

**EXCLUSIVE HOME TREATMENT AND HOSPITAL  
TREATMENT FOR ACUTE PSYCHIATRIC DISORDER**

**: A Controlled Evaluation**

by

Marcellino Gerard Smyth

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**Department of Psychiatry  
University of Birmingham  
Birmingham. B15 2TT.  
ENGLAND**

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## **Abstract**

Home Treatment for acute psychiatric illness was compared to conventional hospitalisation in a design which focused on completed episodes of either exclusive alternative.

The evaluation was conducted with the West Birmingham Home Treatment Team and All Saints Hospital, Birmingham. Forty cases in each group were examined with closely equivalent socio-demographic features and previous psychiatric history. The length of treatment, clinical outcome, identification and targeting of needs, readmission profile and client satisfaction were compared. The study focused on presentations involving mainly a diagnosis of severe mental illness.

Home Treatment was significantly shorter and involved wider targeting of identified needs. There was no significant difference in terms of clinical outcome. Home Treatment and avoidance of admission were preferred by patients. The determinants of satisfaction with acute care in both settings was explored qualitatively.

Significant design and sampling problems limit the generalisability of results. The case for and against Home Treatment is examined. The lessons learnt during the course of the study regarding the appropriate focused evaluation of Home Treatment and the place of Home Treatment as a particular model of intensive care are critically discussed.

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## **PART 1: BACKGROUND and LITERATURE REVIEW**

### **CHAPTER 1: HOME TREATMENT**

#### **1.1 Defining Home Treatment**

Home treatment refers to an intervention strategy for acute psychiatric illness in which the primary location of care is situated in the individual's place of residence within the community. The term describes either avoidance or minimisation of conventional acute hospital care. Home treatment involves therefore a radical and alternative service delivery strategy, with adherence to the principles of conventional acute psychiatric care. These involve holistic assessment of need, formulation, establishment of a therapeutic relationship, support and supervision, medication where appropriate, concern for safety and risk, involvement and assistance for carers, liaison with relevant agencies and professionals, and aftercare arrangements.

In practical terms, home treatment targets those individuals with (usually) serious mental illness who meet acute inpatient admission criteria. The service tries to deal with the crisis in the person's own home, providing 24-hour support until the crisis is resolved. Remaining involved until the resolution of the crisis is a key feature of home treatment, leading onto safe discharge usually to a less intensive form of continuing

care.

Home treatment acts as the gatekeeper to acute inpatient care from all urgent referral sources.

In organisational terms, the home treatment team can be a separate team or be made up from members of the community mental health team. As hospital care is required for a proportion of home treatment cases, different home treatment teams will have different degrees of involvement during this phase.

Some home treatment teams will offer the facility of early discharge of admitted cases onto home treatment. These cases can involve those initially treated by the team but which required admission, or cases which bypassed assessment by the team at the point of admission.

Home treatment needs to be distinguished from other strands of community psychiatry which also have as their aim the reduction or avoidance of hospital care. These are the projects of deinstitutionalisation, non-hospital residential alternatives and partial hospitalisation or day care. Each of these topics traditionally involve a distinct and separate enquiry from the area of home treatment, although in practice, management of home treated acute illness may involve recourse to day centres, day hospitals or placement in non-hospital residential facilities such as hostels.

Additional distinction from assertive outreach and crisis intervention services needs



further discussion as introduced below and discussed further in Chapter 3.

The advantages and the case which has been established for home treatment is discussed after the literature review along with reference to criticism of this initiative (Chapter 5)

### **1.2: The Features of a Home Treatment Service.**

A home treatment service needs: to be available 24-hours daily; able to respond quickly (within an hour) to emergencies; be flexible in its working patterns; able to spend lengthy periods with the patient and their immediate family and social network, contacting and visiting them if necessary; able to prescribe, dispense and monitor medication in a flexible manner depending on changing clinical circumstances; offer joint medical and nursing assessment and when required the involvement of other disciplines such as psychology and social services; able to visit patients or potential patients wherever they are, whether at home, having arrived at a hospital for admission, police custody, primary care surgeries or general hospital casualties or wards; able to offer a wide range of interventions from pharmacological to crisis emotional support, to counselling or specific cognitive cognitive-behavioural strategies; offer routine physical medical examination and investigations; liaise closely with referring agents, patients and carers regarding non-hospital options; act as a gatekeeper to hospital admission; remain involved with the patient until the acute phase difficulties are resolved; arrange safe discharge and aftercare with appropriate professionals; offer the capability for early discharge of already admitted patients; be prepared to arrange admission for home

treatment patients in the event of breakdown through lack of access or contact, clinical deterioration or failure to improve, or the emergence of risk factors which render admission a safer course and; (possibly) retain involvement during such admission phases.

The case for home treatment is critically discussed in Chapter 5, following the literature review in Chapter 4.

### **1.3 Home Treatment and Assertive Outreach**

The distinction between home treatment and assertive outreach is not always readily apparent. Problems of nomenclature confound the comparison. Although assertive outreach has a different phasic focus (in targeting and engaging the relatively stable but ‘at risk’ seriously mentally ill), both its historical development and treatment process parallel later home treatment initiatives. Assertive outreach services can incorporate acute emergency responses, or work alongside them. This is reflected in the extension of home treatment evaluation beyond the acute phase in a number of reports. Many of the guiding principles of assertive outreach are shared by home treatment teams, the exception being that of the long term commitment to the patient.

The place of home treatment as a model of case management is discussed alongside assertive outreach in Chapter 3.

#### **1.4: Home treatment and Crisis Intervention**

A particular set of theories relating to phases of severe stress and its impact on individuals led to the development of crisis intervention responses. Caplan (1961), Jacobson (1974) and others studied the pattern of psychological disequilibrium following stress and developed a matrix for intervention aimed at maximising coping. The predominance of 'counselling' following tragic incidents in our present culture owes its origins in part to this movement and to increased awareness of post traumatic stress disorder.

While home treatment can involve elements of crisis intervention, the main focus is that of providing a realistic alternative to hospital admission in the setting of acute psychiatric illness. This conventionally differs from the remit of crisis intervention where the subject group can be the non - psychiatric population with lesser morbidity, following stressful life events or the primary care spectrum. As Katschnig & Cooper point out, (1991), this distinction is less easy in theory than in practice, particularly at the gateway to psychiatric care following urgent assessment. The distinction is further complicated by the recent growth of mobile crisis intervention teams (Geller *et al* 1995). Clarifying the differences between these types of services is a task not made easier by the paucity of research in general and adequate research in particular regarding the activities and client group targeted by such teams (and they tend not to appear in citation references in reports describing home treatment). For purposes of inclusion, recent research on mobile crisis intervention teams is included in the literature review.

## **CHAPTER 2: COMMUNITY PSYCHIATRIC DEVELOPMENTS IN THE UK**

### **2.1: Political and Historical Aspects**

The publication of “Hospital Services for the Mentally Ill” in 1971 is an acknowledged starting point for tracing the development of current mental health policy in Britain (DHSS 1971). The aim was to provide a new direction for psychiatric services involving an integrated model of District General Hospital and community based care. This direction was led by increasing dissatisfaction and criticism of remote, traditional asylum care, and the predicted decline in asylum populations which were virtually uniform throughout Europe and North America. The recommendations of this report failed to materialise largely because of the phenomenon of the ‘new long stay’, the scarcity of DGH units, and the failure of Local Authority and Social Services provision to change appropriately.

In 1975, the publication “Better Services for the Mentally Ill” made further recommendations regarding the expansion of psychiatric and social services required to realise further the run down of asylums (DHSS 1975). Despite two further policy documents “Care in Action” and “Care in the Community” in the early 1980’s, by 1986 the Audit Commission’s report on progress towards community care was pessimistic (HMSO 1986). Essentially, hospital closure was proceeding unabated but community developments were lagging well behind. This was thought to be due to the lack of bridging finance and general disorganisation in implementing alternative service

structures.

The Griffith's report which followed (1988), recommended that responsibility and accountability for community developments needed to be clarified and stipulated at national and local level. These proposals were accepted in the form of the White paper "Caring for People" (HMSO 1989 a) and its legislative component, the "NHS Community Care Act 1990" (House of Commons 1990). In this Act the by now, long-standing, commitment to community care was reiterated and a single budget outlined to cover all costs of care irrespective of whether clients were in their own residences or joint homes. Hospital discharges of the mentally ill were to be possible only with adequate medical and social care. Local Authorities were to receive a new specific grant to fund their obligations. Other strands of the Act concerned with the mentally ill involved the development of the Code of Practice (for formally detained patients) and of individual care plans.

The adjoining reforms outlined in the White Paper "Working for Patients" would have a major impact on psychiatric provision (HMSO 1989 b). These comprised the separation of 'Purchasers' from 'Providers', the introduction of capital charges on all NHS hospitals from 1991, and the proposal to create 'Self Governing Hospitals'.

## **2.2 Recent Developments.**

Whereas in the past it had been scandals that had accelerated the closure of asylums, in the 1990's it was scandals that threatened to impede further progression towards community care. A series of dramatic and violent incidents involving psychiatric patients in the community led to general public concern about the plight of the mentally ill in a post-asylum culture, and to the media's scrutiny of the disparity between perceived 'political rhetoric', 'professional dogma' and the reality of service deficits. The Department of Health's then proposed "Legal Powers on the Care of Mentally Ill People in the Community" in 1993 (DOH 1993). This described strengthened powers to supervise the care of patients detained under the 1983 Mental Health Act after discharge and included the new power of supervised discharge, special supervision registers, and an agreed programme for the Government's Mental Health Task Force. It also urged better training for key workers in the implementation of the "Care Programme Approach", a system designed to specify the ingredients and mechanisms of care which had originally surfaced in the Spokes Inquiry into the death of a social worker, and had been reiterated in the 'Health of the Nation' handbook for Mental Illness. The thrust of the Care Programme Approach was that of improving the delivery of services to people with severe mental illness, and minimising the risk of their losing contact with mental health services.

According to Raftery (1991), however reactive, sluggish, or patchy, mental health policy in the UK has shifted towards community care, and that this shift is destined to continue and accelerate. It is against the background of this mosaic of changing political and

social policy that home treatment initiatives, for the treatment of acute severe mental illness, appeared in the UK, radically tackling the inertia that had bedevilled the process of change to community care at the sharp end of service provision.

More recent developments in Community Care have cast some doubt on the general rush towards radical community provision. Analysis of the Case Management approach with the unexpected outcome of increased rather than decreased admissions, the relentless disappearance of inpatient beds coupled with scandals in community care, monthly homicide enquiries and disenchantment in the psychiatric profession, have combined to signify a possible watershed in the progress of change. The relevance to home treatment of these developments is discussed in Chapter 5.

## **CHAPTER 3: CONFUSION OF IDENTITY. HOME TREATMENT, INTENSIVE CASE MANAGEMENT, AND OTHER NOMENCLATURE.**

### **3.1: Introduction**

The accelerated development of home treatment (particularly in the US context) is interlinked with and in part derived from the growth of the assertive outreach/intensive case management approach in community care. Both models share aspects of a fundamental ideology which is reflected in common aspirations, service organisation and delivery. In this section, the ingredients of this relationship are explored, and an attempt is made to sharpen the edges where overlap occurs between both models.

Before examining the relationship outlined above we need to clarify what is signified by the terms ‘case management’, ‘intensive case management’ and ‘assertive outreach’(the working definition of ‘home treatment’ having been described in Chapter 1)

### **3.2: Case Management**

‘Case management’ aims to enable individuals with mental illness to live more independently in the community, and negotiate a fragmented system of care. The essence of case management is a relationship between a patient and a case manager which enhances continuity and co-ordination of care. Growing diversely out of the broad community mental health movement in the US, unsurprisingly different models of



the case management approach developed in different sites with different practices and traditions. By 1990 case management had arrived in the UK and been described by Sheperd as “the cornerstone of community care in the future” (Sheperd 1990).

With the basic functions of: - assessment (of needs), planning (developing a care plan), advocacy and linkage (arranging for the suitable care to be delivered), monitoring (monitoring the quality of care) and maintaining contact; different adoptions of the model have emphasised various aspects of these core functions. At one end of the spectrum, the ‘brokerage’ model de-emphasises the active clinical involvement of the case manager who rather organises and oversees the input of appropriate agencies. At the other end, the case manager is directly involved in treatment and support. Overall, variations in the implementation of the case management approach can be found in the services provided (direct clinical or brokered), the composition of teams (with and without clinicians) and the context of working (e.g. health/social services etc.) (Marshall *et al* 1996)

Despite the widespread enthusiasm for case management, conclusions as to its effectiveness invite sober reflectiveness. Ford *et al* (1995) concluded that case management could deliver appropriate and continuous engagement with mental health care, but that it was insufficient in its own right to bring about improved health and social outcomes. This view was based on the results of a randomised controlled study of case management in North Southwark, London. Despite within group improvement, there were no differences in case managed and control subjects in overall quality of life, With unemployment, social isolation and poverty still applying. The Cochrane review

(Marshall *et al* 1996) of 9 US and UK reports examined the numbers losing contact with psychiatric services, the number of admissions, and clinical outcome (in addition to other outcome measures). Home treatment was excluded from this review. While retention in service was demonstrated, this effect was not strong enough alone to justify the approach. Hospital admissions were doubled, thus achieving the exact opposite effect intended by the approach. Insufficient data was available to support clear conclusions concerning improved clinical or social outcome. The gain in preserved clinical contact appeared to be at the expense of increased hospital admissions. Marshall went on to state that the model constituted dubious practice. Such views echo those of Stein 4 years earlier, when he called for the abolishment of case management (1992).

### **3.3: Intensive Case Management (Assertive Outreach/Assertive Community Treatment)**

Assertive Community Treatment involves the provision of a comprehensive range of medical, psychosocial, and rehabilitative services directly in the community by a dedicated, directly involved team which aims to replace (and surpass) conventional hospital care and maintain engagement with patients. The 'Program for Assertive Community Treatment' (PACT) took origin in Madison, Wisconsin developing from the Total Community Living (TCL) model of Stein & Test (1980). Modifications of the system share this single heritage, unlike the case with Case management. Assertive Outreach (AO) refers to a specific form of this model which was developed in Chicago

(but which embodies the core facets of the ACT approach). Assertive Community Treatment (ACT) differs from Case Management in a number of respects. The teams are multi-disciplinary with little emphasis on team members carrying individual case loads. Interventions are targeted in the community and in patient's own homes. ACT teams have low staff:patient ratios (10-15) and attempt to provide all interventions themselves rather than relying on linkage to other agencies. It has been an explicit emphasis of ACT to provide a real alternative to psychiatric hospital admission. The critical ingredients of ACT have been discussed by McGrew & Bond (1995). These include: a problem solving orientation, however mundane; assertive, persistent engagement; a team co-ordinator with responsibilities limited to the ACT; shared case loads and treatment planning; an in-vivo treatment focus; a no close policy (life commitment); work to prevent hospitalisation and work with admitted patients; individualised treatment aimed at basic needs and increased client functioning; working with families and integration with the community; client involvement with treatment planning.

The development of ACT has been better supported by an accompanying research culture than perhaps any other area of community psychiatry. The positive outcomes of early research have now been widely replicated. ACT programmes have been found to, reduce hospitalisation and increase the use of community mental health services at an equivalent or reduced rate (Scott & Dixon 1995). In Bond's meta-analysis of 9 studies (1995) he concluded that assertive outreach can reduce in-patient hospital use by about 50% (depending on the targeting of frequent users, availability of 24-hour crisis services, and the degree of control over hospital treatment ). Fidelity to the original

Madison model was important in achieving similar results. ACT reduces symptomatology, improves social functioning, promotes residential stability and independent living. Compliance to treatment is improved and patients like the service (in fact service retention is generally very impressive). In another review of the effectiveness of ACT, Burns & Santos (1995) found strong positive effects on reduced hospitalisation and patient and family satisfaction but were more cautious about the effect on particular functional outcomes (as different services had different target groups). Questions of improved quality of life (involving client perspectives rather than service planner perspectives) are a more complex focus of debate than the demonstrated increase in community tenure (Bond cites 'patient income' and the need for 'extended evaluative timeframes' as two reasons why studies do not demonstrate significantly better improvements in life functioning over controls (1991)).

Recent evaluation has examined the relationship between outcome and the perceived strength of the case manager/patient alliance (Rosenheck 1995). The fostering of a *continuous*, responsive relationship between the intensive case manager and the patient is a fundamental assumption embodied in the ACT approach. In a study of 143 clients from the Veterans Affairs ACT programme, the quality of this relationship was measured after 2 years (retrospectively). Variation in outcome was explained by the, respective ratings of the alliance i.e. case manager and client perceived outcomes related to case manager and client perceived alliance respectively. The outcome variables were those of community living skills, symptom severity, global functioning and hospital use (where by exception little relationship was demonstrated). The raised question (as yet unanswered) as to just what constitutes the central therapeutic ingredients of this critical

professional/patient relationship has just as much relevance for home treatment (if one speculates that the therapeutic relationship is different and superior to that found during conventional hospital care).

In a further multi-site study of intensive community care, Rosenheck (1995) studied over 800 patients. The study began from the point of all patients being in hospital with randomised allocation to standard aftercare (419) or home treatment at discharge (454). Both groups were constituted from a general psychiatric hospital and a neuropsychiatric hospital. The essential difference between the concept of home treatment as serving the acute episode, rather than the opposite as in this case where home treatment involved assertive outreach follow-up after discharge from admission, is highlighted here. The report concentrated on service use and costs over a 2 year follow-up period, without studying clinical outcome. The total number of readmission days in the experimental group was 311 compared to 380 in the control group. The findings supported the continuing need for inpatient care, despite the impact of the home treatment aftercare in reducing this need in respect of the discharged neuropsychiatric (but not general psychiatric hospital) patients. No detail was provided as to the failed versus successfully home treated patients.

It is no mean measure of success to recognise that the ACT model has been widely disseminated throughout North America and Australia and the UK to a lesser extent (By 1995, 340 programmes were identified in 34 states in the US). This dissemination has understandably involved various modifications to the original Madison TCL model.

The Bridge Program in Chicago (Witheridge *et al* 1982) focused explicitly on frequently hospitalised patients, used less qualified workers and operated reasonably distinctly from city mental health services. The model expanded to target particular groups such as the homeless mentally ill, those with deafness, substance abuse and the young.

Bond's perspective of the continuum of models from 'growth' to 'survivalist' is helpful (1991). 'Growth' oriented models (e.g. the TCL) emphasise improved quality of life, include vocational and social targets, are more open to any clients with severe mental illness, provide unlimited time (depending on persistent need), and are available 24 hours a day, 7 days a week. 'Survivalist' (e.g. the Bridge Program) models have more specific aims of reducing hospital usage, homelessness, while focusing on basic needs. High-risk, frequent users and other more clearly identified groups are targeted with variable (short and long term programmes) by more generalist staff. The availability is more limited to weekdays and a component of emergency response capability. The difference between models can reflect not only planned elements, but also unplanned variations which arise in response to issues such as funding, the local population served, and implementation problems.

How useful or problematic is it however, for changes in the model to occur? To what extent can these modifications be considered as "positive indications of the adaptability of the assertive approach" (Essock & Kontos 1995) or as sacrificial erosions of the model based on expediency? Essock & Kontos partially address these issues in a report describing the implementation of the model in Connecticut and express concern about

‘model drift’. After early ACT teams had been formed in the late 1980’s with funding from the Robert Wood Johnson Foundation, further expansion was achieved through reallocation of existing budgets. The report describes the mechanisms for progressively strengthening the assertive teams at the expense of standard community mental health teams (relying on voluntary transition of staff). Cost effectiveness was examined by comparing 3 different ACT teams to 3 standard services involving the traditional case manager approach. ACT clients were truly in contact with a team rather than an individual case manager and had significantly more time spent on them (and more out of hours service). Preliminary hospitalisation data showed that ACT patients spent half as many days in hospital and a third as many days in unstable living conditions. In considering that the comparison condition of standard case management was of good quality, the conclusions again endorsed the ACT approach. The authors stressed the need to avoid erosion of the core model through training and monitoring, having demonstrated that fidelity to the model could be achieved in relatively cost-neutral ways.

### **3.4 The Place of Home Treatment**

Where does ‘home treatment’ fit in the world of case management, and assertive community treatment? The answer really lies in the context within which ‘home treatment’ is being considered and the design and purpose of a particular home treatment initiative. There is no definitive answer to this question, and it is clear that terminological problems beset home treatment just as much as case management. Hence difficulties of interpretation and communication arise which complicate understanding and perhaps acceptance. For instance, home treatment was considered by

the Cochrane Group (Marshall *et al* 1996) to mean involvement with less seriously ill patients as reported in the studies of Burns (1994) and Merson (1992), (their review is awaited). Such an interpretation is straightforward, but may be inaccurate and restrictive when considering the array of home treatment initiatives studied, with latterly **an** emphasis on the seriously mentally ill,

A cross-sectional perspective on psychiatric service provision involving home treatment would describe a complex continuum. A historical view would highlight points of intersection with intensive case management/assertive community treatment. Both perspectives are useful in clarifying the overall relationship.

In the cross-sectional view, we find an array of facets of home treatment ranging from simple assessment of urgent referrals in the community by conventional community mental health teams (Merson *et al* 1992), mobile crisis teams (Geller *et al* 1985) to 24-hour home treatment aiming to minimise recourse to hospital admission (Hoult 1986) and home treatment instead of standard aftercare (Rosenheck 1995). In the US context, the acute, at home treatment services can be integral to, or operating in parallel with ACT. In the UK, the emerging inter-relationship between the crisis response element and assertive outreach is not as yet well delineated. (In North Birmingham for instance, despite the widespread development of assertive outreach and home treatment teams, the relationship between these teams varies in each geographical sector. In some sectors, the assertive outreach team and home treatment teams joint-work cases in crisis. In other sectors, this co-operation extends to direct involvement in in-patient care, while in other sectors there is hardly any inter-relationship, with breakdown in assertive



outreach management leading invariably to hospital admission).

Naturally it would depend on the context and phase of illness as to what types of intervention, support, degree of engagement, and visit frequency characterise home treatment activity. As the different arrangements illustrated above imply, there can be sometimes little difference between home treatment activity in crisis and the day to day operations of a designated assertive outreach team, other than higher visit frequency (including out of hours) and more intermix of personnel than usually applies in the non-acute phase.

From a historical perspective, we know that mobile crisis intervention teams were operating in Holland in the 1930's, long before the advent of neuroleptic medication and even the most basic concepts of psychiatric rehabilitation (Querido 1968). Despite the sporadic but well intentioned efforts at acute diversion from hospital through home treatment in North America in the 1970's, little progress was made towards the integration of this model into routine psychiatric practice. It is to Madison, Wisconsin again that we turn to trace the further impetus to the development of the model, which spurred replication in Australia and the UK. An excellent account of the sequence of developments in Madison is provided by Thompson *et al* (1990). Stein & Test (1980), having achieved release of patients to the community and further sustaining them there with the TCL approach, turned their attention to prevention of hospitalisation in the first place. This was for the reason that if patients were hospitalised, the risk of further admission was increased (the 'revolving door phenomenon'). Non-clinical pressures to diminish hospitalisation were also increasingly felt at this time. The application of the

Why should this be so? One obvious reason was that interest properly centred on a comprehensive service model, and home treatment for the acute phase is of limited benefit if patients are being discharged to inadequate follow-up care, only to return sooner rather than later. This total view, however was one in which acute phase treatment became subsumed into the larger picture with a degree of relative neglect.

In 1983, Mosher questioned the failure of research to be translated into practice. He speculated that the first and foremost reason in America was financial - alternative care was classified by health insurance schemes as outpatient treatment, and since strict reimbursement limits applied to this (compared to hospital care), no matter how intensive, there existed a strong financial disincentive towards its adoption. Secondly, he discussed culturally sanctioned expectations concerning the institutional care of the seriously mentally ill, and the unacceptability of suggested alternatives. Finally, he suggested that there was resistance in psychiatry to abandon its long and difficult battle for scientific respectability - to disappear into the community and leave its psychiatric wards (many of which were now in general hospitals) just at a point when its technological strengths were at last achieving acceptability within the larger medical fold.

Since the financial insurance disincentive argument did not apply in the UK, failure of widespread acceptance of home treatment must be accounted for differently, particularly when sweeping community psychiatric reform took root in the present decade. Undoubtedly the dominance of the medical model, strengths of traditional practice and growing concern about the pace of deinstitutionalisation and hospital closure in the face

of inadequate community resources have had a major role. Largely negative editorials (Dedman 1993, Coid 1994) certainly did not advance the cause. Two further explanations might be relevant, namely the static nature of home treatment research and the fears of clinicians regarding the availability of beds (when resources were freed to fund alternative teams) and pressures of 24-hour cover. The static nature of home treatment research just alluded to, refers to the absence of further detail emerging as to those circumstances in which home treatment fails, integration with knowledge concerning admission related variables and refinement of the model in terms of specifying interventions and service delivery components in response to user feedback.

### **3.5: Summary**

It is fair to say that the place of admission and diversion from hospital admission has been understudied in the assertive outreach literature, while that model gains additional ground and prominence. Case management was implemented widely before stringent evaluation followed, with doubt now overshadowing its basic claims. The identity of home treatment has suffered apace with this and the confusion of nomenclature which prevails regarding community alternatives. All evidence points towards a partial impact on reduced hospitalisation (with the exception of case management), an impact which is more dramatic one assumes when dedicated home treatment is integrated and operated alongside assertive outreach configurations but nevertheless endorses the continuing need for admission facilities. Large scale, international trials are required looking at specific interventions both in positive and negative terms. As Kluiter (1997) best states, this overall situation of research is “embarrassing considering the thousands of patients all over the world and the amount of money and work at stake”

## **CHAPTER 4: LITERATURE REVIEW**

### **4.1 Introduction**

In the review to follow, a division is made between international and UK studies, so as to better locate home treatment developments in the UK. This division is more or less chronological also, because of the later appearance of reports in the British literature.

A number of early descriptive reports are outlined in both sections, followed by the more critical review that is possible for those studies which merit structured appraisal. It was not unusual for authors to attempt to disseminate their findings in different journals, while the study group in question remained the same, but were either examined at a later timeframe or diagnostic subset. Where this occurs, the main features of the adjoining reports are provided.

An accompanying table (A) summarises the main points from these reports.

### **4.2 International Review (Descriptive Reports)**

The earliest recognised home treatment service (in the context of established asylum provision) is that of Querido (Querido 1968) in Amsterdam. The account of Querido's work is provided in a form of a published lecture. He described how he strove to avoid psychiatric hospital admission through the availability of a 24-hour, emergency domiciliary service in the 1930's. The effort was directed at both the diversion of

emergency cases from admission, and de-institutionalisation. Stimulating vignettes are provided to illustrate his method of providing emergency aid in the social setting of the patient. Recalling Pinel's dictum (" Il n'y a pas de danger, la folie est toujours raisonnable.") the initial attempt to merely see patients before they 'disappeared behind hospital walls' soon expanded to an appreciation of the benefits and additional insights provided by assessment in the surround of the 'wailing child' or 'nervous dog'. Patients were better dealt with as if they were non-patients and simply individuals in the midst of their environmental ensemble.

Systematic evaluation of this programme was not performed and indeed the only figures provided are those involving Querido's estimate that about 50% of the acute cases could continue to live in the community. Although the system was adopted throughout Holland, his efforts in dealing with acute severe illness in the community without immediate recourse to admission, and commitment to an integral after-hours service, were not matched nationally by colleagues, such that most of the activity of such teams became devolved to minor psychiatric morbidity. The original model, while effective in reducing admissions, was considered too expensive.

In Boston in 1957, a series of home treatment programs commenced which led to a descriptive report in 1964 (Friedman *et al* 1964). In the first exercise, an all-out attempt was made to divert hospital bound patients to treatment at home. Of 93 cases, 40% were admitted, 30% managed at home, and the remainder thought not to actually require admission in any case. In order to establish whether the home managed cases were truly otherwise destined for admission a second project began which sampled patients

arriving in the admission room. Agreed cases were randomly assigned to either hospital or home care (involving 50 cases). However the immediate finding was that of the virtual impossibility of delivering home treatment to cases thus assigned after they had arrived at the emergency room (and none made it onto home treatment). A third venture recruited patients from poor outpatient attenders. This exercise failed also in that poorly motivated patients were no more willing to receive home care than to attend. A fourth and final program relied on compulsory screening by the home treatment team of all admission referrals (so as to tackle the emerging issue of team bypass). Admission was not strenuously avoided as with the previous failed initiatives. From 149 referrals, 30 were never seen, and from the remaining 119, 25% were admitted.

This report involved no instrumentation, only summary group figures are given, and conclusions must be confined to the described area of interest i.e. the difficulties of overcoming perceived resistance to home treatment despite a perceived gap in routine service provision. The major finding was the rebuttal of the assumption that cases referred for admission all needed admission and the possibility of treating a proportion of true emergencies at home. Useful discussion of the issues surrounding the attempt to divert admissions and of the hostility that this could arouse in fellow professionals is provided.

The Vancouver Home Treatment Project compared 212 patients allocated to: home treatment alone; home treatment after admission and; hospital admission alone with conventional aftercare (Goodacre *et al* 1975). After pre-screening, patients selected for admission were randomly allocated to these treatment conditions. A fourth group

emerged which consisted of those patients allocated to home treatment who were admitted before the home treatment team could become involved. Purpose designed interview schedules were administered to the subjects and their relatives at referral, 4 months and 12 months afterwards. These schedules covered previous history, life events, target symptoms, and social interaction.

The first aspect studied was that of the impact of home treatment in avoiding admission. This was achieved in only 33% of cases over the year. The second focus was on length of hospital stay (excluding the non-admitted home treatment cases), with no significant differences emerging between the other groups. Rates of readmission (allowing for period of risk of readmission) were not significantly different between treatment condition. Finally, the assignment to home treatment after admission did not significantly reduce mean bed day usage compared to admission and conventional care.

This study is quite notable in two respects. Firstly, the availability of home treatment did result in significantly measurable advantages other than preventing admission in one third of assigned cases. Secondly, the design allowed for the reality of the intermix of home and hospital treatment which occurs in practice. Shortcomings, however, lie in the absence of established or known instruments, and the departure from the original design. The equivalence of each group in terms of morbidity and socio-demographic factors is stoutly defended by the authors, but the procedure for randomisation was not described. Sample attrition was quite significant also with only half of the hospital alone subjects being traced for interview at 12 months. The negative findings could reflect diminished power through sample loss. The authors claimed that rivalry between

the hospital and experimental treatment staff resulted in observed bias towards longer than necessary hospital stays in the hospital followed by home treatment group. It was also suggested that home treatment was more sensitive to ongoing problems, resulting in admissions which might not otherwise not have occurred. One particular problem with the design was that measurement of the impact of home treatment on a specific episode of acute illness was not the prime focus (rather service usage over one year). This type of measurement reflects aspects of continuing care and assertive outreach (which is of course valid and relevant but with the caveat above).

The Soteria House project of Mosher and colleagues (1978) does not stand as a study of home treatment. Mosher and colleagues examined admitted patients (but to a community health centre) against experimental patients treated in a smaller community facility which was staffed by specially trained non-professionals. Most subjects were in the phase of a first schizophrenic breakdown. This study involved non-random allocation and the facility of a purpose group home with its own distinct treatment philosophy (instead of patients own homes) is a point of departure in terms of comparison with other studies. There was a trend for the experimental group patients to have fewer subsequent admissions (over 2 years) and significantly better psychosocial adjustment than the control group, despite having received less medication.

The crisis response component of community treatment was studied in New South Wales after the development of 11 mobile crisis teams in response to the Sydney initiatives of Hoult and Reynolds discussed below (Reynolds *et al* 1990).



The design involved a prospective descriptive uncontrolled survey of patients presenting to the Ryde Hunters Hill crisis team over 3 months. The survey intended only to look at those cases with either a diagnosis of psychosis, a history of admission, or presentation for admission to Macquarie State Hospital. The sample comprised 69 patients. The team completed a patient data form and patients and relatives completed satisfaction forms similar to Reynold's previous research. There were no instruments applied and outcome was confined to the team feeling that their intervention had led to 'great', 'somewhat' or little improvement. Follow -up interviews after 6 months were completed for 80% of the patients.

