Prompting/Training: a member of staff seeking to teach new skills or maintain existing ones to clients.
- 2) Neutral Interaction: a member of staff engaged in verbal exchanges with the client of a general or casual nature.
- 3) Instruction/Command: ordering a client to carry out something which cannot be included in the above two categories.
- 4) Negative Interaction: using abusive language or gestures towards a client or making derogatory comments about him.
- 5) No Interaction: no verbal exchange at all.

Interactions were recorded in "real time" by using a Psion II portable computer. Each behaviour category was allocated a key on the computer. Each time a person's behaviour changed, the observer pressed the appropriate key. Inside the computer is a timer which marks the precise second when behaviours alter. This information is able to be transferred to a personal computer for analysis. The recording of information in this way has considerable advantages over traditional observational methods (see Repp et al 1989). Not only is the means of collecting the information made more convenient but the

computer software programmes that can be applied to the data enable more complex analyses to be carried out.

Ten clients per ward were chosen at random and observed for fifteen minutes each every three months. Reliability for this measure was obtained using a percentage agreement between two observers for the amount of time spent engaged in each behaviour for a ten per cent sample. Results of this are given in figure 11. In total, fifty-five hours of observations were obtained using this measure.

#### Ward Activity

As well as concentrating on observing client's behaviour in real time, it was also considered necessary to obtain a profile of ward activity throughout the day. A measure was therefore devised which would primarily examine staff behaviour but also gather information on client activity as a comparison. Categories of staff activity chosen for this measure are described below;

- 1) Office Duties: a member of staff involved in administrative or clerical tasks e.g. writing reports, answering the telephone.
- 2) Domestic Activity: a member of staff involved in housekeeping tasks e.g. putting away laundry, mopping floors.
- 3) Supervision: a member of staff in the presence

of clients but not interacting verbally with them or involved in other tasks described in this schedule.

- 4) Training Clients: a member of staff involved in teaching new skills or maintaining existing skills with clients.
- 5) Positive Interaction: a member of staff engaged in verbal exchanges with clients of a general or casual nature.
- 6) Negative Interaction: a member of staff using abusive language to a client.

Clients' activities were operationalised as follows;

- 1) Appropriate Behaviour: activity which would be deemed adaptive under the circumstances.
- 2) Inappropriate Behaviour: activity which would be deemed maladaptive or is disruptive or harmful.
- 3) Neutral: activity which may be purposeful but is passive.

To measure this activity, the researcher paid hourly visits to each ward in turn, commencing at 7.30 a.m. and ceasing at 4.30 p.m. During these visits, the same route was taken through the ward. Each client and member of staff present was observed once for a period of two seconds and their behaviour coded. For reasons of

preserving the dignity of clients, private areas of the wards, for example toilets, were not visited unless doors had been left open, thus making them observable from the public areas. Reliability for this measure was obtained by percentage agreement between two observers on a fifteen per cent sample. Results for this are given in figure 12. In total, 660 separate observations of ward activity were obtained.

### **Staff Attitudes**

As previously mentioned, some would consider the attitudes of staff to play an important role in the delivery of high quality services. Whereas some evidence may exist for this hypothesis, it was decided to investigate whether the values component included in the training and the subsequent staff management system had any effect upon aspects of the staff's attitudes. A scale previously devised and validated by Cullen et al (1983) was considered particularly useful in this respect. A factor analysis carried out by the authors discovered two factors relating to staffs' expectations of the abilities of people with mental handicaps and feelings towards their employers. This scale contains forty-eight statements to which staff are asked to respond according to the scale shown in figure 13. The scoring system for this scale was adapted and is also shown below. This scoring method was adapted to give a greater indication of positive or negative attitudes. This measure was

administered once in each phase. It was felt more pertinent to label this measure as a 'Staff Opinion Survey' rather than an attitude questionnaire.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
-2	-1	0	+1	+2

Figure 13. Response categories for Staff Opinion Survey  
with alternative scoring system shown beneath

#### Goal Setting and Goal Attainment Scores

As this study was primarily concerned with introducing an empirical, goal orientated approach on the three wards, data were collected on the number and outcome scores of care objectives set by staff. It was originally conceived that goal attainment scores could be used as part of the staff management programme introduced in phase four. This could have been achieved by making reinforcement for staff contingent on goal attainment scores as close to the 'perfect' score of fifty as possible. Two factors conspired to preclude the use of scores in this way. Firstly, the goal setting ability of the staff was initially overestimated by the researcher. Although some staff had a theoretical knowledge of goal setting procedures, no ward, in fact, utilised an empirical approach with the result that no goals existed for any

client on the wards at baseline. In order to calculate a T score for an individual, multiple goals need to be set. After discussions with staff, it was considered too great an objective for them to begin to set more than one goal for each client at a time. This was unfortunate but probably resulted in staff gaining greater confidence as results shown later will point out. Instead of computing the T score, however, outcome scores for each client could still be used as a means of feedback for staff themselves. In this way, it would be useful to discover if the use of Goal Attainment Scaling would have the similar effect as in the study by Holroyd and Goldenberg (1978). These authors found that staff consistently underestimated the potential of their clients which was shown by initial scores of +2. It could be that consistent use of Goal Attainment Scaling over time might result in the technique being a valuable aid to clinical decision making by making the objectives set by staff become more realistic.

The second reason for removing the computation of the T score concerned the involvement of management in the fourth phase. It was hoped that the procedures utilised during the study could be used or modified by the hospital managers at the end of the research project. This would have necessitated a clear understanding by the managers of the content of the training. It quickly became obvious that managers were as equally unfamiliar

with the material as their staff. To expect managers to continue using Goal Attainment Scaling and to consequate staff behaviour, this would have necessitated someone to perform this procedure. Organisationally speaking, it proved impossible to fully instruct managers in this task, although some attempt was made to familiarise managers more fully with the material staff were being taught.

### Results

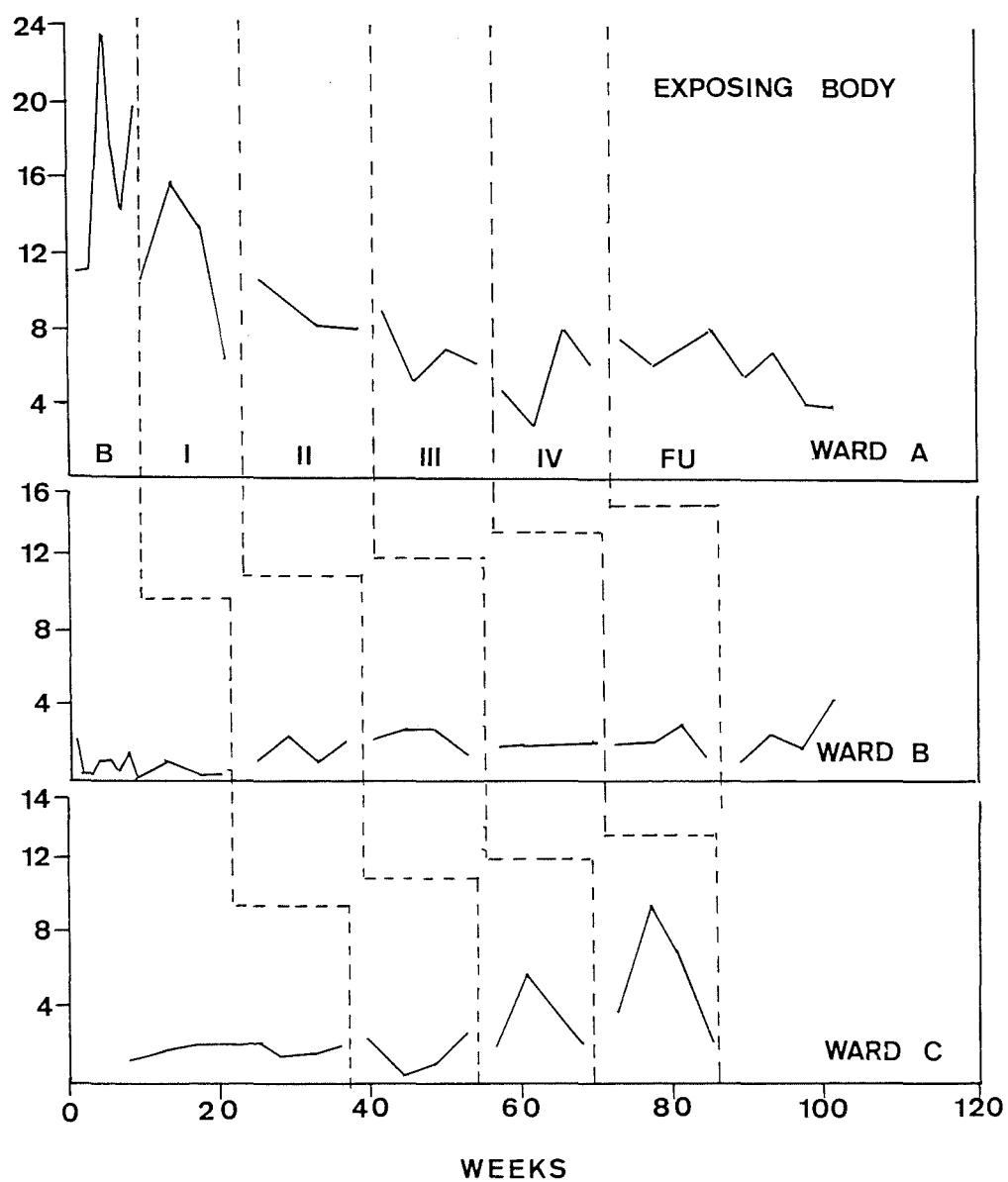
The following is principally intended as a description of the main findings of the study. A full discussion of the results will be given later but some general points may be made here. Examining the data according to the multiple baseline design reveal little evidence that the intervention had similar effects for all wards. This does not mean that the intervention had no effect. Figure 13a demonstrates this by showing a very mixed pattern of results for a sample of residents behaviour. Various organisational difficulties, to be discussed later, meant that the intervention was not carried out on each ward in an identical fashion. Therefore, each ward's data are presented separately.

#### **1) Incidents of challenging behaviour**

Figures 14, 15 and 16 show line graphs for incidents of challenging behaviour for the three wards. Data are



# AVERAGE PER RESIDENT



**Figure 13a** Line graph showing number of incidents for a sample of resident behaviour using the multiple baseline format.

