

Using soft systems methodology to examine communication difficulties

Kevin Brenton describes how a 'soft systems' approach was used to improve communication between an acute inpatient unit and a rehabilitation service

keywords

- > management: theory
- > rehabilitation
- > communication

These keywords are based on the subject headings from the British Nursing Index. This article has been subject to a double-blind review.

Soft systems help to solve problems presented by the unpredictable nature of human activity (see picture, right)

Pictured: The Persistence of Memory, 1931 (oil on canvas) by Dali, Salvador (1904-89) Museum of Modern Art, New York, USA/The Bridgeman Art Library. © Salvador Dali, Gala-Salvador Dali Foundation, DACS, London 2007.

When considering the immense number of individuals who may be involved in the care of a single patient it is immediately apparent why communication is so complex. However, as Coiera (2003) states, 'poor communication can have substantial economic consequences. It is now clear, for example, that the healthcare system suffers enormous inefficiencies because the communications systems in place are often of poor quality'. This article describes how, as part of an overall service review, a 'soft systems' approach was incorporated to examine communication difficulties between a mental health inpatient acute unit and a tertiary mental health rehabilitation service.

What is soft systems methodology?

According to Platt and Warwick (1995), 'Soft Systems Methodology (SSM) has been developed at Lancaster University over the last 25 years, through action research'. It was developed by Peter Checkland and colleagues and is based on systems theory. 'Systems theory attempts to take a holistic view of the interrelations of component parts – the wider picture' (Rose and Haynes 1999).

Systems theory has come to be char-

acterised as either 'hard' or 'soft'. Rose and Haynes (1999) state: 'There are fundamental differences between a man-made ("designed physical" system), such as a nuclear reactor, and an organisational system – a human activity system. Where mechanical components are involved, their behaviour can usually be predicted with reasonable accuracy – these are hard systems. However, human behaviour is unpredictable and organisational and management problems consequently complex. SSM helps formulate and structure thinking about problems in these complex, "soft" situations.'

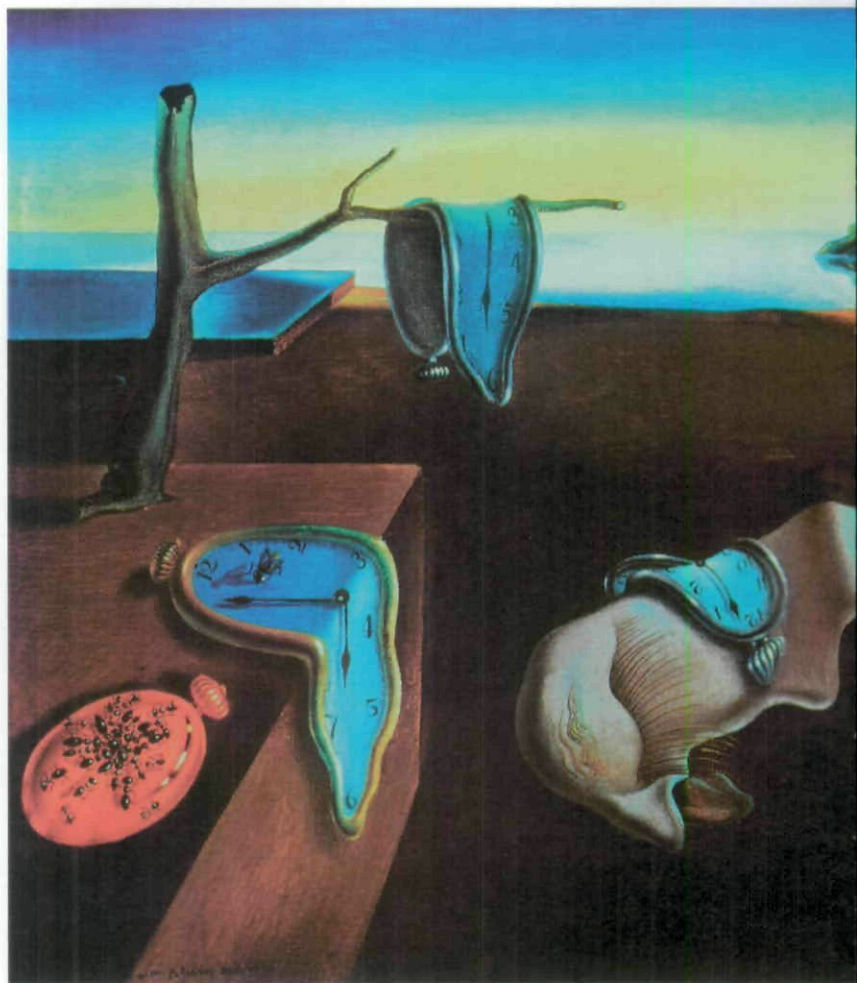
Platt and Warwick (1995) say: 'Soft systems methodology is concerned with human activity systems (HAS). A HAS is defined as a collection of activities in which people are purposefully engaged and the relationship between

- with the real world
- 6. Defining feasible, desirable changes
- 7. Taking action

The problem

The problem to be addressed concerned a number of communication issues between a working-age mental health inpatient acute admission unit and a tertiary rehabilitation service within a health and social care NHS trust in West Sussex. The catalyst for examining the relationship between the two services was the need to undertake a review of rehabilitation services in line with the national agenda.