The results revealed that 80 % of the cases met the criteria of being both psychotic and of having had a previous admission. The method of establishment of the diagnosis of 'psychosis' was not described. The range of problems leading to referral were those of psychotic symptoms/behaviour (23%), suicidality (20%), and depression/ withdrawal (20%). The crisis team had stayed involved with 72% of the cases for up to 4 months. One third were admitted to hospital during the study and the diagnosis of those admitted was nearly identical to those not admitted. Positive testimonials for the teams efforts emerged from patients and relatives. Interestingly, 24% of non-admitted patients reported that they felt that at times they should have been admitted. Overall 88% appreciated not being admitted at the time of presentation. In summary recording of local admission data, the team found that admissions to the hospital fell by 50% during the operation of the team.

In the discussion, the authors felt that continued intensive work was separately required after the acute intervention for the majority of the severely mentally ill, and echoed the US conclusions about the need for assertive outreach in this group. Thus crisis teams while desirable and effective, needed to be additional to hospital and community long term rehabilitative strategies. Further review of American crisis intervention teams follows later in this chapter.

#### **4.3 International Review (Research Reports)**

In North America, three early studies randomly assigned patients to samples which accepted home treatment (Pasamanick *et al* (1967), Langsley *et al* (1969), Polak & Kirby (1976)).

Pasamanick and colleagues (1967) studied the effectiveness of home care compared to hospitalisation, over 3 years. They asked whether home care for schizophrenia was feasible, whether drug therapy was effective, and whether home care was superior to admission.

The design involved three groups based on 152 state hospital patients; one receiving drug treatment and nursing visits at home (57); a placebo group treated identically but with placebo medication (41) and; a hospital group (54) treated in accordance with ordinary hospital procedures. The patients were all diagnosed as schizophrenic. Assignment to groups was performed in a screening clinic after admission, through

randomised cards once the family indicated willingness to co-operate with the program. Patients requiring emergency care or those who had undergone extensive drug treatment beforehand were initially excluded. The design was later modified to include previously treated patients. Patients had to have family willing to support them in their homes. Failed home treatment patients were admitted.

The instruments used were the Inpatient Multidimensional Psychiatric Scale, a Psychiatric Inventory developed locally, and Psychological tests including the Weschler Adult Intelligence Scale. Measurement took place at entry, 6 months, 18 months and discharge.

The experimental intervention involved public health nurses to visit patients at home at least weekly, providing medication and supportive therapy. Psychiatrists saw patients at home on average at 3 month intervals.

Results showed that the home care group spent more time in the community than hospital controls and their mental status, domestic functioning and social participation were as good as, or better than those of the controls (hospitalised). Differences in outcome only occurred in the first 6 months of the project. Over 77% of the home-treated group but only 34% of the home/placebo cases remained in the community, which was unsurprising. While 46% of controls needed readmission, only 24% of home/drug patients were admitted at any time. Costs were not measured directly.

Appraisal of this report cannot ignore the repeated modifications to the original design in the face of low recruitment of eligible subjects, particularly where home treatment was concerned. The validity of this study suffers from the exclusion of patients without families willing to accept them at home, and of suicidal or homicidal patients. Thus the selection criteria were biased in favour of patients for whom home care would be more acceptable (and only those patients and families who consented to this could be so allocated). No information was provided in regard to the facilities or treatment provided for the hospitalised group (other than the mean stay being 83 days). The applicability of the study to the present time is also questionable, given the easier criteria for admission that prevailed in the early sixties. Useful discussion of the economic implications, deficits of conventional hospital care, and the need for further training of psychiatrists in community settings is provided, and still hold currency.

In Denver, Langsley and colleagues (1969) employed a family crisis intervention model that aimed to de-emphasise admission as a response to crisis.

The design involved random assignment of three hundred patients requiring immediate hospitalisation to either family crisis therapy (FCT) (150 cases) or admission (150 cases). Eligible patients had to reside with family and within an hour's travel. Details of the randomisation procedure were not given, but 25 % of patients attending an emergency clinic were found to meet the criteria for entry. These cases were described as comprising 'acutely disturbed schizophrenics, suicidal depressives and other dramatic behavioural disturbances'. FCT cases were admitted 'briefly' before allocation.

The experimental intervention comprised of an outpatient crisis management approach (office visits, home visits, and telephone support) involving the patient and their key relatives or socially important others. This was delivered by project psychiatrists and psychologists.

The instruments applied were those of the Social Adjustment Scale, the Personal Functioning Scale and the Crisis Management Scale. Data was collected at 3, 6, 12 and 18 months.

Regarding results, no FCT patient was said to require admission in the first 3 weeks. FCT patients (19) were half as likely to be hospitalised (their first admission) within 6 months after intervention, than hospitalised patients (39) were to be re-hospitalised. The length of hospital stay for the latter group was twice that of the FCT cases who required admission. FCT and admission had equal effects in restoring social adjustment and role performance, from equivalence at baseline through to the 18 month measures (available on 109 only in each group). Thus no significant difference emerged between groups, other than the rates of admission, re-admission and the length of hospital stay.

Costs were estimated as FCT costing one-sixth as much as hospital treatment.

Appraisal of this study points to a number of shortcomings. Apart from the exclusion of those with no family the other reasons for exclusions were not explicitly stated. Little data is provided concerning age, diagnosis, illness severity or drug therapy all of which represent sources of confounding. Ratings were not independent, and the selection of those initial 150 cases who presented acutely and were allocated to family crisis therapy

- none of whom were admitted (apart from at presentation) begs the question of their morbidity. No other home treatment study could claim the same success rate of admission diversion, even in the most reputed centres. The study group was also limited to those with available family. In trying to establish further detail, a principle reference of the authors concerning their work turns out to be a commentary on their initiative (Langsley *et al* 1968). A further quoted publication concentrates very much on the process of family crisis intervention and concludes that schizophrenics manage crisis in a less efficient manner than non-schizophrenics (Langsley *et al* 1969).

Also in Denver, Polak & Kirby (1976) described a comprehensive system of community treatment which was advanced as a model to replace psychiatric hospitals. The model described the reduction of need for psychiatric beds to less than 1/100,000 population (a strong claim, but one which is verified by personal communication).

The design involved randomly allocating 85 patients who presented for admission over an 18 month period to either home or hospital care. The same clinical team was to treat both groups and no exclusion criteria were set .

The experimental intervention incorporated home treatment, the use of private homes for respite (and intensive observation), crisis intervention and social systems intervention. Rapid tranquillisation also featured. Volunteer participation was also encouraged (including ex-patients from the programme) in aiding the experimental group.

The measures applied were the scales of Treatment Effectiveness, Goal Attainment, Self-Disclosure and Community Adjustment. With the exception of the Self-Disclosure scale, the other measures were developed locally at Fort Logan Hospital and reliability scores were supplied. Measurement occurred at entry, discharge and 4 month follow up. Results were presented on the hospitalised group (42), Home care group (32) and Broken Design cases (10 cases which although allocated to the home care group could not be treated there, largely because of an excess of 'paranoid diagnosis' and unmanageability). Significant positive results emerged for the home care group in terms of treatment effectiveness, satisfaction with treatment outcome, and a measure of perceived staff concern and competence. The hospitalised group were not superior to the home treated group on any measure, either after treatment or at the 4 month follow-up point. Costs were not measured directly.

In appraising this work, the problem of broken design is immediately apparent. The withdrawal of patients after randomisation led to potential allocation bias and results performed on the original total home care group would have been more meaningful. The measures used were not direct i.e. looking at the perceived effectiveness of intervention rather than morbidity, and no information is supplied as to how diagnosis was determined. In fact the proportion of psychotic diagnosis is less than 50% in both main groups (while being 70% in the broken design group). Alcoholism and drug dependence featured in 7% and 10% of the experimental and control groups respectively, and it is questionable how relevant these cases are to the project of home treatment (being excluded in most other studies). This report however contains interesting detail as to the spirit and application of community alternatives to

hospitalisation. In a subsequent report (Polak, Kirby & Deitchman 1979) further information was provided concerning the use of family sponsor homes and of the theories and practice related to the 'crisis of admission'. Sophisticated discussion of social systems and the requirement to occasionally separate patients from adverse family environments or relationships, without recourse to admission, was contained in this article. Surprisingly, later researchers paid unequal attention to these aspects and it is worth speculating that criticism of methodological flaws deflected attention from valuable theoretical and operational advances which were developed in the Denver programme.

Braun and colleagues (1981), in providing a review of these studies criticised common methodological problems such as lack of proper random allocation, un-blind rating, and the absence of detailed descriptions of hospital treatment. Tantam (1985) also criticised these reports, and felt that insufficient information was provided as to morbidity of the included cases in the experimental groups, and worried about the frequent exclusion of certain conditions.

Three centres were to later produce more prominent and useful reports of home treatment. Because of the sound methodology employed in these studies, more detailed description and careful consideration is required. The centres involved were those of Montreal, Madison (Wisconsin) and Sydney, Australia.

Fenton and colleagues (1979) compared home with hospital care in a densely populated urban area of Montreal.



The design was that of a randomised controlled trial. A small proportion of the total eligible sample (13 out of 175) refused home care and the study commenced with 162 patients randomly assigned to home (78) and hospital (84) care. Patients were diagnosed as schizophrenic (40%), manic-depressive (29%) and depressive neurosis (30%).

The experimental intervention consisted of home treatment by a separate clinical team comprising a psychiatrist, nurse and social worker with 24-hour availability. These separate staff attended each group, including during the phase of community aftercare for the hospital group. Medication, other physical treatment and psychotherapeutic interventions were delivered to the patient and their family.

The instruments used were those of the Psychiatric Evaluation Form (developed by Spitzer) and the Family Evaluation Form (measuring burden and developed in Madison) which were applied at 5 points throughout the 12 months of study.

The results were presented in terms of clinical symptoms and role functioning. No significant differences emerged at any point in the follow up phase, both groups having been found to be clinically similar and equally impaired at trial entry, and with similar social and demographic indices. There was a trend for the hospital patients to have more impaired role function. Burden to carers was addressed with a broad range of burden items covering both subjective and objective aspects. The authors concluded that the evidence was conclusive; home treatment was a feasible alternative regardless

of diagnosis, to hospital for many but not all admissible patients. **38%** of the home treated group were hospitalised with a mean stay of 14.5 days (compared to 41.7 days in the hospital group). Home treatment relieved symptoms of psychopathology as effectively as did hospital treatment. It allowed patients to discharge some of their responsibilities at work and at home even when in distress, and relieved the psychological and social burden on the family as effectively (if not more effectively in some respects) as did hospital treatment. Additionally, home treatment was cheaper because it decreased in-patient hospitalisation.

Costs were not measured directly.

In appraising this study, positive aspects included the use of random allocation, clear detail of methodology provided and the range of instruments applied at five periods within one year.

On the negative side, neither home nor hospital treatment diminished chronic impairment of many schizophrenic patients sufficiently, or relieved some aspects of burden completely.

One problem with this study was the range of exclusion criteria which were employed. Cases with drug and alcohol related problems, seriously suicidal or violent behaviour were excluded, as were those with residence in the catchment area for less than 6 months (which would exclude urban migrants with relevant mental illness). Of 864 patients presenting for admission to Montreal General Hospital, 55% were considered

eligible, but 36% were not included for 'logistical' reasons (e.g. weekend admissions). The nagging impression remains, despite clarification of the exclusion criteria, that the eventual sample was highly selected.

In a study which was to be seen as the prototype of this treatment enterprise, Stein & Test (1980) presented the results of another randomly controlled study of home treatment in Wisconsin. In 1975 they had reported on a preliminary assertive project of assertive community treatment for mental illness which had involved moving hospitalised patients out to the community (Marx, Test, & Stein 1975). This effort had demonstrated the feasibility of successfully treating symptomatic patients in the community.

The design involved a 14 month randomised controlled trial. An intensive community treatment programme (experimental group) was compared to a control group receiving standard hospital treatment and community aftercare. The study importantly included monitoring of outcome subsequent to withdrawal of the experimental programme (up to **28** months). A large proportion of the total sample were either single/separated or divorced (73%), and the experimental (E) and control (C) groups did not differ significantly on demographic, clinical or community adjustment items at the commencement of the study. There were 65 subjects in both groups.

The experimental intervention followed the model of Total Community Living (TCL). This was a conceptual model concerning the requisites for a programme which sought to avoid hospitalisation. This model involved the following principles or requirements

:material resources; coping skills; motivation to remain involved with life; freedom from pathologically dependent relationships; support and education of community members involved with patients; and an assertive approach towards meeting these requirements. The aims were to maximise patient's strengths and support carers, with less emphasis on pathology. Patient care was individually tailored and the model was truly assertive. The emphasis was that of providing what the patient needed, where they needed it. The support of other agencies was actively fostered including explanation of the principles of the TCL model.

The instruments used were the Short Clinical Rating Scale (developed for nurses by French), the Community Adjustment Form (developed locally), and the Rosenberg Self-Esteem Scale. Measures were applied at baseline and 4 monthly.

The results were impressive. The within-treatment results (after 12 months) demonstrated significant differences between groups in the following areas: E group - less time unemployed, more time in sheltered employment, more social group belonging and attendance, less symptomatology and greater satisfaction with life and self esteem. Non difference in psychotropic medication prescribing were found. Symptomatology ratings favoured the E group after baseline and 12 months. Only 12 of E group were admitted to hospital compared to 58 of the C patients (it has to be recognised that this is lowest rate of admission form any properly evaluated home treatment programme). Re-admission rates were 6% and 58% respectively.

In the withdrawal phase, hospitalisation of the previous E group dramatically recurred

throughout each measurement interval, and the only benefits of the TCL approach not to disappear were those of greater social group attendance and more money earned in competitive employment.

Costs were reported on in two accompanying papers. The economic and social costs of the TCL programme were examined (Weisbrod, Test, & Stein 1980, Test & Stein 1980). The authors were mindful of the difficulties inherent in applying a cost-benefit analysis to a complex human service and a number of items were measured in quantitative but non-monetary terms. The costing analysis revealed that the direct treatment costs for the E group were larger than for the C group, but that since indirect costs were all cheaper, the experimental programme costs were on average 10% cheaper overall. The experimental programme had produced higher benefits, but the authors stressed the dangers of drawing strong conclusions from their findings on the back of the methodological difficulties encountered. They did emphasise their view that the exercise of attempting to organise knowledge around cost evaluation was more primary than the use of such results as a basis for resource allocation.

Burden on families and on society were measured with a Family Burden Scale and indicators of community burden (arrests, suicidal gestures, and emergency room use). No significant differences in family burden emerged contrary to the prediction of the workers. Community burden was also equivalent except for emergency room use which was significantly higher for the C group. The benefits of the TCL programme were not obtained at the expense of burden on carers or the community. One deficit of this evaluation was the neglect of any measure of the subjective distress of relatives.

Appraisal points towards a prototypical and prime place for this series of reports. The work of the Madison group went on to influence American community psychiatry profoundly and is still widely cited, usually in the context of Assertive Outreach model development. The sound methodology was accompanied by the operation of a comprehensive and assertive community programme with detailed analysis. In mounting any criticism, it might be contended the base population and the location in a non-industrial progressive community which was receptive to the initiative, facilitated the success of the model. Generalisation to urban, deprived areas could be problematic. For instance, the employment ratios achieved in the community group might have reflected the awareness of local employers towards the initiative. Soft critical points such as this however, are but an indicator of the difficulties in mounting substantive criticism against an excellent study. Apart from providing useful guidelines for implementing community treatment for acute psychiatric disorder, Stein & Test offered recommendations as to which conditions were unsuitable for the approach, namely severe psychosis, suicidal risk, and concurrent physical illness. The authors themselves recognised the omission of measuring subjective burden as a deficiency.

In Sydney, Australia Hoult aimed to replicate the work of Stein & Test (Hoult *et al* 1983. - the most comprehensive and detailed account) (Hoult, Rosen, & Reynolds 1984) (Hoult 1986). The basic work is reflected in five papers in different journals, some of which focus on different aspects, such as the effect on relatives (Reynolds & Hoult 1984), and the subset of those suffering from schizophrenia (Hoult & Reynolds 1984). There are no different features such as longer follow-up or larger cohorts in the

different publications – they are repetitive and report the same single study.

In the design, randomised allocation was used with exclusion criteria similar to the Wisconsin group (organic brain disorder, and primary alcohol or drug use). A detailed description of procedure within the control and experimental groups from the moment of initial presentation and subsequent randomisation is given. The study involved randomised allocation of 120 patients to experimental (E) and control (C) groups as in Madison. Three quarters of all the patients were diagnosed as suffering from functional psychosis. The study extended over 12 months. At baseline there were no significant between group differences, and three-quarters had been hospitalised previously.

The instruments used included the Present State Examination (PSE) for diagnosis. Other measures employed were the Brief Psychiatric Rating Scale, and the Health Sickness Rating Scale (all of which were standardised measures). Subjective and objective measures of burden on relatives were incorporated in addition to satisfaction ratings. Evaluation was carried out at baseline, 1,4,8, and 12 months by independent psychologists.

The experimental intervention comprised home treatment by a separate team with 24-hour availability. Medication, individual support, counselling, training in living skills, family intervention and education were provided.

In the results a highly significant difference ( $p < 0.001$ ) emerged between the E and C groups in terms of the number of admissions and length of stay in psychiatric hospitals

or clinics. Community treatment achieved a better clinical outcome (lower total and subscore PSE ratings). Hospital admission was still required for 40% of the E group (comparable to Stein & Test). While C patients spent an average of 53 days in hospital, the figure for E patients was only 8 days. Acceptability of community treatment was higher than that of conventional care, when assessed by both relatives and patients. Examples of actual comments from both patients and relatives concerning the respective locus of treatment were published.

Hoult listed the characteristics of a successful home treatment programme as those of: intensive early help; involvement of relatives; consistent care by one team; a personal case manager; assertive but non-intrusive visiting; help with practical problems of living; 24-hour availability; and an on-going and extensive rather than time-limited service.

In terms of costs, standard hospital care and aftercare cost 25% more than community treatment (\$5,669 compared to \$4,489). Although cheaper, community treatment was described as labour intensive.

In the main papers summary results regarding burden on relatives is given, which is expanded in a separate paper (covering the same study) (Reynolds & Hoult 1984). Significant differences obtained in the areas of; relatives feeling that they had enough support and information (better in E group); relatives level of coping (better in E group); and degree of worry (less in E group). E Group relatives expressed a lower degree of overall burden, but not significantly. No difference in objective burden was found



between groups. Home treatment was not as effective as hospitalisation in reducing the number of suicide threats, although the difference was not significant. None of the experimental, and possibly one of the control patients (drowning) died from suicide during the study.

One paper focuses on the management of schizophrenics in the alternate settings (Hoult & Reynolds 1984). From the original sample, there were 33 and 32 schizophrenics respectively in the E and C groups. Of these, 83% had a history of previous psychiatric admission. With no difference in baseline measures of morbidity, improvement was better in the E group across the 3 scales of the BPRS, HSRS and PSE (but only significantly in the case of the PSE). Admission had been resorted to for 32% of the E group. By the 12 months there was no difference in the numbers between groups on medication, or working. The applicability of the community intervention in the case of schizophrenia is discussed (but not in any strikingly different manner to the other papers).

Appraisal of the reports emerging from this study points to sound methodology modelled on and indeed improved over the Madison experiment. Improvement lay in the choice of a range of more familiar and respected instruments and the additional strength of the ratings being undertaken by independent psychologists. Very clear detail was provided on the research process and the interventions in both settings. The rate of hospitalisation could have been higher in the E group had the team not had access to boarding houses. Some anxieties about generalising the results to inner-city deprived

areas might apply as the area served was largely middle class. The dissemination of the results in different journals proves repetitive rather than illuminating. Health economists would like more detail on the costing exercise which is only described in a brief paragraph (and was said to be based on objective source costs). The findings in Sydney went on to influence psychiatric services in New South Wales and other Australian states in a significant manner (endorsing the assertive community approach alongside the development of crisis response teams, one of which teams descriptive evaluation is discussed above (Reynolds *et al* 1990)).

Braun and colleagues (1981), in the review cited earlier, thought that in respect of the later improved studies allowed the qualified conclusion that -- selected patients managed outside the hospital ..... do no worse and by some criteria have superior psychiatric outcomes than control hospitalised patients". He sharply observed that if one favoured hospital care then the onus lay on alternative services to show superiority. Alternatively, if one favoured less restrictive care , then the burden of proof lay simply in demonstrating equality. This argument is as pertinent today as then, in the face of quite negative commentaries on home treatment (Dedman, Coid). Tantam (1985), also cited earlier, was more impressed by later work and accepted that these reports showed that admission was not essential for many, but not all, of the patients considered. He thought that it was possible that high satisfaction with experimental treatment might have equally been achieved after brief admission followed by intensive support (a condition which did in fact apply in all of the studies to some extent). He believed that transferability to the UK could occur despite different practices in North America, but thought that unanswered questions remained about who it was safer to admit, and the issue

of training in dispersed community staff. It is worth pointing out that unanswered questions about for whom and in what circumstances home treatment is a better option (and the converse) largely remain currently.

Kiesler (1982) in reviewing home and day care initiatives thought that in scientific terms these reports were clear-cut and provocative. He noted that no advantages for hospital treatment had emerged in a series of dispersed studies of alternative care and emphasised the rigour of the methodology (randomised controlled trials) and consistency of results as impressive. He considered the Hawthorne effect as a possible explanation for the positive results, but on balance dismissed it because of the resistance and antagonism encountered by most of the innovators. Straw (1982) posited the opposite, noting the allegiance of the staff to the innovation as correlated to larger effect sizes. While Kiesler thought that the question of whether too many people were being hospitalised could be answered with an unqualified 'yes', he did not think that the question of 'is it necessary to hospitalise anyone' could be addressed on the basis of his review. This last point has been better served in studies of admission decision making (Chapter 6), which has to date not been at all sufficiently integrated with home treatment options and evaluation.

#### **4.4 Mobile Crisis Teams**

Commentary on these teams is provided for the purpose of inclusion as discussed in Chapter 1. As Geller writes in 1995, there is much lore concerning these teams but

little data. Each Community Mental Health Centre (CMHC) in the US was required to provide 24-hour crisis and emergency services. In 1980 Gaynor & Hargreaves noted the dearth of systematic study of these services, with 'virtually no attempt to compare the relative effectiveness of different methods'. In their survey they found a variety of types of service from telephone, walk-in to mobile response. Home visits were not generally part of the emergency response, but rather by way of follow-up or arranging for further psychiatric care. Mobile services used psychologists, para-professionals and counsellors much more frequently than psychiatrists. There was a clear natural divide into emergency response units which were 'emergency rooms' in hospitals (where medical and nursing personnel worked) and mobile crisis units staffed by non-medical professionals as mentioned above. They concluded by urging research and particularly cost effectiveness study of the different arrangements in view of its importance but seeming evaluative neglect.

Ten years later Fisher *et al* (1990) reviewed what empirical evidence had since emerged to support the widespread claim that mobile crisis capacity reduced admissions by dealing with emergencies in the community. They compared first and total admission rates from catchment areas with and without the mobile response capacity. Their conclusions were negative, with no demonstrable difference emerging in the impact on admission rates. Their study was carefully conducted across 20 catchment areas of each type, although non-randomised. The only significant differences that they did find were that those areas with mobile response teams had higher resource demands for emergency services, without reducing admissions significantly. They wondered if the 'forays' of the mobile teams into the community discovered hidden morbidity which offset their

impact on reducing admissions. They speculated that those particular mobile units which achieved success in reducing admissions worked closely with the emergency room team and were integrated.

Geller (1995) questioned 50 states as to the availability of such teams, their relationship with hospitals and community, funding from private or voluntary sectors and their remit. Just over 50% had such services. Of those states (35) which felt the provision of mobile crisis intervention had beneficial effects (mainly in terms of reducing inappropriate admission), only 8 routinely collected data. Since in only 40% to 50% of particular counties overall was there believed to be any impact on reducing hospital admission, one is forced to question the place of such services alongside the studies on home treatment covered in reviews of home treatment. Also important in differentiating these services is the fact that few mobile services were available on a 24-hour, 7-day week basis. Their other functions were described as that of allowing for improved access to clients, helping to diminish the severity of crises, helping patients with transportation issues, providing better support for families and improving relationships with other agencies. Overall their advantages divided into those for patients and families with earlier intervention in crisis and observation in natural settings, advantages for staff with access to social support and other agencies, and advantages (sometimes) to the mental health system with reduced admissions.

As to the drive towards further development of these teams, Geller and colleagues concluded that evidence of early success consisted of little more than “belief, ideology and anecdote”. Kluiter (1997) noted Geller’s findings and the lack of empirical

evidence for the claims of mobile crisis services, and struggled accordingly to integrate this topic within the general literature on home treatment. This neglect of widespread evaluation is regrettable because there is an undoubted overlap between home treatment and crisis intervention services, whatever the differences in theoretical and service origin perspectives.

#### **4.5 UK Studies (Early studies of relevance)**

In the UK the evaluation of community based initiatives is an expanding but limited field. One may argue that a lack of momentum followed the pioneering work of Grad & Sainsbury (1968), and a hiatus developed which was to be later filled by Dean & Gadd (1989).

A pioneering effort in Worthing by Carse and colleagues (Carse *et al* 1958) to provide outpatient and domiciliary care concluded that for a large proportion of patients, admission was not necessary. A new District service achieved reductions in admissions of 40% to Greylingwell hospital by simply re-orienting care to home assessment and outpatient clinics. If one allows for the historical context of this descriptive report (and the treatment modalities employed which included electrical treatment, modified insulin and drug abreaction) the location of psychiatric care in itself was shown to be flexible.

Grad & Sainsbury (1968) studied patients in a controlled trial with non-randomisation, between Chichester and Salisbury. These were both market towns serving prosperous local communities. The disposal of cases referred in 1960-1961 was examined (823 in

Chichester and 585 in Salisbury). With no significant diagnostic differences between centres, there was nevertheless different admission versus social support systems in operation. The admission rate for 15 - 64 year olds in Chichester was 34% compared to **55%** in Salisbury. Patients in Salisbury also spent longer in hospital (a mean of 34 weeks compared to 15 weeks). These trends were accompanied by an increase in family burden during the following 2 years in Chichester whether patients were admitted or not. However, at the end of the 2 year follow-up period, higher burden obtained only in respect of admitted patients. The social cost of community psychiatric care was demonstrable in terms of an adverse effect on the mental health of family members, but this burden originated in the cohort of younger psychoneurotic, rather than severely mentally ill patients.

Scott (1980) in Barnet, London describes the replacement of the Napsbury hospital service by a community crisis intervention service. In drawing from his theories regarding the rift of 'dehumanisation' and 'closure' that admission entailed, since 1970 he had sought to develop alternative community strategies (such themes emphasised the process whereby patients in crisis were separated from their home and families when the emotional pain had produced a sense of closure, beyond endurance - closure of relationships with important others which was possible only through dehumanising . them). The descriptive report includes details of the crisis team response and beliefs, some of which are stimulating e.g. the provision of a 24 - hour suicide watch was considered as promoting rather than limiting suicidal actions. By 1977, the service was said to be saving 240 unnecessary admissions per annum. No increase in suicide rates accompanied the service development. Scott concluded that a service such as his could

reduce admissions by 50% and reduce the creation of psychiatric patients who should never be so diagnosed. Savings to the hospital were calculated as being £442,100 per year. This was based on the cost of the community service and the average cost of admissions to Napsbury.

The results achieved in Barnet were impressive, but the deficits of research methodology undermine their ultimate significance. Gross figures are supplied regarding admission and suicide rates, and while these in themselves are intriguing, independent commentators would require much more in terms of formally established diagnosis, morbidity and outcome than provided. The Scott study is hardly ever referenced in the home treatment literature and it seems perverse that had better research methodology been involved, the work undertaken over 10 years in preventing unnecessary psychiatric admissions and resolving crisis through alternate means based on community assessment and intervention is largely unrecognised.

In Birmingham Dean & Gadd (1990) examined the factors influencing the successful outcome of home treatment for severe acute psychiatric illnesses that are traditionally treated in hospital. The later controlled study (Dean *et al* 1993) emerging from this site is discussed fully below (involving the same Sparkbrook patients).

A multidisciplinary staffed resource centre provided home treatment flexibly in conjunction with non-acute community care. The high degree of socio-economic deprivation and accompanying high psychiatric morbidity of a multi-racial, inner city catchment area (Sparkbrook) provided a special challenge to the feasibility of the



project, and this was again pioneering work within a UK service setting. No exclusion criteria were employed at the outset.

A prior publication (Dean & Gadd 1989) concerned a descriptive account of the first year of the programme, where 38 episodes were treated at home and 54 in hospital. The second publication referred to the second year of the study by which time a 24-hour service was available. Sixty-five episodes had been managed by home treatment alone, 34 required admission (12 as unsuitable, 15 without assessment and 7 after initial home treatment). The significant predictors of the location of treatment were: social characteristics (hospital more likely with those living alone and unmarried) and previous treatment history (hospital more likely with a history of previous hospitalisation and compulsory admissions). Violence but not self-harm predicted admission. Home treated patients comprised more with young children at home and more Asians non UK than UK born. The location of assessment also predicted location of treatment, with no individuals treated at home following assessment in police custody. Patients of all diagnostic groups were treated successfully home treated, but there was a trend for this to apply more for depressed patients, and less for manic patients.

The impressive feasibility of home treatment was demonstrated within a difficult and very deprived urban area. This report suffers only from having been descriptive rather than controlled but provided valuable data and service details nevertheless which could conceivably be translated to other equally daunting UK locations. Bennett & Freeman (1991) commented that the success of the project might have been favourably influenced by the high ethnic minority population in Sparkbrook (with over half of the residents

from the New Commonwealth or Pakistan). The authors themselves noted that Asian patients tended to have the advantage of good family support. They did not discuss whether a lower threshold of acceptance for home treatment may have applied in the case of ethnic minority patients, for whom hospital admission might seem more stigmatising and culturally alienating (but specifically addressed this point later).

#### **4.6 UK Studies (Research Reports)**

The results from a controlled comparison study of the Birmingham service became available in 1993 (Dean, Phillips and colleagues).

The design involved a prospective controlled study of acute service use in two adjoining electoral wards, Sparkbrook providing home treatment and Small Heath served as the control, where a conventional hospital based service was in operation. The entry criterion was that of presenting a risk to others or oneself and of needing 24 hour specialist supervision (equated with hospital admission). Both wards were inner city areas with closely similar socio-demographic profiles with substantial ethnic minority populations (50% in Sparkbrook and 43% in Small Heath. The samples included 69 cases in Sparkbrook and 55 in Small Heath, and both groups were comparable on all relevant variables at trial entry. The study extended over 12 months.

The experimental intervention comprised the availability of home treatment and community support from a multidisciplinary staffed resource centre. Six inpatient beds

were provided with different nursing but the same medical staff. The centre offered a drop in service and practical assistance with social needs in addition to psychological help. The home treatment service responded to all acute referrals, attempted to divert admissions, and was available on a 24 hour basis.

The following instruments were administered by independent psychologists: (patients) PSE (trial entry and 12 months), Morningside Rehabilitation Scale (once weekly for 6 weeks), the CPRS (weekly for four weeks) and satisfaction ratings; (relatives) the Social Behaviour Assessment schedule (entry, 4 weeks and 1 year), General Health Questionnaire, self-rated burden and satisfaction.