## CHALLENGING BEHAVIOUR: WARD A

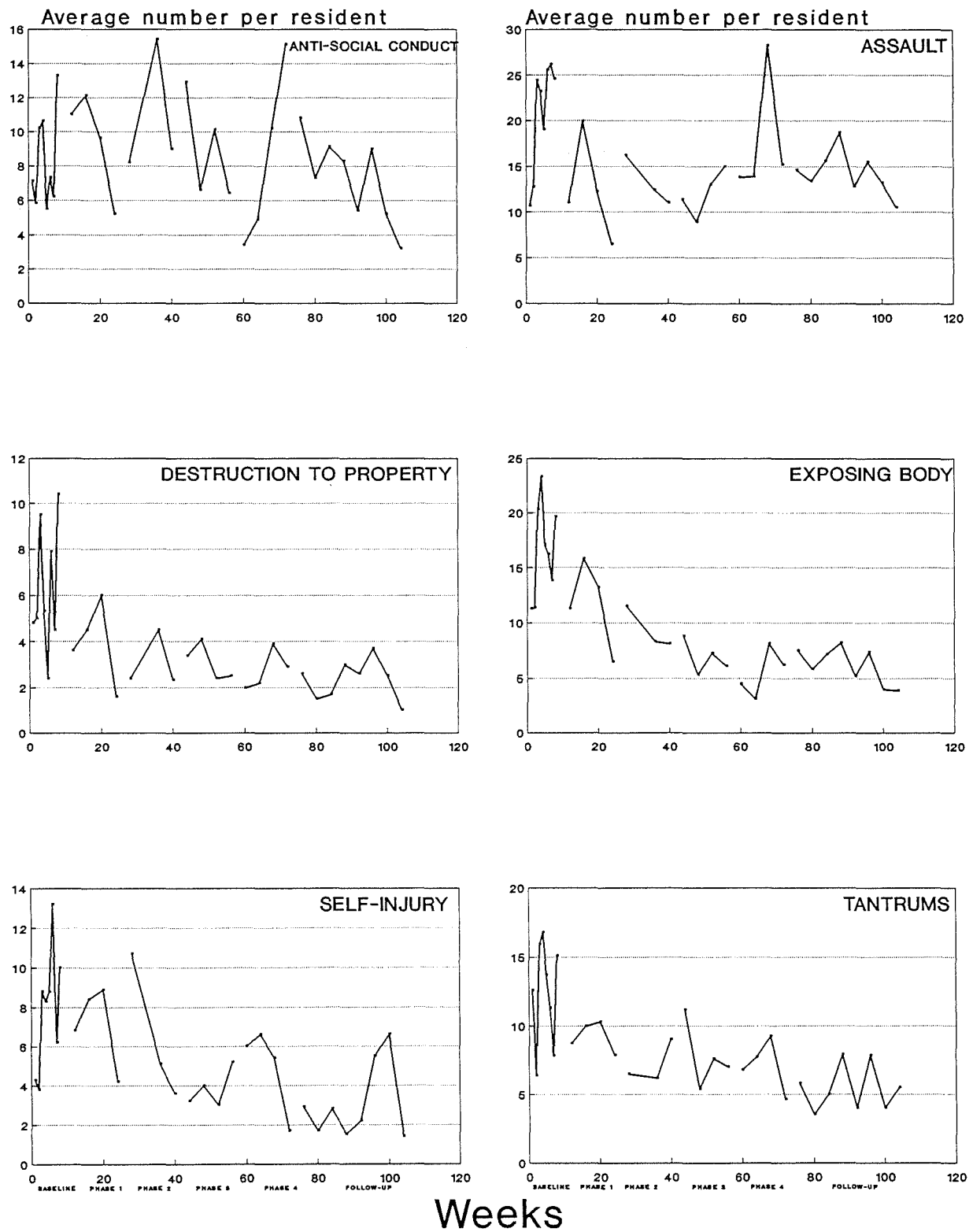


Figure 14: Line graphs showing incidence of challenging behaviour for Ward A.

## CHALLENGING BEHAVIOUR: WARD B

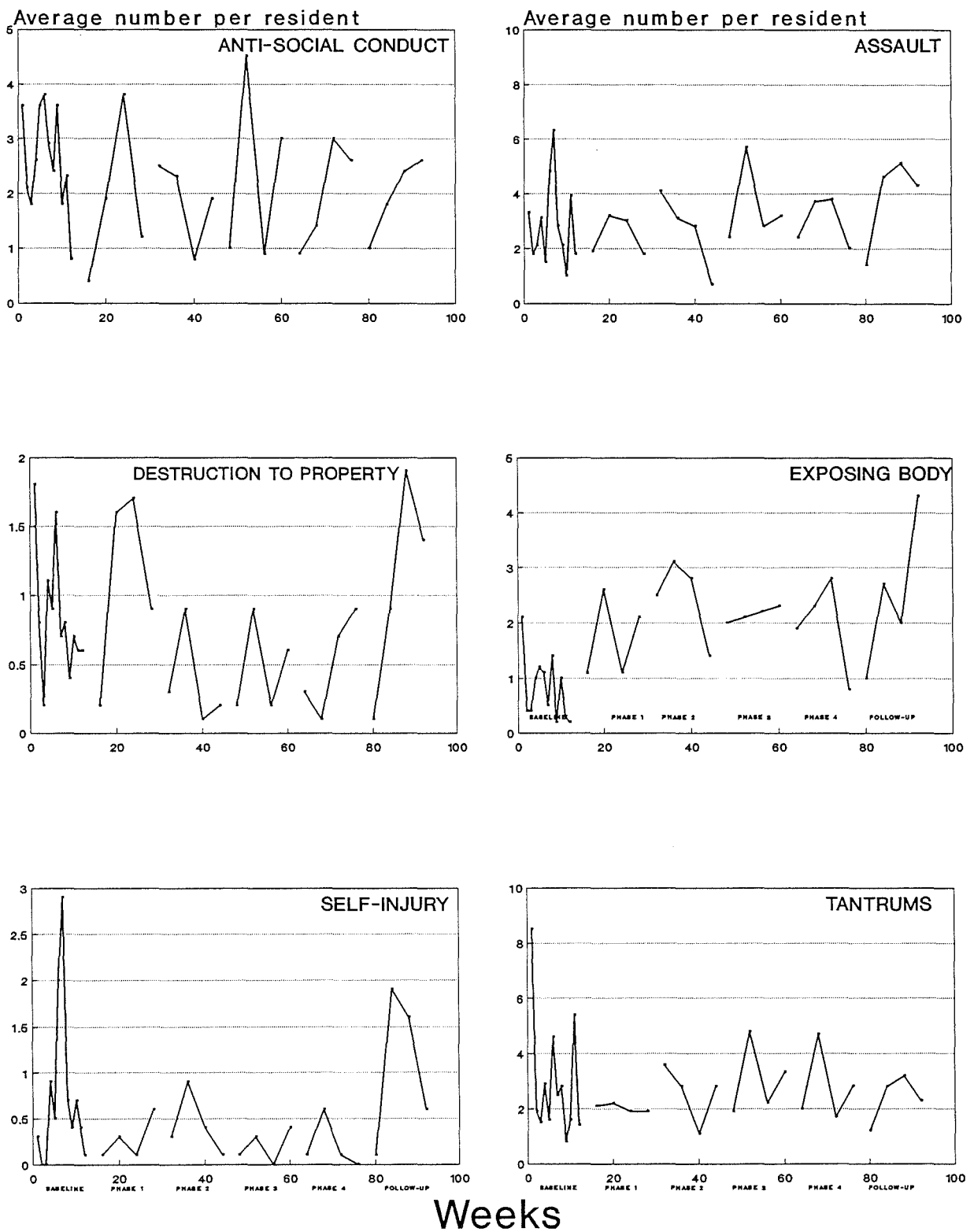


Figure 15 : Line graphs showing incidence of challenging behaviour for Ward B.

## CHALLENGING BEHAVIOUR: WARD C

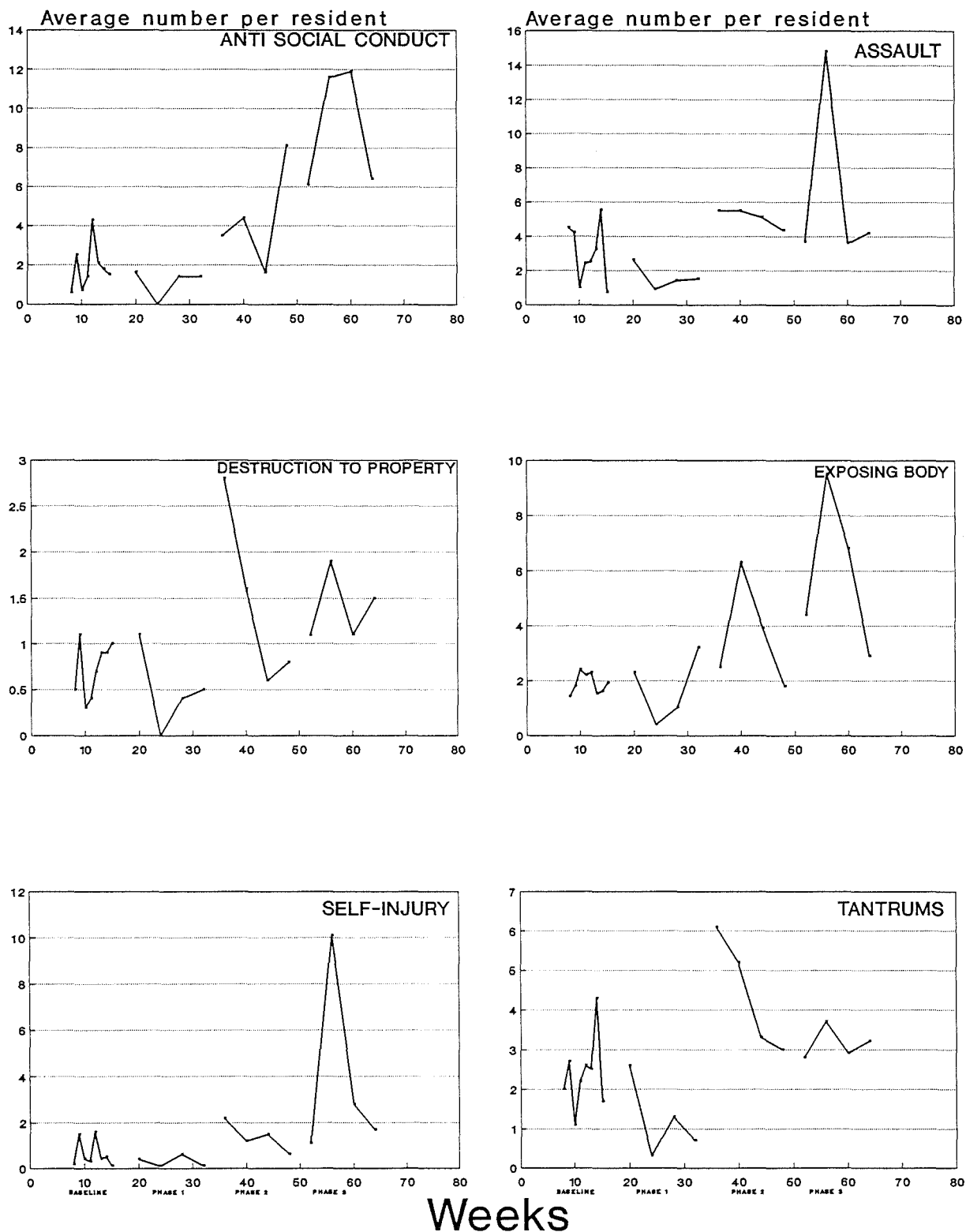


Figure 16 : Line graphs showing incidence of challenging behaviour for Ward C.

presented here as the average number of incidents per resident each week. Results on this measure show no consistent changes across wards although interesting trends can be detected on individual wards. All categories of behaviour on ward A except anti-social conduct show a trend towards reduced incidents. In particular, both the trend and the mean number of incidents has been reversed from baseline for exposing body, self-injury and temper tantrums. Although the trend and the mean for assault on this ward has been reversed in phase one from baseline, the trend in phase four and subsequent follow-up shows a slight movement towards an increase in incidence. Results for anti-social conduct show an increased trend until phase three when this is reversed. It could be possible that this category had been used by some staff to score minor incidents of the other five categories of behaviour. However, the large decrease in incidents from the other categories would not explain the relatively small upward trend for this type of behaviour.