The operational ethos of the service is underpinned by national policy such as *Modernising Mental Health* (Department of Health (DH) 1999a), the *National Service Framework for Mental Health* (DH 1999b) and the *NHS Plan* (DH 2000). The future



those activities.'

The Checkland methodology (Checkland 1981, cited in Platt and Warwick 1995) describes a seven-stage model. The seven stages are:

1. The problem situation unstructured
2. The problem situation expressed
3. Root definitions of relevant systems
4. Deriving conceptual models
5. Comparing conceptual models

provision of the service will be further steered by National Institute for Health and Clinical Excellence (NICE) guidelines on the treatment of schizophrenia (NICE 2002) as well as work emerging from the National Institute for Mental Health in England (NIMHE) regarding the recovery approach and social inclusion.

In line with national guidance it was felt by all members of the team that as

well as incorporating a 'recovery model' into the team philosophy and to ensure the service was promoting a socially inclusive milieu, it would be essential to build stronger relationships with other parts of the service. It was hoped that better communications would streamline the referral process and ensure seamless transfer protocols in and out of the service. However, the review of the rehabilitation services was taking place against a backdrop of widely expressed dissatisfaction among acute services staff and consultants regarding the service. Many felt that too many referrals to rehabilitation were being rejected and that there were often unnecessary delays in transferring patients who had been referred and accepted. The acute unit manager also expressed dissatisfaction with the relationship as a whole, feeling that there were 'fundamental gaps in

cited in Wells 1995). Following informal discussion with both the unit manager and staff of both the rehabilitation service and the acute inpatient unit it became very clear that the lack of focus of both staff groups and their inability to define the issues 'concretely', lent itself to a soft systems approach.

The purpose of stage one of the process is to 'gain a general understanding and wider view of the problem' (Bowen and Shehata 2001). The procedure for this phase includes the following points (Bowen and Shehata 2001):

- Gather and examine as much as possible from the available information.
- Learn as much as possible about who and what is important in the organisation.
- Understand as much as possible about the organisation's specific language.
- Pay close attention to the information about how things are done in the organisation.

This early stage emphasises the importance of the researcher 'experiencing' the problem: 'There are no specific or predefined tools to be used at this stage' (Bowen and Shehata 2001). It was felt important to explore the understanding of the issues from all perspectives; informal interviews were therefore conducted with the unit managers and staff in both services as well as consultants and managers who access them.

Discussions focused on each staff member's perception of his or her role within the service as well as his or her understanding of how communication difficulties may have arisen. Having been through a period of financial recovery there remained a financially driven and inwardly focused culture, as the emphasis upon managers had been to ensure their own individual areas came in on budget. However, having achieved a recovery trust-wide, managers and clinicians were refocusing on service development and were in a better position to examine and question practice.

Stage 2: the problem situation expressed

Having gathered information from as many of those involved as possible, the problem situation is 'expressed as a "rich picture"'. The idea is to represent pictorially all the relevant information and relationships' (Platt and Warwick 1995). Wells (1995) argues that 'the difficulty lies in deciding when one has enough material', but highlights that the parameters are usually set by time.

The process of constructing the 'rich

picture' (Figure 1) enabled the main issues to be identified. They were:

- bed management/external demands
- interaction
- referral processes
- service development
- service role definition