In the results, while all patients from Small Heath were admitted, 35% of Sparkbrook patients were hospitalised. The diagnostic spread was similar with 77% and 72% in the E and C groups having schizophrenia, affective or paranoid states). Both groups were similar in terms of disturbed behaviour, social performance and objective burden throughout the evaluation. Sparkbrook patients spent quite significantly fewer days in hospital during the initial episode (8 days versus 59 days). The mean total number of days of acute treatment (i.e. either hospital or home treatment plus hospital treatment) varied from 35 days in Sparkbrook to 58 in Small Heath (not significantly different). The relatives of those treated in Sparkbrook were less distressed at initial assessment, and more satisfied with the treatment received. A year after the index episodes, more patients from Sparkbrook than Small Heath were in contact with both psychiatrists and community nurses. Differences in satisfaction and burden were found not to be related to Asian origin. Overall, there were no differences in terms of clinical or social outcome

or relapse rates across groups.

Costs were not measured directly

Appraisal of this study points towards an impressive replication of the work in North America and Australia regarding the feasibility of home treatment. Although certain differences in design pertained (i.e. using adjoining areas rather than random allocation in the same area) the methodology was sound, particularly in the comprehensive range of measures employed and the use of independent rating.

The authors themselves indicated that the selection of patients relied on clinical factors, which technically is less rigorous than a formal randomisation procedure. With independent ratings and the naturalistic elements involved in such a design, it still stands as worthy, but with the caveat that the state of development of community services in the control area needed further clarification. As a sizeable one third of the Sparkbrook cases were Asian, one would like to know if the doctor who spoke Asian languages and interviewed these patients instead of the independent psychologist was equally unbiased. The follow up contact with relatives was impressive when compared with other studies (dropping only from 80% to 72% in Sparkbrook). The more favourable results in the Sparkbrook relatives was not an artefact of home interviews in the presence of the patient (Smyth 1995).

The superiority of community over hospital intervention for psychiatric emergencies was demonstrated by Merson (1992).

The design involved prospective random allocation of one hundred patients to a multidisciplinary community team (48 cases) or conventional hospital based care (52 cases) over 3 months. The patients included in this study did not require mandatory inpatient treatment and had not been in contact with psychiatric services. The presence of psychiatric disorder and the absence of substance abuse were also selection criteria. No restrictions on treatment were imposed by the study design and most patients allocated to the hospital group were seen in outpatient clinics.

The experimental intervention involved an early intervention service (EIS) based in the community. Other than being seen at home initially, the experimental service did not differ greatly from the control. However the community service was more oriented towards psychological and practical support in addition to medication than the control group. The multidisciplinary team did not offer crisis intervention and did not have 24-hour cover.

The instruments used were those of the CPRS, MADRS, Brief Scale for Anxiety (BAS) and Social Functioning Questionnaire (SFQ). Patients and the researcher were blind to allocation at first assessment. Measurements were at baseline, 2,4, and 12 weeks. Diagnosis was decided by consensus agreement of the research psychiatrists involved.

In terms of results, the community patients showed greater improvement in symptoms and were more satisfied with the services provided than the hospital group after 3 months of assessment. The significant differences obtained only for one of the measures (CPRS) Besides better clinical outcome, the most striking difference between the groups was in terms of psychiatric bed use with EIS patients spending 8 times less days as inpatients as those in the conventional service. This was said to be due to earlier discharge of EIS patients rather than prevention of admission.

Costs were not measured directly

Appraisal of this study acknowledges careful methodology, but difficulties in the extent to which the findings can be generalised to home treatment initiatives dealing with the challenge of avoiding admission. As data was not provided on the inclusion and exclusion criteria the stringency of patient selection is unknown. Since the greatest challenge of avoiding admission pertains in respect of previously admitted patients, why should cases only without any previous psychiatric history be studied in isolation? The superiority of clinical outcome was significantly demonstrated only in respect of one of the four instruments used. Ratings after allocation were not blind, but this is recognised by the authors. The client group selected were somewhere in between the categories of the long term mentally ill with chronic difficulties, and acutely ill patients for whom admission would be conventionally be considered. This is undoubtedly reflected in the admission rates of 15% for the EIS group and only 31% for the control group. The difference in overall bed use was due to early discharge of the EIS patients rather than any specific intervention at the time of presentation. The EIS was said to offer a

realistic model for supplying a service to those for whom the milieu of hospital and its treatment were seen to be less attractive than that of community. One advantage of this report was that of the comparison undertaken between two existing services working in parallel in a shared catchment area.

Burns and colleagues (1993 1,2) also examined home-based acute psychiatric services in suburban London. In two accompanying papers which represent an amalgam of the same study and patients, clinical and social outcome (Burns *et al* 1993 1), and treatment patterns and costs (Burns *et al* 1993 2) were carefully analysed.

The design involved a prospective randomised controlled comparison of 3 pairs of community teams (each pair divided into experimental and control). The selection of patients was based on new referrals which did attempt any differentiation between those for whom admission might be likely, or not. The study involved large numbers (332 patients), but after exclusions and missing data due to lack of co-operation, the final groups were E = 94, and C = 78. Patients in recent contact with psychiatric services and non-English speaking patients were excluded. Both groups shared a similar diagnostic spectrum dominated by neurotic disorders (mainly depressive and anxiety states). The exclusion rate was similar in the E group (13%) and C group (15%).

The experimental approach consisted of delivering an assertive community approach within a comprehensive psychiatric service. The only differences that applied in the experimental service, running alongside a well staffed 'normal' service, was that treatment was home based, within 2 weeks of referral and jointly involved a psychiatrist

and another trained worker.

The battery of research instruments involved the PSE, BPRS, SFS, and measures of patient and informants satisfaction (Consumer satisfaction Scale) and family burden. Measurement was undertaken by a graduate researcher at baseline, 6 weeks, 6 months and 12 months.

In the results, there were no statistically different differences between the two treatments, in terms of clinical outcome, social functioning, satisfaction or family burden. Eighteen (19%) experimental and 26 (33.3%) control patients were admitted and the mean duration of stay was significantly lower in the former group (3.2 days versus 5.9 days). These findings were said to be striking because there had been no direct attempt to reduce hospital care and therefore reflected changed perceptions regarding the appropriateness and usefulness of hospital care. This change was thought to derive from the greater flexibility of the home based working practice and because of greater joint working and consultation. There were 2 suicides in the control and one in the experimental group - figures too small to comment upon in any meaningful way.

In the results regarding treatment patterns and costs, the total costs for the standard care were over 50% larger than the experimental service. The costing method was comprehensive, focused and sensitive to capital, revenue, overhead and indirect costs. Outpatient care was fairly even between the groups. There were no differences in day care, and the major difference was in the use of inpatient beds. The total bed use in the E group was 305 days compared to 459 in the C group. There were no significant differences in the GP contacts of either group. The cost difference lay in the fact of the



E group admitting fewer patients for less time and with fewer re-admissions.

In appraising this report, the design does not fit for easy comparison with other work. The authors justified their decision not to restrict the study to patients who were destined for admission, by way of examining a fully comprehensive service. A quarter of the patients (E = 21%, C = 28%) refused to co-operate. Approximately one third of the patients were psychotic and the mean total PSE scores were 40% lower than those of Hoult *et al* (1984). The authors fully acknowledge the high exclusion rate and lesser morbidity than pertained in the standard evaluations of home treatment. The results were interpreted as not refuting earlier studies of home treatment (because of the considerably lower morbidity examined) and also as asserting that in the case of such patients that an assertive community approach fares no worse than that of a conventional service. The home based service was more cost effective reflecting the substantial reduction in inpatient care within the experimental group (both in terms of reduced admissions and duration).

The exclusion of patients who had been receiving treatment in the preceding 12 months may have biased the study towards cases with less severe disorder and does not fit comfortably with the realities of a day to day comprehensive service. As 48% of patients failed to become study subjects, random attrition if applicable would have been useful to have had information on. The study by virtue of the exclusion criteria, ended up looking at predominantly white patients (94% in the E group) which hardly reflects the ethnic minority based challenge of comprehensive inner city services. Jarman indices were low, but the background ethnic minority population statistics were not

supplied. While the control group contained more psychotic cases than the experimental group, and these cases were recognised to use more services, the costing exercise controlled for diagnosis. The careful methodology employed however is difficult to criticise, and in the absence of a dominant ideology towards 'home treatment at all costs', the findings of reduced inpatient bed use support the claim that any degree of formalising this alternative, at least achieves a reduction without demonstrable detriment.

In London, a group from the Maudsley Hospital also issued a series of preliminary and later more complete reports on acute community services. The Maudsley Daily Living Programme (DLP) had commenced in 1987 (Marks, Connolly & Muijen 1988). The first paper outlined the proposed research (described below) for evaluating the success of a comprehensive service for the severely mentally ill. The DLP was to be based on the principles of the Madison approach, with provision for "24 hour access for crisis resolution (at home, in hospital, or elsewhere), outpatient clinics, some short and longer term inpatient care, day care and specialised living and work aids". Individualised programmes would be tailored to the patient's needs and access social and family support. Assertive follow-up of patients was incorporated with flexible co-ordination of care and available resources.

In their first progress reports ((Muijen *et al* 1992 a, Muijen *et al* 1992 b) presented results on a randomised series over 10, and 25 months for the borough of South Southwark.

The design involved a randomised controlled prospective trial of patients thought to require admission to the Maudsley. The composition of the study and control groups was of interest, in that 80 % were patients presenting for a first admission, and 20% who had a history of previous admission. The decision concerning the need for admission was made independently of the project psychiatrists before randomisation using a block design. By 25 months 189 patients were randomised to the experimental (E-DLP)(92) group or (C- standard hospital care)(97) over 25 months. The exclusions involved residence outside the area, organic disease, pregnancy, and refusal to co-operate.

The experimental intervention comprised the DLP (discussed above). This team consisted of 7 nurses, a social worker, senior trainee in psychiatry, and the consultant psychiatrist. Home care was organised as soon as possible (mostly after brief admission) for the DLP group.

The instruments employed were those of the PSE, Social Adjustment Scale (SAS), Brief Psychiatric Rating Scale (BPRS), Global Adjustment Scale (GAS), and measures of client and relative satisfaction. Bed usage, and staff activity in the DLP were also measured. Ratings were conducted by an independent psychologist at baseline, 3, 6, 9 and 18 months).

The results initially concerned clinical and social outcome in addition to bed use and were split in presentation between Muijen *et al* 1992 a,b. In (b) after description of the demographic and clinical diagnostic format of both groups (not statistically different) the study examined the following areas : hospital use; 'need' amongst the DLP group;

and costs. A major finding concerned hospital use with 83% of patients in the DLP group requiring hospital admission. This constituted an abnormally high figure compared to previous studies, and the authors explained it in terms of the deprivation and high psychiatric morbidity of South Southwark, with few community support services, a high proportion of single people requiring admission due to lack of social support, and the 20 %of DLP patients admitted before they could be assessed by DLP staff. Notably, DLP admissions were found to be briefer than admissions in the control group - using only 20% of the hospital days required by the latter.

A measure of the social support required (per diagnostic group) in the areas of finance, housing, employment, legal and clinical health was also provided. This usefully stressed the comprehensive array of services required by psychiatric patients in the community. Additionally, the number of hours of input per DLP subject and per diagnostic group were recorded. Psychotic patients received twice (over 100hours) the DLP staff input as neurotic patients 48 hours. These measures of need and input were not recorded in the control group. Finally, cost analysis emphasised savings on direct costs as very marginal but as increasing over time with a larger cohort on the DLP programme.

While this was explained as an attempt to impact on the 'revolving door' problem, it could be argued that the threshold for successful engagement of new cases onto the DLP was lowered. Against this potential criticism however, was the fact that the proportion of first and re-admissions entering the study was about equal. The experimental group comprised at outset less patients with a history of previous admission than the control

group (25 compared to 33). Overall, just 20% of admissions from South Southwark were accepted. The **83%** admission rate from a 'home treatment' initiative is conceptually problematic. The counter argument is of course that mean bed utilisation was so dramatically reduced in the experimental group, despite admission. Worries that the treatment culture and practice in a centre of excellence with longer than average inpatient stay (thus distorting the control group figures) were to explicitly emerge in Knapp and colleague's later economic evaluation of the project (1994).

Clinical efficacy was presented in a different paper (Muijen *et al* 1992 a). Home care prevented admission for 21 (**23%**) of the DLP group. The median inpatient stays of the groups was 6 and 53 days (home and hospital). Both groups comprised a majority with serious mental illness. By three months, there was a non-significant trend in favour of home care in terms of clinical and social outcome. Patients and their relatives favoured home care, but this was also a trend. This evaluation involved a large number of uncompleted questionnaires, with the 3 month outcome involving only **68** and 61 patients from each respective group. A large proportion of relatives were also lost to follow up. These deficiencies and the question of bias were however addressed by the authors.

In 1994 the Maudsley group presented their final findings (Marks *et al*, Audini *et al* 1994). Because of a series of untoward events in the experimental group with consequent media attention and low morale, the clinical care of experimental patients who had been admitted to the Maudsley was transferred to standard teams (similar to the control group). This allowed for a natural further experiment with the earlier

arrangements constituting Phase I and these new arrangements Phase II. These reports were based on 18 months of evaluation for Phase I and months 30-45 for Phase II. The DLP and control groups contained the same 92 and 97 patients. The length of inpatient stay for the DLP group was only 22 % as long as that of the controls. The proportion of the DLP group admitted was 71% at entry, 79% at three months and 88% by eighteen months. The total number of admissions was equivalent between groups (DLP-160 and Controls-159). Mean admission lengths for the DLP group rose dramatically (300%) in the latter phase of the study when responsibility for discharge was transferred from the DLP staff to the ward team.

Clinical outcome overall revealed no superiority at any phase for the control group. Significantly better improvement was found with the GAS at 4 and 20 months for the DLP group. At 20 months BPRS (significantly) and PSE scores (non-significantly) were lower in the DLP group. At 20 months also, differences emerged in terms of social adjustment favouring the DLP group.

The satisfaction of DLP patients compared to controls was quite significantly higher. This finding applied also to relatives, but only a proportion of relatives had been surveyed at the end of the study (Controls-15, DLP-24).

The report included detail on 5 suicides which occurred during the study (DLP-3, Control-2) and on one homicide (committed by a DLP subject). The media scare following the homicide prompted the transfer of inpatient responsibility for DLP patients to the inpatient/ control team. The authors discuss the particular circumstances

of inpatient care in the Maudsley which contributed to the unusually long hospital stays which affected initially only the control group, but subsequently admitted DLP cases also.

An enquiry into the DLP suicides found nothing which the DLP workers or programme could have done differently to prevent them. Interestingly, there was no enquiry into the hospital/control suicides. The authors discussed the extent to which such tragedies attracted greater attention (particularly the homicide) in the setting of an experimental initiative. The Phase II home-based team had been found to suffer from low morale. Despite the gains achieved, the difficulties of sustaining newly implemented altered services were highlighted. The limitations of community care in effecting a dramatic improvement on severe mental illness was also emphasised.

The economic analysis for the project was presented by Knapp and colleagues (1994). They chose 'long-run marginal opportunity costs' as the most appropriate method for this evaluation. Costing focused on service and accommodation, lost employment and family and informal care costs. It was acknowledged that the higher than average daily cost and longer than average length of in-patient treatment which applied at the Bethlem-Maudsley Hospital, led to distorted costing. The main findings were that the DLP was significantly cheaper than hospital care in both the short and medium term, and that the cost savings accrued to the NHS (i.e. were not shifted to other agencies or families). Without knowledge of the strengths or weaknesses of the particular economic technique employed, it is difficult to criticise this report. Comparison with earlier economic analysis of home treatment is hampered by the use of different methodology

(e.g. Weisbrod *et al* 1980).

Appraisal of the Maudsley study initially questions the selection procedures and the exclusion of **80%** of those cases with severe mental illness with a history of previous admission, the very group that assertive and alternative community services are concerned with. This point was recently emphasised by Kluiter (1997) who felt that the study relied too heavily on first admitted patients. Another major criticism concerns the unusual nature of the conditions applying to the control (Maudsley) setting, which as admitted by the authors is a leading teaching hospital where lengths of inpatient stay were considered disproportionately long by comparison with other conventional inpatient services. Additionally, concern remains about the very high admission rate for home treated patients (**83%**), which is a paradox of terms. What degree of clinical improvement needed to occur before such patients were ready for home treatment?

The study was claimed to be the largest of home treatment to date, involving almost 200 patients. However, outcome figures at 3 months are available only for 68 E and 61 C cases! Over 25% of cases were lost to follow up or refused interviews by this time. Surely the hospital cases were easier to interview or trace (95 patients had been admitted in the control group, and their mean bed usage during this time was 82 days)(34% of the control group were in hospital constantly throughout the first 3 months). The missed ratings were significantly greater in respect of the control patients who had a previous history, thus introducing a bias in favour of the results for the DLP group. The authors stated that patients with severe mental illness are not easy to administer questionnaires to. They resorted eventually to payment. How random was this undertaking?



The described methodology was sound, and inter-rater reliability was satisfactory for all the scales used. Particular merit is attached to the detail provided when the experimental service ran into difficulties, leading to the second phase of the study. This detail illuminates the perverse difficulties of an assertive community approach, whereby retention of responsibility in the face of difficulties of engagement can seem a thankless task when untoward events arise. The attrition rate of completed interviews with relatives was quite high in both groups, and one naturally questions the quality of assertive contact in the experimental group when this occurs. This attrition rate also involves the problem of low numbers. Even though the selection of patients was randomised, the relatives who were available and co-operative with interview could not have been similarly randomly chosen.

The design of the study was not adequate to explain which aspects of the DLP were significant in achieving positive results, whether being problem-centred in its approach, based at home, one integrated team or the component of assertive follow-up in the community.

#### **4.7 Summary**

Certain conclusions can be drawn on the basis of the most well known and prominent studies of Stein & Test (1980) and Fenton and colleagues (1979) and Hoult (1986). The feasibility of treating a sizeable proportion of acutely mentally ill patients intensively at home, when otherwise they would have been admitted has been adequately

demonstrated - with comparable or better clinical and social outcomes. A varying proportion of cases from every home treatment programme have had to be admitted, with the implication that such programmes cannot replace acute inpatient facilities, but rather need to operate alongside them. Even when patients are admitted, their hospitalisation phases are shorter. Patients and their relatives prefer home treatment.

Replication of these findings has been achieved in the UK through the work of Dean and colleagues (1993) and Muijen and colleagues (1992). While certain difficulties of comparison arise particularly in respect of earlier studies with the use of different research instruments from centre to centre, the broad results are very consistent and more latterly such methodological variations have been minimised. In the chapter to follow (Chapter 5), the advantages of home treatment emerging from this literature review are discussed in more detail. Sources of criticism and disquiet are also critically examined.

## **TABLE A**

### **Summary Review of Home Treatment Reports**

	<i>STUDY</i>	<i>N</i>	<i>STUDY TYPE/ DURATION</i>	<i>EXCLUDED</i>	<i>E TREATMENT</i>	<i>C TREATMENT</i>	<i>%E HOSPITAL ISED<sup>1</sup></i>	<i>OUTCOME/ COMMENTS</i>
1	Querido 1968	Not stated	Descriptive uncontrolled	Not Stated	Mobile Emergency Service		Approx 50%	Expensive but did reduce admissions
2	Friedman 1964	E = 50 C = 50	Randomised controlled	Not Stated	Home Treatment	Hospital	100%	Failure to deliver home treatment after randomisation *
3	Goodacre 1975	212	Randomised controlled	Not Referred by Low	Home Treatment	Hospital	67%	Design problems. Home Treatment does not reduce length of stay
4	Reynolds 1990	69	Descriptive	Non-psychotic No history of admission	Crisis Home Treatment		33%	Assertive Outreach is required alongside Home Treatment
5	Carse 1958		Descriptive		Outpatient & Home Assessment			40% reduction in admissions
6	Grad 1968	E = 823 C = 585	Controlled non-randomised		Better Use of Social Support		E = 34% C = 55%	High social cost of community care and burden.

<sup>1</sup>

\* In a later uncontrolled phase, admission was prevented in 33% (same report)

7	Scott 1980	boroughs	Controlled non randomised		Family Care Crisis Intervention 24-hour	Hospital and Outpatients		50% reduction in admission
8	Polak 1976	E = 32 C = 45	Controlled randomised	None	Home Treatment & respite homes	Hospital	Broken design	Design problems. Home care preferred
9	Pasaminick 1967	E=57 (drug) E=41 (placebo) C=54	Randomised trial  30 months	Non schizophrenic Suicidal Homicidal No family	Home care (Public health nurse)	Hospital	24% = E 66% = E placebo 54% = C	Low admission rate in selected group of patients
10	Mosher 1978	E=33 C=30	Controlled now random 2 years	Non schizophrenic	Group home	Crisis inpatient unit	53%	E group higher occupational level and living independence.
11	Langsley 1969	E = 150 C = 150	Controlled randomised 18 months	Unclear No family	Family Crisis Therapy	Hospital	50% less than C group > 6/12	Perhaps better E outcome
12	Fenton 1979	E = 78 C = 84	Controlled randomised 12 months	Suicidal Violent Alcohol	24 Hour Home Care	Hospital	38%	Reduced bed use. Equal clinical and social outcome. Higher satisfaction.
13	Stein 1980	E = 65 C = 65	Controlled randomised 14 months	Organic Alcohol	Total Community Living	Hospital (Short term)	18%	Reduced bed use. Equal clinical and social outcome. Higher satisfaction

14	Hoult 1983	E = 60 C = 60	Controlled randomised 12 months	Nil	Assertive Home Treatment	Hospital	40%	Reduced bed use. Equal clinical and social outcome. Higher satisfaction
15	Dean 1993	E = 69 C = 55	Controlled randomised 12 months	Previous History Alcohol	Home Treatment Resource Centre	Hospital	35%	Reduced bed use. Equal clinical and social outcome. Greater retention in E service
16	Merson 1992	E = 52 C = 48	Controlled randomised 12 months	Recent History Non-English speaking	Early Intervention Not 24 hour	Hospital	15% E 30% C	Not all admittable. Better clinical outcome. - E group. Reduced bed use
17	Burns 1993	E = 94 C = 78	Controlled randomised 12 months	80% of those with admission history	Assertive Home Care Within CMHT	Conventional CMHT and hospital	18%E 33%C	Surprising reduction in bed use. E cheaper.
18	Muijen 1992	E = 92 C = 97	Controlled randomised 18 months		Daily Living Programme	Conventional CMHT	83%	E lower bed use by 80%. Better clinical outcome.
19	Marks 1994	E = 92 C = 97	30 - 45 months		Withdrawal of DLP	Hospital		Dramatic rise in E bed use. DLP cheaper

## **CHAPTER 5. THE CASE FOR AND AGAINST HOME TREATMENT.**

### **5.1 The Case for Home Treatment**

The arguments supporting home treatment are examined firstly in terms of the empirical evidence, and follows a sequence of points based on the claimed advantages of this model. Attention is then turned to those favourable aspects of home treatment which emerge from a theoretical, ideological, or anecdotal base. A synthesis of these opinions and experiences is useful in enlivening the debate and adding to our understanding of the model.

Finally the points of criticism which have been levelled at home treatment, such as the issues of burnout and risk, are considered.

### **5.2 Empirical Aspects**

#### Feasibility

Home treatment for acute psychiatric presentations is certainly feasible. Whether we look at early uncontrolled initiatives (Querido 1968), later deficient reports where at least the criteria of requiring admission and having a history of previous admission are satisfied (Reynolds *et al* 1990), or randomised controlled studies, we cannot seriously

question the issue of feasibility. Repeatedly seriously mentally ill patients were treated at home with different degrees of success in preventing admission. There is in fact only one situation reported in which any home treatment did not prove feasible i.e. Friedman's initial attempt to set up a controlled trial where his experimental group involved those cases randomly assigned to home treatment after presentation to the hospital for admission. He reports the virtual impossibility of reversing the hospitalisation procedure once momentum towards admission has gained force. Goodacre *et al* (1975) discusses specific types of cases where home treatment was not possible. These were those presentations involving suicidal or homicidal behaviour, or lack of adequate home support. The Maudsley group (Marks *et al* 1994) like Friedman and colleagues also allocated at the point of presentation at the hospital which must have inflated their admission figures to 83% despite the overall reduction in bed use subsequently. As Tantam (1985) points out, the feasibility for home treatment after brief admission has been somewhat neglected in reports, presumably because innovators have been concerned with demonstration of ultimate effectiveness in avoiding admission per se. We know that early discharge to home treatment is also feasible as it featured in many reports, although was not examined as a separate entity. It was in recognition of daily demonstrated feasibility that the present study was conceptualised.

Not enough is known about the situations where following home treatment assessment, or even treatment having commenced, admission is required and this must be regarded as a failure in research terms, especially when authors stress that feasibility is only partial. This omission reflects the inadequate focus on separating the hospital phases of experimental patients. It also could be said to provoke resistance to acceptance of the



model when everyone recognises that admission needs to occur in certain presentations.

### Clinical and Social Outcome

The consistent finding throughout the studies available, is that clinical and social outcome is (mostly) equal or (occasionally) improved with alternative care. In most of the results there are trends for certain items of psychopathology or aspects of social functioning to be superior in the experimental group. However, it is only in a few studies that we find statistically significant differences in this direction. Stein & Test (1980) found that 7 of 13 clinical measures were significantly superior at 12 months. Hoult *et al* (1983) also found less PSE based symptoms at 12 months, but this was not matched in terms of significance by BPRS measures. Furthermore, the Health Sickness Rating Scale results were significantly in favour of the hospital group (and this is the only example of a superior result in the literature reported). Merson (1992) also found initially statistically significant results in favour of clinical outcome for the experimental group, but these disappeared after estimated values for missing data were included. Polak & Kirby (1976) found significantly better experimental results for the ratings of patients and relatives, but not staff.

There is a temporal trend also to be noted, whereby significant results (where they do occur) do not remain and decrease after 6 and 12 months, in those studies where longer evaluation was incorporated (e.g. Stein & Test (1980), Pasamaninck 1967). The only exception to this trend (although less than 6 months) was the Denver group (Polak & Kirby 1976) where 4 months after discharge significant superiority for the home treated

group actually increased. This finding was hypothesised to reflect increasing exposure of the patient and family to ongoing social systems intervention. Apart from the latter instance, it has become widely recognised that if home treatment is to deliver continued benefits, then the subsequent assertive community treatment in the stable phase needs to be continued. This is only logical, but assertive treatment literature has gone on to examine both clinical and (more resistant) social benefit over longer periods.

Perhaps anticipating this trend, social functioning outcome on home treatment, where measured, has not yielded the spattering of significantly different results which apply for clinical improvement. One of the cardinal variables here is that of employment. Only Stein & Test established that experimental patients spent more time employed.

While generally no difference has been found between treatments, the possibility of type II error needs consideration (i.e. the failure to find a difference where one actually exists). Power calculations were not reported for any of the studies quoted and so the issue of sample size deficiencies might be relevant).

Four reviewers (Braun *et al* 1981, Kiesler 1982, Szmukler 1990 and Kluiter 1997) and one commentary (Mosher 1983) have positively endorsed the overall findings. The empirical strengths of the work studied included most importantly random assignment to condition and reliable and systematic psychiatric evaluation. The use of independent researchers and reliable instruments ranging such as the PSE, CPRS and BPRS in more recent research (Dean *et al* 1994, Merson *et al* 1992) adds to the scientific strength of reported findings. Kiesler (1982) conducted a secondary analysis of 10 studies with

hospital as the experimental condition, and again found that the effects of alternative care were consistently more positive (4 of these studies involved day care). Kluiters translates the earlier reports of Fenton, Pasamanick, Langsley, Polak and Stein into what is referred nowadays as assertive outreach, and this complication was discussed earlier in Chapter 2. He reminds us however that 610 patients were studied under home treatment conditions so as to form the basis for the conclusions generated.

One has to recognise that hospital treatment has not emerged as superior to home treatment in any of the diverse sites involved, a consistency which supports the face validity of the findings.

#### costs

It is logical to assume that when inpatient costs remain the single most expensive element of psychiatric services internationally, that measures to reduce admissions and bed usage will impact favourably on resources. Costing analysis has been performed only however in 3 of the reported studies and the evidence to support the above conclusion is limited.

Hoult *et al* (1993) examined costs but provided little detail. The costing exercise was conducted by two economists and involved public/private and direct/indirect treatment costs based on objective sources. The control treatment was said to be 26% more expensive than the experimental service. In the control group, 79% of costs were incurred by the hospital itself, while in the community 81% of costs were attributable to

community sources.

Knapp's evaluation of the Maudsley project was quite sophisticated (1994). In using marginal opportunity costing analysis, he confirmed that the hospital component of care was the most critical element of the difference between the alternate services. Direct hospital costs were three times more expensive for the control group. Although it was acknowledged that the Maudsley had a tendency for longer admission stays than the norm, so great was the difference that for costing to be equivalent the hospital expenditure would have had to been zero. In addition, cost savings from home treatment were said to accrue directly to the NHS. They were not shunted onto patients or their families. Economic evaluation of patients and their families and employment factors did not emerge as different between the experimental and control service.

The Weisbrod costing of the Madison project presented some interesting findings (1980). This exercise involved a cost benefit analysis and was comprehensive in its method. Overall the experimental treatment was found to be 10% more expensive than the control. It is worth remembering that the control setting in Madison was of a progressive standard with an emphasis on short admissions. Apart from direct treatment costs for the home treatment, all other indirect costs were lower (each accounting for 50% of treatment cost). Additionally, lesser burden on society, and greater time spent in employment by the home treated patients almost compensated for the higher expense of setting up and running the community team. Marginally higher cost was associated with significantly greater clinical outcome and a comparative doubling of work productivity.

so few are the sources, complex to the uninitiated and quite different the economic methods used, that the confidence with which reviewers cite favourable costing for home treatment needs to be questioned. The intuitive expectation that home treatment results in reduced admissions and has a progressive impact (when conventionally available) on minimising psychiatric institutional careers still stands as appealing.

### Reduced Bed Usage

All reports emphasise reduced hospital bed usage as a central finding. This results from both prevention of admission and reduced hospital stay for those experimental patients briefly hospitalised. The rate of admission ranges from 18% to 83% with a mean of 35%. The ratio of inpatient bed usage with home treatment or hospital is 17: 60 (Kluiter 1997). Admission rates drop even when this is not an explicit objective of the community service (e.g. Burns *et al* 1993).

As with clinical and social improvement, this is not a sustained effect and normalisation occurs in follow up (particularly when the home treatment service is withdrawn). Both Langsley (1969) and Stein & Test (1980) found this to be the case. In the Maudsley Phase II study, once the home treatment team relinquished responsibility for inpatient management, hospitalisation episode length rose dramatically (Marks *et al* 1994).

### Relapse Rates

The broad finding is that home treatment does not have relapse rates any different from

hospital treatment, and equivalence obtains. Dean *et al* (1993) found relapse rates of **25%** in both groups, and made the point that while home treatment does not increase the risk of relapse, neither does it prevent it.

### Burden

The classic study by Grad & Sainsbury (1968) found that burden on relatives was increased in the community orientated Chicester service. How do we reconcile this with the contrary finding of equivalence in the rest of the home treatment literature? The answer lies in the detail that most family burden in Chicester was in respect of younger, depressed, neurotic patients while home treatment evaluations have focused more on serious mental illness. Grad & Sainsbury actually found little difference in burden between the sites when severe burden was concerned.

No home treatment study found an increase in relative's burden. The measures used involved both subjective evaluation (Stein & Test 1980, Dean *et al* 1993, Hoult *et al* 1983), and objective measures such as emergency room use, arrests or suicidal gestures (e.g. Stein & Test 1980). Significant differences in burden were found in the latter case with higher arrests and emergency room use in the control group.

One concern is the low numbers of relatives involved in generating these conclusions. It is common for the number of relatives interviewed from both groups to diminish progressively. In the case of Merson *et al* (1992) only 23 E and 15 C relatives were interviewed at 3 months. In the case of Marks *et al* (1994) only 22 E and 18 C relatives

were available at the end of the study. We can justifiably worry about sample size and low power in these instances, but a less obvious concern is that while the initial patients were randomly assigned, the co-operation of relatives would not be subject to the same degree of randomisation.

While burden is a difficult concept to operationalise in research terms, later discussion concerning the preferences of relatives for home treatment and the involvement of and support for carers available in the home treatment process go some way towards explaining these findings.