Similar effects may not be noted on other wards for this measure. Curiously, the results for assault, exposing body and temper tantrums on ward B shows an increased trend following baseline. Self-injury shows a slight reduction in the mean for phases one to four but the greatest number of incidents occurs in follow-up. The increased trend for destruction to property in baseline

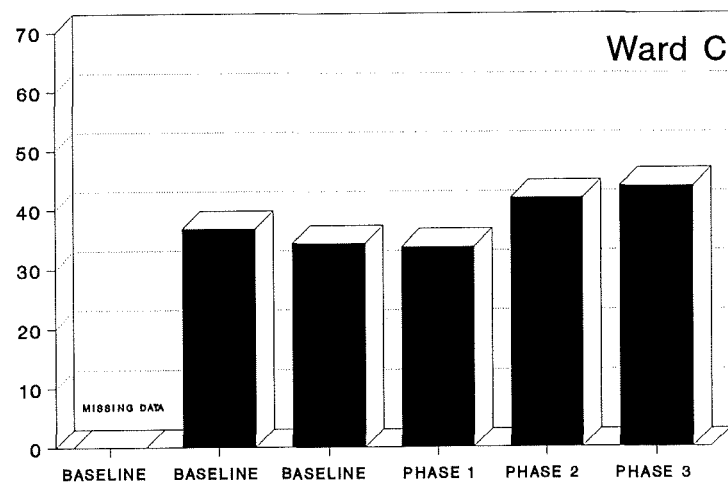
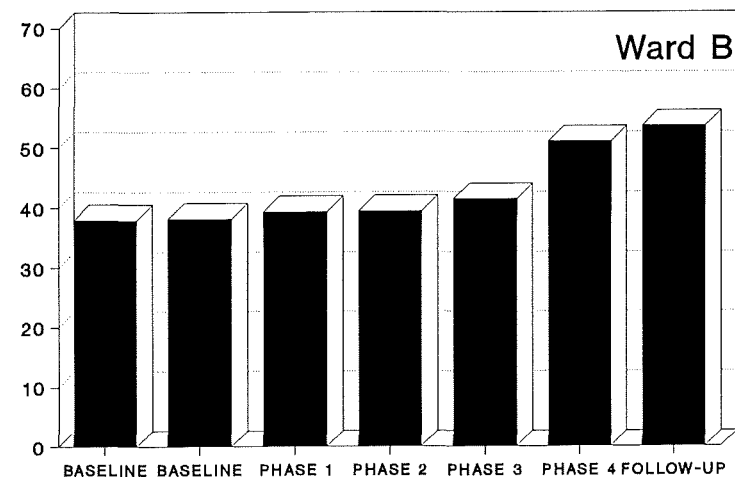
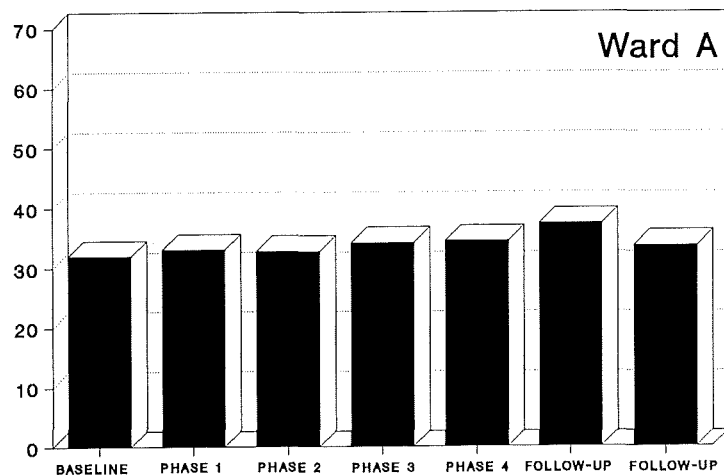
and phase one is reversed and the mean reduced for phases two to four but there is a sharp increase in incidents in follow-up. Anti-social conduct shows a slight downward trend throughout the study.

Results for ward C on this measure show yet a different pattern again. In all categories there is a drop in the mean from baseline to phase one but the mean increases in phases two and three and there is a marked upward trend in these phases except for temper tantrums. This category shows a reduction in the mean but this is still above baseline levels.

## **2) Client adaptive behaviour**

The Vineland Adaptive Behaviour Scale contains four domains, or categories, of behaviour. Scores for all residents were totalled and divided by the number of residents per ward to yield a mean figure per ward for each administration of the scale. Results for the communication, socialisation and maladaptive behaviour domains show no change. However, scores for the daily living skills domain indicate a trend towards increased adaptive behaviour and this is shown in figure 17.

Statistical analysis of these data was carried out using the Friedman test. The Friedman's test is a non-parametric test which assesses the effects on subjects' scores of different levels of treatment. A matrix was constructed consisting of raw scores on the Vineland for



## VINELAND DAILY LIVING SKILLS DOMAIN

Mean score per resident

**Figure 17:** Bar charts showing results for the Daily Living Skills domain of the Vineland on all Wards

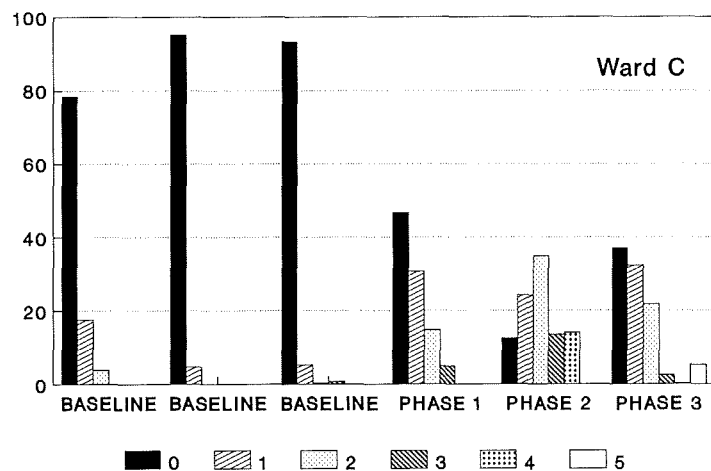
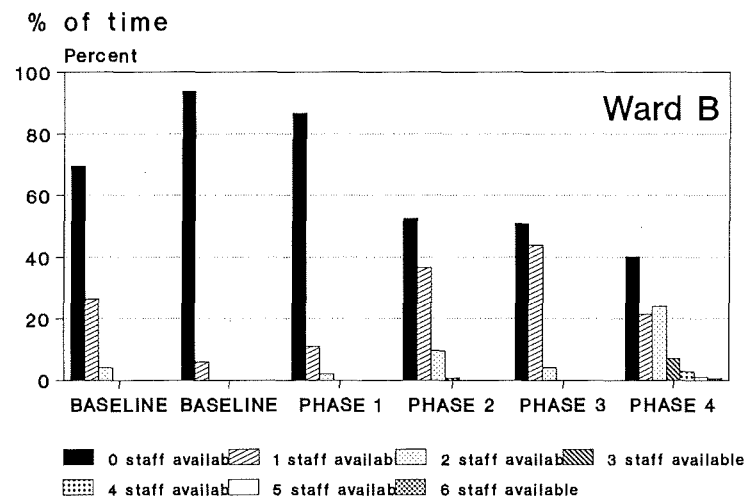
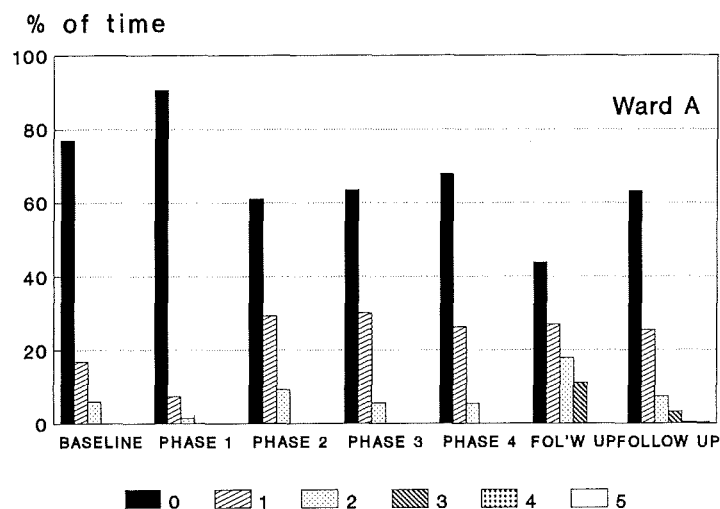
each of the three wards. A mean score was calculated for baseline scores on wards A and B. Changes in scores were discovered to be significant ( $p = 0.05$ ). Although the Friedman test establishes whether or not significant changes have occurred, it cannot indicate whether the change was in the desired direction. The Page's L trend test is a test that is frequently used in association with the Friedman to assess this factor. Once again, the data were entered into a matrix in an identical fashion as above and the trend from baseline indicated a significant movement towards increased functional ability ( $p = 0.001$ ).

### 3) Client interaction

All data for this measure are presented as a percentage of the total time observed for each ward at each data collection point.

Firstly, the availability of staff to interact with residents shows positive trends across all wards, in that increasing numbers of staff were observed to be in the proximity of residents and not engaged in non-resident centred activities. This can be seen by examining the bar chart shown in figure 18. Each ward shows a significant reduction in the amount of time no staff were available to interact during training phases from the baseline phases.



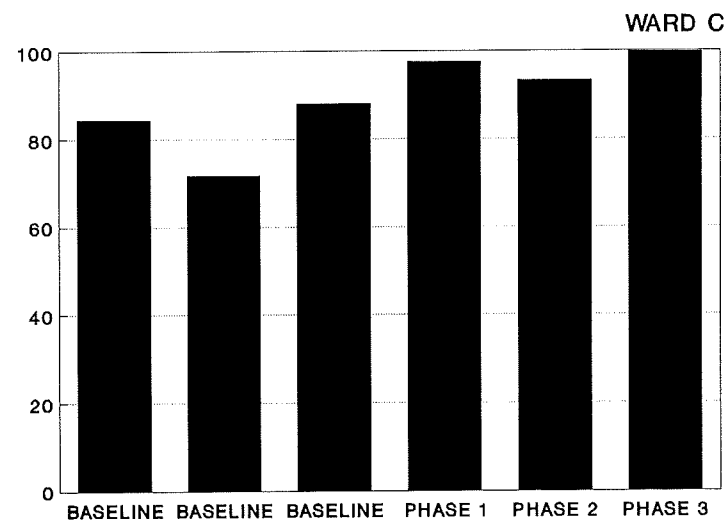
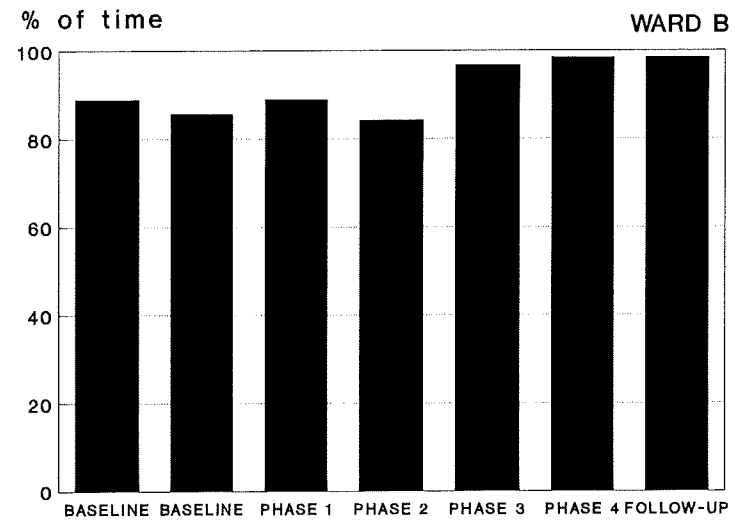
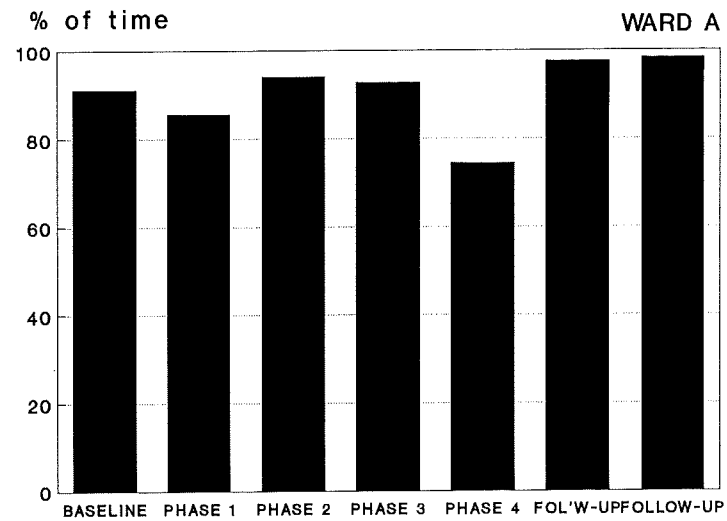


STAFF WITHIN PROXIMITY OF RESIDENT  
AVAILABLE TO INTERACT (12 ft radius)

Figure 18: Bar charts showing staff availability to interact on all Wards.