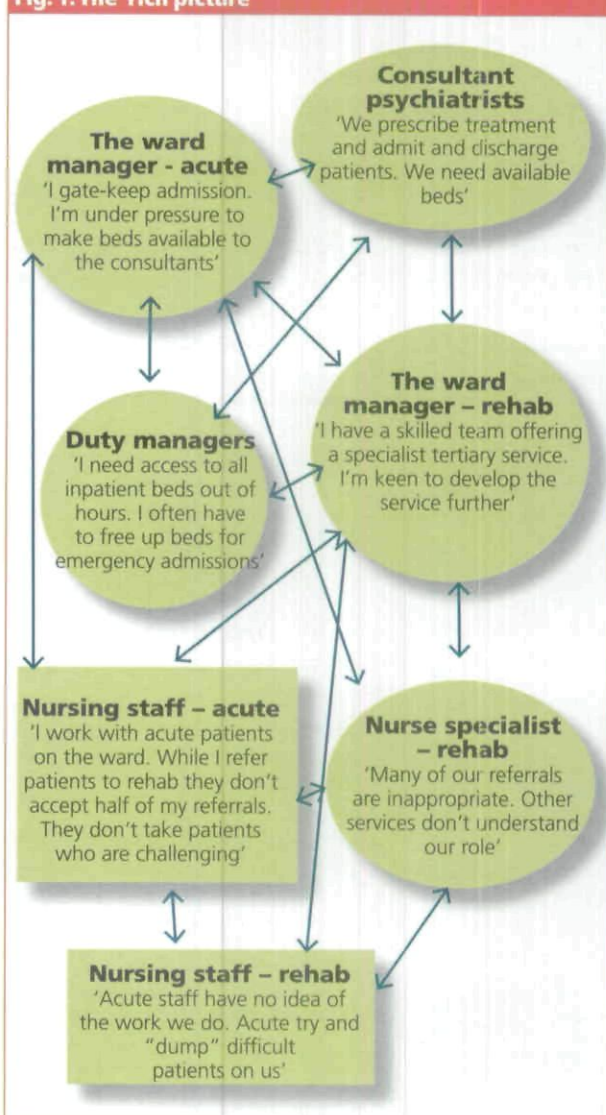
Stage 3: root definitions of relevant systems

A root definition 'expresses the core intention of a purposeful activity system' (Wells 1995) and is structured into three distinct parts: the 'what', the 'how' and the 'why'. 'The what is the immediate aim of the system, the how is the means of achieving that aim, and the why is the longer term aim of that purposeful activity' (Platt and Warwick 1995).

A root definition must include a number of elements, which Checkland characterises under the mnemonic 'CATWOE': Customers, Actors, Transformation Process, Weltanschauung (world view), Owners and Environmental constraints (Checkland and Scholes 1990, cited in Wells 1995). These various components can be described as follows (Platt and Warwick 1995):

- Customers – the immediate beneficiaries or victims.
- Actors – the people who do the activities.
- Transformation – what the event may achieve.
- *Weltanschauung* – what view of the world makes this definition meaningful.

Fig. 1. The 'rich picture'



communication that needed addressing', but was unclear as to where the relationship had broken down.

Stage 1: the problem situation unstructured

'Experiencing the unstructured situation is recognised as a valuable part of defining both the research problem and the design' (Hammersley and Atkinson 1990,

Table 1. 'CATWOE' analysis

Acute admission unit	
Customers	Patients under the care of community mental health teams suffering an acute crisis in their condition
Actors	Sector consultant psychiatrists, unit manager and nursing staff, duty managers
Transformation process	Effective bed management ensuring availability of beds for emergency admissions, while providing responsive care and treatment so that patients are discharged or transferred effectively
Weltanschauung	The belief in delivering immediate and responsive interventions to patients in crisis; ensuring patients are discharged effectively or referred appropriately to other parts of the service in response to healthcare need
Owners	Sector consultants, hospital managers
Environmental constraints	Bed availability, communication between services, referral criteria and transfer processes
Rehabilitation service	
Customers	Patients suffering from a primary diagnosis of a severe and enduring functional mental illness (schizophrenia, schizo-affective or bi-polar disorder) or a psychotic episode that is not attributed solely to substance misuse
Actors	Specialist consultant for rehabilitation, unit manager and nursing staff, and clinical nurse specialist for rehabilitation
Transformation process	Providing specialist tertiary care and treatment to a defined population of patients suffering from severe and enduring mental health problems, while promoting recovery and social inclusion
Weltanschauung	A belief in delivering specialist interventions to a defined patient population in line with national policy and in response to an identified healthcare need
Owners	Specialist consultant for rehabilitation, medical director, hospital managers
Environmental constraints	Communication between services, referral criteria and transfer processes. Emergency transfers due to bed management out of hours

□ Owner – who can ultimately direct the event and could close it down or stop it from happening.

□ Environment – the external environmental constraints that limit what we might do.

A 'CATWOE' analysis of the acute admission unit and the rehabilitation service is shown in Table 1.