### Satisfaction

The most striking differences between treatment location and service emerge in the realm of satisfaction. Often highly significant results favour home treatment, and in no case is satisfaction greater for patients or relatives for hospital treatment. The measures used are commonly basic and involve questionnaires which have not been psychometrically tested. Only two centres employed established instruments.

In the discussion section, the difficulties of rating satisfaction are discussed in depth. In respect of relative's greater satisfaction the low numbers involved remain a concern. Taken overall however the higher satisfaction reported is thought provoking, and the possible reasons underlying it are discussed in the following section.

### **5.3 Further Benefits of Home Treatment. Pragmatic and Theoretical Aspects.**

What can we derive as to the other advantages of home treatment from the reports under consideration? Each set of authors have discussed merits involved in this alternative approach and it is useful to aggregate their views in terms of how home treatment is different than hospital care.

The theoretical and ideological arguments divide into the negative aspects of hospital care avoided by home treatment, and the positive aspects of community care with which it is more readily aligned.

Home treatment circumvents the cycle of repeated admissions to institutional care ('revolving door syndrome'). As the best predictor of hospital use is that of previous admission, alternative care usefully either bypasses or interrupts this process. Home treatment permits greater choice in disposal and since it is feasible to treat serious mental illness in this way, if the patient is unwilling to be admitted the resort of involuntary treatment is less immediate. The process of admission is not without difficulties. Scott (1973) discussed the 'treatment barrier,' invoking the archetype of the admitted hospital patient and cultural distance created by admission to the institution. Admission to a psychiatric hospital could establish a deep and sometimes unbridgeable gulf between the patient and others outside. In the setting of crisis and suffering, increasing tension and pain led in his view to 'closure' or protective emotional withdrawal. This closure involves personal relationships which he believed to be 'dehumanised' as closure occurred. The psychiatrist became an official perpetuator of the 'rift of dehumanisation' as sanctioned by society. With the majority of admissions



occurring in crisis situations, he found it remarkable how often patients would not know the reason why they had been admitted (apart from loss of insight).

With the patient role came difficulties of abnegating personal responsibility and illness behaviour which could be difficult to penetrate. Jones & Polak (1968) outlined the transposition of patient's social problems from the outside to the hospital leading to a necessary therapeutic community approach in hospital for the resultant conflicts that materialised. In outlining the 'crisis of admission', Polak described the complete lack of correlation between factors listed as causing admission, when the different views of staff, patients, and their relatives were solicited (1967).

Psychiatric hospital is still associated with stigma whereas this is reduced or non-existent where treatment at home is concerned. While it would be wrong to suggest that admission wards and the psychiatric hospitals of the current era would be recognisable to Goffman, elements of institutional culture still prevail no matter how modern the resource. Home treatment researchers are sensitive to the disadvantages of hospitalisation which hospital patients articulate. These are discussed more in the close of this work but the themes are well known i.e. deprivation of liberty, lack of autonomy, **an** emphasis on behavioural conformity, oppression, medicalisation of social disharmony and removal from family. Reynolds & Hoult (1984) described how hospitalisation was a negative upsetting and unhelpful experience because of the rules, restrictions, patient mix and lack of communication which applied there. Experimental patients commented on the degree of support available, with the freedom and independence that treatment in the community setting permitted. Young & Reynolds

(1980) found that the aspects of hospital treatment with which patients were most happy were those of relationships with nurses and doctors, visits by relatives, contact with other patients, and rest. The most frequently reported negative aspects were those of the restrictions which applied, poor relationships with staff, insufficient contact with professionals and not enough attention. Macdonald and colleagues (1988) found that the negative factors associated with hospital stay were those of; fearfulness, feelings of isolation and apathy, lack of individualisation and autonomy, unsatisfactory surroundings, lack of status and recognition, and restriction of action. Why should those negative elements contained in these environments be avoided if no sacrifice of care is involved?

By contrast, home treatment offers '*in vivo*' learning of living skills at home or in the community without the need to translate them from the hospital setting. Psychiatric staff can also observe at first hand living conditions, ability to cope, and relationship difficulties and strengths. There is less disruption of the patient's life, and the practical tasks of living can be continued with the support of frequent visits. Patients do not have to repair the damaged relationships with families which can follow separation and even blame for admission. Social support is more directly accessible and home treatment teams can be more flexible than ward based staff in accompanying patients to shops, banks, day centres and other support agencies.

The nature of the relationship between staff and patients is different, perhaps less formal, and one in which workers and patients find it easier to establish a meaningful rapport. While patients in hospital have access to staff, this is shared. Home treatment

visits are more exclusive and the agenda one which is more personally tailored and negotiable. The visiting staff member has to respectfully reflect the status of being a guest of the patient rather than the patient being a guest of the hospital. In the absence of the institutional setting the very 'language of psychiatry' may be transformed so as to improve the quality of practice (Hoult 1986, Smyth & Bracken 1994). The latter authors describe how psychotic symptoms can be more easily integrated and tolerated within the familiar social reality of the patient at home, while seeming more threatening and overwhelming in the strange environment of the hospital. This can translate into greater distress and behavioural disturbance requiring control.

Successful home treatment can alter the narrative and trajectory of patient's psychiatric careers. Klienman (1988) has examined the accretion of 'illness meanings' whereby during the oscillating course of chronic disorder, these meanings become intimately linked with the personal development of the individual and inseparable from their life history. The powerful emotions attached to such meanings can facilitate or impede treatment. The tension in psychiatry between what is perceived as technical medical control as against the attempts of clinicians to understand the person and their illness in a biopsychosocial context is keenly felt.

## **5.4 Critiques of Home Treatment**

It is perhaps in the nature of reports describing innovative treatment strategies that there is an inherent supportive bias in the early phases. There is no body of literature outlining failed home treatment initiatives or providing any detailed critique of its

principles or practise. This may not be surprising considering the fact that in the studies of home versus hospital care for acute mental disorder, hospital care has not been demonstrated to be superior on any measure. Despite such favourable reports, they have tended to have been geographically and temporally dispersed, resulting in a lack of momentum or impact on general psychiatric provision.

It has become axiomatic that with all home treatment programmes, hospital admission cannot be entirely prevented. The impact of programmes on hospital usage therefore is commonly measured by both the percentage avoidance of hospital admission and the reduction in mean bed utilisation. The purist distinction between hospital and home care is more blurred in reality for 'home treated' cases, than is assumed in the polarised discussions of hospital versus home care which are found in the literature. Enthusiastic reports of an alternative to the traditional bedrock of acute psychiatric care i.e. hospital admission, are susceptible to dichotomised consideration and it is not surprising that recent critiques have emerged which derive from the implications of such thinking (Dedman 1993, Coid 1994). The particular points of concern raised, involve the potential consequences of reduced inpatient provision such as higher rates of suicide and violent behaviour, the issue of staff burnout, and a hidden economic agenda behind sporadic well funded initiatives which do not accurately reflect day to day service provision.

In an editorial review of home treatment initiatives Dedman (1993) highlighted the particular worry of the reported suicides from the Maudsley study. While restating the more favourable research findings concerning home treatment, he also emphasised the

issue of decreasing benefits with longer programmes and speculated that burnout among staff was relevant in this regard. As conventional services were becoming more Community oriented and offered assertive outreach, the differences between home treatment and hospital treatment were increasingly less marked. He challenged the notion that the findings from time limited research programmes with motivated staff who performed zealously for a period, could be translated to the setting of routine service provision. He concluded that the case for home treatment services replacing the functions of acute inpatient care had not been established.

This review was at least cautionary if not actually negative. There was a possible lack of balance in the emphasis on staff burnout and suicides (the former having been surmised from a report dealing with assertive outreach, and the latter based on one study only). The implicit assumption that home treatment can completely replace inpatient facilities is not accurately reflective of the claims made by researchers, and may be more indicative of the understandable stance of those for whom home treatment reports constitute a criticism and threat to inpatient provision.

Further arguments concerning the extent to which major mental illness requires hospital treatment surfaced in another editorial by Coid (1994). In sceptically analysing community care, Coid argued that there was in effect collaboration between “entrepreneurial doctors willing to co-operate with managers” in promoting community alternatives with the support of generous research and development grants, and those managers for whom bed closures meant savings. The enthusiastic descriptions of these experimental programmes had profoundly but inordinately been incorporated into

official dogma, despite substantive research deficiencies. The highlighted deficiencies included the lack of long term studies, the artificially high staff complements in experimental settings, the emphasis on ‘softer’ issues such as client satisfaction while clinical benefit was only rarely shown to be superior, and the inclusion in such studies of cases with more minor morbidity which would not merit hospital admission in any conventional service. Coid’s anxiety about the reduction in hospital beds, following on biased and inadequate evaluation, was focused on the perceived consequential issue of **an** increase in suicides and criminal behaviour in the mentally ill. In concluding, he stated that “reduced inpatient stay cannot be hailed as an achievement if the risks to the patient or the public are ultimately increased”.

In riposte, Burns & Kent (1994) felt that Coid had widely misrepresented both research findings and community psychiatry, and that the mistaken caricature of community alternatives as ‘stand alone’ was damaging to sensible mental health planning. Sashidharan (1994) saw in Coid’s article a similar refusal to accept the research findings concerning acute community psychiatry at face value and the unfortunately predictable response of those threatened by a perceived challenge to the hegemony of traditional institutional psychiatry with its emphasis on custody, control and compulsion.

Let us examine the issues of burnout, untoward events and failure to generalise in more detail. The issue of lesser morbidity is refuted in the ‘feasibility’ section above and is particularly examined in Chapter 13.

## **5.5 Burnout**

It has long been recognised that health workers are at risk in terms of their own health in general and suicide in particular. Suicide rates in veterinary surgeons are 3.5 times the national average and doctors twice as much (Anon. 1994). Contact with patients is seen both as stressful and protectively buffering (Payne 1987). Individuals respond to change and stress in different ways ranging from 'burnishment' and increased performance to being burnt-out. In editorial critiques of either home treatment, or of assertive community psychiatry in general, the issue of 'burnout' has been raised Dedman (1993) Coid (1994) (Deahl & Turner 1997). Burnout amongst home treatment staff has not to my knowledge been measured, either in general terms or employing standardised instruments. The criticism of staff burnout hardly therefore appears to be valid. It must have arisen somewhere however and one suspects that the degree of 'stress' mentioned by the Maudsley home treatment team during the homicide and suicide enquiry was one source. Those workers remarked about the lack of any such enquiry in respect of suicides in the hospital group during the study.

It is noteworthy that the more generally positive accounts of the experience of working within home treatment teams, and the sense of satisfaction in preventing admission and fostering a different style of engagement have been omitted in such reviews.

Home treatment work can involve greater autonomy and personal responsibility for decision making than hospital work for nurses and a different quality of interaction between doctors and patients. The emphasis on nursing models of care, and the reduced

profile of a reductionist medical model in the face of immediate social considerations can be positively construed. Zautra *et al* (1986) found that psychiatric nurse turnover was reduced even in stressful jobs when the tasks were interesting. Petiziol & Mazi (1988) found that more genuine interactions between doctors and patients reduced burnout. Garzotto *et al* (1992) using the Maslach inventory, found a smaller incidence of burnout in Italian community mental health staff than in similiar American staff.

Burnout and job satisfaction has been surveyed in UK community mental health staff. Prosser and colleagues (1996) responded to the concerns of Dedman and the Maudsley group by looking at 160 mental health staff in London. Using the **GHQ**, the Maslach Burnout Inventory and the Job Diagnostic Survey they found that while job satisfaction did not vary between hospital and community based staff, the latter scored significantly on the 'emotional exhaustion' component of the burnout inventory. They also scored higher on **GHQ** ratings. This study also examined day patient and outpatient staff. The authors noted speculatively that staff who choose to work in the community might be in "some way inherently more vulnerable to poor mental health than those who seek hospital work". The sample size was small (with only 29 individuals based in the community) and scrutiny of the results only sheds doubt on their validity. Most mental health professionals would regard outpatient and day centre work as less stressful than either community or inpatient work, but on 2 of the measures of stress, the former scored more highly than inpatient work. While the overall skill mix of the sample is supplied, this is not available for the separate groups. Detail of the duties and activities of the community staff involved are not provided, although it was recognised that community services were in a development phases which might have proved



comparatively stressful. This result conflicts with recent US work involving radical and intensive assertive outreach work in the community and the trend for those more adaptable and motivated staff to self-select to work in such teams (Essock & Kontos 1995).

How universal is burnout and what do we know of hospital based psychiatric nurses? Emotional distress in nurses was found not to vary between psychiatric hospital, general hospital and mental handicap settings by Livingston & Livingston(1984). Burnout amongst nurses was suggested to be a universal phenomenon by Armstrong *et al* (1994) because of low status and powerlessness. Hospital psychiatric nurses were found to most adversely affected by failure to be notified of changes and dealing with people in key management positions who were unable to make decisions (Dawkins *et al* 1985).

It is perhaps too easy to associate burnout with community staff when its universality is recognised, and when asking the question itself promotes such an association. Burnout has been recognised in most professional groups from teachers to dentists, and causal attribution to service change should be undertaken cautiously. Personality factors, and personal circumstances additively interact with work related stress and such issues are discussed in respect of psychiatrists recently by Benbow & Jolley (1998).

Despite these arguments, there is clear need for the issue of burnout to be refuted through appropriate research on home treatment teams. Standardised instruments for this purpose are available such as the Maslach Burnout Inventory, GHQ, and Job Satisfaction Survey in addition to indirect measures such as staff turnover and sickness

rates. There are methodological difficulties in the conduct of this evaluation, surrounding the issues of honesty in responses, preserving confidentiality, and the degree to which particular teams can be recognised by the researcher, but these need not deter the determined investigator.

## **5.6 Suicides and Homicides**

How fundamentally problematic is it to judge developments in mental health services according to suicide and to a greater extent homicide rates among the mentally ill? Politics, public opinion and rhetoric can have influential sway over epidemiological studies where policy making is concerned. The difficulty of judging Italian Mental Health Reforms by the standard of suicide have been discussed by Mangan (1989). In Italy, while mental hospitals had been closed under Law 180, insufficient funds were provided for community services. The Law was said to have cost ‘10 years of suicide’ with ‘thousands of people dying of hunger and cold in hospitals and clinics’ (reported in Endean 1993). However National Suicide statistics had not shown any increase over this period (Mangan 1989). The radical reforms undertaken in Italy aroused such controversy that it was only a matter of time before they were changed in the direction of facilitating hospital admission once again.

The well recognised complexity of this issue often forgotten in media reports of tragic events, but has aroused official responses in the form of for instance in the UK the ‘Confidential Inquiry on Suicides and Homicides’. The history of this association in the minds of the public is not recent. The Victorians were prepared to spend more on

keeping patients in asylums than paupers in workhouses. The wheel has turned full circle from 'out of sight and out of mind' to recognition of the deprivation of liberty involved in earlier mental health law, and current ready criticism of deinstitutionalisation in the face of untoward events. Following the Clunis report, the introduction of Supervision Registers has increased the expectation that violence can be predicted and that psychiatrists are key responsible professionals for doing this, despite the reduced influence of psychiatrists on the professional activity of their colleagues. There have been 40 enquiries involving homicide and the mentally ill over the past 5 years.

Bowden (1995) amongst others, reminds us that as the incidence of violent crime including homicide rises inexorably, the proportion which is as a result of mental illness falls and that per capita rates of offending by the mentally ill is probably stable. He impugns the media in arousing successive waves of moral panic in which each homicide is portrayed as a failure of community care and regards the singling out of one particular determinant from the complex causes of a single act of violence as "supreme naivety".

With the exception of the Maudsley report, there is no reported trend for higher suicide rates in either individual or review publications concerning home treatment. In the case of the Maudsley, 5 patients died from self-harm (3 experimental and 2 control) in the course of a 20-month study involving 189 patients. A further experimental group patient committed homicide despite 'unusually persistent care' leading to a media ordeal and enquiries which focused on and exonerated the home based initiative. Hospital suicides were found to occur about once every 7 weeks. In the study by Burns *et al*

(1993) there were 2 suicides in the control and one in the experimental group, from a cohort of 172 patients studied over 12 months. The study by Stein & Test (1980) based on 130 patients, involved one completed suicide in both the experimental and control group. Hoult *et al* (1983) had no deaths in their project group, but 2 in the control group, one of which was a possible suicide, from a cohort of 100 patients over one year. The Cohen *et al* (1992) report of suicides on the model Madison community programme found no difference in rates between treatment conditions. Although referenced by Dedman (1993) in his critique of home treatment, this study provided rather the salutary reminder that the rate of suicide for young schizophrenic males was not dramatically reduced by assertive community treatment.

Little information is available concerning incidents of self harm. Earlier studies tended to exclude suicidal patients. Although suicidal patients were included in the Maudsley study, self harm was not specifically measured. Hoult (1983) found that community treatment was not as effective as hospitalisation in reducing the number of suicidal threats, although the difference was not significant. Stein & Test (1980) found no significant differences in rates of emergency room use by home treated or hospitalised cases with respective rates of 20% and 23%.

It is difficult in view of the small numbers involved in home treatment reports to come to any empirical conclusion regarding rates of suicide, where traditionally more stock is placed in large epidemiological surveys. Suicidal and homicidal risk will remain a critical issue in the decision to admit patients from alternative acute care options and examination of this issue in the context of clinical decision making studies of admission

disposals with home treatment availability is awaited. Recommendations for admitting such patients have been explicitly advanced in the literature (Stein & Test 1980).

Interestingly, evidence is beginning to emerge that restrictive, defensive psychiatry in the UK following on national suicide strategies and the Care Programme Approach, may be counterproductive as high investment of resources in high risk groups dilutes the care available to remaining patients (Adams & Kennedy 1998). Also pertinent is the evidence of an increase of violence on in-patient psychiatric units (Atakan 1995)(Deahl & Turner 1997) where inner city wards have become 'untherapeutic'. Since in the UK the development and impact of acute admission diversion strategies is not present on any comprehensive or widespread basis, it is problematic to implicate such services as yet in these prevailing in-patient trends. One might argue otherwise that such concerns further endorse their availability.

### **5.7 Lack of Generalisability**

Dedman (1993) referenced the Kiddiminster project in the UK as an example of the failure of model programmes to generalise. Model initiatives may not accurately reflect routine practice, as there are constraints and standards required by virtue of research methodology. In Italy, demonstration sites such as Verona did not reflect usual psychiatric practice during the Reform years, indeed southern Italy was virtually untouched by sweeping changes in the northern, more affluent centres. However the Madison model has had a tremendous impact on American psychiatric care with hundreds of replication sites. In south Australia, the Sydney work of Hoult *et al* (1983)

has similarly led to widespread adoption of emergency mobile psychiatric teams across other states. In North Birmingham, the initial home treatment developments as described in Chapter 7 have expanded to the point where home treatment is the first line of response for psychiatric emergencies for a population of .5 million.

## **5.8 Summary**

A synthesis of the research concerning home treatment generates a series of demonstrated advantages for this model over hospital care. Criticism of home treatment has appeared comparatively late in its development and may need to be contextualised within the broad canvas of rapid developments in community psychiatry involving closure of institutions, cutbacks in psychiatric beds, and a distinctly high profile for tragic untoward events which have caused both alarm and disquiet particularly in the UK. The failure to implement home treatment on any widespread level despite the demonstrated advantages might reflect this background. This failure also however means that it is hardly to the door of home treatment that critiques of community care and its deficiencies should be addressed. The particular points of criticism involving untoward events, burnout and lack of generalisability find no empirical support. Dichotomised arguments in which the incorrect assumption has been made that home treatment claims to replace inpatient provision have not been helpful.

In the next chapter, the circumstances and variables surrounding admission to hospital for acute psychiatric cases is discussed.

## **CHAPTER 6: PREDICTION OF ADMISSION IN ACUTE PSYCHIATRY**

### **6.1 Introduction**

Any examination of alternatives to inpatient care needs to consider those factors which are thought to predict hospital admission following emergency psychiatric assessment. This subject has attracted far more attention in the North American setting than in the UK, perhaps reflecting service differences and the widespread reliance in the US on 'psychiatric emergency rooms'. The widespread expansion of emergency services there followed the recommendations incorporated in the Community Mental Health Services Act in 1963. Gerson & Bassuk (1980) outlined the cumulative effect of accessible emergency services, the decrease in urban family doctors, and deinstitutionalisation as leading to the use of such services as the 'gateway to community medicine'. Gradually the pressure increased on these centres to provide rapid assessment and disposition under stressful working conditions.

Initial studies of the determinants of disposition involved univariate methodology and yielded menus of predictor variables with inconsistent results. By the time of the first comprehensive review (based on seven studies) by Gerson & Bassuk (1980), age, sex, marital status, race, social status, diagnosis, symptoms/morbidity, dangerousness, psychiatric history and social support constituted the patient variables of interest. Later studies expanded the range of predictor variables to include the duration of the current episode, request for hospitalisation, presence of relatives, available accommodation and the timing and source of referral.

In the discussion to follow the conclusions of two thorough review papers (Gerson & Bassuk 1980 and Marson *et al* 1988) are considered according to the sequence of demographic, clinical and clinician related variables. The conclusions from studies using multivariate analysis are then summarised. Comparative research in the UK is scanty. The inner London collaborative bed study of Flannigan *et al* (1994) however provides useful detail in the British context.

## **6.2 Demographic Variables**

By 1980, increasing age was only weakly associated with a greater likelihood of hospitalisation (because of different age linked disorder prevalence rates, e.g. alcoholism). Later research (reviewed by Marson *et al* 1988) consistently failed to establish age as a predictor variable.

In most early studies (5 of 7), sex did not predict disposal. Two reports however suggested that men were more likely to be admitted (reflecting national admission trends) and different societal attitudes towards mental illness in men. Despite the greater use by women of emergency services, later reports again refuted any significant association between sex and disposal.

Divorce, bereavement and separation consistently lowered the threshold to admission. Race did not predict admission in either earlier or later studies. In the UK young male Afrocaribbeans are over-represented in hospital admission rates, but seems to be related to higher rates of schizophrenia. Findings relating to social class appeared to be



confounded by the differing use of emergency services in different social strata i.e. lower-class patients without actual psychiatric emergencies were over-represented. Upper-class patients were less frequently admitted regardless of diagnosis.

Understandably, the degree of available social support to the patient mitigates against admission. This was found to occur in a cumulative fashion and is of direct interest where home treatment is concerned such that this support can be mobilised. Apart from the actual support available, Tischler (1966) and Rose (1977) found that the family's presence and wishes significantly correlated with eventual admission decisions. Thus arrival with the family, or the family attending the assessment affected the admission decision in the direction of the families wishes.

### **6.3 Clinical Variables**

The almost uniform finding (in univariate analysis) that diagnosis predicted disposition was unsurprising, but this did not necessarily imply a causal link. Less uniform has been the association of particular diagnoses and admission in different centres. The reliability of assigned diagnosis is also problematic (i.e. in the absence of standard instrumentation). Gerson & Bassuk (1980), Baxter *et al* (1968) and Bartolucci *et al.* (1975) noted the importance of the 'clinical decision making process' secondary to which the relationship between the diagnostic impression and disposal was a likely artefact. The actual diagnosis may be less important than the nature and circumstances of the referral, and the presenting behaviour and management problems which -- are distributed across the diagnostic continuum" (Gerson & Bassuk 1980). Schizophrenics

were shown by Friedman *et al* (1983) to be admitted according to local beliefs about optimal treatment. A positive correlation between certain signs and symptoms and admission had emerged in certain studies e.g untidy appearance; judgement: stream of thought (Baxter *et al* 1968, Tischler 1966). In effect, diagnosis can be ‘trumped’ by morbidity and dangerousness when more sophisticated analysis is undertaken (as discussed later).

Dangerousness has strongly predicted admission. At face value this again may seem self-evident, until one recalls that ‘dangerousness’ is a major legal criterion for commitment and that this may introduce bias in the reported degree of dangerousness. In addressing this crux, Gove & Fain (1977) found that committed patients were significantly more assaultive before admission than voluntary patients.

Conflicting findings emerged in terms of whether suicidal ideation or acts were pre-eminent in determining admission, with Tischler (1966) and Browning (1974) obtaining different results. Marson *et al* (1988) felt that univariate analysis could not adequately separate suicidal and homicidal ideation versus behaviour.

The effect of a history of previous admission in leading to further admission has been so well validated as to become a common truth in acute psychiatric practice.

Few comprehensive studies have examined morbidity, with many employing simple 5-point scales. In an early report by Tischler (1966) the Manifest Pathology Scale looked at behaviour and symptoms with a significant correlation between higher ratings and

admission. In Friedmans report (1983), schizophrenic symptoms were the leading predictor of admission.

#### **6.4 Clinician Related Variables**

Early studies were uniform in finding that the clinician's level of experience was reflected in admission decision making (with fewer admissions from more experienced practitioners)(Baxter 1968, Mendel & Rapport 1969). In later work, Meyerson *et al* (1979) confirmed this trend and added the refinement that the specific training of the clinician (e.g. involving exposure to alternative options) brought the referral for admission rate in junior residents closer to the rates for the fully qualified. The degree to which the patient was considered 'interesting' was found by Apsler & Bassuk (1983) to significantly bias towards admission.

#### **6.5 Multivariate Analysis**

According to Marson *et al* (1988), researchers using multivariable analytic techniques have been able to penetrate to the reality of admission decision making in a manner impossible for those employing only univariate study.

Fiegelson *et al* (1978) examined 200 cases with admission as the dependant variable across four different sites. Clinical factors (morbidity as measured by the GAS) and service facilities (e.g. the availability of crisis intervention) emerged as the most powerful predictors of disposal. However, the range of variables studied was not

comprehensive (and did not include clinician or family variables) and the 20% explanation of the variance by demographic and clinical variables was not very impressive.

In the inner London study (Flannigan *et al* 1994) factor analysis revealed two clusters of prime reasons for admission, those of challenging behaviour and social/preventative reasons. The site and the admission culture prevailing there, seemed to account for the 30% higher rate of admissions in Southwark as compared to Hammersmith & Fulham. The excess was due in diagnostic terms to differences in the admission pattern for affective disorder.

In a fascinating study, Apsler & Bassuk (1983) undertook a combined univariate and multivariate design (involving 113 admitted and 503 non-admitted patients). The authors felt that understanding of the admission process had been poorly served by previous univariate research and having performed this form of analysis then set out by hand to explore more sophisticated explanatory models. Success came when they established 'rules' for the admitting pattern of the 4 prime admitting staff (e.g. one clinician admitted threatening schizophrenics and patients who were either homicidal or suicidal). The resultant models when tested by logistic analysis classified respectively 97% and 82% of the non-hospitalised and hospitalised events correctly. They confirmed their guess that emergency staff working under pressure made decisions based on recruiting a few key items which critically affected their decision making. In subsequent discussion with the staff concerned, they found that the clinicians were only dimly aware of their personal operative criteria. Overall the logistic technique swept aside the

apparent relevance of many of the predictor variables identified during the univariate analysis (e.g. patient's appreciation of clinician's efforts, morbidity scores (GAS,BPRS), cooperative patient).

Friedman *et al* (1983) in the same year, again demonstrated that only a small number of variables remained after multivariate analysis as retaining relevance to admission disposition.

Slagg (1985) expanded the study of this area by looking at three possible dispositions (admission, outpatients or an emergency housing programme). Having established 17 resultant group predictor variables through conventional analysis, later discriminant function analysis indicated that those most likely to be admitted were female, well educated, psychotic and not self-referred.

In 1992 in New York, Way *et al* used stepwise logistic regression to examine the interactive effect of factors leading to the decision to admit or not. Ten sites were studied yielding a sample size of 254 individuals. The admission rates across the sites varied from 10% to 72%. The intercepting variables that predicted admission according to the analysis were those of : any dangerous behaviour; seriousness of the mental disorder; a diagnosis of major mental illness; current signs of psychosis; and the site. (Assaultive behaviour uniformly predicted admission, and had to be eliminated from the regression analysis). The model correctly predicted 87% of the variance. The novelty of this study lay in the fact that the models were based on additive interactions among these chief variables. Way *et al* emphasised the subjective nature of judgement

The significant shortcoming of the literature reviewed above (with relevance to the current project) is the lack of information available about dispositional decisions where alternative home treatment was available. Despite the frequent exhortation for further evaluation sites where less restrictive options would be available (thus diminishing the reliance on the dichotomous dependant variable of 'hospital or non-hospital) significant work on these lines is awaited.

How relevant is the work presented here to the UK context, in which emergency rooms are not a regular feature? The inner London study involved an emergency clinic in the Maudsley site. It may be that more rapid triage is required in American settings, which are described as torrid units where chaos reigns, and frustrated patients and angry relatives impatiently await assessment. Like the UK however, most of the assessments are undertaken by junior doctors in training (e.g. 57% of admissions in Hammersmith & Fulham were decided by general trainees), and equal pressures on decision making skills can apply, particularly if there is a deficit of acute beds available. Overall, considering the similarity of the task, the range of presentations, the presence or absence of family most clinicians would regard this literature in any country as familiar and immediate. The relevance for acute assessment and disposal to home treatment is unequivocal. Getting families who are used to admission to accept alternative care can involve considerable reassurance and negotiating skills, before they become familiar with this model. The degree of previous exposure for clinicians to alternative community models has been shown to impact on assumptions and disposal patterns.

From more sophisticated multivariate analysis, dangerousness, morbidity, psychoticism and the prevailing culture of admission in different sites are the prime factors in determining admission to hospital. In the case of home treatment availability, it is above all the different culture of admission which is of interest, in that confidence based on experience of managing seriously ill patients at home would change the matrix of decision making. Previous admission history is not a deterrent for home treatment as shown by the equivalent baseline admission histories in the home treatment literature. A quite different scenario would apply if the patient had a previous admission history from home treatment, but this has not yet been studied.

It is also clear from the above brief review, that one cannot assume that cases referred for admission (in the absence of a home treatment alternative) represent a solid continuum of increased morbidity, rather that many factors are involved in the clinical decision at any particular time by different clinicians with differing clinical decision making procedures. This issue is discussed more critically in the discussion section.

## **CHAPTER 7: THE DISTRICT HOME TREATMENT SERVICE**

### **7.1 Origins of Home Treatment in West Birmingham**

The Ladywood Community Project was set up in 1990. Ladywood is one of the 4 deprived inner city wards making up the Health Authority district of West Birmingham. The total population is 38,145 and has the Birmingham average of persons from the New Commonwealth and Pakistan (30% versus 15%). The Department of Employment basic Z score of 6.8 ranks 7<sup>th</sup> highest for Birmingham out of 40 wards. The Jarman score of 62.3 stands out starkly against the Birmingham average of 22.5.

Psychiatric services for this deprived, urban area had been located in All Saints Hospital, a large traditional Victorian asylum whose walls were shared with the back of the imposing city prison of Winson Green. Physical conditions in All Saints Hospital were commonly acknowledged to be poor and oppressive. With planned closure ahead, like many asylums in England, investment in and refurbishment of facilities was not a priority. Community facilities were being developed (such as Ladywood day centre) but there was little community staff (2 CPN's who ran a depot clinic but would also visit de-, faulters at home). Both the large ethnic minority population and the indigenous population in Ladywood were considered as poorly served by the restrictive option of mainly hospital (including outpatient) care. In the light of these conditions and impressive reports of comprehensive community care elsewhere, S.P.S Sashidharan (a Senior Lecturer in the University of Birmingham, Department of Psychiatry) undertook



to radically alter the service configuration towards a community model, in the challenging context of the inner-city. The community team was essentially formed from the staff of the inpatient unit and moved to a portacabin base in Ladywood. The strategy depended for success upon radical reductions of inpatient hospital beds. The process of radical change was considered by Sashidharan to be better served by a dramatic relocation to the community in physical and organisational terms, rather than a slow and gradual implementation. The principles and practice of community care would be more quickly adopted (by this largely institutionally trained staff) by working in that environment, rather than by an educational process which might be constantly eroded by the fact of continuing to work in All Saints hospital.