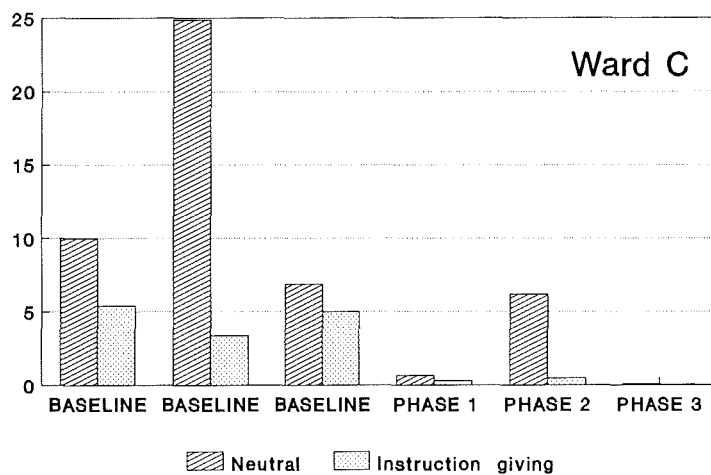
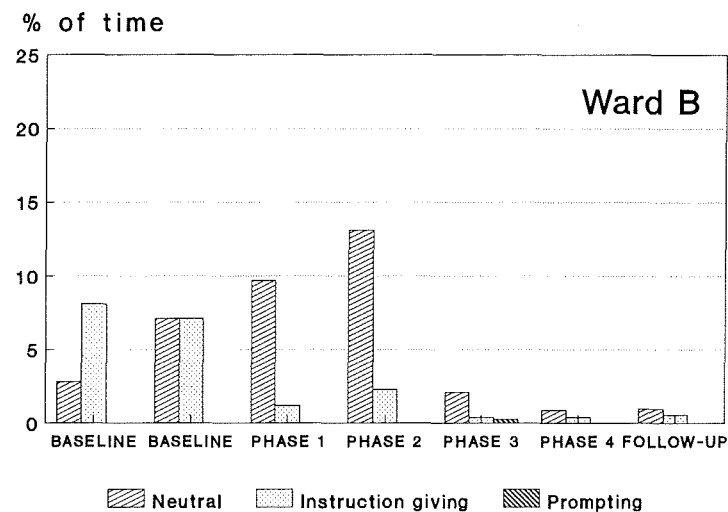
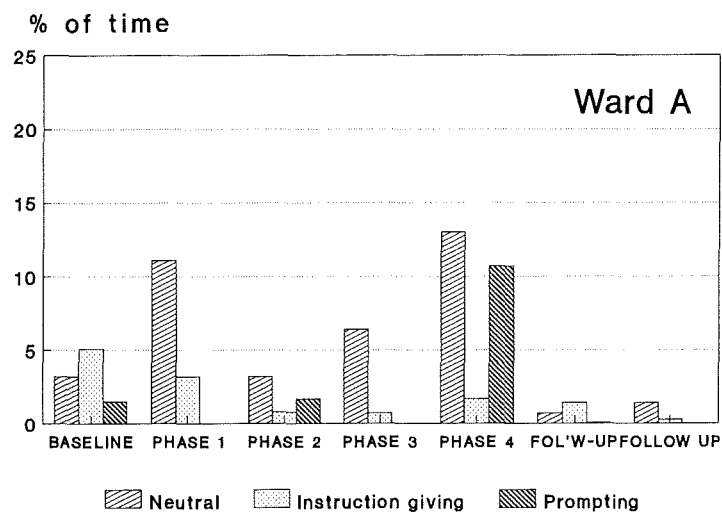
Disappointingly, results for the type of interaction do not replicate the positive changes in staff availability. The bar chart shown in figure 19. indicates that, even when more staff were available to engage residents in more purposeful activity, interaction did not alter appreciably. For well over 80% of the time on all three wards, residents are largely ignored. When interaction did occur, minor positive trends may be discerned and these can be seen in the bar chart presented in figure 20. Instruction-giving declined from baseline levels on all three wards. This is encouraging since this type of interaction has previously been identified as a contributing factor in the incidence of certain types of challenging behaviour (Iwata et al 1982). On wards A and B giving out instructions to residents was the predominant mode of interaction: at the end of phase four of the study it had become the least used category on all wards. The category of neutral interaction showed an increase from baseline on wards A and B which may be indicative of a more 'open' style of communication amongst staff and residents. On ward C the trend is towards reduced amounts of interaction.

Disappointing results were obtained for the higher levels of interaction. Staff were observed prompting residents for only 2% of the time on ward A in baseline. Further incidents of prompting were observed for 2% of the time in phase two and 11% in phase four. No prompting was



## NO STAFF BEHAVIOUR

Figure 19: Bar charts showing incidence of no interaction for all Wards.

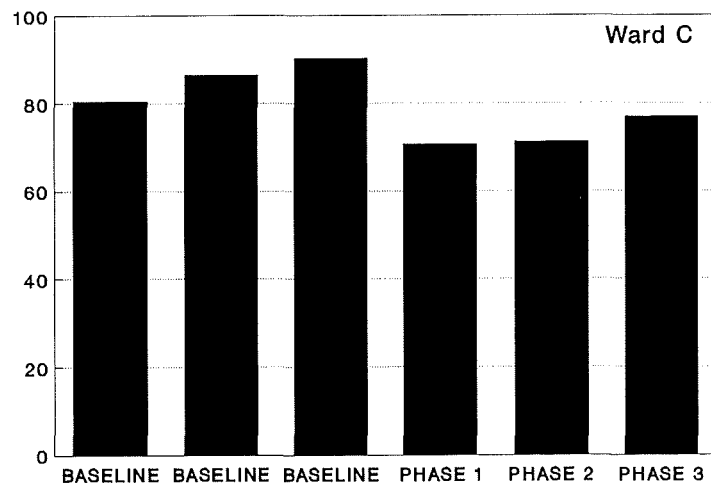
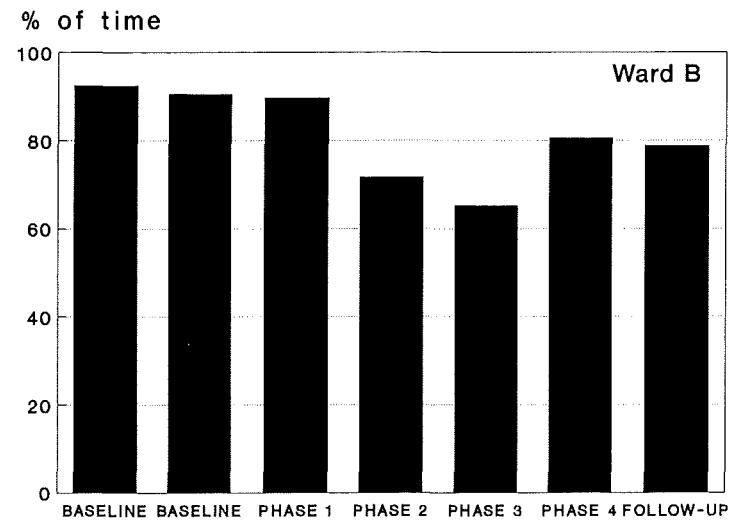
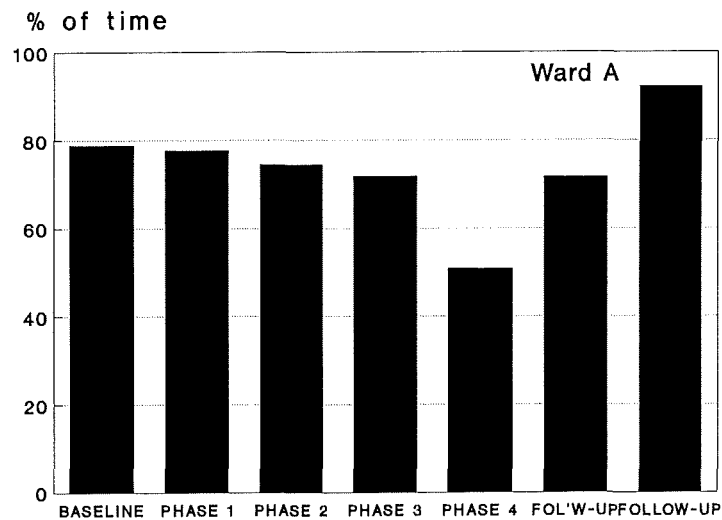


## STAFF BEHAVIOUR

**Figure 20:** Bar charts showing amount of interaction displayed for all Wards.

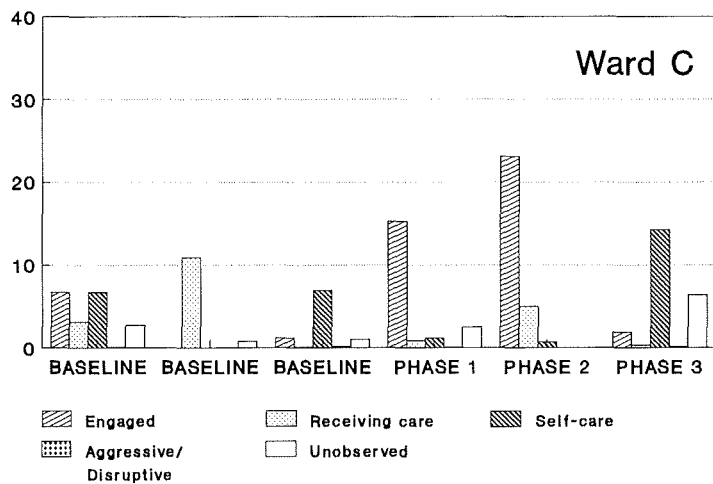
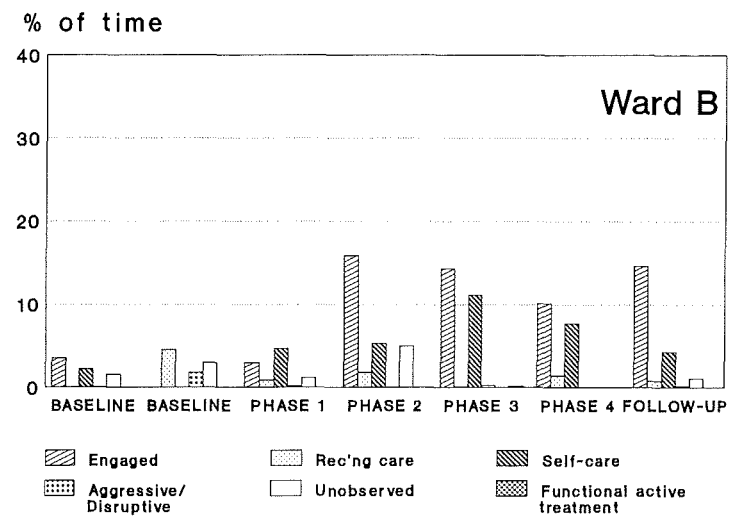
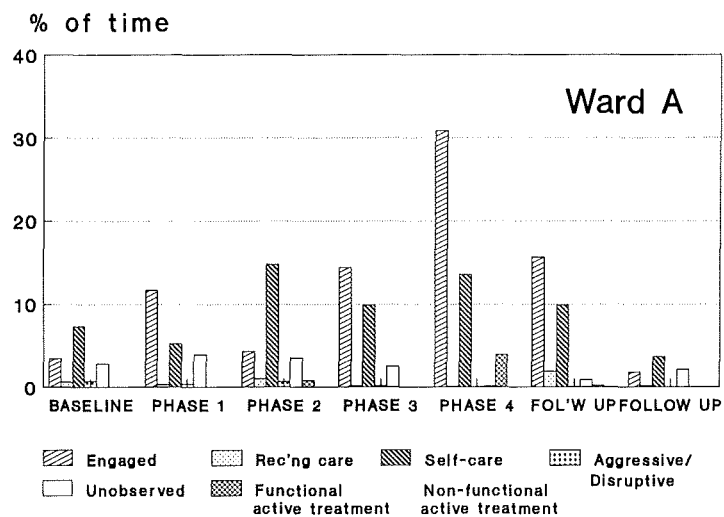
observed on ward B except for less than 1% of the time in phase three and no prompting occurred on ward C throughout the study.

Despite the erratic picture and apparently minor changes in staff behaviour, resident behaviour shows a greater magnitude of change in a positive direction. Figures 21a and 21b show bar charts for resident behaviour. The data from all wards show a reduction in off task behaviour throughout the study with an increase in follow-up on wards A and B. Whilst residents appear to be spending less time with little or nothing to do, engaged behaviour shows a positive trend following baseline. On ward B this trend is maintained in follow-up but is reversed on ward A. Similarly, self-care behaviour shows a trend towards residents performing more tasks for themselves on wards A and B but a more erratic picture is shown in this respect on ward C. Once again, this trend is reversed in follow-up. There is very little evidence that residents spent increasing time engaged in the highest level of interaction. Functional active treatment appears at its highest level on ward A in phase four but the actual figure for this is only 3.5% of the total time. This behaviour is at negligible levels on the other two wards. Levels of aggressive and disruptive behaviour are also at very low levels, thus making trends difficult to discern.