The main aim of the project was to provide comprehensive community based services for the adult 18-65 residents of Ladywood. The operational policy of the team was to: locate the main focus of intervention aside from the hospital setting and in the community; to develop an early referral/assessment/treatment service in the community; to provide psychiatric intervention wherever possible within the clients normal living circumstances and in community based resources and; to reduce to an absolute minimum the rate of hospital admissions.

The CMHT tried to provide a catchment area based service by operationally categorising three elements which reflected client needs. Category 1 dealt with all acute psychiatric problems including treatment of severe mental disorder through 'home treatment'. Category 2 aimed to deal with psychiatric referrals which were considered time limited in terms of the intervention required, while not requiring close monitoring

and intensive support. Category 3 consisted of clients who were thought to have long term psychiatric needs, usually with severe mental illness, but not currently requiring intensive support.

In terms of funding, there was no special funding provided for the development of the CMHT, rather the redeployment of inpatient resources and staff and their coalition with fragmentary community resources and staff in existence.

The Ladywood CMHT operated from a portacabin adjoining a centrally based community health centre shared by primary care. This functioned as an administrative and working team base, assessment and treatment centre, and advice and resource centre. Referrals were accepted from any source as long as they pertained to mental health problems in clients living in the catchment area. The team was multidisciplinary and the involvement of members in hospital care was limited to liaison and co-ordination of care. The team was eventually composed (after 2 years) of 0.6 whole time equivalent (WTE) Consultant Psychiatrist, 1 WTE registrar and variably 1 WTE Senior Registrar, 14 CPN's, 0.7 WTE Clinical Psychologist and 1WHE Occupational Therapist, 1 WTE social Worker and 1 Social Work Assistant, 1 Team Co-ordinator and 2 secretaries.

The home treatment team was integrated within the Ladywood project as a whole, with staff operating across all three categories of intervention.

As far as possible initial assessment was carried out at the usual residence of referred

clients. The majority of emergency assessments were jointly assessed by a medical and nursing staff member (or medical and social work team member being the other possible arrangement). Perhaps reflecting the greater accessibility of the service and rapid response capability, crisis assessment did not equate necessarily with a home treatment offer, and a considerable proportion of such referrals (almost 50%) were dealt with through category 2 or 3 allocation. No cases entered home treatment without medical assessment. A 24 hour service was provided through an after hours on-call team of 2 CPNs and the consultant psychiatrist.

## **7.2 Initial Results**

Over a 2 year period (1990-1992) a total of 216 episodes of home treatment were commenced, consisting of 141 individuals. The majority of clients had a significant psychiatric history, much of it consisting of severe morbidity. Seventy eight percent had a previous history of psychiatric hospital admission and 55% of these had a history of detention under the Mental Health Act. The most common source of referral to home treatment was from the CMHT (with the clients already known to the service). A diagnosis of psychosis, mania or major depressive illness accounted for 70% of the home treated cases. The average duration of treatment was 20 days with 50% of episodes completed by 14 days. Hospital admission as an outcome occurred in only 33 of the 216 episodes (15%) (half of which required formal admission).

### **7.3 Evolution of the District Service.**

In supporting a strategy of furthering the availability of home treatment beyond the Ladywood catchment area, a District home treatment team was planned from redeployment of existing resources. While previously staff in the Ladywood project had worked flexibly across the different categories of care, a gradual polarisation of staff towards and away from acute working left a more clearly identified core home treatment group (although this did not involve exclusive home treatment work because of existing caseloads). It was this core group of 7 CPNs who were to become the District home treatment team (involved now exclusively in acute work). Additional staff were provided in the form of 2 care assistants and later recruitment of 3 more CPNs (representing one additional CPN from each of the 3 catchment areas. The medical team (consultant and senior registrar and/or registrar ) worked only for the home treatment team and the inpatient unit where the team had admission facilities.

It is important to state that the guiding principles and daily operation of this home treatment team were similar to the previous one (and largely involved the same staff). Only the expanded geographical remit, the functionalisation of staff into exclusively home treatment work, and the formalisation of a necessary ceiling of cases were different organisational features.

The West Birmingham District Home Treatment Service commenced in March 1993. The main aim of the project was that of providing 24 hour home treatment as an alternative to hospital admission for acute psychiatric presentations in West

Birmingham. The district adult population (age 16-65) was 110,650 and was served by three separate local community psychiatric teams (Ladywood, Handsworth and Kingstanding) with in-patient beds in All Saints Hospital. Referrals to home treatment now came from these community teams as a routine response to presentations for which admission was the only other alternative. The home treatment team comprised a consultant psychiatrist, senior registrar, registrar, 10 nurses, and 2 care assistants. A ceiling of 15 cases operated in terms of the number of active cases that could be managed by the team. As the team increasingly demonstrated its success and feasibility, referrals to the team for assessment pending availability of places was a constant pressure. Cases were accepted onto the home treatment at the phase of initial presentation of acute disorder (following assessment by the home treatment team after referral from local community teams), following an initial phase of inpatient care, and also following weeks or months of inpatient care in order to facilitate earlier discharge from hospital subject to the active caseload of the home treatment service and the source of referrals at any particular time. The present evaluation was targeted only at cases coming straight onto the team in the early phase of presentation.

#### **7.4 The Process of home treatment.**

Home treatment consisted of a comprehensive evaluation of the psychiatric status of the individual along with an assessment of relevant social and material needs, usually in conjunction with the client and his/her family/carers. Treatment objectives were similarly established and the home treatment team were available thereafter to provide continuous support, supervision, engagement and other appropriate intervention,

including pharmacological treatment, at the client's residence. This was achieved by daily visits (usually twice a day and once at night) by CPN's, doctors and care assistants attached to the team. Depending on the clinical state of the client and the availability of support or presence of burden within the family, sometimes it was necessary to spend long periods of time with some individuals at home. Assignment of a named principle worker and associate worker for each case provided an additional safety mechanism (besides formal team reviews) for ensuring that the targets identified at assessment were correct, that clinical and social needs were being met and that implementation of the agreed care plan was progressing. Satisfaction of the named workers was required before discharge from acute treatment was arranged.

The facilities of a local day centre were also used in providing support for those who required considerable engagement or as a way of giving families or carers respite during the day. The emphasis of this approach was to provide continuous support to achieve therapeutic engagement with mentally ill clients as a pre-requisite for further, appropriate interventions. The availability of the team at all times was always ensured and the patients and their families had direct and immediate access to the team on a 24 hour basis.

The interventions provided by the team involved the following components according to need:-

- Crisis Management
- Care planning, monitoring and review
- Cognitive/Behavioural strategies

- Emotional support/counselling
- Medication administration and monitoring of compliance
- Assistance with daily living tasks and structure
- Family interventions
- Mental Health education
- Advice and advocacy regarding other agencies

In practice, assessment of an urgent case would be undertaken within **2** hours (usually within the hour during the working day) by a doctor, and 2 nurses or one nurse and a care assistant. The agenda was initially to complete a comprehensive assessment and decide whether in the opinion of the assessors the case met the criteria of severity such that hospital admission was otherwise justified (in the absence of the home treatment team). Most cases which were thought not in fact to need either admission or home treatment (a quarter of referrals) involved liaison in general hospitals following self-harm, without accompanying mental illness, but with crisis elements. Discussion with the referring agent followed regarding alternatives (e.g. outpatient care) but also such cases were occasionally admitted to hospital by the referring catchment team.

Where either home treatment or admission was appropriate, the home treatment staff attempted to engage the client, often spending some hours at the initial visit explaining the nature of the service, reassuring and contacting relatives, administering medication if warranted and arranging subsequent visits (usually later in the day/evening). Most individuals with psychotic illness and a history of admission (particularly formal detention) were only too willing to remain at home and have home treatment.

Agreement to comply with medication was not so readily forthcoming, but usually followed initial engagement, the establishment of rapport and the willingness of the team to try home treatment without securing agreement to medication as a *sine qua non*. Relatives accustomed to the process of admission, were usually also receptive to the home treatment option, but if burden was significant could be sceptical in the early phases that admission could be prevented. Relatives were often reassured by the ability of the team to bring the patient to a day centre for the purpose of respite.

Visits were usually twice or three times daily in the first week (depending on clinical and medication factors) and the objectives of the care plan as discussed at review meetings were followed. The key involvement of the named and associate worker would be reflected in most visits, except where evening and weekend visits required other home treatment staff. A special emphasis on the problems of daily living, safety and basic needs according to a nursing model of care within the clients home circumstances was required. After initial distress had subsided, visits would have more of a practical living agenda involving for instance assisting with cooking, grooming, laundry and accompanying the patient to shops, post offices, and encouraging socialisation. The range of activities undertaken with the client could vary enormously, from escort to religious temples, to car repair workshops. The most common social activities would involve escort to shops, launderettes, cafes, and a range of voluntary or health sector day centres. Staff provided direct practical and some emotional support to families in the context of what was considered appropriate for the patient. If it was necessary to divide attention between the patient and key relatives then this was performed as sensitively as possible. Medical review was usually three times weekly,



but could be daily when circumstances required it (such as frequent changes of medication, problems with side-effects, or the doctor having a particular and important relationship with certain clients etc.). Medical review was arranged in the context of home visits, rather than attendance for instance at the hospital.

Distress calls were usually responded to by special visits (usually out of hours) and patients and relatives were reassured by the potential availability of the team at all times. Breakdown of home treatment occurred usually in the face of persistent clinical symptoms and distress (most often in the setting of non-compliance with medication) or behavioural problems or concern for personal or others safety, or problems of reliable access to the home and inadequate contact. Such breakdowns usually required assessment under the Mental Health Act.

Agreement concerning discharge timing and aftercare was arranged prior to concluding home treatment, with tapering of visit frequency beforehand. During this phase, introduction of the client to a designated keyworker from the original CMHT or joint visits with an existing keyworker were arranged. All the patients on home treatment were regularly discussed, their progress evaluated and care plans modified in team meetings (chaired by the consultant) three times a week. Clients and their families, General Practitioners and other professionals such as social workers and community key workers were encouraged to attend these meetings. Joint visits with GP's and other carers were also encouraged as part of the care plan. When the initial aims of the care plan were met, including amelioration of psychiatric symptoms, patients were considered ready for discharge planning from home treatment. Home treatment

therefore provided only acute care, similar in objective to acute in-patient admission, and identified longer term needs were discussed with relevant professionals (usually members of local community mental health teams) at pre-discharge meetings.

## **CHAPTER 8: EVALUATION ISSUES**

### **8.1 The Need for Evaluation**

Any new initiative in the field of mental health care must have an evaluative component to it. This is particularly important in the area of community care since much of that which has been achieved over the last decade still remains somewhat contentious and not subjected to empirical research. In acknowledging that developments in community psychiatry have proceeded up to recently on a largely ideological basis, Bennett & Freeman (1991) stress that choices ought to be made from the evidence about the effectiveness of alternative systems. While effectiveness is difficult enough to establish in any field of medicine, the problems are magnified where psychiatric disorder is concerned (nosological and measurement issues), and furthermore in the study of community psychiatry where it is difficult to identify all relevant variables. In the UK, the urgency of developing effective community services for psychiatric care steadily mounts. Mental health services in this country are one of the oldest which are traditionally publicly financed. The use of in-patient services has steadily declined. Raftery states that the facts of fiscal life in the 1990's are such that no significant increase in real resources for mental health are to be expected, so that changes must depend on reallocation. Since any new service such as home treatment, will be at the expense of existing services, this makes it essential to evaluate both the process of change and resultant outcomes (Strathdee 1990). The UK Department of Health has emphasised that indicators of outcome are needed by planners, policy makers, health authorities and clinicians, if they are to evaluate the effectiveness of their work and

identify areas for improvement (Jenkins 1990).

Developments in the UK must form part of a wider international perspective in any discussion of community mental health initiatives. In examining the origins of the policy of community provision in the **USA**, difficulties in international comparison arise. The type of facilities, service delivery strategies, and clinical therapeutic services which made up Community Mental Health centres in the USA were not simply comparable between different sites. Bachrach (1991) concluded that the failure to accomplish relevant research was generally acknowledged. Geller *et al* (1995) is but the latest in a series of commentators bemoaning the dearth of research in respect of mobile crisis intervention teams in the US.

In Italy, the project of Mental Health Reform enacted through Law 180 (preventing new admissions to psychiatric hospitals) has been haunted by the general lack of accompanying research studies (Jones & Poletti 1986). Reversal of the reform was based more on perceived failure and rhetoric than rigorous study, but the lack of widespread evaluation only facilitated such a process.

In regard to home treatment specifically, it was apparent throughout the literature review, that the methodology and instrumentation employed in dispersed studies, have greatly varied. This arguably delayed service developments because it took a decade before close replication studies generated any significant mass of parallel research.

## 8.2 Rationale for the Choice of Instruments (based on previous studies)

The instruments chosen for the current study reflected previous evaluations. These measures are now discussed and examples of prior usage illustrated. The references to previous studies are coded for the purpose of brevity, according to the index of studies presented in Table A.

### Diagnosis

The ICD-10 Classification of Mental and Behavioural Disorders (Diagnostic criteria for research) was used as the base diagnostic system in the study (WHO 1993). It was chosen because it provided specific criteria which are deliberately restrictive for the comprehensive range of disorders contained in ICD-10. The project psychiatrists (M.S and S.P.S.) could apply the symptom ratings recorded with the Present State Examination (PSE) and Comprehensive Psychiatric Rating Scale (CPRS) to the criteria listed in the ICD-10 (diagnostic criteria for research) in a blind, consensus manner (summary ratings were transcribed onto new forms and numerically coded independent of group for patient identification after assignment).

In previous studies, diagnosis has only been established using instruments in the latter phase of research. Early reports either do not mention diagnosis (73) or refer to diagnosis in passing as *afait accompli* of the researcher (e.g. 4). Diagnosis has been measured using the Inpatient Multidimensional Psychiatric Scale (9,10), the Psychiatric

Evaluation Form (12,9) and the PSE (14,15,17,18).

The Present State Examination (PSE) (Wing *et al* 1974) was chosen because of the considerable detail which it provides on psychotic and major affective disorders. This schedule was developed at the Maudsley hospital in the early phase of the US-UK diagnostic project with subsequent revisions. The PSE provides detail regarding different types of delusions, hallucinations, problems with reality testing, and affective and behavioural components of psychotic states. Use of the PSE usually demands specific training and the acceptable reliability and validity characteristics of the instrument assume this. Classification of PSE information is made using the CATEGO computer program.

In the present study, despite the lack of PSE trained interviewers, the schedule was used because of the detail it could provide in psychiatric assessment over and above the CPRS for consensus diagnostic rating as above (which was thought to more independent than rating based for instance on clinical case notes). The PSE covers a wider range of symptoms, and in the case of psychotic symptoms provides more detail than the CPRS.

### Clinical Outcome

The Comprehensive Psychiatric Rating Scale (CPRS) (Asberg 1978) was chosen to measure morbidity. This scale consists of 65 items covering reported and observed psychopathology with 4 scale steps from 'absent' to 'extreme'. The merits of the scale

include the clear description of items and their resonance with ordinary psychiatric practice. Correlation for inter-rater reliability have been higher for the reported over the observed psychopathology items. The CPRS is a sensitive tool for measuring change because of the emphasis on items where change might occur in the original selection of the scale items. The scale is recommended for use by trained mental health workers.

In the present study, the recording of symptoms in the CPRS was used to supplement the PSE in the establishment of consensus diagnosis.

An array of measures have been used to measure clinical outcome. Some centres used their own interview schedules leading to a range from the Personal Functioning Scale (11), Crisis Management Scale (11), Treatment Effectiveness and Goal Attainment Scales (8). The Psychiatric Evaluation Form was used also (9,12). More recently measures such as the PSE (14,15,17,18) and Brief Psychiatric Rating Scale (17,18) have been employed.

The CPRS was used in studies 15 and 16.

The Global Assessment Scale (GAS) (Endicott *et al* 1976) is a condensation of the Health- Sickness Rating Scale of Luborsky. The scale relies on the rater's clinical experience for the measurement of change, using broad rating categories. With health represented as 100, and absolute psychological sickness as 0, overall functioning of the patient is measured on 10 ascending interval scales where each 10 point level of morbidity is operationally defined (e.g. 31-40). The period of assessment is the week

prior to rating and the scale is quick and easy to use. Endicott found inter-rater reliability to vary from 0.69 to 0.91 with a 95% level of confidence for ratings to be within 10 or 11 points of each other. He found that the validity of the GAS was supported by its sensitivity to change and the relationship of scores to re-admission to hospital. While the GAS is recommended for measuring change, it is looked on more as a 'summary statement' best supported by multi-dimensional ratings (Thompson 1989 ). The GAS was used by Marks and colleagues (1994)

### Needs

The measurement of need has firstly been a traditionally vexed subject in Psychiatry, **and** secondly not generally included in previous home treatment evaluation. The subject is vexed because of the historical and indeed unending preoccupation with 'need' and resource allocation and the underlying complexity of achieving reliable measurement. Behind the problem lie an array of conceptual and even philosophical difficulties such **as** the difference between individual need with its in-built unreliability, and social and cultural contexts which must include the perspectives of planners and purchasers of services (e.g. debates on rationing).

In terms of Social Psychiatry, it is fair to say that the most strenuous drive towards the systematic measurement of need focused on the needs of the long-term mentally ill (e.g. the MRC Needs of Care Assessment schedule).



The measurement of need in the present study involved the generation of an appropriate instrument for the situation of acute psychiatric presentations. The scale items were chosen on the basis of the most commonly encountered domains of need in a previous case-note study of an 18-month comparison of home treatment and hospital care for acute cases. The scale allowed for the distinction between needs which existed but which were not a focus of the acute intervention and needs which required intervention in the context of the current presentation. The identification of need was recorded on the basis of not only the professional's opinion, but also that of the patient. Although the scale was piloted and refined before the commencement of the study, reliability and validity measurement was not undertaken.

### Burden

The reason to measure burden on carers in studies of community alternatives to hospitalisation is self-evident, and has been a feature of many previous studies. There was little consistency in the instruments employed for this purpose previously (Family Burden Scale (6,13,17), Family Evaluation Form (12), and Social Behaviour Assessment Schedule (15)). Despite this, broad consistency obtained in the finding that burden on relatives did not increase significantly during experimental community initiatives. The Subjective burden on carers was measured using the General Health Questionnaire and both subjective and objective burden using the scale developed by Reynolds & Hoult (1984) in their evaluation of home treatment in Sydney. They did not consider that there was a ready satisfactory tool available for the measurement of burden. The items covered in this questionnaire examined carer's burden both for

hospital and home treated patients. While reliability and validity measures were not available for this questionnaire, their results had demonstrated its practical usefulness and suitability.

### Satisfaction

Satisfaction with treatment and with either admission or non-admission again involved replication of the simple questionnaire developed by Reynolds & Hoult (1984). Once more, it was considered that this scale offered a summary view of both community and hospital treatment.

Previous workers matched the trend to use their own simple measures of satisfaction most likely because of the constraints involved in asking clients and their families to complete self rating questionnaires.

## **PART 2: EXPERIMENTAL**

### **CHAPTER 9: CONCEPTUAL FRAMEWORK and METHODOLOGY**

#### **9.1 AIMS OF THE STUDY**

To examine a series of subjects receiving either exclusively home treatment or hospital care across the dimensions of: length of treatment episode; symptom resolution; pharmacological treatment; identified needs and outcome; burden to relatives; client and relatives satisfaction; and vulnerability to relapse after discharge.

#### **9.2 STATEMENT OF HYPOTHESES**

1. Mean per treatment episode duration of home treatment is equal or lesser than hospital treatment.
2. The degree of symptom resolution is equivalent between home and hospital treated groups.
3. The mean dosage of neuroleptic medication in the first 7 days of treatment is higher with admitted cases compared to home treatment.
4. Home treatment results in a wider range of identified patient needs compared to hospital treatment.
5. The outcome of targeted needs is better with home treatment compared to hospital treatment.

6. Home treatment results in a greater reduction in relatives burden compared to hospital treatment.
7. Both client and relative satisfaction is higher with home treatment.
8. Home treated cases show less vulnerability to acute relapse requiring either home treatment or hospital admission (or both) in the 6 months after discharge.

### **9.3 CASE IDENTIFICATION AND SELECTION**

#### **Case Identification :**

***EXPERIMENTAL GROUP:*** Twice weekly review of the home treatment register which recorded details of new and current cases.

***CONTROL GROUP :*** Twice weekly collection of the daily returns (recording admissions and discharges) from the Medical Records department at Ali Saints hospital.

#### **Case selection :**

#### ***INCLUSION CRITERIA***

1. Age 16-64 inclusive
2. Mental disorder requiring either hospital admission or home treatment of at least 7 days duration.
3. Consent from clients, relatives and professional staff.

## ***EXCLUSION CRITERIA***

1. Cases involving primarily substance or alcohol abuse (but including cases where alcohol or substance abuse were associated factors).
2. No recent home treatment or hospital in-patient treatment (within a six week period ).
3. Patients commenced on home treatment directly from any phase of a hospital admission and patients admitted to hospital from home treatment were excluded.
4. Patients who were recruited onto a research programme involving intensive family intervention for psychotic illness.
5. Patients with treatment episode length of 7 days or less.
6. Patients with a primary diagnosis of organic illness.
7. No fixed abode patients.

## **9.4 PROCEDURE AND INSTRUMENTS**

### **HOME TREATMENT GROUP**

‘Possible’ cases for inclusion were identified twice weekly from the home treatment register. Initial data collection was requested on all ‘possible’ cases. ‘Possible’ referred specifically to whether or not the particular cases would meet the criteria for length of treatment (greater than 7 days) and for successful home treatment (not requiring hospital admission). Co-ordination of data collection was performed by M.S and P.B.(Appendix 9)

The rationale for the choice of instruments has been discussed in Chapter 8.

The following instruments were applied:-

**Start of episode** (to patients):

- a) Present State Examination and Syndrome Check List (PSE)(Wing *et al* 1974)
- b) Comprehensive Psychiatric Rating Scale (CPRS)(Asberg *et al* 1978)
- c) Global Assessment Scale (GAS)(Endicott *et al* 1976)
- d) Needs Assessment (NA)(see appendix 3)

The PSE, CPRS, and GAS were administered by the Medical Assessor on the home treatment team (Consultant, Senior Registrar, or Registrar) with data based on the assessment leading to initiation of home treatment, or within the first 3 days of treatment. (It was not uncommon for patients to be unable or unwilling to respond to clinical questionnaires on the day of presentation, but to be so the following day).

The NA was completed either jointly or singly by the Medical assessor or Key-Worker (Community Psychiatric Nurse-CPN) with the patient (within the first 7 days).

**Start of episode** (to relatives)

- a) General Health Questionnaire (GHQ)(Goldberg 1972)
- b) Relatives Burden (RB) (see appendix 4)
- c) Needs Assessment

The GHQ was a self-rating questionnaire. The RB and NA were administered by the Key-Worker within the first 7 days.

**End of episode** (to patients)

- a) CPRS
- b) GAS
- c) Satisfaction with Treatment and Non-Admission (STA)(see appendix 2)
- d) Needs Outcome (NO)(see appendix 5)
- e) Open satisfaction questionnaire (SQ)(see appendix 6)

The end of episode CPRS and GAS were administered by the medical staff at the final visit. The satisfaction questionnaires were self-rating but in practice often required reading and/or explanation by the Key-Worker. The Needs Outcome questionnaire was administered by the Key-Worker who had the initial Needs Assessment form for reference (indicating which needs had been identified as requiring intervention). These instruments were applied either at the final visit or at least 3 days either side of the date of termination.

**End of episode** (to relatives)

- a) GHQ
- b) RB

c) NO

d) Satisfaction with Treatment and Non-Admission (STA)

e) Open satisfaction questionnaire (SQ)

The GHQ was self-rating. Satisfaction and Burden questionnaires were as above self-rating, but in practice often required reading or explanation by the Key-Worker. The Needs Outcome questionnaire was administered by the Key-Worker who had the initial Needs Assessment form for reference (indicating which needs had been identified as requiring intervention). Relatives were interviewed separately from patients.

## **HOSPITAL GROUP**

All data collection for the C group was performed by M.S.

The researcher (M.S) regularly checked the Daily Returns at the Medical Records Department, which indicated the names and location of admissions and discharges for acute admission wards at All Saints Hospital. All identified admissions over a 3 month period were checked in terms of their fulfilling the specified inclusion/exclusion criteria, through scrutiny of case notes and discussion with ward staff. Potentially suitable patients were approached for consent, subject to the agreement of the ward manager (based on the specific clinical and ward conditions). The same time limits for administration of questionnaires applied in the hospital as in the home treatment setting with the exception that the researcher was not present at the initial medical assessment on admission - therefore the window of interviewing within 3 days of admission was



more practically necessary than with the home treatment group.

Ethical approval and agreement to approach suitable patients of responsible consultants in All Saints hospital had been secured through the local Ethical Committee and Medical Staff Committee process.

## **CHAPTER 10: SAMPLING FROM THE HOME TREATMENT AND HOSPITAL POPULATIONS.**

### **10.1 Sampling from the home treatment population.**

The design of the current study was structured so as to focus exclusively on acute presentations which were managed entirely by treatment in the community, excluding those cases which either had been initially admitted, or were admitted from home treatment. In the 9 month period required to collect 40 such cases, there were 130 cases treated overall by the home treatment team. The age, sex, length of episode and diagnostic range for the home treatment population over the study period is shown in Table 1. The reasons for exclusion from the study are listed in Table 2. In certain cases more than one reason for exclusion applied (e.g. episode length too short and drug/alcohol related) although this is not included in the data. Four cases which were eligible for inclusion were excluded because of incomplete data collection, or data collection outside of specified time limits.

**Table 1. Characteristics of the home treatment population**

	<b>Home treatment population (n=130)</b>	<b>Home treatment sample (n=40)</b>
<b>Age (mean)</b>	34.2 (sd 12.4)	33.4 (sd 11.2)
<b>Sex</b>	M 65 F 65	M 24 F 16
<b>Length of episode (mean)</b>	28.62 (sd = 23.5)	
<b>Overall</b>	31.3 (sd =24.4)	32.8 (sd = 21.7)
<b>Excluding Cases under 8 days</b>		t = .51, df = 112, p = .6
<b><u>Diagnosis</u></b>	Number (%)	Number (%)
<b>Bipolar Mania</b>	28 (21.5)	7 (17.5)
<b>Bipolar Mixed</b>	2 (1.5)	2 (5)
<b>Paranoid disorder</b>	7 (5.4)	1 (2.5)
<b>Schizophrenia</b>	40 (30.8)	14 (35)
<b>Psychotic depression</b>	11 (8.5)	4 (10)
<b>Depression - Non psychotic</b>	23 (17.7)	10 (25)
<b>Adjustment Disorder /</b>	13 (10)	2 (5)

<b>Neurosis</b>		
<b>Drug / Alcohol</b>	6 (4.6)	

**Table 2. Reasons for exclusion of home treatment cases**

<b>Reason for Exclusion</b>	<b>Number (%)</b>
Episode too short	9 (6.9)
Recent Admission	27 (20.8)
Recent Home treatment	8 (6.2)
Admission to hospital	11 ( 8.5)
Directly onto home treatment from hospital	15 (11.5)
Directly onto home treatment from hospital and subsequently admitted	6 (4.6)
Eligible but missed	4 ( )
Refused consent/difficult to interview	4 ( )
Insufficient engagement/contact while on home treatment	3 (2.3)
Premature self discharge from treatment	1 (.8)
Primarily drug/alcohol related	2 (1.5)

The range of diagnosis in the home treatment population and study sample revealed certain differences. Table 3 shows the range of diagnoses for the latter, compared to the excluded cases. Diagnosis was recorded on the basis of the entered diagnosis in the home treatment register for excluded cases, and was less precise and reliable therefore than the diagnostic allocation in the study group. The excluded group comprised relatively more cases of adjustment/neurotic disorder and less cases of non-psychotic depression, and by definition, more cases of primarily drug/alcohol related disorder.

**Table 3. Diagnosis across the home treatment sample and population**

<b><u>Diagnosis</u></b>	<b>Included Cases (n=40)</b>	<b>Excluded Cases (n=90)</b>
<b>Bipolar Mania</b>	7 (17.5)	21 (23.3)
<b>Bipolar Mixed</b>	2 (5)	
<b>Paranoid disorder</b>	1 (2.5)	6 (6.7)
<b>Schizophrenia</b>	14 (35)	26 (28.9)
<b>Psychotic depression</b>	4 (10)	7 (7.8)
<b>Depression - Non psychotic</b>	10 (25)	13 (14.4)
<b>Adjustment Disorder / Neurosis</b>	2 (5)	11 (12.2)
<b>Drug/Alcohol</b>		6 (6.7)

## **10.2: Sampling from the Hospital Population.**

The study period for sampling from All Saints Hospital was the three months from February to April inclusive in 1993. There were six adult general admission wards and five of these were chosen for case identification. The ward excluded was a base for home treatment admissions and/or screening for early discharge to home treatment. There were 220 admissions overall during the study period, of which 184 occurred on the specified wards of interest.

i Certain logistical problems were pertinent to data collection within the hospital group. These were as follows: There was only one investigator (MS); MS was operating purely in a research capacity with no clinical involvement. A balance had to be struck between the intrusiveness and interruption of a research interview which could disrupt the processes of clinical assessment and care, and the requirement for consecutive sampling which would exclude the minimum number of potentially suitable cases; Consent from patients and relatives was more difficult to obtain, than was the case with the HT group where the investigators had direct clinical involvement (Marks and colleagues (1994) point out the arduous task of data collection in their study and the range of difficulties encountered. They had to resort to direct payment of patients); Interviews with relatives had to be set up with their agreement and often involved visits to their homes; Exact anticipation of discharge was sometimes difficult to obtain such that the criterion of completing discharge interview with patients and relatives within 3 days was practically necessary.

The categories of reasons for exclusion of cases are set out below.

1. Admission length of 7 days or less (as specified in the study exclusion criteria).
2. Neurotic/Adjustment disorders (there was a deliberate attempt to focus on cases with severe mental illness).
3. Leave (patients absent without leave (AWOL) or on planned leave shortly after admission were not available for interview).
4. Consent refused by patient.
5. Difficult to interview/Consent to approach the patient not given by nursing staff (sensitivity to ward conditions and the patient's clinical state had to be observed).

6. Rehabilitation (admissions from a specialised rehabilitation and early intervention service for psychosis based at All Saints Hospital. This service offered intensive individual and family support and aimed at reduced hospitalisation).
7. Recent admission/home treatment (as specified in the study exclusion criteria).
8. Alcohol (admission for detoxification or primarily alcohol related problems, as specified in the study exclusion criteria).
9. Drugs (admission for primarily substance abuse related problems, as specified in the study exclusion criteria).
10. Organic (admission as a consequence of primarily organic or physical illness e.g. Toxic confusional states, Parkinson's disease, pre-senile dementia or compounding physical illness in those with mental illness).
11. Social/Respite (admissions on the primary basis of giving respite to carers or for social reasons e.g. Accommodation difficulties).
12. No Fixed Abode (as specified in the study exclusion criteria)
13. Extra Contractual Referrals (ECR's) (patients not from the hospital catchment area, or transfers to All Saints Hospital from other psychiatric hospitals).
14. Language (patients who did not have a reasonable command of English and for whom the services of a translator would have been required).
15. Eligible but missed (not identified or incomplete data collection).



**Table 4. Reasons for exclusion (hospital).**

<b>Reason</b>	<b>Number</b>	<b>%</b>
Short admission	21	14.6
Neurotic/Adjustment Disorder	10	6.9
Absent without leave	9	6.3
Refused consent	8	5.6
Difficult to interview	10	6.9
Rehabilitation	10	6.9
Recent treatment	28	19.4
Alcohol	13	9.0
Substance abuse	2	1.4
Organic/Physical	3	2.1
Social/Respite	2	1.4
NFA	8	5.6
ECR	9	6.3
Language	4	2.8
Eligible but missed	5	3.5
	Total 144	

Further detail is provided on those cases which were excluded on the basis of being eligible but missed, consent having been refused or approach for consent refused, and

language difficulties as these cases met the study inclusion criteria. There was no significant difference in the proportion of such cases (10 of 23) which had been admitted under the Mental Health Act, compared to the rest of the excluded cases (33 of 88)( $\chi^2 = 2.4$ ,  $df = 1$ ,  $p = .11$ ). The diagnostic breakdown of these otherwise suitable cases was: Depression - 9 cases (39.1 %), Schizophrenia - 7 cases (30.4%), Bipolar disorder - 5 cases (21.7%) and Paranoid psychosis-2 cases (8.7%).

The hospital sample and population were compared in terms of Mental Health Act status and length of stay. Of the studied cases, 10 of 40 (25%) had been either admitted under the Mental Health Act or changed to involuntary status, compared to 43 of the 144 (29.9%) excluded cases. The mean length of stay of the studied group (which excluded episode lengths of 7 days and under) was 45.4 compared to 38.9 in the excluded group (when episode lengths of 7 days and under were similarly excluded). The mean length of stay in All Saints hospital for the following year (based on 694 acute admissions) was 43.29 (excluding episodes of 7 days and under).

## **CHAPTER 11: RESULTS**

### **11.1: GROUP BASELINE CHARACTERISTICS**

#### **Introduction**

There were 40 patients in both the home treatment/experimental (E) and hospital/control (C) groups. With the exception of age, both groups were closely equivalent in terms of sex and other socio-demographic variables and also in terms of previous psychiatric history and current diagnosis. Detailed results follow and summary detail is presented in Table 1.

#### **Age:**

The mean age of the home treatment (Experimental-E) group was 33.4 (sd 11.2) and of the hospital (Control-C) group 39.3 (sd 11.7) (mean difference = 5.9,  $t = 2.3$ ,  $df = 78$ ,  $p = .02$ ).

#### **Sex:**

There were 24 males and 16 females (60% and 40%) in the E group, and 20 males and females in the C group (50%, 50%). There was no significant difference in the sex distribution between groups ( $\chi^2 = .8$ ,  $df = 78$ ,  $p = .36$ ).

**Marital Status:**

There were 6 (15%) married or cohabiting in the E group and 16 (40%) in the C group. Twenty four (60%) of the E group and 16 (40%) of the C group were single. Ten (25%) of the E group and 8 (20%) of the C group were widowed, separated or divorced. Significantly more single people (including separated, divorced or widowed) were in the E group (34 (85%) E, versus 24(60%)C,  $p=.01$ ,  $df=1$ ,  $\chi^2= 6.2$ ).

**Ethnicity:**

The distribution of ethnicity was as follows: E group- White 23 (57.5%), Black 11 (27.5%), and Asian 6 (15%); C group- White 30 (75%), Black 9 (22.5%), and Asian 1 (2.5%) with no significant differences between groups ( $\chi^2=4.7$ ,  $p=.09$ ).

**Living Status:**

More of the E group lived alone (E- 16(40%), C-9 (22.5%) ) although this difference failed to be significant ( $\chi^2=2.8$ ,  $p=.09$ ). There was also no significant differences in the number of cases having responsibility for children (under 16) at home (E- 9 (22.5%), C - 15 (37.5%)) ( $\chi^2=4.9$ ,  $p=.29$ ).

**Housing :**

More of the E group lived in tower block flats, but there was no significant difference in the distribution of housing types overall: House: E-19 (47.5%), C-23 (57.5%); Flat/Maisonette: E-12 (30%), C-13 (32.5%); Tower block flat: E- 8(20%), C-2 (5%) and Hostel: E-1 (2.5%), C-2 (5%).(chi 2=5, p=.28).

**Employment:**

The numbers in full or part-time employment were equal between groups: E and C groups-16 (40%). 4 cases (10%) of both groups were declared as unemployed housewives. The numbers of students and retired cases respectively in the E group were 1 (2.5%), 3 (7.5%) and 2 (5%), 2 (5%). The remainder were unemployed (E-16(40%), C-18 (45%). There was no significant difference overall between groups in terms of employment status (chi 2=2.2, p=.97).

**Social Class:**

The social class distribution was not significantly different between the groups (chi 2=5.3, p=.24). The distribution was as follows: E group- I=1(2.5%), II=3 (7.5%), III=8 (20%), IV 14(35%) and V=14 (35%); C group- I=1(2.5%), III=12(30%), IV=18(45%) and V=9(22.5%).

**Previous Psychiatric Admission:**

Both groups had closely equivalent previous psychiatric morbidity as measured by a history of psychiatric admission (and/or home treatment episodes) with a positive history in 28 (70%) of the E group and 27 (67.5%) in the C group ( $\chi^2=0.05$ ,  $p=.8$ ). The numbers of cases (with a previous admission history) having up to 3 admissions/episodes in the 5 years preceding the index admission/episode was 21(84%) for the E group and 21 (77.5%) for the C group. The number of cases having 4 or more such admissions/episodes was 4 (16%) in the E group and 6 (22.5%) in the C group. There was no significant difference in terms of the numbers of cases in each group that had been admitted under the Mental Health Act, with 12 (30%) in the E group and 18 (45%) in the C group ( $\chi^2=1.9$ ,  $p=.16$ ).

**Diagnosis:**

Diagnosis was based on the ICD-10 Classification of Mental and Behavioural Disorders (Diagnostic Criteria for Research) (WHO 1993). The diagnosis for all cases was assigned through joint rating (MS and S.P.S) based on the PSE, Syndrome Check List and CPRS records.

Composite categories were arranged based on specific ICD-10 diagnoses for the purpose of clarity and ease of analysis. (summary ratings were transcribed onto new forms and numerically coded independent of group for patient identification after assignment).

The complete list of specific diagnoses and the schedule used for composite category

assignment is listed in appendix 7. The numbers of cases in each composite diagnostic group is listed in Table 5. Both groups were closely similar in diagnostic composition ( $\chi^2 = .65$ ,  $p = .99$ ).

**Table 5. Summary group characteristics**

<u>Factor</u>	<u>Home Treatment (E)</u> (n=40)	<u>Hospital (C)</u> (n=40)
Age (Mean)	33.4	39.3 (t = 2.3, df = 78,
Sex		
Male	24 (60%)	20 (50%)
Female	16 (40%)	20 (50%)
Ethnicity		
White	23 (57.5%)	30 (75%)
Black	11 (27.5%)	9 (22.5%)
Asian	6 (15%)	1 (2.5%)
Living Alone	16 (40%)	9 (22.5%)
Employed	16 (40%)	16 (40%)
Previous Admission	28 (70%)	27 (67.5%)



Diagnosis		
Bipolar Mania	7 (17.5%)	9 (22.5%)
Bipolar Mixed	2 (5%)	2 (5%)
Paranoid Disorder	1 (2.5%)	1 (2.5%)
Schizophrenia	14 (35%)	11 (27.5%)
Psychotic Depression	4 (10%)	4 (10%)
Depression -Non Psychotic	10 (25%)	11 (27.5%)
Adjustment Disorder / Neurosis	2 (5%)	2 (5%)

#### **Reasons for Admission to Home Treatment and Hospital:**

Three major reasons leading to either commencement of home treatment or hospital admission following assessment had been entered for all cases (please see the menu in Table 6). The leading categories in both groups were (in order of frequency) those of acute symptoms of mental illness, inability to cope/self-neglect and social stressors. The reasons entered were not in any rank order. Close similarity obtained in respect of the frequency of inclusion of the entire range of factors between the groups.

**Table 6. Reasons for admission / home treatment**

<b>Reason</b>	<b>Home Treatment (E) number (%)</b>	<b>Hospital (C) number (%)</b>
Non-compliance with Medication	11 (27.5)	10 (25)
Acute Symptoms of Mental Illness	35 (87.5)	38 (95)
Suicidal Attempts / Risk	9 (22.5)	9 (22.5)
Violent / Destructive Behaviour	3 (7.5)	3 (7.5)
Socially Unacceptable Behaviour	7 (17.5)	11 (27.5)
Confusion	9 (22.5)	9 (22.5)
Inability to Cope / Self-Neglect	27 (67.5)	24 (60)
Significant Social Stressor	13 (32.5)	12 (30)
Family Problems	4 (10)	1 (2.5)

## **Mental Health Act**

The hospital group (40) comprised 10 cases which were subject to the provisions of the Mental Health Act. Five cases had been admitted under Section 2, and 3 under Section 3 of the Act. Two further cases had been commenced on Section 3 after informal admission. Two of the initial 5 cases admitted under Section 2 progressed to detention under Section 3.

### **11.2: TESTING OF HYPOTHESES (RESULTS AND CHARACTERISTICS OF TREATMENT).**

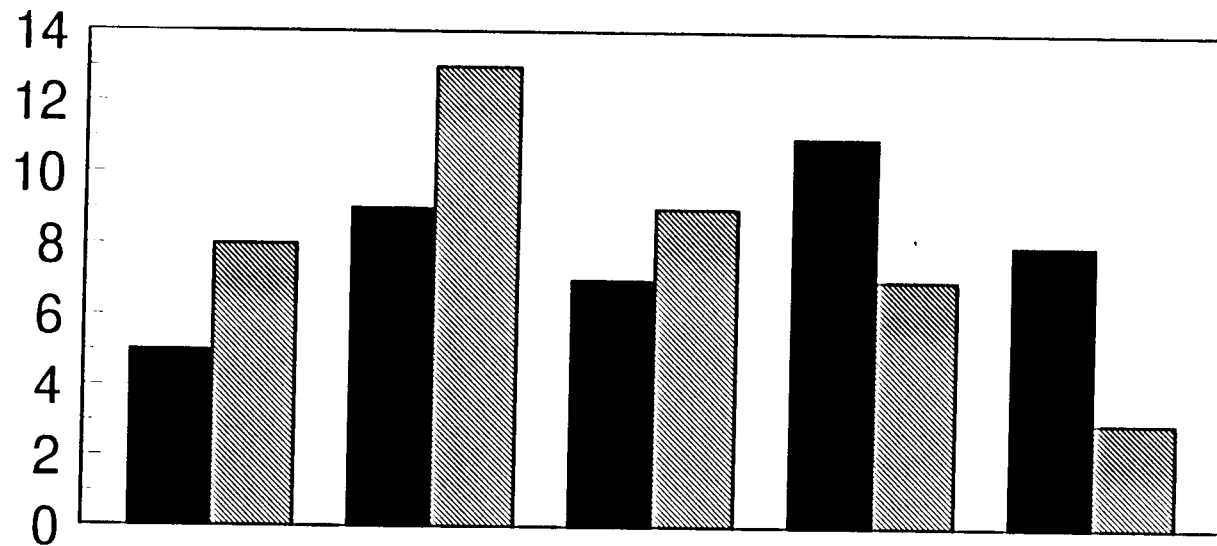
#### **Length of Episode:**

**(Hypothesis 1: “The mean duration of home treatment is significantly shorter than that of hospital treatment”).**

The mean duration of home treatment was significantly shorter than that of hospital admission. The mean duration was 31.4 days (sd 22.1, SEM 3.5) for the E group and 48.1 days (sd 33.5, SEM 5.3) for the C group (Mean difference = 16.6,  $t = 2.6$ ,  $df = 78$ , 2 tail = .01, 95% confidence intervals 29.3 - 4). Aggregated length of episode is shown in Figure 1.

# Figure 1. Length of Episode

No. of Cases





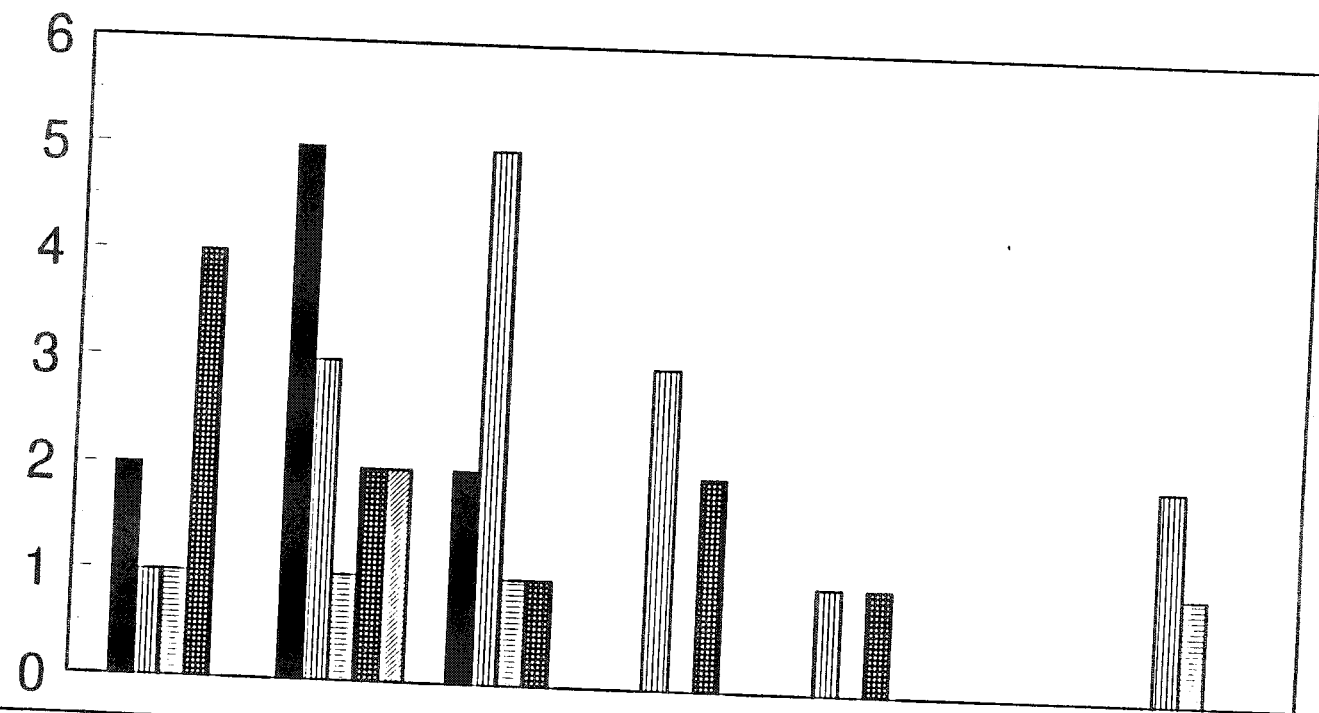
Weeks	<2	>2 <4	>4 <6	>6 <12	>12
Hospital 	5	9	7	11	8
Home Treatment 	8	13	9	7	3

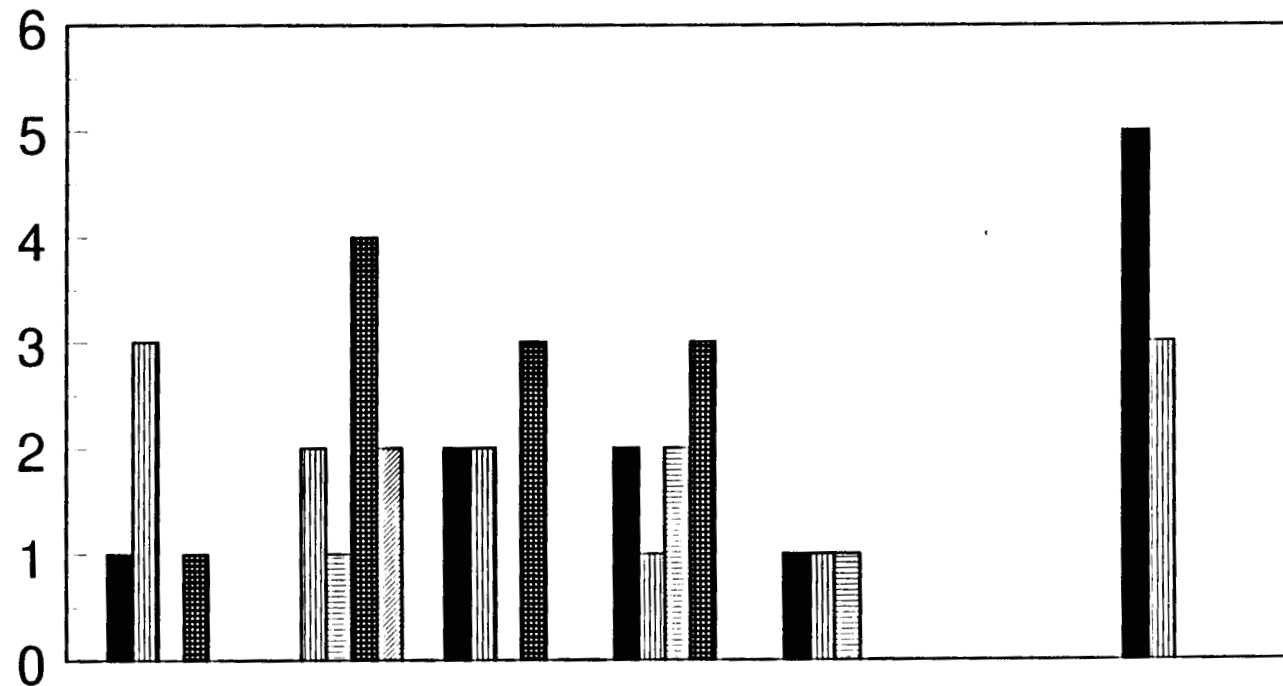
Chart shows number of cases by length of episode  
(n = 40 for both Hospital and Home Treatment groups)

**Figure 2. Length of Episode and Diagnosis (E) Group**



	<2	>2<4	>4<6	>6<8	>8<10	>10<12	>12
Bipolar	2	5	2				
Schizophrenia / Paranoia	1	3	5	3	1		2
Psychotic Depression	1	1	1				1
Non-Psychotic Depression	4	2	1	2	1		
Adjustment / neurosis		2					

# Figure 3. Length of Episode and Diagnosis (C) Group



	<2	>2<4	>4<6	>6<8	>8<10	>10<12	>12
Bipolar	1		2	2	1		5
Schizophrenia / Paranoia	3	2	2	1	1		3
Psychotic Depression		1		2	1		
Non-Psychotic Depression	1	4	3	3			
Adjustment / neurosis		2					

When diagnosis was examined under the categories of psychotic and non-psychotic, a significant difference in length of episode was only found for the former group (Psychotic - E group (28 cases) - mean = 34.1, sd = 24.2, SEM 4.5 / C group (27 cases) - mean = 57.2, sd = 36.4, SEM 7.0/ $t = 2.7$ , df = 53, 2 tail significance = .007 (CI 39.7, 6.4). The means for the residual non-psychotic cases were 25.1 (sd 15.5) and 29.1 (sd 14.4) for the E and C groups respectively, yielding a difference of 3.9, ( $t = .6$ , df = 23, 2 tail significance = .5). No non-psychotic cases in the hospital group had been formally detained (i.e. the effect of formal detention in contributing to the overall difference in length of episode was confined to psychotic cases).

When admissions involving the Mental Health Act were excluded, the difference in the respective lengths of treatment was no longer significant, but the trend still pointed towards longer treatment in the hospital group (The mean duration was 43.6, sd = 33.6 after exclusion. Mean difference between groups = 12.1,  $t = 1.8$ , df = 68, 2 tail significance = .07). Admissions involving the Mental Health Act stayed longer in hospital than informal cases, although the difference was not significant (Mean duration for MHA admissions (10) was 61.6 compared to 43.6 for informal cases,  $t = 1.4$ , df = 38, 2 tail significance = .14).

### **Symptom Resolution:**

**(Hypothesis 2: -- The degree of symptom resolution is equivalent between home and hospital treatment")**

There was no significant difference between groups in terms of achieved reduction in clinical symptoms as measured by the CPRS and **GAS** scales. As shown in Table 7 there was a trend for greater amelioration of symptoms in the hospital group.

**Table 7. Clinical improvement**

Symptom Rating	Home Treatment	Hospital
Initial CPRS (Mean)	36.2	38.7
End CPRS (Mean)	11.5	12.3
Change in CPRS (Mean)	24.6	26.5 (t = -.95, 2 tail significance = .34)
Initial GAS (Mean)	30.7	29.7
End GAS (Mean)	69.1	69.8
Change in GAS (Mean)	38	42.1 (t = -1.32, 2 tail significance = .19)

The baseline CPRS and GAS for those hospital patients that had (10) or had not been (30) formally detained differed only marginally and in the direction of greater symptomatology in informal cases (Mean CPRS was 39.5 for informal cases and 36.3 for formal cases - mean difference = 3.2, t = .93, df = 38, p=.35) (Mean **GAS** was 30.4 for informal cases and 27.8 for formal cases - mean difference = 2.6, t = .67, df = 38, p=.5).



Similar results obtained for the comparison of the 10detained hospital patients with the home treatment group (Mean E group CPRS was 36.2, compared to 36.3 for the detained cases)(Mean E group GAS was 30.7 compared to 27.8 for the detained cases).

### **Medication:**

**(Hypothesis 3: “The mean dosage of neuroleptic medication in the first 7 days of treatment is higher with admitted cases compared to home treatment”)**

Significantly more oral neuroleptic medication had been prescribed in the first 7 days of treatment in the hospital group (based on 60 cases, as only 60 cases had received oral neuroleptics). The mean dosage based on unit chlorpromazine equivalents was 1.32 (sd = 1.35, SEM = .214) for the home treatment group and 2.69 (sd=3.21, SEM=.508) for the hospital group (Mean difference =1.37,  $t=-2.48$ , 2 tail significance =.015, SE difference =.55, 95% confidence intervals: -2.46 to -.27).

There was no significant difference in the amount of depot neuroleptic prescribed across the first 7 days between groups, but this applied only to 15 cases in total. Composite total neuroleptic was not therefore calculated or analysed.

## Needs:

**(Hypothesis 4: “Home treatment results in a wider range of identified needs than does hospital treatment”)**

There was close equivalence between the groups in terms of the overall number of ‘areas of need’ identified as requiring intervention. This applied whether the rating was that of the researcher, patient or relative (Table 4). As the number of relatives interviewed was limited, the needs identification and outcome from this group was not included in the overall analysis. ‘Identified need’ refers to domains where a score of 2 applied (i.e. definite need identified which required intervention- Appendix 3)

**Table 8. Mean total identified needs**

Rater	Home Treatment	Hospital
Researcher	2.7	2.8
Patient	2.2	2.6
Relative	1.1	.8
Mean Total (Researcher and Patient)	2.9	3 (t = .26, df = 78, p=.7)

The mean number of identified needs was almost similar according to the diagnostic categories of psychotic and non-psychotic (Researcher - Psychotic (55 cases)/mean = 2.8, Non-psychotic (25 cases)/mean = 2.8)(Patient - Psychotic/ mean = 2.4, Non-psychotic mean = 2.6). Specific domains of need were examined across groups, and by rater. Cross tabulation chi square tests were applied to each domain between home treatment and hospital per each rater (e.g. Did patients from the E or C groups rate significantly more 'need' in the domain of Housing/Accommodation). The results are given in Table 5. Areas of need in which significant differences emerged, were: the estimation of relationship difficulties with one's partner, where both the raters and the patients in the hospital setting recorded this item more frequently than in the case of the home treatment group and; physical health - identified more in the home treated group. Areas in which there was a trend towards greater identification of need in the home treated group, were those of finance and household management. Areas in which there was a trend towards greater identification of need in the hospital group, were those of family relationship difficulties, employment and housing/accommodation .

**Table 9: Rating of Specific Needs**

<b>Domain of Need</b>	<b>Home Treatment No (%)</b>	<b>Hospital No (%)</b>
Housing/Accommodation		
Researcher (Rr)	8 (20)	16 (40)
Patient (Pt)	11 (27.5)	15 (37.5)
Relative (Rel)	5 (12.5)	2 (5)
Employment		
Rr	8 (20)	15 (37.5)
Pt	9 (22.5)	15 (37.5)
Rel	7 (17.5)	6 (15)
Finance		
Rr	10 (25)	6 (15)
Pt	10 (25)	6 (16)
Rel	3 (7.5)	3 (7.5)
Partner Relationship Difficulties		

Rr	9 (22.5)	18 (45)	chi 2= 4.5,
Pt	8 (20)		p=.033
Rel	6 (16)	18 (45)	chi 2= 5.6,
			p=.016
		4 (10)	
Family Relationship Difficulties			
	11 (27.5)	15 (37.5)	
Rr	7 (17.5)	13 (32.5)	
Pt	5 (12.5)	5 (12.5)	
Rel			
Problems with Children			
Rr	8 (20)	9 (22.5)	
Pt	8 (20)	7 (17.5)	
Rel	5 (12.5)	3 (7.5)	

Social Functioning		
Rr	19 (47.5)	14 (35)
Pt	14 (35)	12 (30)
Rel	5 (12.5)	4 (10)
Self Care		
Rr	15 (37.5)	11 (27.5)
Pt	9 (22.5)	9 (22.5)
Rel	5 (12.5)	5 (12.5)
Physical Health		
Rr	8 (20)	2 (5)      chi 2 = 4.1,
Pt	6 (15)	3 (7.5)      p = .04
Rel	1 (2.5)	1 (2.5)
Alcohol / Substance Abuse		
Rr	3 (7.5)	4 (10)
Pt	0	3 (7.5)
Rel	1 (2.5)	1 (2.5)

Household Management		
Rr	12 (30)	8 (20)
Pt	12 (30)	7 (17.5)
Rel	2 (5)	2 (5)

#### **Needs Outcome:**

**(Hypothesis 5: “The outcome of targeted need is better with home treatment compared to hospital treatment”)**

The analysis of needs outcome focused on whether identified needs (from researchers and patients) were recognised (by the patient) as having been tackled, or targeted, with an improved outcome (Rare instances (3) of lack of some positive action or improvement following a problem having been addressed, were ignored for the purpose of easier analysis). Individual categories of need were examined against this criterion through cross tabulation and chi squared tests. Results from each category revealed that home treatment achieved equal or better targeting (Table 6). (The number and percentage targeted is based on the maximum identification of the specific need as listed in Table 5 above. The greater number of identified need usually but does not always correspond to the totals in each domain in Table 6.

This is because different cases between different raters could apply).

Significantly better outcome was achieved in the areas of: employment, relationships with partners and families, social functioning and unsurprisingly household management. (Help with the latter in the hospital group referred for instance to assistance with bills and escorted visits home for tidying etc. in preparation for discharge).

**Table 10. Needs outcome**

Domain of Need	Not targeted no. (%)		Targeted and Improved no. (%)	
	Home treatment	Hospital	Home treatment	Hospital
Housing / Accommodation	2 (18.2)	5 (31.3)	9 (81.8)	11 (68.8)
Finance		1 (16.7)	11 (100)	5 (83.3)
Employment	2 (20)	13 (81.3)	8 (80)	3 (18.8)  chi 2 = 9.4  Fisher Exact (FE)p =



				.003
Relationship with Partner		9 (50)	9 (100)	9 (50) chi 2 = 6.7 FE p = .011
Relationship with Family		8 (53.3)	11 (100)	7 (46.7) chi 2 = 8.4 FE p = .007
Problems with Children		3 (33.3)	8 (100)	6 (66.7)
Social Functioning		4 (28.6)	19 (100)	10 (71.4) chi2=6.1, FE p=.02
Self Care			15 (100)	11 (100)
Physical health		1 (33.3)	8 (100)	2 (66.7)
Alcohol/Substance abuse		3 (75)	3 (100)	1 (25)
Household management		4(50)	13(100)	4 (50) chi 2 = 8.0 FE p = .01

### **Relatives Burden:**

**(Hypothesis 6: “Home treatment results in a greater reduction of relative’s burden than hospital treatment”)**

Burden on relatives was measured by administration of the GHQ and a burden questionnaire. Completed questionnaires for entire treatment episodes were available only for 13 and 14 relatives respectively from the home treatment and hospital groups. Initial GHQ results were closely comparative. Subjective burden on relatives (as measured with the GHQ) was significantly reduced more by hospitalisation than by home treatment. Table 11 shows the mean GHQ scores for each group at the start and completion of treatment and the mean differences obtained.

**Table 11. GHQ scores in relatives**

<b>GHQ (Mean)</b>	<b>Home Treatment (n= 13)</b>	<b>Hospital (n= 14)</b>
Start	40.9	42.8
End	29.2	21.2
Mean Change	12.0	23.2 *  Kruskal-Wallis  H=4.5, df=1, p=.033

The burden interview (detailed in appendix 4) covered the following areas: Symptoms; Finance; Child care; Disruption; Responsibility; Occupation; Inconvenience; and Coping. As the numbers of relatives interviewed was limited, total burden scores were calculated based on the sum of item sub-scores. Initial total scores were closely equivalent between the groups at the start of treatment. The change in burden following treatment followed the direction of GHQ results with a strong trend towards greater relief of burden in the relatives of the hospital group (Table 12.).

**Table 12. Burden on relatives**

<b>Burden</b>	<b>Home treatment Group (n=13)</b>	<b>Hospital Group (n=14)</b>
Initial (mean)	8.4	9.0
End (mean)	7.1	4.7
Change (mean)	1.3	4.2
		Kruskal-Wallis H=3.2, df = 1, p= .07

**Satisfaction:**

**(Hypothesis 7: (“Both client and relative’s satisfaction is higher with home treatment”))**

Patients reported significantly greater satisfaction with home treatment. The mean summary scores from the satisfaction items evaluated (listed in appendix 2) are presented in Table 13. Satisfaction with the fact of not having been admitted to hospital (home treatment) or admission (hospitalisation) was also studied with a lower score indicating greater satisfaction. The difference obtained was highly significant, favouring the home treatment group.

**Table 13. Patient’s satisfaction**

<b>Patient Satisfaction item</b>	<b>Home treatment (n=40)</b>	<b>Hospital (n=40)</b>
Treatment (mean )	16.1 (sd = 6.5)	13.1 (sd = 6.4) * mean difference = 3 Kruskal-Wallis H = 7.0, df = 1, p = .04
Admission / Non-admission	1.3 (sd = 1.0)	2.6 (sd = 1.3) * mean difference = -1.2 Kruskal-Wallis H = 18.2, df = 1, p = .000

Relatives, however, significantly favoured hospital treatment but there was no appreciable difference in their preference for admission/non-admission (Table 14).

**Table 14. Relative's satisfaction**

Relatives Satisfaction item	Home treatment mean (n=13)	Hospital mean (n=14)
Treatment	4.31 (sd = 4.2)	7.43 (sd = 3.5)  Kruskal-Wallis  H = 4.2, df=1, p = .04
Admission/ Non-admission	2.69 (sd = 1.3)	2.5 (sd = 1.7 ) NS

**Relapse :**

(Hypothesis 8: (“Home treated cases have less vulnerability to acute relapse requiring either home treatment or hospital admission (or both) in the 6 months following discharge from the index episode”))

There did not emerge any significant difference in the likelihood of acute relapse between the groups at any point in the 6 months following the index episode. The pattern of such relapses is shown in Table 15.

**Table 15. Relapse trends after 6 months**

<b>Relapse</b>	<b>None n (%)</b>	<b>Month 1 n (%)</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>6</b>
Home treatment	31 (77.5)	6 (15)	2 (5)	1 (2.5)		
Hospital	30 (75)	2 (5)	3 (7.5)	1 (2.5)	2 (5)	2 (5)

(chi 2 = 6.2, df = 5, p = .28).

### **Experience of Treatment**

The determinants of satisfaction or dissatisfaction with treatment in both settings were explored through open ended questions. Questions concerning the advantages and disadvantages of home treatment compared to hospital were addressed to those home treatment subjects who had previous experience of admission (25 of the 28 such patients were interviewed). Hospital patients had no experience of home treatment, and were

only asked about the perceived advantages and disadvantages of hospitalisation (27 patients were interviewed). The number of relatives interviewed was 13 and 14 in the E and C groups respectively. The broad range of replies follows with superimposed domains of concern. Many comments are accompanied by their converse in another section. A number of issues were regarded positively and negatively by different patients in the same setting. No attempt was made to empirically quantify this data .