## RESIDENT BEHAVIOUR - OFF TASK

Figure 21(a): Bar charts showing amount of resident 'off task' behaviour for all Wards on the interaction measure



## RESIDENT BEHAVIOUR

**Figure 21(b):** Bar charts showing amount of other resident behaviour for all Wards on the interaction measure

#### 4) Ward activity

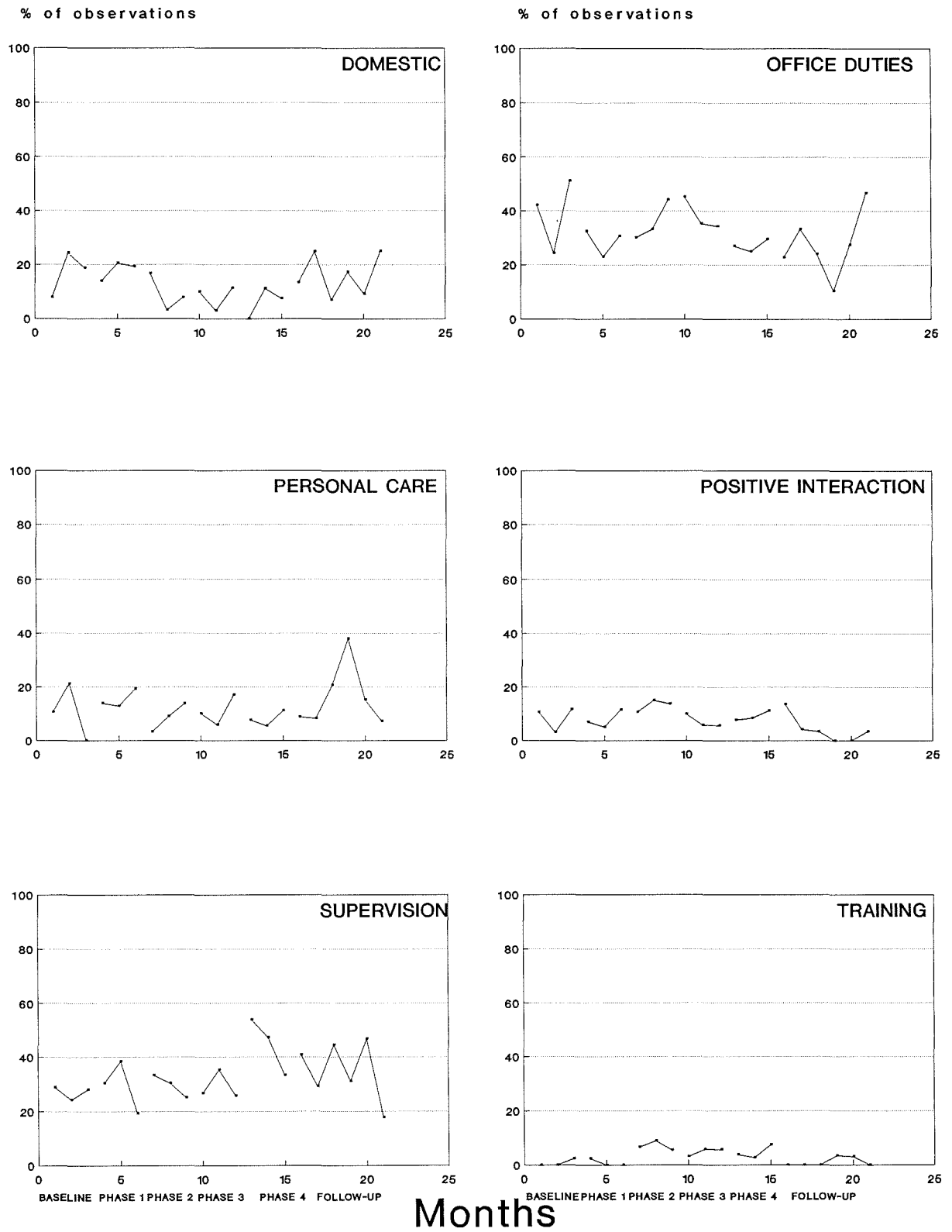
Data for this measure are shown in figures 22 to 27.

Figures were calculated as being a percentage of the total observed time at each data collection point. As far as staff behaviour is concerned, once more there is a mixed pattern of results. A consistent trend may be seen for all wards for the category of supervision, showing that increasing amounts of time were being spent by staff in the proximity of residents. Domestic activity on all wards shows a downward trend which rises in follow-up for wards A and B. Time spent in office duties shows a somewhat erratic trend for all wards. A rise in this category can be seen on ward A in phases one and two with phase four and follow-up showing a reduction in time spent in this behaviour from baseline. Ward B shows a similar rise during phases one and two, returning to mean baseline levels throughout the remainder of the study. Ward C shows an increase in time spent in office duties during phase one followed by a drop below the mean baseline scores in phases two and three. The category of personal care shows no change on all wards except an increase in follow-up on ward A. Similarly, there are no changes in the categories of positive interaction or training.

For the resident categories, few distinct changes can be detected. There is a slight increase in the mean for appropriate behaviour during phases two, three and four

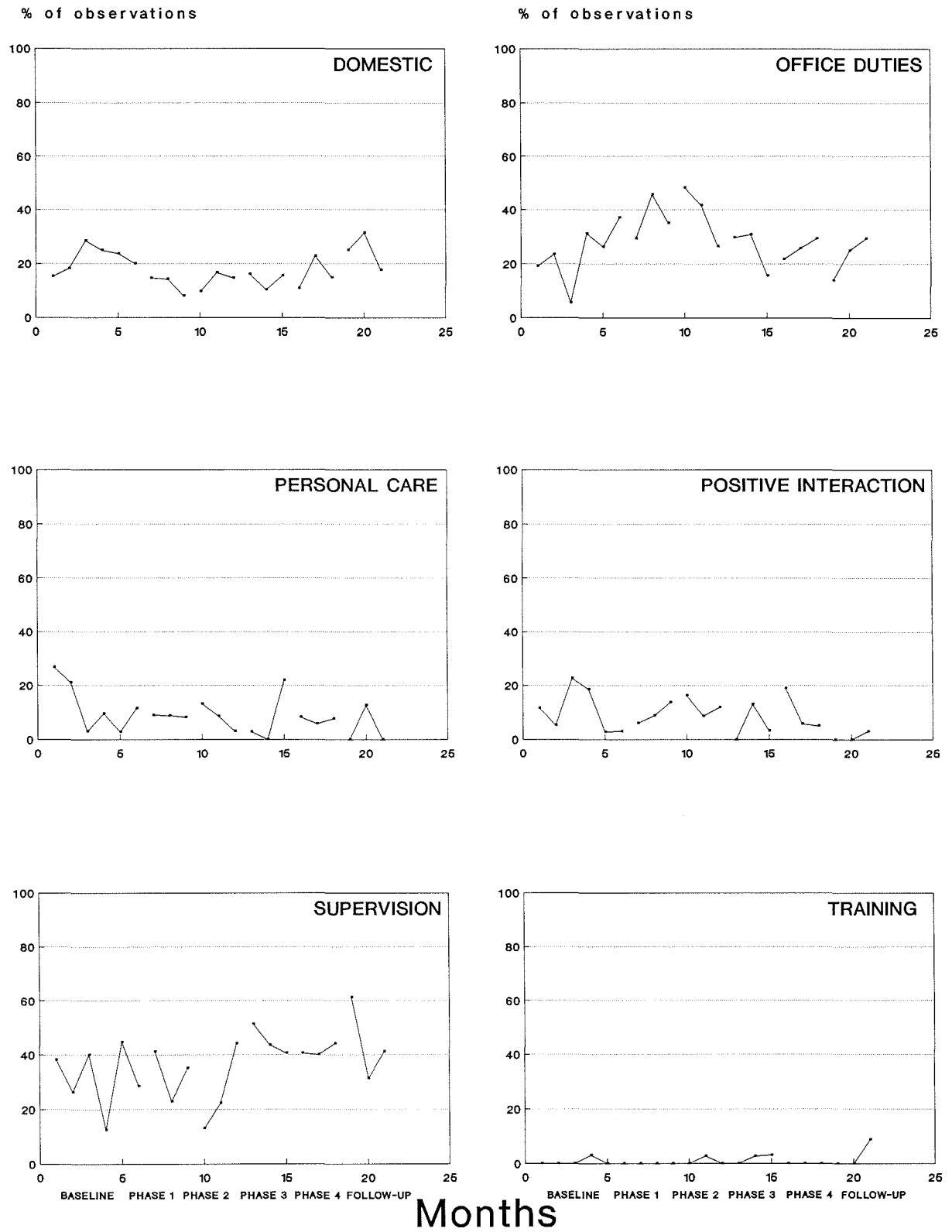


# STAFF ACTIVITY: WARD A

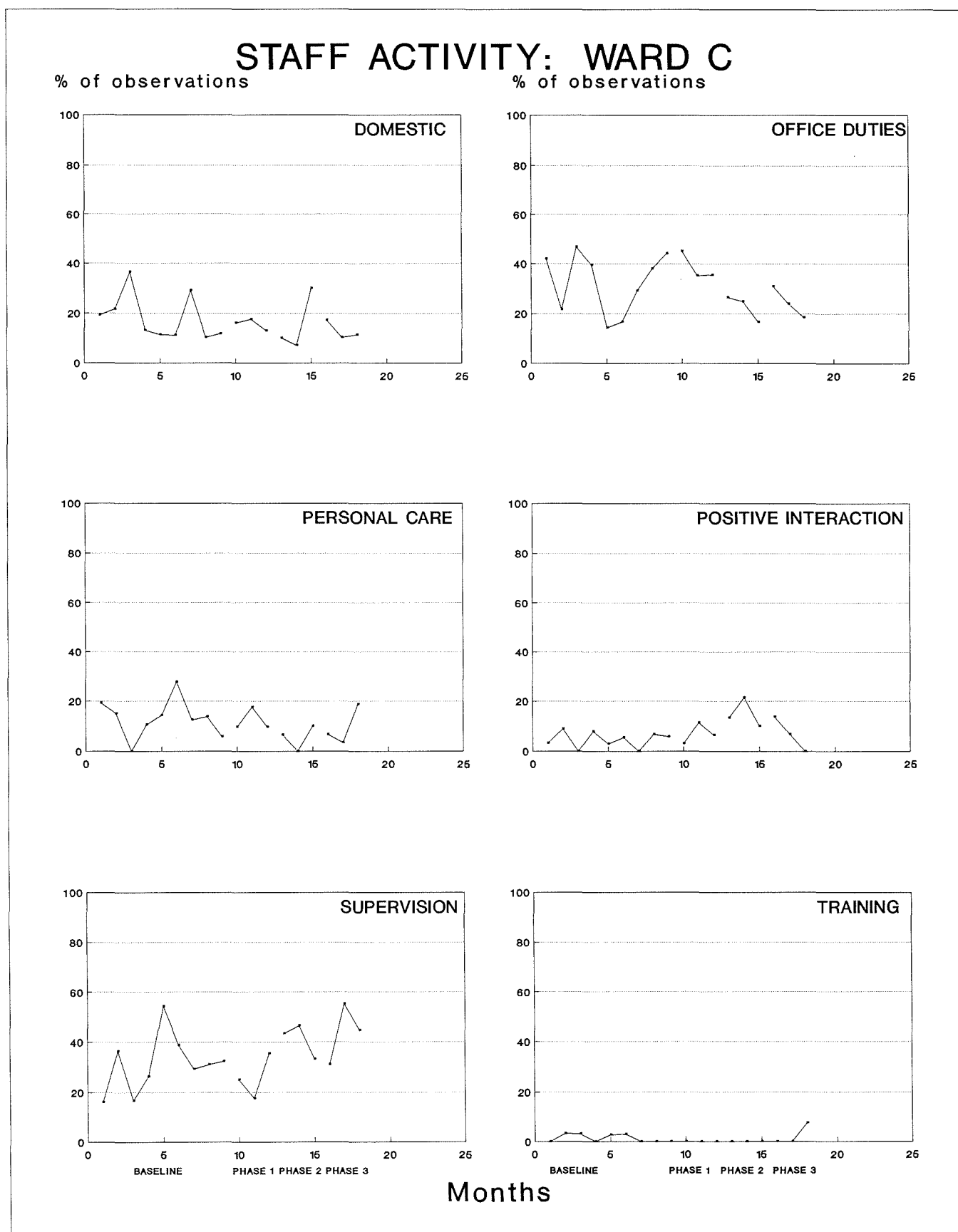


**Figure 22:** Line graphs for staff behaviour on Ward activity measure for Ward A.

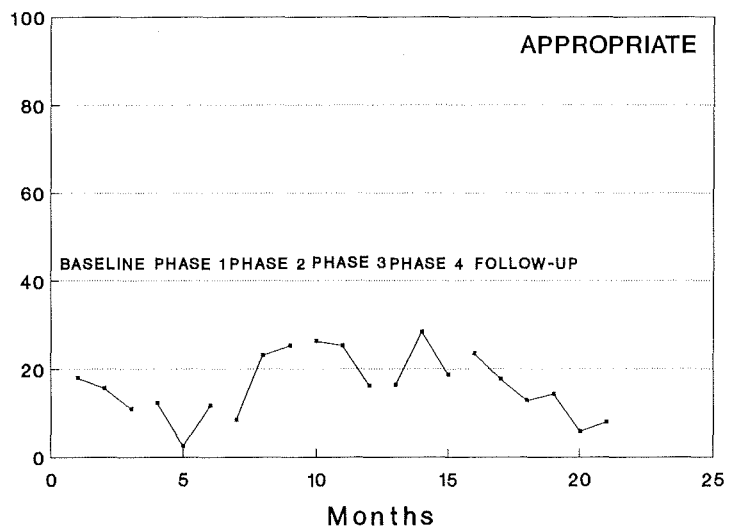
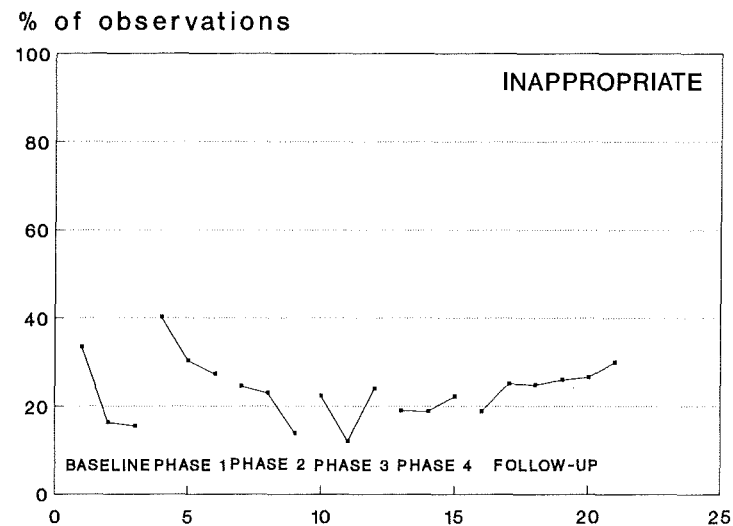
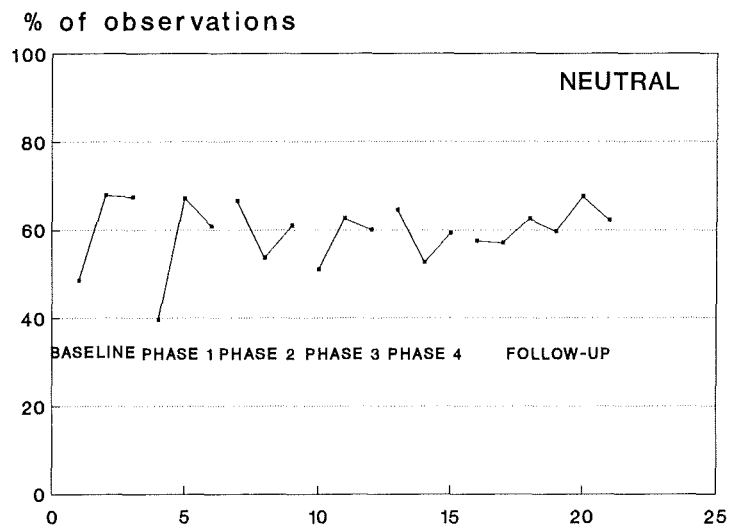
## STAFF ACTIVITY: WARD B



**Figure 23:** Line graphs for staff behaviour on Ward activity measure for Ward B.

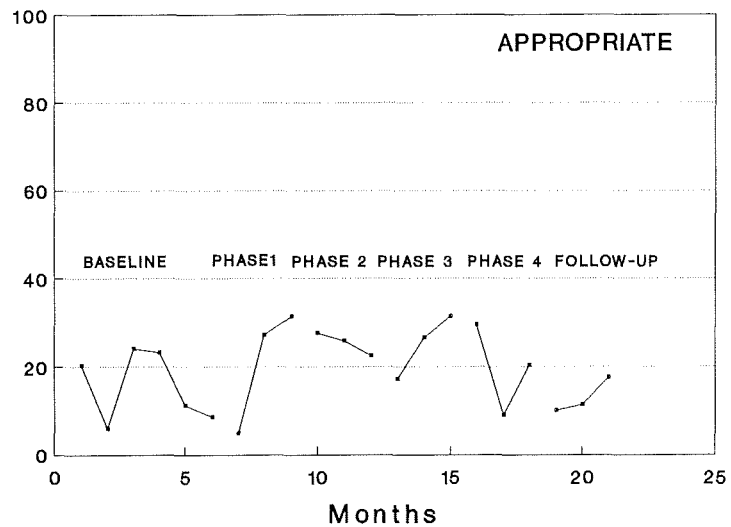
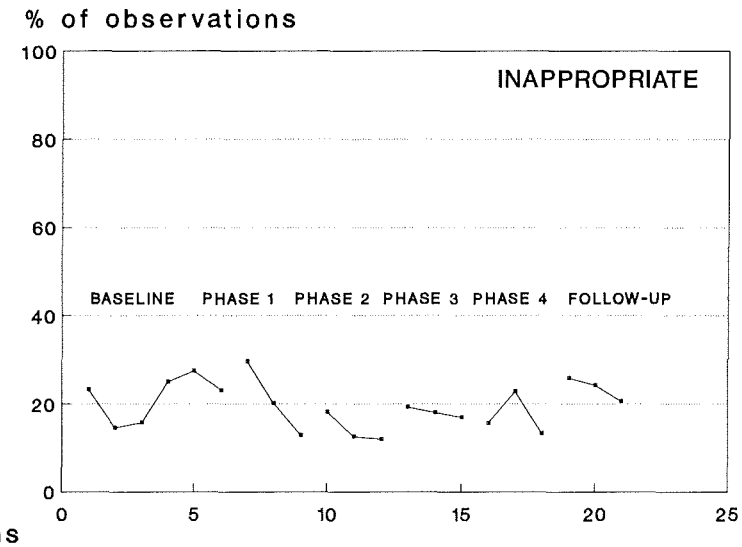
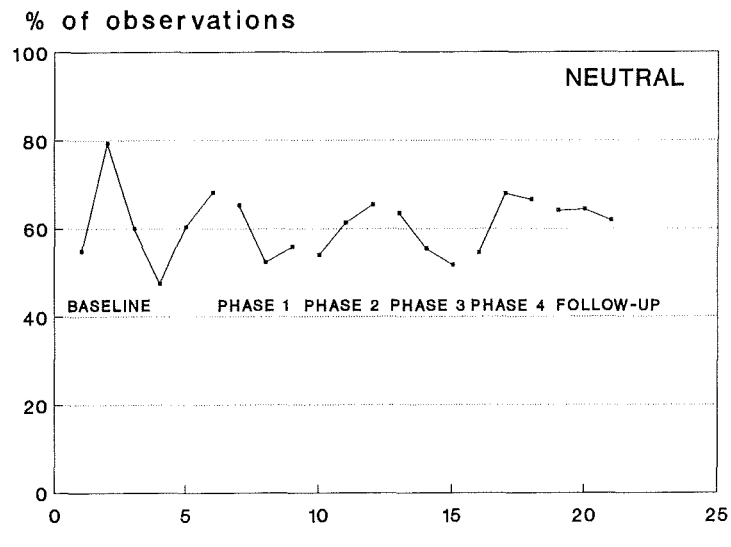


**Figure 24:** Line graphs for staff behaviour on Ward activity measure for Ward C.



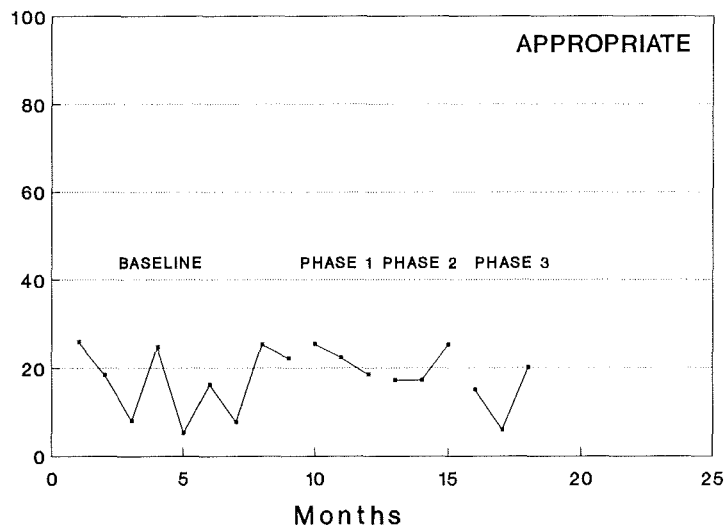
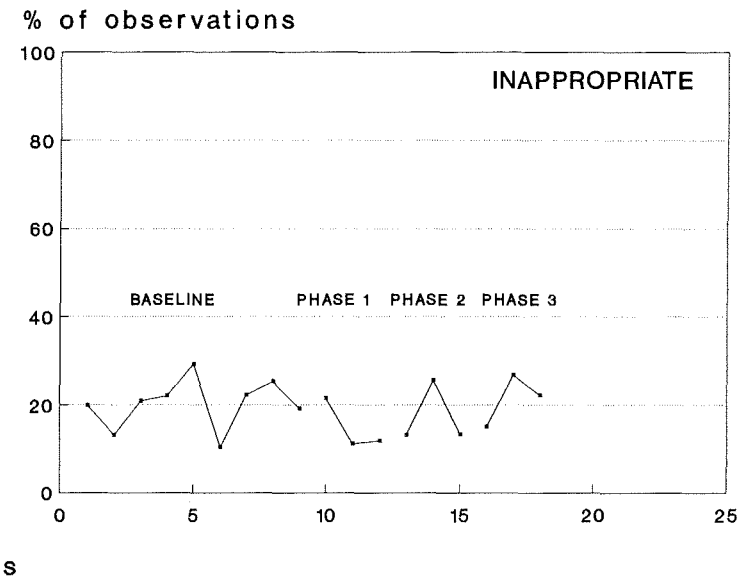
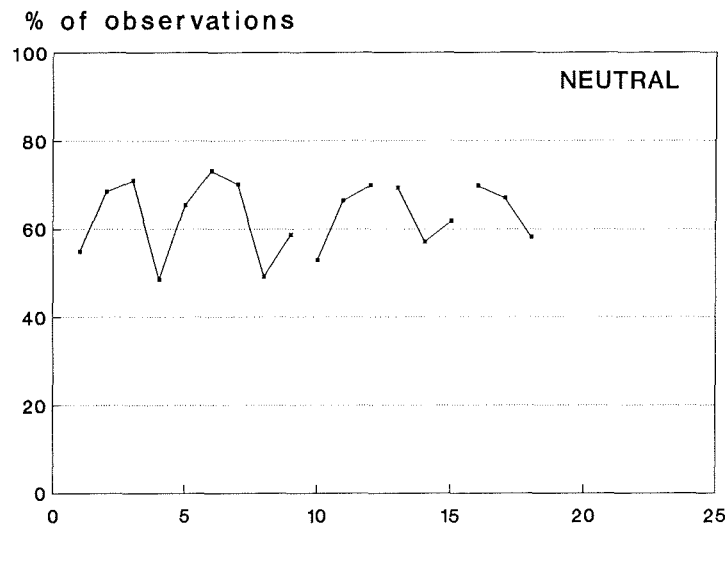
## RESIDENT ACTIVITY: WARD A

**Figure 25:** Line graphs for resident behaviour on Ward activity measure for Ward A.



## RESIDENT ACTIVITY: WARD B

**Figure 26:** Line graphs for resident behaviour on Ward activity measure for Ward B.



## RESIDENT ACTIVITY: WARD C

**Figure 27:** Line graphs showing resident behaviour on Ward activity measure for Ward C.

above baseline scores on ward A. Similarly, there is an increase in phases one, two and three for this category on ward B. Again, on ward C, increases in the mean for appropriate behaviour can be seen in phases one and two.