**Table 16. Perceived Advantages of Home Treatment (Patients)**

		<b>DOMAIN</b>
1	Relatives are available to provide support	Patient/Relative Relationship (P/RR)
2	Relatives themselves can avail of support from the visiting staff	Burden
3	Being with one's family is helpful when ill	P/RR
4	Home Treatment is less disruptive	Process
5	One can be busy and occupied with relevant tasks	Process
6	Child care is easier	Family
7	Reality orientation is easier in one's familiar environment	Clinical
8	Assistance from the team is practical and problem solving on a day to day basis	Intervention - Staff/patient relationship (S/PR)
9	The time spent with staff does not have to be shared with others	S/PR
10	The quality of relationships built up with staff are on a higher quality than those in hospital	S/PR
11	One's freedom and independence are retained	Autonomy/ independence (A/I)
12	One would not be homesick	Environment



13	One can stay with one's pets	Environment
14	One does not have to be in the company of other patients, with their problems and disturbed behaviour.	Environment
15	It is easier to develop a rapport with staff on one's own home ground	S/PR
16	The treatment is more private	Process
17	One has more control and a greater say in the process of Home Treatment	A/I
18	Home is a safe and comfortable place	Environment
19	One does not have to obey hospital rules	A/I
20	The staff are interested in more things than one's symptoms	S/PR

**Table 17. Perceived advantages of home treatment (Relatives)**

1	Home Treatment is more convenient	Burden
2	Relatives can receive support and advice themselves	Burden
3	Relatives are involved in the process of treatment	Relative/Staff Relationship (R/SR)
4	Child care is easier	Burden
5	Home Treatment is less disruptive	Burden/process
6	The patient can continue to be engaged in the tasks of household management	Burden/process
7	It is cheaper not to have to travel to the hospital for visits	Economic

8	The problems and needs of the patient are more directly addressed	Intervention
9	The patient is not distressed by the removal from the family that admission entails	Clinical
10	It is less time consuming when one does not have to travel frequently to the hospital	Burden
11	One can retain ones own daily schedule	Burden

**Table 18. Perceived disadvantages of home treatment (Patients)**

		<b>DOMAINS</b>
1	It is more stressful for one's family	Burden
2	Staff visits can be stressful	S/PR
3	Staff visits can be disruptive	Process
4	It is stigmatising to be visited at home	Stigma
5	It is difficult to face one's family when ill	P/RR
6	The need to remain engaged in the tasks of living/household management is stressful	Rest
7	There is not enough time to rest	Rest
8	There is not enough space to breathe or relax when at home with one's family	Rest/Relatives
9	Child-care is demanding when one is unwell	Rest
10	No immediate professional help is at hand	S/PR
11	One has to continue to look after one's pets	Rest

12	Visits by different staff members are confusing and awkward	S/PR	
13	Short visits are frustrating and inadequate	Process	
14	Waiting for visits is frustrating and anxiety provoking	Process	
15	One is too lonely and unprotected at home compared to hospital	Environment	
16	One has to pay for one's food, heating and electricity	Economic	
17	Staff visits constitute an invasion of one's privacy	Process	
18	Problem's with one's neighbours persist or get worse	Community	
19	There are not enough community supports available to match the help available in hospital	Community	

**Table 19. Perceived disadvantages to home treatment (Relatives)**

1	Points, 1,2,3,4,10,12,13,17, 18 and 19 above		
2	Daily visits are not enough to witness and understand the range of problem behaviours and variable mood states which manifest throughout 24 hours	Clinical	
3	Frank communication with staff can be inhibited and difficult with the patient present	R/SR	
4	There is not enough respite or relief from the worry about the patient	Burden	
5	There is too much responsibility and pressure to ensure the patient's compliance to medication	Burden	

**Table 21. Perceived advantages of hospital (Relatives)**

1	Points, 1, 2, 3, 11 and 16 above		
2	Problem behaviour is dealt with		Intervention
3	The patients have to obey the staff		Process, A/I
4	Patients will talk about/divulge their problems in hospital		S/PR
5	Patients stay there long enough to recover before returning home		Intervention
6	Patients are sedated		Intervention
7	There is official acknowledgement/recognition that the patient has an illness		Support
8	There is enough time to address the patients problems		Process
9	The patient is with people who understand their difficulties		S/PR

**Table 22. Perceived disadvantages of hospital (Patients)**

1	The atmosphere is bad/ depressing / unpleasant /stressful /threatening	Environment
2	Worry about home and family	Separation
3	Missing home and family friends	Separation
4	Feeling guilty about being away from home	Separation
5	Other patients can be disturbing/unpredictable/frightening	Environment
6	The staff spend all their time in the office/seldom interact with patients	S/PR
7	Staff are cursory and dismissive	S/PR
8	Waiting for visits is stressful	Separation
9	There is nothing to do all day but worry	Process
10	Hospital food is inferior	Environment
11	There is not enough explanation to account for having been admitted	Process
12	One feels dumped/placed there	P/RR
13	There is not enough structured activity	Intervention
14	It is boring to be in hospital	Environment
15	One is removed from everyday experiences	Process
16	One is deprived of one's liberty	A/I
17	There are a set of rules to learn and obey	Process
18	Communication with patients is too limited	Autonomy
19	Communication/explanation with one's relatives by the staff is too limited	R/SR

	too limited		
20	The perspective on problems is too one sided, and does not take enough account of the relevance of others (i.e. relatives)		Intervention
21	It can be expensive for relatives/friends to travel and visit		Economic
22	The staff are only interested in symptoms		Intervention
23	The staff are too controlling		A/I
24	There is not enough privacy		Environment
25	Mixed sex ward environments are difficult		Environment
26	There is an emphasis on conformity rather than individuality		Environment
27	There is an emphasis on behavioural modification		Intervention
28	One's dignity is eroded by a controlling, unequal power relationship		A/I
29	One's dignity is eroded by a controlling, unequal power relationship		A/I
30	One has to frequently negotiate changes in medication		Intervention
31	The focus of treatment is too limited		Intervention
32	One has to wait for weekly ward rounds for decisions to be made		Intervention
33	The staff have their favourite patients		S/PR
34	Personal hygiene is more difficult to maintain		Environment

**Table 23. Perceived disadvantages of hospital (Relatives)**

1	Points, 1, 5 and 21 above	
2	It is disturbing to visit the (psychiatric) hospital	Environment
3	It is disturbing/frightening for children to visit the (psychiatric) hospital	Environment
4	The staff commonly challenge one's identity on arrival	R/SR
5	The staff are dismissive/not interested in one's anxieties/questions	R/SR
6	The patient is angry with you for your part in sending them there	P/RR

The imposition of domains is both arbitrary and overlapping and reflects the paradigmatic assumptions of the author. It also reveals the tension between 'premature closure' of domains and 'over-encompassing', which are intrinsic to discourse analysis. Given these limitations, it becomes apparent that for many domains, there are a range of symmetrically dispersed opinions both positive and negative, in either treatment setting (e.g. The opinions concerning the staff-patient relationship as presented in Table 24).

**Table 24: Patient's views of their relationship with staff.**

	<b>Home treatment</b>	<b>Hospital</b>
<b>Positive aspects</b>	1. Exclusivity  2. Easier rapport at home	1. Caring and supportive  2. Immediately available

	<p>3. High quality</p> <p>4. Interested in more than symptoms</p> <p>5. Offer practical help</p>	<p>3. Understanding and sympathetic</p>
<b>Negative aspects</b>	<p>1. Stress of visits</p> <p>2. Different staff difficult to cope with</p> <p>3. No immediate help</p>	<p>1. Cursory and dismissive</p> <p>2. Unavailable / Spend all day in office</p> <p>3. Too controlling</p> <p>4. Not enough information provided</p> <p>5. Only interested in symptoms</p> <p>6. Have favourite patients</p>



## **CHAPTER 12: DISCUSSION PART 1.**

### **CRITICISM and METHODOLOGICAL ISSUES**

#### **12.1: Introduction**

Before discussing the results, problems with the design and methodology of this study require attention. Specific difficulties of the design are criticised with suggestions as how an improved design could redress these weaknesses. Methodological problems are also discussed.

#### **12.2 Design Problems.**

The design of the study is fundamentally problematic. Let us first recognise that home treatment efforts in the context of acute psychiatry involve a composite. This composite includes: successful alternative acute care to admission and crisis intervention; unsuccessful delayed diversion which still results in admission; failure to offer anything in the occasional acute case which progresses to immediate admission either informally, or involving the Mental Health Act; and the facility for early discharge for admitted cases. It seems a limited perspective to focus exclusively on the first function as in the present design. Each function in its process and outcome deserves attention. It was in recognition of these different processes of home treatment and their significant neglect in the available literature that the present study was conceptualised, focusing initially

only on successful alternative care. It is readily apparent that successful home treatment grips the imagination in terms of expensive and dwindling inpatient resources. When this fact is combined with the failure of published research using rigorous methodology over almost 20 years to demonstrate any advantages of hospitalisation over home treatment, and the awareness of those involved in home treatment of the profound differences of approach in both ideological and pragmatic terms which is involved in this alternative, then a focus on both treatments as presently designed is more justifiable. The thinking behind this argument exposes a certain dilemma. Advocates and exponents of home treatment may feel that they need to demonstrate only equivalence between the two treatment options for a *prima facie* case to be established. Opponents may feel that research should demonstrate advantages of home treatment over conventional hospital care, before implementation of this experimental approach expands.

The design of this study was predicated on the former view, and while defensible could have incorporated a more sophisticated approach.

It would have been possible to replicate the designs of Stein & Test (1980) and Hoult *et al* (1983). These studies employed randomised allocation to the experimental groups, followed by variable follow up periods. The reason behind choosing a different design was that such reports did not focus exclusively on the acute episode of care, involving either the acute home treatment or admission phases. The elements and effect of community intervention in the acute phase tend to get lost in such approaches. Instead the overall impact of both treatment conditions over a pre-set period was evaluated. It

has argued earlier (Chapter 3) that there is a particular difference between extended community treatment following the assertive outreach model and limited temporary home treatment by way of crisis intervention as an alternative to admission to hospital in the acute phase (although the former may involve the latter, the reverse was not the case in the setting of the current project).

### **12.3 Systematic error**

Systematic error was introduced by the omission of non-random sampling. If it was not possible to examine both cohorts completely, then simple random or systematic (e.g. Framingham) random sampling should have been employed. The use of a random table to select subjects would have been better. The study involves the complete population of the successfully treated home treated patients while relying on a non-random sample of those hospitalised. Thus the selection of subjects in both groups was not equivalent.

An attempt was made to focus on serious mental illness in the hospital group. This attempt was not structured and it would have been possible to sub-stratify the random sample according to these conditions of special interest.

In essence the study relied on consecutive sampling within the hospital group. Although consecutive sampling is one of the better types of nonprobability sampling, strict consecutive sampling could not be performed because of the limited resource of one single researcher in the control site. The study was under-resourced (with in fact no

financial resources).

The possibility of biased sampling is critical to consideration of this study's findings regarding length of episode. Although there were cases missed or with incomplete data collection in both groups, the numbers were quite limited and approximately equal (4 and 5 in the E and C groups respectively). The exclusion of certain hospital cases because of refused consent is more problematic. This issue was minimised in the E group because clinical rating using the research instruments was integral to the process of assessment and review by the medical staff involved directly in the patient's care. Disturbed patients, to whom administration of research questionnaires was difficult were found in both settings but more frequently in the hospital where the opportunity for the researcher to attempt engagement was more limited. Overall, the length of hospital stay and proportion of formally detained patients in the sample was found to be representative of the hospital population.

#### **12.4 An Improved Design**

An improved design could have involved a between group randomised controlled study with measurements performed by independent researchers in both sites. Randomised control studies are the optimal standard against which other designs are measured. While the additional strength of blind rating is desirable, it would not have been possible in this case because raters would not be blind to the site of intervention. Independent rating could compensate for this to some extent. Such a design would have allowed the generation of a case control study with matching across the variables of

interest, in particular diagnosis, morbidity and previous psychiatric history.

The steps of characterising the study cohort and choice of outcome variables could have similar to the reported study, but randomisation would have followed. This randomisation would not be to treatment condition as such because a separate hospital service was employed as the control group and randomisation would have been to inclusion within groups. A further improvement in design (shown below) would have involved randomisation to treatment condition by using a different control source, namely those cases entering hospital from the sector offering home treatment when home treatment places were not available and those admissions which bypassed home treatment assessment. A further refinement would have the generation of a third group of cases comprising those assessed for home treatment but considered as requiring admission. Randomisation could be applied using an previously established algorithm to a set of random numbers (such random number tables are easily available). Random allocation procedures need to be true and tamperproof such that members of the research team cannot influence the allocation.

The differences between the design used and the improved design suggested are outlined below.

## STUDY DESIGN EMPLOYED

(Prospective Cohort-non random)

### **Experimental Group**

Consecutive sampling

(Proportionate)

Successful Home Treated Cases

Entry: According to Inclusion/Exclusion criteria

Area: Kingstanding, Ladywood, Handsworth

Referrals: Respective CHMT to HT team  
CMHT

Rating: HT staff

### **Control Group**

Consecutive sampling

Admitted cases

Entry: Similar

Area: Sandwell

Referrals: Direct admission from

Rating: Researcher (M.S.)

## STUDY DESIGN SUGGESTED

(Prospective Cohort -Randomised between Group)

### Experimental Groups

### Control Group

1. Successful HT

2. Failed HT

3. Bypass admissions

( Including HT  
and inpatient phases)

Post HT Assessment admissions

Screening for Entry Criteria

Screening for Entry Criteria

(All) Random allocation to inclusion within group

Possible Sub-Stratification for Psychosis etc.

Area: Kingstanding, Handsworth, Ladywood

Area: Similar

Rating: Independent researchers

Rating: Independent researchers

Ratings organised so as to differentiate between acute crisis phases and follow –up phases.

## 12.5 Methodology Problems

Problems of inter-rater reliability arise which were not addressed in this evaluation. There are unavoidable questions arising from the differing methods of data collection in the experimental and control settings. None of the raters were blind to the site of intervention. Whereas the researcher MS performed all the interviews in the hospital, a range of staff in the home treatment team were involved. Considering the range of instruments used and the significant number of staff involved in rating the home treatment cases, inter-rater reliability measurement was desirable. Home treatment staff did have 3 sessions involving introduction to the questionnaires and at least one practical trial application under supervision with a client. Although there is a possible advantage to the fact that there was independence and no cross-contamination of data collection between sites, equally one might argue that the home treatment staff were inadvertently biased. Their direct clinical involvement with patients and relatives might have influenced satisfaction and needs outcome measures positively (e.g. through the effect of 'positive testimonials'). These items were however self-rating and for the most **part** it was the staffs role only to leave and collect completed forms. The home treatment staff in general seemed to regard the research project as external to them and this would also have minimised bias.

The administration of clinical outcome measures only at the point of discharge, appears in hindsight as less than ideal. Dean and colleagues (1993) and Marks and colleagues (1994) were able to provide more sophisticated interval rates of improvement. The



effort to focus on the acute period of intervention determined the restriction of measurement, but interval rates of improvement could still have been incorporated<sup>1</sup> within this framework.

## **CHAPTER 13: DISCUSSION PART 2.**

### **THE PROBLEM OF MATCHING ILLNESS SEVERITY**

#### **13.1 Introduction**

From the review of the factors leading to hospital admission in acute psychiatry (Chapter 6), multivariate analysis has been shown to challenge the true relevance of many previously associated variables. As one would suspect, morbidity however emerges consistently as a major determinant of admission irrespective of the form of analysis. Morbidity has shown to trump diagnosis in setting the admission threshold. It is worth noting that morbidity in such studies has been measured using both standard instruments (e.g. Brief Psychiatric Rating Scale, Global Assessment Scale) and less sophisticated techniques (such as in Way *et al* (1992) where cases were simply classified according to whether they had mild, moderate or severe disorder).

It is critical to enquire whether community or hospital treated cohorts share similar morbidity, before accepting reported outcomes of these interventions. In the discussion to follow, for reasons of consistency, morbidity is referred to in the sense of degrees of disorder for a particular condition, rather than in the wider sense of hierarchical diagnostic categories (with the assumption that psychotic illness involves greater morbidity than non-psychotic illness).

### **13.2 Problems with Measurement of Morbidity**

Morbidity, like many concepts in natural science, is not easily defined for particular conditions, readily observable or always reliably measurable and in psychiatry such difficulties are more apparent. The severity of psychiatric conditions cannot easily be related to the severity of pathological change in a physiological system. Jaspers (1913) was mindful of the problems inherent in the empirical trend to 'count what can be counted' when the subject matter was human nature and experience. Thompson (1989) points out that since there are no ratings of psychiatric conditions firmly based on natural interval scales, ratings can have only limited transferability between different groups of patients, raters, times and cultures. Rating scales have to be accepted by the pragmatic researcher, in awareness of their deficiencies and inadequacies of knowledge, while remaining diligent in their application. Thus adequate attention is required to the psychometric qualities of available instruments such as their reliability and validity.

Despite the significant advances in psychiatric knowledge using such instrumentation, Thompson states that there are only the crudest of criteria by which severity scores can be validated externally. The difficulties of judging severity are clear in setting up rating scales - is a symptom severe when present all the time, or although infrequent, quite unbearable? We are aware of the range of intellectual and emotional responses present in schizophrenia in the setting of hallucinosis. Morbidity is not simply a matter of degree even when we consider particular psychopathological phenomena. Cultural and personal ideosyncratic meaning and interpretation colour the degree of suffering or indeed the opposite, acceptance and positive validation by the individual. Some schizophrenics entertain communication with certain voices, while rejecting others and

regarding them as unwelcome and intrusive. Professional psychiatric judgement of paranoia, hypochondriasis or obsessionality has to acknowledge a continuum in which the definition of pathology and notions of degree are vexed and arbitrary.

### **13.3 Problems with Equivalence (Current and Previous Home Treatment Research)**

The present study, like others in the field, involved two groups whose baseline measurements did not differ significantly where diagnosis and morbidity were concerned. However the deficiencies in the design and methodology outlined above give cause to worry about acceptance of the generally equivalent results as reflecting equivalent groups in the contrasting treatment conditions. This worry might be additionally driven by the assumption that hospitalised cases are *de facto* more ill than cases manageable on home treatment. How reasonable is this assumption, and how completely does previous work address this issue?

Initial concern about comparable morbidity surfaces in Tantam's review of alternatives to hospitalisation (1985). He directly asks how ill are the patients considered in these studies and goes on to suggest that hidden selection bias in American reports may have applied as insufficient information is given about the selection of patients. He stated that clinical experience suggested that patients are admitted because their health or safety is in jeopardy, and the question of their safe management through 24-hour community services is left unanswered.

He considers the work of Stein & Test (1980) to however constitute an exception, and notes that using stringent methodology, there was no reported increase in the rate of violent incidents, time spent in custody, or suicide in the experimental group.

Tantam had reviewed the earlier reports of American initiatives, in respect of some of which his comments seem valid, with the caveat that once he looked at a randomised controlled trial with minimal exclusions, his fears were somewhat allayed. Subsequent research was to involve replication of the Madison findings using similar designs.

It is interesting that Kiesler, three years earlier had formed a more positive impression from a similar review (1982). He looked at the studies involving adequate methodology and random assignment to condition, and stated that all such reports included seriously ill patients. He believed that differences in the 'perceived seriousness' of included cases could not be considered as a plausible explanation for the more favourable results seen with alternative care. He reiterated that there was not one instance in the array of studies considered in which hospitalisation had any positive impact on the average patient above that of the alternative service. He concluded that the fact of different types of alternative showed equivalence or superiority and that in scientific terms the results were clear-cut and provocative.

Since Kiesler's review, other reports of home treatment involving equally satisfactory methodology have become available (Hoult & Reynolds 1984, Muijen *et al* 1992, Dean *et al* 1994). It is difficult to challenge the baseline equivalent measures of morbidity in the experimental and control groups in these studies, but maybe this is to miss the point.

The point in question is that no experimental group completely avoided admission. Hospitalisation was required (as one might expect) for a varying proportion of experimental group patients across the entire spectrum of studies. What one would like to know however, was whether those admitted cases in the community groups had greater morbidity than those who were not admitted? Disappointingly, there is no easily available answer to this question. Results are invariably presented on the experimental groups as a whole, while providing the rates of admission and length of stay. Separate breakdown of comparative morbidity is not given and cannot be adduced from the results.

Hoult & Reynolds (1983) in their report on schizophrenics, mention that experimental patients were admitted because they had fallen asleep after medication or because they refused co-operation when acutely psychotic and had to compulsorily treated. They would be discharged after 2 or 3 days when more co-operative.

In the report by Muijen *et al* (1992), so high is the rate of admission in the experimental group (83%) that one has little difficulty accepting the equivalent serious baseline morbidity between groups.

Stein & Test (1980) also do not provide separate morbidity scores for admitted (E) patients, but do indicate that admission occurred in the setting of severe psychosis where the goal was to medicate the patient and interrupt the psychosis as quickly as possible. Severely manic and highly disruptive schizophrenic patients were admitted in such circumstances often 'for a matter of days' and 'rarely for longer than 2 weeks'.

In regard to the present study, since confidence about comparability of initial equivalent measures of morbidity is comprised by lack of randomisation and other methodological problems, how can one be reassured about equivalence?

The first answer lies with the known basic variability of admission thresholds in different psychiatric services, even with the same background demographics (Flannigan *et al* 1994). In the inner London collaborative study of admission patterns, the rate of admission in Southwark was 30% higher than in Hammersmith & Fulham, but the rate of compulsory admission was similar (i.e. the difference in the admission rates was due to more ambiguous need). In examining the factors predicting admission (Chapter 6) the site and service type emerged as very relevant in multivariate analysis, alongside (but not as important as) morbidity and other factors. The admission culture in the control sector was traditional and one untouched by either radical home treatment alternatives and only beginning to develop adequate community services. By contrast the admission threshold in the experimental area was quite restrictive, after some years of exposure to diversion through community based initiatives. There was an expectation that home treatment could cope with acute presentations of serious mental illness. Re-conceptualisation of admission criteria is necessary when home treatment diversion is available. This point is not one that is particularly highlighted in later home treatment literature but was expounded in earlier studies (Querido 1968, Polak 1967), and has attracted relatively recent attention in the examination of admission related decision making. If one looks at Mental Health Act detention as a proxy measure of morbidity, an interesting example illustrates this point. When comprehensive home treatment is an

option, it is remarkable the extent to which acutely ill psychotic individuals will not accept admission, but will consent to home treatment. Therefore when home treatment is not an available option, it is fallacious to conclude that formal admissions represent greater morbidity than home treated cases with similar diagnoses. In the Maudsley study of home treatment, (Marks *et al* 1994) there was no significant difference between those accepted onto the experimental approach having been admitted under the Act, from those admitted formally to the control group. This issue is discussed further in the context of the present study in the result's section (Clinical Outcome).

A second source of reassurance concerning the equivalence of both groups still remains from baseline measurements using standardised instruments and the fact that the home treatment team studied was concerned only to treat cases otherwise destined for admission. However true, this argument is ultimately weakened by the exclusion of admitted cases from the experimental area in the study.

A third issue is that of morbidity alongside other influences on admission. The place of morbidity as a determinant of admission has been critically evaluated and was discussed in Chapter 6. While judgement of increasing morbidity emerges as one of the most important variables in the clinical decision to admit, it would be of course fallacious to assume higher morbidity as applying to individual cases. What do we know of the other reasons for admission listed in the hospital group in the current study? Suicidal gestures or risk, socially unacceptable behaviour, inability to cope/self-neglect, social stressors and other reasons were solicited. None of these reasons are independent of morbidity however, and the menu of reasons was neither rank scored or mutually exclusive in



recognition of this difficulty. What is striking, is the close similarity of the frequency of individual items scored for both the home treatment and hospital groups (with different researchers in both sites).

A final point concerns the equivalence of previous admission histories in both groups, even to the extent of having had equal histories of admission under the Mental Health Act. Thus, 70% of the home treatment group had a history of previous admission, compared to 67.5% in the hospital group. The rates of frequent admissions over the previous 5 years were also closely similar. While more of the hospital group had been previously admitted under the Mental Health Act (18 compared to 12), this difference was not statistically significant. One can derive from these histories, and the comparable spread of diagnosis, that the cases involved in both groups comprised those with severe mental disorder and largely similar morbidity.

Further resolution of the general issue of equivalence of morbidity will only be possible when improved research design incorporates the study of failed home treatment, either at assessment or subsequently leading to admission. Such a design has been outlined in the previous Chapter (12).

## **CHAPTER 14: DISCUSSION PART 3. FINDINGS**

### **14.1 Introduction**

The findings of the present study are in broad agreement with the existing literature on home treatment. It is feasible to treat acute severe mental illness at home or in the community without recourse to hospital admission, and this option does not result in measurable clinical disadvantage while being preferred by both patients and their relatives.

The major differences that emerged in favour of home treatment were those of the shorter length of the treatment episode and greater tackling of identified needs. The finding of increased burden in the relatives of home treated cases needs to be considered in terms of the comparatively few number of relatives interviewed.

The unique aspect of the study was that of the fixed separation of traditional hospital treatment from home treatment. It has been argued that previous studies have blurred this distinction by virtue of the variable number of cases admitted to hospital at some point during those projects. Is this distinction valid both conceptually and practically? The design and results bear scrutiny in terms of this distinction i.e. To what extent (if at all) do these findings highlight differences in the intrinsic processes of acute psychiatric treatment in both settings?

## **14.2 Baseline profiles**

With the exception of age, the baseline characteristics of both E and C groups were closely similar. This age difference was not considered as relevant in isolation to testing of the hypotheses and does not feature in subsequent discussion.

The issue of baseline equivalence and morbidity has been discussed in the previous Chapter (12).

## **14.3 Clinical Outcome**

The study replicated the findings of previous publications, in that no significantly better clinical outcome emerged with hospital treatment across all diagnostic categories. There was considerable variation in the range of instruments applied between different studies, yet this general finding has remained a robust one. Strength's of the current report include the close equivalence of the baseline clinical ratings in both settings (supported by a closely matched diagnostic range), and the use of 2 rating instruments with known reliability characteristics (CPRS and **GAS**). One weakness was the exclusion of certain hospital admissions because of refused consent. It was possible the exclusion of these patients, being more disturbed and unwell, biased sampling towards cases with lesser psychopathology.

There is no reason to expect that a home treatment service should differ from hospital treatment in terms of eventual clinical outcome where complete treated episodes in either setting are evaluated. Problems arise however in such a comparison, if the home

treatment programme is selecting cases with a more reliable prospect of successful treatment in the community which might be less symptomatic than cases referred immediately for admission (either by the referring team or the home treatment team after initial assessment). The design of the present study prevents directly addressing this question, as the symptomatology of cases that bypassed the home treatment team, or were admitted from home treatment was not measured. An indirect clarification of this question of 'initial equivalence' can however be attempted by comparing the levels of symptomatology of hospital admissions under the Mental Health Act in the control setting, with the mean morbidity in the home treatment group. The fact that there was no appreciable difference in compared morbidity for this subset is of interest. An intuitive understanding of conventional hospital admission would suggest that morbidity in respect of voluntary admissions is lower than that which applies for admissions under the Mental Health Act (which is true of this study). The option of a 24-hour home treatment service dramatically forces revision of this conception, because in the face of severe morbidity, home treatment can be viable depending on, in particular, the desire of the patient and family to avoid hospitalisation, the degree of compliance with home treatment (and medication) required to achieve this objective, and the level of support that can be provided at home by the team and relatives. It can be argued therefore, that the place of morbidity in determining entry to home treatment or admission, is less important as a single variable than is the case when there is no available home treatment service (as applied in this study for the hospital group). As mentioned before Marks *et al* (1994) found no significant difference between those accepted onto the experimental approach having been admitted under the Act, from those admitted formally to the control group.

A trend towards greater reduction in patient's symptoms was found for the hospital setting. This finding was inconsistent with the wider targeting of needs in the community. The most likely explanation for a degree of superior clinical improvement in the hospital group was that of the significantly longer mean period of treatment. However, recent summary analysis of 15 studies looking at this issue, did not support the contention that longer length of stay was proportionately accompanied by degrees of clinical improvement (Pfeiffer *et al* 1996). In fact length of stay was the only variable that did not yield a significant relationship to outcome (others being for instance age and marital status). The lack of any clear consensus on how improvement was defined was criticised. After clinical improvement reaches a plateau, further inpatient stay can be related to issues of housing, accommodation and other unresolved social problems. The present study neglected to measure interval rates of improvement in either setting, thus consigning this issue to speculative interpretation.

#### **14.4 Length of Episode**

The present study is unique in examining exclusively entire treatment episodes in both community and hospital settings, in the context of home treatment research. Previous reports have focused on the mean bed usage overall between experimental and control groups. Dean & Gadd (1993) did calculate the total treatment time for home treatment (i.e. treatment at home plus inpatient stay) and found this to be significantly shorter than that in their control group (35.4 days compared to 58.8 days). Hoult *et al* (1984), Fenton *et al* (1979) and Muijen *et al* (1992) did not give figures for home treated length of

episode, but the mean hospital admission lengths were 53.5, 41.7 and 72 days respectively (the lower figure from Fenton *et al* may reflect the range of exclusions in that project). These latter figures are quite comparable to the duration of admission found for the control group in the present study (48.1 days). Regarding sampling, the exclusion of certain admissions because of lack of consent is again problematic. The mean length of admission for one year in the control setting (43.0 based on 694 admissions) is additional evidence for the extent to which the length of stay in the control group was representative. The longer inpatient treatment duration was in part due to the effect of involuntary admissions and the difference constituted only a trend following exclusion of detained cases. If the proportion of detained cases (25%) in the hospital sample was over-representative of admissions in general, then the difference in length of stay could be distorted upwards. The Mental Health Act section rate for the residual hospital population was 29.9%. In a previous unpublished (M.S. & S.P.S) examination of 93 admissions to All Saints Hospital the rate of admissions under the Act was 21%. This figure would be higher if conversion to formal detention after voluntary admission had been included.

There appears to be something intrinsic to the process of home treatment that shortens the duration of required therapy despite equivalence of initial morbidity and diagnostic range. Burns and colleagues found this in their study of home based treatment even when there had been no explicit or implicit attempt to reduce inpatient stay (1993). They explained this result in terms of the greater flexibility of working practices and joint working and consultation which prevailed in the community project. It is important to state that when compared to innovative, motivated research programmes

that the control settings of routine inpatient care may suffer by comparison. Tantam has criticised the meagre data and inadequate descriptions of control settings which pervaded earlier reports (1985).

The issue of the common practice of permitted or unplanned 'leave' from inpatient settings which could obviously extend the duration of measured stay has not been addressed by any study. Just as we may enquire as to what is it about home treatment which accelerates clinical progress, we must also ask whether there applies in the hospital setting a treatment process which involves comparative inertia, or greater acceptance of delay, both of which derive from the history and culture of institutional practice? It is not the fact of 'admission' itself which leads to protracted inpatient stay. This has been amply demonstrated by Muijen and colleagues (1992) and in a study by Marx and colleagues (1978) in which early discharge to intensive community care was randomly assigned.

### **14.5 Relapse**

Despite shorter treatment in the community, the similarity of timed relapse patterns between groups provides further evidence for concluding that discharge from home treatment was not in any sense premature, and was based on the same criteria of clinical improvement which applied in the hospital. Concern about the processes underlying lengthier hospital treatment is also amplified by this finding, in that lengthier treatment could not be justified on the basis of extended remission after discharge.

## 14.6 Diagnostic Issues

It is disappointing that complete and subscore PSE results are not available despite the use of this instrument. The study was not funded and there was no opportunity to employ PSE trained raters as in other projects. In addition, only one of the 6 raters involved in clinical diagnostic interviews was PSE trained. It followed that PSE ratings were not reliable enough to be taken in isolation and the consensus approach detailed in the methodology (involving the PSE, CPRS and ICD 10 categories) was adopted. The 'Diagnostic criteria for research' (WHO 1993) provided specific criteria for the ICD-10 diagnoses.