#### 5) Staff attitudes

The intention in using this measure was to detect any changes in the attitude of staff over the course of the study. Because of extensive changes in personnel on the wards, which will be discussed later, and the mixed compliance rate in completing the questionnaire amongst staff, it was only possible to identify a full set of questionnaires for three members of staff. For this reason, no data are presented here for this measure.

#### 6) Goals set and Goal Attainment Scores

Figures 28, 29 and 30 show the data for goals set over the course of the study. The majority of goals were set during phase four of the project in line with the reinforcement schedule described earlier and shown in figure 9. Ward A completed goal plans for three residents, as recommended to them during training. Wards B and C set objectives for only two residents each but these were abandoned by staff. In phase three, wards A and C set goals for two residents, with the latter once more abandoning their plans. Ward B failed to set any goals during this phase. Eight goals were set for residents over the course of phase four, all of which

WARD A

GOAL NO.	PHASE COMMENCED	OUTCOME
1.	II	-1
2.	II	+1
3.	II	+2
4.	III	0
5.	III	+1
6.	IV	-1
7.	IV	-1
8.	IV	0
9.	IV	0
10.	IV	Abandoned
11.	IV	Abandoned
12.	IV	+1
13.	IV	Abandoned

Figure 28. Goal Attainment Data for Ward A.



WARD B

GOAL NO.	PHASE COMMENCED	OUTCOME
1.	II	Abandoned
2.	II	Abandoned
3.	IV	0
4.	IV	0
5.	IV	-1
6.	IV	+1
7.	IV	-1
8.	IV	0
9.	IV	0
10.	IV	0

Figure 29. Goal Attainment Data for Ward B.

WARD C

GOAL NO.	PHASE COMMENCED	OUTCOME
1.	II	Abandoned
2.	II	Abandoned
3.	III	Abandoned
4.	III	Abandoned

Figure 30. Goal Attainment Data for Ward C.

were completed by ward B, with ward A abandoning three out of the last four set by staff.

Goal attainment scores shows no discernable trend towards more accurate prediction of outcome. It is perhaps worth noting, however, that only one goal may have indicated an underestimation of both staff and resident abilities. Three out of ten of the goals on ward A achieved a perfect goal attainment score. Five out of eight of the goals set by staff on ward B attained this score.

### Discussion

Any research project of this scale and carried out in an applied setting is subject to difficulties. Most of the local problems were resolved satisfactorily but the wider context in which this study took place resulted in problems which were beyond the control of the researcher. These problems are dealt with as fairly as possible below.

#### a) Continuity of staffing

It was promised that, as far as possible, staffing levels on the wards would be maintained in as consistent a manner as possible in order that practice and training could be assured. It was anticipated, however, that some turnover of staff would occur naturally over the course of the study and that new staff could be updated in time as much as possible. In reality, the scale of the

turnover on the three wards was too large to manage successfully and some effect on practice was inevitable, although difficult to quantify. Appendix 2. lists the changes on the three wards during the course of the study. Greater discussion of these factors will follow. However, to summarise, the average turnover rate across the three wards was 56%. The twenty-six new starters on the wards meant that the quality of instruction given to these staff may have been inferior to that received by the remainder. Full credit must be given to the more experienced staff on the wards who assisted in the induction of new staff.

#### **b) Training on ward C**

As it can be seen from table 2. shown earlier, Ward C had only nine permanent staff allocated to the ward. Additional staff to this ward were supplied, as required, from a 'pool' and could not be included in the training because of their temporary status. Precise reasons for the lack of staff on this ward were not forthcoming from the hospital managers. The low number of staff resulted in difficulties when organising workshops. In phase one of the training, half of the workshops had to be cancelled due to a lack of staff available to run the ward. Individual sessions were arranged to cover material although their presentation was more didactic than participatory. The hospital managers eventually agreed to two full day workshops to be held in phases two and three

whilst alternative staffing arrangements were made for the ward. The entire content of the twelve remaining workshops was condensed and delivered during these two days. Inevitably, the input to the staff was of an inferior quality despite the good intentions of management.

#### c) Data collection on Ward C

During the early part of the baseline phase, some of the staff on ward C expressed concern at being asked to collect data. They reported that they did not consider it in their job description to carry out such duties. This matter appeared to be part of a dispute arising from the recent clinical regrading exercise that had taken place throughout nursing. Negotiations between staff and managers quickly resolved this issue but meant that, for the first eight weeks, data on challenging behaviour are missing and the first collection of data for the Vineland is absent.

#### d) Ward closures

As clients were being discharged into the community, the inevitable issue of rationalising resources was addressed by the Health Board and hospital management team. Several options had been considered but the one chosen required ward C to be closed at the end of phase three of the training. This meant that some of this ward's staff were redeployed to the other wards involved in the study, as

well as some of their residents. This rationalisation also meant that ward A was physically relocated to another part of the hospital.

The mention of these difficulties should not detract from the endeavour and goodwill which was present throughout the study. However, account must be taken of the problems when discussing the results.

### **General discussion**

This study has centred around the introduction of a more empirical approach to care to a group of staff caring for people with severe mental handicaps and challenging behaviour. More specifically, it has sought to introduce staff to a type of goal setting called Goal Attainment Scaling which potentially provides a means whereby staff performance may be evaluated and compared with their own previous performance or that of other groups of staff, irrespective of the client group with whom they are working. Essentially, the subjects of this research were the staff. No amount of intervention with staff is worthwhile or successful unless any change in their behaviour impacts upon the lives of residents in a significant way. This discussion of results must therefore attempt to find associations between any changes that have taken place in both groups.

In terms of the residents, improvements were investigated in their quality of life. Although strict definitions of this concept are elusive, it might be reasonable to assume that if residents were more actively engaged in their environment, showed less disruptive or dangerous behaviour and were caring more for themselves, their quality of life had been enhanced. There were certainly significant changes in the daily living skills domain of the Vineland Adaptive Behaviour Scale. This domain includes many of the aspects of behaviour that were chosen by staff to teach in their written goal plans, for example washing, feeding, dressing and so on. There is additional evidence of more self-care behaviour on direct observation measures on two of the wards and the category of engaged behaviour suggests that residents were spending more time in purposeful behaviours. The category of appropriate resident behaviour on the Ward Activity Checklist would further suggest that residents were behaving more purposefully. However, the rather modest changes in this respect did not prove statistically significant. Amongst this evidence, it might have been expected that the personal care category of staff behaviour would have been reduced. Observation did not confirm this. It would not be unusual, however, to see staff still attending to some of the residents' needs.

A reduction in the amount of challenging behaviour displayed would further suggest an improved quality of

life. This would not only apply to the individual who is displaying less challenging behaviour but to others as well who would consequently enjoy a more satisfying environment. For ward A, such changes were undoubtedly brought about but for the other wards the picture is more complex. Although the intervention should have operated in a similar fashion on all wards, it may be worth examining aspects of the characteristics of each ward to detect any fundamental differences prior to the study commencing. Ward A, for example, was the only female ward and the actual number of incidents of challenging behaviour was considerably higher than the other two wards. This may have meant that the relatively smaller number of incidents on wards B and C made these areas more susceptible to changes in the behaviour of one or two individuals. The fact that ward A was comprised of female residents is unlikely to have influenced the results given previous research showing no significant involvement of gender in the incidence of challenging behaviour (Leudar et al 1984).

A factor which may have brought about the differences in the direction of change is the changing perceptions of staff. Challenging behaviour can very much be a subjective matter. Some staff may have become more tolerant of certain behaviours and scored them less often: on the other hand, some staff may have become more sensitive to certain behaviours and scored them more

often. Although there may have been instances where this happened, the high reliability figure for this measure tends to contradict this view.

A further factor to take into account is the nature of the recording instrument. Only the frequency of challenging behaviour was measured. It was impossible to examine in more detail any changes in intensity or duration. Unfortunately, assessment in this area has traditionally been problematic given the complex nature of the phenomenon being measured (Leudar and Fraser 1987).

Two positive aspects of change on this measure need to be emphasised. Firstly, the relative intractability of behaviour such as anti-social conduct and assault, even on ward A, tends to confirm previous research suggesting that these behaviours are usually the most persistent and stable (Leudar et al 1984). Furthermore, the mixed picture of increases and decreases, at least, confirms that the intervention had some effect.

If such changes have occurred in residents' behaviour, to what extent may this be attributed to changes in staff behaviour ? Evidence from other studies suggests that, as clients become more engaged in their environment, this is usually attributable to more structured interaction between clients and staff rather than increases in



general conversation or passing remarks (Mansell and Beasley 1990). This had been anticipated in constructing the categories of staff behaviour for the data collected by the Psion portable computer. The setting condition for any type of interaction is the availability of staff to interact. Throughout the course of the study the amount of time that no staff were available showed a downward trend, thus providing the opportunity for interaction to take place. Even though more staff time became available, however, the incidence of 'no interaction' likewise increased. This is a curious phenomenon that has been reported in several other studies (Hile and Walbran 1991). As staff availability increases, the pressure to interact with and engage clients reduces. The ultimate result may be one in which staff spend greater amounts of time interacting between themselves rather than the people in their care.

This hypothesis is better illustrated by more careful analysis of the data. On wards B and C there is a considerable increase in staff availability as the study progressed. Most notable increases are in phase two to follow-up on ward B and from phase one to three on ward C. This coincides almost exactly with the highest incidence of no interaction on these wards. The picture on ward A is different in that larger numbers of staff available does not occur until follow-up. This coincides with the highest amount of time staff refrain from

interaction. To test the possible relationship between no staff available to interact and no staff interaction, a Pearson correlation coefficient was calculated for the three wards. The relationship on ward A was discovered to be non-significant. For ward B an 'r' value of -0.720 (Df = 6) was obtained, thus giving a significant negative correlation ( $p = 0.05$ ). For Ward C an 'r' value of -0.81 (Df = 5) was obtained, giving a significant negative correlation ( $p = 0.02$ ). This demonstrates that as more staff become available to interact on Wards B and C, the amount of interaction diminishes. It is also interesting to note that the quality of interaction on ward A improved up until the follow-up stages. Phase four contained the greatest amount of neutral interaction and prompting amongst staff, the lowest amount of off task, highest amount of engaged behaviour and second highest amount of self-care behaviour amongst residents.

A conclusion that could be drawn from this evidence is that the training had a damaging effect upon the quality of interaction. In other words, staff might have been encouraged to spend more time with residents, but did not have the means of turning this time to their advantage. To consider this issue, the changes in personnel on the wards needs to be examined more closely. Appendix 3. lists the changes in numbers of staff during the study. Some relationship appears to exist between availability to interact and ward numbers, namely that ward A

consistently lost staff, ward B initially lost, then gained staff, as did ward C. To test any association between these factors, a Pearson correlation coefficient was calculated. Only ward B was discovered to demonstrate a statistically significant association ( $p < 5\%$ ). It is reassuring to note that significant relationships did not exist on two of the wards. On the other hand, in order to fully explain the differences in changes across the three wards, the following interpretation may be the most plausible.