The resultant range of disorders bore close comparison between the groups and largely comprised 'serious mental illness'. (By definition, all cases in the study met the criteria for hospital admission). The restrictive use of this concept would include those diagnosed as having bipolar disorder, schizophrenia, paranoid conditions and psychotic depression, while excluding non-psychotic depression, other neurotic conditions and adjustment disorders. Applying this format to the range of diagnostic categories in the study, the home treatment group comprised 70% of cases with serious mental illness. The application of this same concept to the experimental groups in Sparkbrook (Dean *et al* 1993), South Southwark (Muijen *et al* 1992) and Sydney (Hoult *et al* 1984) yields figures of 77%, 71% and 75% respectively.

It was not immediately surprising that psychotic cases accounted for the bulk of the difference in treatment duration between home treatment and hospital. Muijen and



colleagues (1992 a) found that this group required more help with financial, legal, housing and other problems than did non-psychotic patients. The current study did not measure extent of specific need, but the range of overall need was similar between psychotic and non-psychotic groups. The confounding effect of formal detention which applied only to psychotic cases was more relevant than the issue of need in explaining longer stay.

Muijen and colleagues had also found however that diagnosis did not predict length of treatment in hospital with fairly similar mean stays for neurotic cases as that of mania and schizophrenia (1992b). This might have been an artefact of the longer than average duration of stay in their control hospital which applied homogeneously across diagnostic groups.

#### **14.7 Use of Medication**

Higher mean dosages of oral neuroleptic medication (indeed twice as much) were employed in the first week of treatment in the control group. This issue has not been studied in previous evaluations of home treatment. The period of measurement was short and the figures do not allow for the confounding effect of concurrent depot neuroleptic therapy which was measured separately, and in respect of which one particular week of recording might be more spurious (as depot treatment is commonly administered at varying weekly or monthly intervals). However, the result bears scrutiny and might be explained by the following factors either alone or in combination: the process of engagement of patients in home treatment is one in which initial

introduction of medication is delayed in order to cement the therapeutic alliance and foster compliance; less neuroleptic medication is required in the seriously mentally ill treated in their own familiar home environment where a component of reality orientation is preserved (Smyth & Bracken 1994); proportionately more early treatment is routine in the hospital setting due to the greater emphasis on behaviour and control that applies there and the element of adjustment to a new environment which admission demands (and which is intensified when admission is involuntary).

#### **14.8 Needs**

It has not been conventional to systematically study the needs of individuals presenting for acute psychiatric intervention and most research on this area has derived from assessment of needs in those programmes dealing with long term or chronic mental illness (Mangan & Brewin 1991). Mangan states that in the past, serious attempts were not made to elaborate the concept of need, and that with the pressures of routine clinical practice, there has been an irresistible tendency to regard need as a 'given'. Abel - Smith (1976) noted the lack of dynamism integral to the changing needs of the client at different phases of care in terms of economic considerations and strategic resource provision. In daily clinical practice, the menu of differing needs and problems drive (or ought to) the treatment and interventions prescribed. The Maudsley group did study the degree of input required in a range of need domains in the community setting (Muijen *et al* 1992 a). In attempting to explore needs in both treatment settings, the schedule used in the present study is acknowledged to have been tentative, and was derived from the spectrum of needs in previously employed instruments which were thought to have

relevance in the setting of acute treatment. The needs outcome measure appeared with usage to be particularly lacking in dimensionality.

There was no overall difference in the number of domains of need recorded in either the community or hospital setting. The significant differences which emerged in terms of the particular needs identified in the two settings, were to a large extent predictable. Hospitalised patients would self evidently be less concerned (in the acute phase) with difficulties of household management. One consequence of this, again obvious, is that successful home treatment plans need to account for the difficulties involved practically in sustaining or improving the immediate domestic situation. It was interesting to find that inpatients rated more problems in the area of relationships with their partner - is this a natural consequence or artefact of the admission process, or a true reflection of greater relationship difficulties? While there is a common understanding in Western adult medical care in general, that sick patients may require hospital treatment, and that separation from relatives is unavoidable, this does not apply in other cultures, where it is conventional by contrast for the family of the patient to live in the hospital for the duration of care. In psychiatry, the issue of separation from relatives is a particularly vexed one and it is possible that the culture of institutional care is one which is so inordinately dominated by the medical model of treatment, that the sophisticated consideration of the separation involved does not assume it's rightful importance. Home treatment intrinsically involves treatment of the patient with the involvement of relatives (to varying degrees), and has been consistently found preferable by relatives. In avoiding and bypassing the stages of separation and rapprochement which are intrinsic to hospital care, it might be argued that home treatment is more naturalistic and

direct.

Regarding the targeting and outcome of identified needs, it was easier to establish whether or not problems were recognised as having been tackled or not, than to precisely quantify outcome. No attempt was made to determine actual degrees of change in problem areas because of the complexities involved in generating reliable and valid measures for each of the domains of need examined and because of the confounding effects which clinical improvement itself, rather than the specific interventions for a particular need might influence change (e.g. how could one quantify improvement in a marital relationship - and even if one could, then determine the factorial contribution of clinical improvement, reduced burden, and direct support to a partner from the staff, in achieving such an effect?).

Home treatment proved superior or equal to hospital treatment for targeting and improving needs across all the categories studied. Significant superiority was achieved in the areas of occupational problems, relationships with a partner and family, and household management difficulties although small numbers were involved.

#### **14.9 Relative's Burden**

The number of completed interviews with relatives in the study was disappointing. Approximately one third of the subjects lived alone, and the number of potential instances of subjects having adult carers or relatives who might be interviewed was only 19 for the home treatment group and 26 for the hospital group (with eventual yields of

68% and 53% respectively). Lack of co-operation from relatives was encountered similar to that found by Muijen and colleagues (1994 ). Another reason for the poor rate of completed interviews with relatives was that of the lack of funding for the project and the consequent inability to employ interviewers.

Some caution is required in interpreting the findings concerning burden, because of the small numbers involved. This caution is further justified in considering the measurement of greater degrees of relief of burden in the hospital group, which conflicts with the findings of previous research. Dean and colleagues (1993) measured burden comprehensively and found no difference between the carers of hospital or home treated patients in terms of objective burden. Reynolds & Hoult (1984) found that the relatives of patients treated at home felt that they had they had received significantly greater support and information and their degree of worry was also less than that of relatives in the hospital setting. The greater relief of burden (hospital group) found in the present study was consistent between measures, and is consistent with the absence of greater satisfaction with treatment in home treatment relatives.

#### **14.10 Satisfaction**

Home treated patients both preferred the site of treatment and reported greater satisfaction with treatment than was the case in the hospital group. As discussed previously, this has been a standard finding with this type of service and points to aspects of the intrinsic process of home treatment which are both different and regarded more favourably by patients who avoid hospitalisation in the face of serious mental

illness. As to the elements which constitute this preference, one guide is the menu of items contained in the satisfaction questionnaire which include the perceived amount of support, advice, supervision and information received in addition to the quality and nature of the relationship with professionals. Self-evidently, satisfaction ratings favouring home treatment will depend on the degree of antipathy towards hospital care and positive regard for the experienced alternative. In the extant literature, Hoult and colleagues (1984) in particular attempted to expand on these combined aspects, pointing out the anecdotal accounts of patients who felt that hospitalisation was a negative upsetting and unhelpful experience because of the rules, restrictions, patient mix and lack of communication which applied there. Experimental patients commented on the degree of support available, with the freedom and independence that treatment in the community setting permitted. In an earlier formalised examination of this topic, Young & Reynolds (1980) found that the aspects of hospital treatment with which patients were most happy were those of relationships with nurses and doctors, visits by relatives, contact with other patients, and rest. The most frequently reported negative aspects were those of the restrictions which applied, poor relationships with staff, insufficient contact with professionals and not enough attention. Macdonald and colleagues (1988) found that the negative factors associated with hospital stay were those of; fearfulness, feelings of isolation and apathy, lack of individualisation and autonomy, unsatisfactory surroundings, lack of status and recognition, and restriction of action (although they had studied a long stay unit). In examining attitudes to brief hospitalisation, Hansson and colleagues (1985) found generally positive satisfaction for the factors of ward structure, nursing care, psychopharmacological treatment and social networks with previously admitted patients reporting higher satisfaction.

This theme can be further elaborated in considering the qualitative component of the current study, where an attempt was undertaken to identify those possible domains of 'process' which separated hospital and home treatment.

As recently as 1994, Ruggeri (1994) pointed out that despite the salience of satisfaction measurement in the mental health field, very few validated instruments were currently available. The satisfaction questionnaire used in this study was based on that employed by Hoult and colleagues (1984) and cannot be regarded as either sophisticated or validated in psychometric terms. Satisfaction has been considered to be both a dependent variable (subject's attitudes, self-esteem etc.) and as an independent variable. Measurement of satisfaction in mental health is beset by the problems of illness affecting judgement, interview context effects tending to produce positive testimonials, and the 'prisoner of the moment' effect (whereby individuals comments may differ from occasion to occasion). In considering the reservations expressed by Sheperd (1993), caution is justified in drawing conclusions based on crude measures of global satisfaction although the results (as in the present study) will retain some comparative value.

Controversy has surrounded the issue of which domains of satisfaction are relevant in evaluating mental health services, with confusion as to which dimensions constitute the different domains. In accepting that measures of satisfaction are problematic, that multi-dimensionality has characterised studies of satisfaction with hospital care, and that tailored instruments for measuring satisfaction in home treatment programmes have not

as yet been developed, an attempt was made to explore the dimensions of care about which patients and their relatives were concerned about in both settings.

This clearly tentative attempt had some value in confirming the need for more sophisticated enquiry in this area. Aspects of both home treatment and hospital care which certain patients and relatives commented on favourably, were considered negatively by others. Comparison between treatment modalities was hampered by the fact that the hospital patients had no experience of home treatment by which to comparatively evaluate their inpatient stay, unlike the home treated patients interviewed, who had experience of both. This could have magnified the apparent enthusiasm for home treatment in terms of facilitation of autonomy, independence and perceived higher and different quality of staff-patient relationships and wider therapeutic focus than pertained for hospital care but one can also argue that these are fundamental differences which truly underpin the higher global satisfaction reported with home treatment in the present and in previous studies. Preliminary detail concerning the problems of home treatment and of the specific anxieties of relatives, has instructive value for future evaluators and planners of acute community services.



## **CHAPTER 15: CONCLUSIONS**

This study has at first hand replicated the results of previous studies of home treatment versus hospitalisation. However the attempt to extend the scope of evaluation by having rigidly separated both treatment settings was problematic and was further compromised by non-randomisation. The study was not adequately resourced. An attempt was made to ground the polarised ideological and conceptual arguments surrounding these quite different treatment options, in the actuality of clinical practice and process of intervention. But the reality of home treatment practice (as emphasised throughout this work) is that a proportion of home treated cases will require hospital admission. It would have been possible to achieve the objective of a ‘purist’ comparison by separate analysis of these groups, while including failed home treatment cases (using a subsequent case control analysis). The lack of prospective data collection regarding this latter group undermines the relevance of the findings.

The study tried to address two problems of previous work – firstly the blurring of inpatient phases in home treated experimental groups, and secondly the merging of acute and stable phases involving home treatment and subsequent assertive community treatment.

Previous research embodied the components of acute psychiatric treatment as a totality and made little distinction between treatment in the alternate settings. By including hospital/admission phases in home treatment samples, methodological requirements were satisfied, but curiosity remains regarding the differences between hospital and

home treatment provision. This was because researchers did not separately analyse the successful and unsuccessful home treated subjects. This omission drove the design of the current study, but was too exclusive a focus to be exclusively studied (i.e. in the absence of including failed home treated cases).

There are important differences between acute crisis phases in serious mental disorder, and times of relative stability, even if the latter involves difficulties of compliance and engagement. A different strategy and intensity of intervention is required. The inclusion of follow up periods in many of the reports examined answers many important questions but also has deficiencies when the fluctuation of need and morbidity within the same subjects is not separated in the analysis. Of course we want to know if assertive community treatment prevents relapse, but if relapse occurs, which cases are better managed by intensive home treatment? Which cases require admission? What are the different treatment processes for these alternatives? Why if home treatment is started does it breakdown in some cases? Are the admitted cases from home treatment more ill, than the non-admitted cases? Detailed answers to these questions are still awaited. The conception of this study recognised the omission of detail surrounding the acute episode in the home treatment literature. Symmetrically, the lack of appropriate attention to acute care in the assertive outreach literature has been recently highlighted by Kluiter (1997). This symmetry is unsurprising, given that what is considered as home treatment by one commentator is treated as assertive outreach by the next. Such difficulties of nomenclature confound the interpretation and probably the adoption of home treatment alternatives for acute care.

Because of the design faults, one needs to be reassured about the equivalence of morbidity between the two groups in the study. The fact of admission can suggest greater morbidity than non-admission, and usually does, despite the influence of other variables. We can assume that a lower threshold for admission will prevail in the absence of a home treatment alternative. Admission in the control area, where this was the situation, involved a different culture and either lesser or equal morbidity than applied in the experimental area. However accurate these statements may be, they remain conjectural because admitted cases from the experimental sector were not studied. Some reassurance concerning the equivalence of both groups is obtained in the baseline measurements using standardised instruments, the similarity of previous histories (including formal admissions) and the fact that the home treatment team studied was concerned only to treat cases otherwise destined for admission.

The study did not address economic considerations, but raises economic questions in terms of the significantly shorter episode duration of home treated cases. Serious concern about differences in relative efficiency between treatment settings have been raised and *pari passu*, the case for further exploration of the different processes involved. It is tempting to conclude that home treatment is more temporally efficient than hospitalisation because it involves a sharper focus on the needs of patients, offers a working environment in the community from which most of these needs and problems emanate and are situated, and results in outcomes which are regarded more favourably by patients. Additionally, the avoidance of admission allows for the bypassing of those disadvantages of institutional care which have currency in the lives of those for whom, in the past, severe mental illness inevitably meant hospital care. These advantages of

home treatment have been discussed in Chapter 5. In the qualitative survey, further advantages of the model emerged which add flesh to the detail of those ingredients which patients find attractive. They preferred exclusive time with staff, feeling more comfortable and in control in their own home, preserving contact with their relatives and having practical support while getting on with the tasks of daily life.

Why has home treatment for acute psychiatric illness managed to become a successfully ignored alternative option to conventional admission in the UK? Despite the considerable body of empirical evidence which attests its feasibility and efficacy, the practical implementation of such research is still awaited on any widespread level. In quite a remarkable manner when considering dramatic community psychiatric developments, home treatment is like a comet that flashes across the psychiatric skies intermittently with returns accompanied by progressively less excitement. Critical editorial reviews of home treatment prove unbalanced when specific points of issue such as burnout and untoward events are more broadly examined.

In any fiscal analysis hospital admission remains the most expensive element of psychiatric care. The availability of acute beds has reached crisis level in major urban areas, indirectly resulting in precipitate discharge and psychiatric scandals with comprehensive media coverage accompanying official enquiries, yet the obvious cost-effective solution of home treatment in minimising admission remains unattractive. Marshall states that a strategic plan for London's mental health services would include assertive outreach and home based care (1997).

As the pressure on UK inner-city acute psychiatric beds mounts and reaches breaking point in some areas (MILMIS Project Group 1995, Marshall 1997), it is claimed that there is 'no question' of managing such cases in any other setting (Deahl & Turner 1997). There is a degree of circularity in arguing that since hospital care is so problematic, that provision of further hospital beds is the solution. In the recent Nottingham Acute Bed Study (Beck *et al* 1997) treatment at home with nursing support was considered to have been hypothetically suitable for a meagre 5% of all acute admissions. The same authors reiterate the point that 'evidence based guidelines' for the appropriateness of admission and discharge decisions are not yet developed- but we must ask why this is so in the face of such a fundamental and serious issue for psychiatric practice?

As varying rates of hospital admission exist despite controlling for socio-demographic and morbidity District profiles according to local culture and practice, the Audit Commission has expressed concern (1994).

Unsurprisingly, hospital admission is widely recognised to be self-perpetuating. By comparison with the US, sophisticated evaluation of the clinical and other factors which determine admission in the face of acute psychiatric emergencies, remains in the UK a relatively neglected area. Available research demonstrates that the standard clinical and social variables which are associated with prediction of admission, do not remain as relevant after more sophisticated (e.g. multiple regression) analysis which supports the reality of simpler and variable decision making models used by different clinicians (Apsler & Bassuk 1983).

In so far as home treatment programmes have aimed at avoidance of hospitalisation, perhaps there has been an undue emphasis on the success of such initiatives in achieving that end (to varying degrees). If true and flexible integration of both strands of care are to be firmly established, this latter emphasis can seem as unfortunately restrictive and conducive to the polarised debates which have characterised much of the critical literature. Additionally the sporadic existence of isolated, dispersed pockets home treatment with highly dedicated staff and temporary funding, may be perceived as alienist and threatening to the orthodoxy. Those different components of process and rationale of home treatment beyond simply avoiding admission, need further clarification and advocacy. This argument drove the experimental design of the present study and should not be considered as separatist and divisive where policy planning is concerned. At worst, from the research standpoint, hospital admission is a “black box” which renders opaque the elements of treatment process. Home treatment, by contrast offers a more transparent medium in which to separate elements of care, and examine issues of admission related decision making with greater sophistication. This can further our understanding of the degree to which the components of home treatment services overlap with crisis intervention and assertive outreach functions. Appropriate integration of home treatment with community or day care, and assertive outreach services is required. While such integration exists in the US, evaluation of the mobile crisis response component is relatively scanty. In the UK context home treatment must continue to demonstrate in a naturalistic setting, that by virtue of easy access and rapid response, that they are not either pressurised into, or drift into diluting their focus on the treatment of the severely mentally ill.

The provision of non-hospital respite in association with home treatment can further enlarge the potential to reduce admissions and provide at least equally adequate care.

Even in situations where true integration of community and hospital care obtained, would home treatment be regarded as the more preferable course? This would require a conceptual shift in the provision of acute care comparable to that which has occurred in the area of non-acute community psychiatry. Rosen (1992) has described the sense of “sitting astride a paradigm shift” which followed on the provision of 24-hour community based services. Psychiatric theory in his view, had to change from pre-occupation only with the symptomatic individual, to examination *in vivo* in the context of family, social and community relationships. Radford (1992) discussed the “Copernican revolution” involved in revolving care and treatment around the recipient, instead of requiring the person to revolve around the institution.

In consolidating this paradigmatic shift, one can ask whether it is foreseeable, for example, that assessments under the MHA (1983) could one day routinely include home treatment as a form of disposal (including such assessments when made in police custody and before the formal judicial system)? Certainly it is possible to vigorously argue that home treatment constitutes a ‘least restrictive alternative’ under the spirit of the Act. For such a conceptual shift to occur, purchasers, planners and policy makers must be convinced not only of the benefits of home treatment, but also of its sustainability. The argument must, of necessity, convince clinicians alike. Sceptical clinicians will equate the availability of home treatment with reduced available

admission beds, thus reducing rather than increasing clinical freedom. This perception, in an era of increased monitoring and accountability for psychiatric care in the community, might cause alarm and retrenchment towards hospital care. The more sophisticated claims of home treatment require more sophisticated research. It is hoped that the present work offers a contribution to this agenda.



Appendix 1.

**DATA SHEET**

**CODE.....**

**HOSPITAL or HOME TREATMENT.....**

**NAME.....**

**AGE.....**

**SEX.....**

**MARITAL STATUS**

Single

Married

Separated

Divorced

Cohabiting

Widowed

## **ETHNICITY**

White

Afrocaribbean

Asian

## **LIVING GROUP**

Alone

Spouse/Cohabitee

Parents

Other relatives

Children

Other

**CHILDREN** .....(Number of children under 16 for whom client has responsibility)

## **HOUSING TYPE**

House

Flat

Room in house/hostel

**ECONOMIC POSITION**

Employed

Unemployed sick

Retired

Housewife

Student

**SOCIAL CLASS** (Registrar General's Classification)

**PREVIOUS PSYCHIATRIC ADMISSION or HOME TREATMENT**      Yes/No

**NUMBER OF PREVIOUS ADMISSIONS/ HOME TREATMENT**

**EPISODES IN THE PAST 5 YEARS**

**PREVIOUS DETENTION UNDER THE MENTAL HEALTH ACT**

Yes/No

**REASONS FOR ACUTE TREATMENT**      (List up to three-not ranked)

Non-compliance with medication

Acute symptoms of mental illness

Suicidal attempts / risk

Violent / Destructive behaviour

Socially unacceptable behaviour

Confusion

Inability to cope / Self-neglect

Significant social stressor

Family / relationship problem

**LENGTH OF ADMISSION / HOME TREATED EPISODE** (Days)

**ORAL NEUROLEPTICS IN FIRST 7 DAYS** (Mean daily dosage in chlorpromazine equivalents-including administered prn medication)

**INTRAMUSCULAR MEDICATION IN FIRST 7 DAYS** (Mean weekly dosage in fluphenazine equivalents)

**DIAGNOSIS** ( Consensual diagnosis using ICD 10 - Research Diagnostic Criteria. Based on PSE and initial CPRS profile)

**RE-ADMISSION (TO HOSPITAL or HOME TREATMENT)** (Month of re-admission following discharge)

## Appendix 2

### CLIENT SATISFACTION QUESTIONNAIRE

(derived/extended from Hoult 1986)

Looking back at your involvement with the mental health workers, please could you answer the following questions

(Scoring Yes = 2, No = 0)

I received enough treatment or care	YESNO
Very satisfied with advice and information	YESNO
Very satisfied with support and help	YES/NO
Very satisfied with amount of supervision	YESNO
Very satisfied with the medication	YES/NO
I felt there was a staff member with whom I had frequent contact and was able to build a relationship	YESNO
I felt that I was involved in the decision making during treatment	YESNO
I felt that the staff accepted me as a person apart from illness	YESNO
I felt that my personal dignity was valued by the staff	YESNO
I felt I could trust the staff in telling them how I felt	YESNO

Clients feelings about having been admitted or not having been admitted to hospital

**Please Choose One**

**Scoring**

Very pleased and grateful	<input type="checkbox"/> = 1
Fairly pleased and grateful	<input type="checkbox"/> = 2
No feelings either way	<input type="checkbox"/> = 3
Mixed feelings	<input type="checkbox"/> = 3
Fairly angry and upset	<input type="checkbox"/> = 4
Very angry and upset	<input type="checkbox"/> = 5

## **CARERS SERVICE SATISFACTION QUESTIONNAIRE**

### Feelings of Carers

**(Scoring YES = 2, NO = 0)**

Patient received enough treatment or care	YES/NO
Very satisfied with advice and information	YES/NO
Very satisfied with support and help	YES/NO
Very satisfied with amount of supervision	YES/NO
Very satisfied with the medication	YES/NO
Relatives received enough support and information	YES/NO

### Carers feelings about the patient having been admitted or not having been admitted to hospital

#### **PLEASE CHOOSE ONE**

Scoring

Very pleased and grateful	<input type="checkbox"/>	= 1
Fairly pleased and grateful	<input type="checkbox"/>	= 2
No feelings either way	<input type="checkbox"/>	= 3
Mixed feelings	<input type="checkbox"/>	= 3
Fairly angry and upset	<input type="checkbox"/>	= 4
Very angry and upset	<input type="checkbox"/>	= 5

Appendix 3.

**ASSESSMENT OF NEEDS**

NAME: \_\_\_\_\_

Patients having treatment may have needs/problems in various areas.

A list of such areas follows. Please rate the needs objectively according to the following criteria:-

**RATING**

- |   |   |  |
|---|---|--|
| 0 | — | Unimpaired functioning/no needs in this area   |
| 1 | — | Impaired functioning/moderate need but intervention is not required  |
| 2 | — | Definite need expressed/clearly impaired functioning and intervention/coping advice/assistance is desirable or required. |

**RATING**

1. Do they have any problems with housing or accommodation

☐

*For instance : because of threatened loss, it is unsuitable, it is in poor condition, the type of accommodation, it's position and location, it's facilities/furnishings, overcrowding problems etc.*

Please \_\_\_\_\_

State:

**RATING**

2. Do they have significant financial difficulties

☐

*For instance : problems with benefits, serious debts etc.....rate arrears for household bills under household management*

Please \_\_\_\_\_

State:

**RATING**

3. Do they have problems with occupational role/employment?

☐

*For instance :problems at work, unable to get work, cannot get work while seeking it etc.*

Subject unable to concentrate, achieve consistent standard of work, keep time, accept supervision etc.

(Rate as need if the subject seeks employment or structured daily activity; but not if the subject is content with the absence of work/daily activity or has been too unwell for some item for this to be even considered relevant)

Please State \_\_\_\_\_

**RATING**

4. Do they have particular relationship problems or difficulties with a partner or spouse?

☐

Please State \_\_\_\_\_

**RATING**

5. Do they have particular relationship problems or difficulties in parents, brothers, sisters or others family (with whom they are in contact)?

☐

Please State \_\_\_\_\_

**RATING**

6. Do they have any problems with child care/their children?  
e.g. provision issues, access/custody special child behaviour/emotional problems etc.

☐

Please State \_\_\_\_\_



**RATING**

7. Do they have problems in the area of wider social relationships?  
e.g. social isolation, not enough social outlets etc. Also consider use of  
amenities - cafes, cinemas, libraries, pubs etc.

☐

Please State \_\_\_\_\_

**RATING**

8. Do they have problems in area of personal/self care? e.g. having  
difficulties with care of personal appearance/dress, washing clothes,  
food shopping and/or cooking etc.

☐

Please State \_\_\_\_\_

**RATING**

9. Do they have problems with physical/general health?

☐

Please State \_\_\_\_\_

**RATING**

10. Do they have problems with alcohol/drug use dependency?

☐

Please State \_\_\_\_\_

**RATING**

11. Do they have problems in the area of household management?  
(payment of gas, electricity, rent bills, making beds, rubbish disposal,  
tidying, washing etc.)

☐

Please State \_\_\_\_\_

#### Appendix 4.

### **BURDEN QUESTIONNAIRE**

(derived from Fenton *et al*

1979, Hoult 1986)

Please rate the informant by ticking the box if it applies

#### Subjective Burden

Please Tick if Yes

Scoring

During the past month have you been suffering from:-

Anxiety

☐

0 - 2 Items=0

3 - 4 Items=1

Physical Complaints

☐

5+Items = 2

Tiredness

☐

Feeling Depressed

☐

Crying

☐

Poor Appetite

☐

Disrupted Sleep

☐

Needed to see your own GP

☐

#### Responsibility

Scoring

Have you had to take on the patients normal responsibilities

☐

0 - none

1 = some

2 = a lot (2/3 items)

Have you had more housework problems

☐

Have you had difficulty doing jobs

☐

None    Some    A Lot

Please rate degree of having to take on responsibility

☐
☐
☐

#### Occupation

Have you lost time off work, because of the patients illness

☐

Please rate the amount of work time lost

None	Some	A Lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Financial

Because of the illness, have you had financial worries

☐

Please rate degree of financial problems

None	Some	A Lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If Children in Household

Because of the patients illness have there been behavioural problems with the child/children

☐

Please rate problems with child care/behaviour

None	Some	A Lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Level of Coping

“How have you coped in general this past while”?

*Please tick **which** is most correct*

Slightly less well than before

☐

Much less well than before

☐

The same as before or better

☐

Please rate problems with coping

None	Some	A Lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Inconvenience

“Have you been inconvenienced/put out...”

greatly

☐

some degree

☐

not at all

☐

	None	Some	A Lot
Please rate problems with inconvenience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

“The patients illness has disrupted your activities....”

greatly	<input type="checkbox"/>
---------	--------------------------

some degree	<input type="checkbox"/>
-------------	--------------------------

not at all	<input type="checkbox"/>
------------	--------------------------

	None	Some	A Lot
Please rate disruption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The patients behaviour has bothered, disrupted others (neighbours, friends)

greatly	<input type="checkbox"/>
---------	--------------------------

some degree	<input type="checkbox"/>
-------------	--------------------------

not at all	<input type="checkbox"/>
------------	--------------------------

	None	Some	A Lot
Please rate behavioural problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 5.

**NEEDS OUTCOME QUESTIONNAIRE**

The following areas of need were identified at the start of treatment as requiring help.

Please indicate whether you felt that the staff assisted you in these areas.

What was the result of that help ?

Housing / Accommodation
Finance
Employment
Relationship with Partner
Relationship with Family
Problems with Children
Social Relationships
Self Care
Physical health
Alcohol/Substance abuse
Household management

Appendix 6.

OPEN SATISFACTION QUESTIONNAIRE

1. What did you see as the good points or advantages of the (Home treatment/Hospital treatment)?

Please list these .....

2. What did you see as the bad points or disadvantages of the (Home treatment/Hospital treatment)?

Please list these .....

3. (For home treated patients who have experience of hospital admission)

What in your opinion, are the positive aspects of home treatment compared to hospital?  
Please list these .....

What in your opinion are the negative aspects of home treatment compared to hospital?  
Please list these .....

What in your opinion are the positive aspects of hospital treatment compared to home treatment?  
Please list these .....

What in your opinion are the negative aspects of hospital treatment compared to home treatment?  
Please list these .....

## Appendix 7. ICD 10 Diagnostic Codes

<u>Code</u>	<u>Diagnosis (subgroup)</u>	<u>E group (number)</u>	<u>C group</u>
<u>(number)</u>			
F20 Schizophrenia			
20.0	Paranoid	10	9
20.1	Hebephrenic	1	1
20.3	Undifferentiated	3	1
F22	Delusional disorder	1	1
F30 Mania			
30.2	Mania with psychotic symptoms.	1	
F31 Bipolar Affective disorder			
31.1	Current episode manic without psychotic symptoms.	1	1
31.2	Current episode manic with psychotic symptoms.	5	8
31.4	Current episode severe depression without psychotic symptoms.		1
31.5	Current episode severe depression with psychotic symptoms.	1	
31.6	Current episode mixed.	1	1
F32 Depressive episode			
32.2	Severe without psychotic symptoms.	10	11
32.3	Severe with psychotic symptoms.	4	4
F43 Reaction to Severe Stress and Adjustment disorders			
43.22	Mixed anxiety and depressive reaction.	2	2

## **APPENDIX 8: INDIVIDUAL CASE SUMMARIES**

### ***HOME TREATMENT GROUP***

Case summaries not available in this web version

1. - 40.



### ***HOSPITAL GROUP***

Case summaries not available in this web version  
41. - 80.

## Appendix 9.

### STATISTICAL NOTES

The Pearson chi-squared test was used to measure association between group frequency distributions. Fisher's exact test was applied when expected cell values totalled less than 5.

The t-test (independent, 2 tailed) was applied to compare means where values were normally distributed. In the case of non-normally distributed values (established through Anderson Darling probability plots), the Kruskal-Wallis (non-parametric) analysis of variance was applied.

## Appendix 10.Researchers

MS : M. Smyth (Senior Registrar - Research Year Option)

PB : P. Bracken (Senior Registrar - Home Treatment Team)

SPS : S.P. Sashidharan (Senior Lecturer/Consultant Psychiatrist -  
Home Treatment Team)

## **LIST OF ABBREVIATIONS**

*AI* = Autonomy/Independence  
C-group = Control (Hospital)  
CI = 95% Confidence intervals  
CPN= Community Psychiatry Nurse  
CPRS = Comprehensive Psychiatric Rating Scale  
df = Degrees of Freedom  
DLP = Daily Living Programme  
E-group = Experimental (Home treatment)  
GAS = Global Assessment Scale  
GHQ = General Health Questionnaire  
MHA = Mental Health Act  
NA = Needs Assessment  
NO = Needs Outcome  
PSE = Present State Examination  
P/SR = Patient/Staff Relationship  
P/RR = Patient/Relative Relationship  
RB = Relatives Burden  
R/SR = Relative/Staff Relationship  
sd = Standard deviation  
SEM = Standard Error of the Mean  
STA = Satisfaction with Treatment and Admission-admission  
SQ = Open satisfaction Questionnaire  
TCL = Total Community Living

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