As staff numbers diminished on ward A, the staff managed to reorganise themselves to comply with the objectives of the study, namely to improve interaction and engagement. They may have been assisted in this by the relative stability of the numbers of unqualified staff. Such staff are employed to perform the larger part of direct care duties. Ward B suffered changes in this respect in two out of the three training phases. Ward C lost only one unqualified member of staff but received a more inferior type of training. This is a complex argument but essentially proposes that ward A had two advantages: their stability of unqualified staff and the quality of their training. They were therefore able to maintain improvements in the face of diminishing numbers of staff. Ward C had greater stability but an inferior training which made it impossible for them to make proper use of this. Ward B received a higher quality of training but

the instability in staff numbers and increasing amount of staff meant that additional staff were not able to interact at improved levels with their residents. This may explain the somewhat diverse pattern of changes that occurred in resident and staff behaviour across the course of the study.

Amidst such significant organisational changes, it is difficult to evaluate the other aims of the study, namely, to what extent is Goal Attainment Scaling a useful means of feedback and what is its potential as a clinical evaluation tool ? The change in emphasis during the course of this study brought about by discussions with staff and managers meant that goal attainment scores could no longer be used as a means of consequating staff behaviour. Nevertheless, staff reported that the scaling of goals made greater methodological sense in terms of their client group. After initial concerns about their goal setting ability, staff quickly gained confidence and were reasonably accurate in their ability to predict outcome. Anecdotedly, staff reported that they felt reassured by this system and regarded it as a more realistic way of reflecting their efforts not simply to add to residents' skills but to prevent deterioration. In constructing a similar study, it would be worthwhile to examine this feeling more empirically.

The feedback given to staff during phase four, in addition to that gained through the outcome scores appears to have motivated staff on ward B to continue their efforts into the follow-up phase. It might be supposed that the same would have occurred on ward A, as these staff were consistently attaining their targets set in phase four. However, the physical relocation of the ward and the addition of four residents to their numbers during follow-up may have resulted in three out of four of their care plans being abandoned. Once more, organisational factors have obscured a proper analysis of the data. The greater involvement of managers in the training might have created the climate whereby some of the benefits of the study could have continued after the intervention ceased. Any subsequent project of this nature should incorporate a more substantial role for managers. Ward C never had the opportunity of gaining any type of feedback from their goal setting efforts. Again it is a matter for conjecture what may have happened if this ward had entered phase four and acquired more experience at goal setting. This exercise in teaching Goal Attainment Scaling is probably best viewed as an important first step in investigating the utility of the technique as a clinical evaluation tool. Staff are certainly able to acquire the necessary skills and can apply them given the right circumstances as shown in phase four.

The majority of goal setting was planned to occur during phase four of the study and this is where the majority of changes in behaviour should have occurred. On ward A, evidence of improved staff and resident behaviour has already been pointed out in this phase. It cannot be claimed, however, that the goal setting component alone was responsible for this. Important trends had commenced in the data on this ward at an earlier stage. On ward B, the greater goal setting resulted in no obvious improvement in terms of greater amounts of prompting or residents engaged in functional active treatment. One explanation for this may be the content of the goals chosen for residents. Although too lengthy to list here, many objectives concerned self-care behaviours which would have been taught at times and in places which made direct observation impossible, for example early mornings in bathrooms and dormitories. This fact may be corroborated by the higher Vineland scores obtained during follow-up on this ward. Methodological problems may also account for the paucity in higher levels of interaction. As Orlowska (1990) notes, when staff are being observed they may feel obliged to 'look busy', with the result that staff may prefer to perform more physically active tasks such as putting away laundry or tidying.

The effectiveness of phase four is similarly difficult to assess. In terms of goals set and carried out, the

feedback procedure arranged undoubtedly increased their quality and quantity. It may be inferred, therefore, that the quality of care improved. On the other hand, this aspect of care may not have been entirely responsible for improvements in the residents' quality of life.

Other important changes, for example in challenging behaviour, had taken place before staff became more skilled in goal setting. Unfortunately, the measures used may not have been sufficiently sensitive to isolate precise reasons for the changes.

Although the experiment should have brought about similar effects on the three wards, it should be remembered that the wards were quite different in many respects: this may have affected the impact of the intervention. For example, the high levels of challenging behaviour on ward A may have provided staff with a greater motivation to want to change their own behaviour. Even so, it is curious that the incidence of challenging behaviour began to fall before any goal setting or behavioural skills were taught to the staff. Measures of staff behaviour provide no immediate clues to this change. Discussions with staff concerning this issue reveal that they initiated changes in some of their routines. For example, whereas previously they organised one sitting for residents at mealtimes, in order that staff breaks could be taken, this was altered to two sittings and their own

meals breaks taken later than usual. Staff felt that this change would reduce overcrowding in the dining room and contribute to a less stressful experience for both residents and staff. A more detailed analysis of the data for challenging behaviour revealed a reduction in incidents for this period of the day but there was no more of a reduction here than at other times.

Other changes pointed out by staff included the opening of doors from the ward day room to allow residents access to other parts of the ward, for example the dormitories. These had previously been locked to permit closer supervision of residents from the large ward office. This did not mean that residents now wandered through the ward unsupervised. Some staff were always present in the dormitories completing domestic tasks. It might be imagined that the opportunity to explore, as well as the chance to 'escape' from a large but often noisy and crowded area was sufficient to prevent incidents.

Another decision reported by staff included spending more time with residents. There was no significant change detected in the quality of interaction, however. Nevertheless, it must be remembered that the collection of interaction data via the Psion computer measured verbal interaction. It could be that the presence, alone, of staff was sufficient to affect some of the residents' behaviour.



It is encouraging, if the above is correct, that relatively small changes in routine can positively affect client behaviour. The effect on behaviour of altering certain aspects of the physical environment has been demonstrated elsewhere (Adams et al 1980). This is not to say that all types of challenging behaviour can be affected using this approach. A high level of skill and knowledge is still required to help in most cases.

## CONCLUSION

This study has taken place at a time of great transition in the pattern of service delivery to people with disabilities. The transfer of people into the community, the closure of hospitals and the advent of the 'mixed economy' of care have created feelings of anxiety amongst those who care and work for people with mental handicap. Not least of their concerns is the preservation and improvement in care standards. The exhortations of policy makers concerning improvements in quality will be ineffective unless the lessons of the past are heeded. This study has attempted to provide a framework in which high quality services may be delivered to the most challenging of people in the most challenging of environments. Surely, any changes made here would have implications for other services.

Some encouraging trends may be noted but, overall, it is extremely difficult to make a case for the widespread adoption of the intervention used in this study. This is not because it has been demonstrated to have failed, but because circumstances gave it little chance of succeeding. The changes in the composition of staff proved traumatic to the wards themselves as well as to the timing and quality of the intervention. In fact, it

is surprising that any positive trends can be detected in many respects. What is even more surprising is that, out of the twenty-four leavers during the course of the project, only five staff left the hospital for professional reasons. The remainder were transferred to wards within the hospital. The hospital keeps no record of exit interviews. Certainly, only one member of staff to the knowledge of the researcher requested to leave the ward because of the pressures of the training. A few may have requested moves for reasons of job stress but the majority were moved, according to the managers, for organisational reasons.

There is no substantial body of literature to link staff turnover with impaired quality of life (Baumeister and Zahira 1987). These authors point out that the impact of turnover will be dependent upon other factors such as the morale and prior cohesiveness of the staff group and also the timing of the changes. In this study, these changes came at a time of uncertainty when staff morale was felt to be low throughout the organisation. Similar attempts to improve the quality of care and the lives of this client group should take careful account of the effects of the stability of staff numbers in the future. More research is necessary concerning the impact of unstable organisational conditions upon the care practices of staff.

Even if this project had been one hundred per cent successful, several issues should be addressed to improve the procedures. It must be considered an error not to have involved the hospital managers more fully into the training and the running of the project. Although their co-operation was exemplary, their increased participation and commitment to the aims of the study would have been a considerable advantage. Secondly, the cost of the study must be examined. It is unlikely that a major initiative such as this could be undertaken in the present economic climate. The workshop style of teaching and individual supervision of staff was time-consuming. It would be worthwhile examining the possible cost benefits of conducting similar training in an open, or semi-open learning format. This would have proved advantageous for new staff joining the ward. Furthermore, it is believed that the use of learning contracts contributed to the motivation of staff. Although this aspect of the training was not evaluated thoroughly, it is recommended that future ventures in continuing education include an element of personalisation of this type.

Despite some consensus as to what we would see as the outcomes of a good quality service, it still remains unclear precisely how this may be brought about.

Paradoxically, this study may have exacerbated some of the problems it aimed to solve. The study hypothesised that the wrong type of staff behaviour was being

consequated by the organisation with the result that staffs' actions were goverened more by the management than by the needs of the clients. With its high profile and extensive intervention in a somewhat impoverished setting, the project may have succeeded in shaping and rewarding the right types of staff behaviour. However, this may simply have meant that the staff became more motivated by the researcher than the behaviour of the clients. It may be that quality of care may only be realised when the correct balance between these factors is achieved. How this is brought about is a matter for conjecture. This is not an argument for abandoning an empirical approach, setting standards or introducing quality assurance systems. The investment of effort must be directed towards discovering how best they may be introduced. It may be that we need to pay greater attention to facilitating a climate of innovation amongst direct care staff. It is known that where staff are permitted greater freedom to construct goals and monitor their own actions, then positive benefits for clients can accrue (Burgio et al 1980). The success of quality circles is also attributed to the belief that staff are being permitted to use their initiative in solving problems that directly affect them instead of relying on managers to intervene (Ishikawa 1985).

This does not mean that managers should withdraw and follow the direction given by their direct care staff.

This is a recipe for inertia which will produce a disaffected workforce. The manager still has a duty to set the boundaries within which staff will operate and should articulate the aims and the vision of the service at every opportunity. What this means is that managers need to reward innovation as an outcome as well as a process. After all, helping people to change is the central aim of health services.

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## APPENDIX 1.

### Summary of staff evaluations of workshops.

Question 1. The workshop was

NOT WELL PRESENTED	AVERAGE	VERY WELL PRESENTED
1%	3.6%	95.2%

Question 2. The workshop contained

NOT ENOUGH DETAIL	TOO MUCH DETAIL	ABOUT RIGHT
1%	1%	98%

Question 3. The workshop was

NOT AT ALL RELEVANT	AVERAGE	VERY RELEVANT
0%	4.2%	95.7%

Question 4. The workshop made me feel

VERY UNCOMFORTABLE	AVERAGE	ENTIRELY AT EASE
4.2%	2.6%	93.1%

## APPENDIX 2

Figures for staff turnover on the three wards over the course of the research project.

### Ward A

	Phase of Study					Total
	I	II	III	IV	FU	
Leavers:						
Qualified	0	3	1	1	2	
Unqualified	0	0	3	0	0	
	—	—	—	—	—	
	0	3	4	1	2	10
Starters:						
Qualified	0	2	0	0	2	
Unqualified	0	0	2	0	1	
	—	—	—	—	—	
	0	2	2	0	1	5

### Ward B

Leavers:						
Qualified	3	1	0	0	1	
Unqualified	2	1	0	0	2	
	—	—	—	—	—	
	5	2	0	0	3	10
Starters:						
Qualified	3	1	0	0	2	
Unqualified	1	2	1	1	1	
	—	—	—	—	—	
	4	3	1	1	3	12

(appendix 2. cont.)

Ward C

	Phase of Study			Total
	I	II	III	
Leavers:				
Qualified	3	0	0	
Unqualified	0	0	1	
	<hr/>	<hr/>	<hr/>	
	3	0	1	4
Starters:				
Qualified	3	1	0	
Unqualified	0	0	2	
	<hr/>	<hr/>	<hr/>	
	3	1	2	6

### APPENDIX 3

Changes in numbers of staff per ward over the course of the research project.

#### Ward A

Data Collection Point	Total Numbers of Staff
Baseline	17
Phase One	15
Phase Two	14
Phase Three	12
Phase Four	11
Follow-up (first)	12
Follow-up (second)	11

#### Ward B

Baseline (first)	14
Baseline (second)	12
Phase One	12
Phase Two	13
Phase Three	14
Phase Four	15
Follow-up	16

#### Ward C

Baseline (first)	10
Baseline (second)	9
Baseline (third)	9
Phase One	9
Phase Two	10
Phase Three	11