Bowen and Shehata (2001) define two kinds of root definition supported in soft systems methodology: primary task root definition and issue-based root definition. 'Primary task root definitions concern processes which the organisation being studied performs as a part of its regular activities. Issue-based root definitions concern processes which are rare or one off occurrences.' Using the elements identified in the 'rich picture', the subsequent main identified issues and the CATWOE analysis, the following primary task root definitions were constructed:

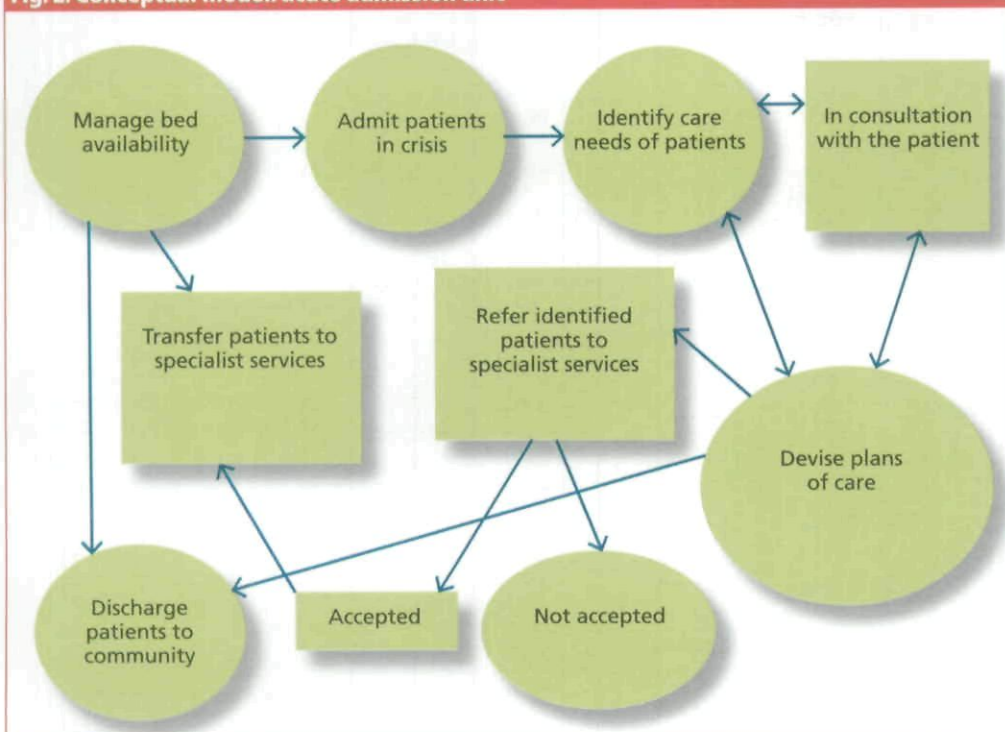
Acute admission unit: a system that provides the first point of admission, care and treatment for patients suffering from acute mental health problems. Co-ordinated and run by a professional team of mental health nurses managed by the unit manager in liaison with consultants, hospital managers and other departments in order to provide immediate and responsive interventions for people in acute crisis in the community.

Rehabilitation service: a system that provides specialist tertiary care and treatment to a defined population of patients suffering from severe and enduring mental health problems. Accessed by referral from secondary care. Co-ordinated and run by a professional team of mental health nurses managed by the unit manager in liaison with consultants, hospital managers and referring departments in order to provide specialist interventions in line with national policy to promote recovery and social inclusion.

Stage 4: deriving conceptual models

Following on from the root definitions is what is often described as the 'core' of soft systems methodology. 'Each root definition will result in a conceptual model. The conceptual model identifies the minimum necessary activities for that Human Activity System (HAS)' (Platt and Warwick 1995). The conceptual model is built by identifying the key activities within the root definition and expressing each activity in a phrase containing a verb, which can then be associated to form the conceptual model. This was applied to the two services as follows:

Fig. 2. Conceptual model: acute admission unit



Acute admission

- Manage bed availability to provide for emergency admissions
- Admit patients from the community
- Identify care needs of patients
- Devise plans of care for patients
- Refer patients to specialist services
- Transfer patients to specialist services
- Discharge patients into the community

Rehabilitation

- Communicate with other departments regarding potential referrals and role definition
 - Liaise regularly with referrers
 - Assess and Screen referrals to the service
 - Admit appropriate referrals in a timely manner
 - Identify care needs of clients
 - Devise specialist plans of care for a defined group of patients referred to the service
 - Discharge patients into the community
 - Discharge patients back to referrer
- Conceptual models for the acute admission unit and the rehabilitation service are shown in Figures 2 and 3.

Stage 5: comparing conceptual models with the real world

Stage 5 deals with the comparison of the conceptual model with the problem as expressed in stage 2. 'The purpose of this stage is to analyse the similarities and differences between the model and the real world in a thorough and structured manner' (Bowen and Shehata 2001). A comparison of the two conceptual models with reality was represented in the form of a comparison, which takes conceptual activity and asks if it exists in reality (Table 2).

Stage 6: defining feasible, desirable changes

The main purpose of the comparison of the model to the real-world situation is to highlight areas of desirable change. Wilson (1984, cited in Wells 1995) suggests that 'changes can usually be classified into three inter-related types: structure, processes and attitudes'. In this situation it is apparent that changes would be desirable in all three areas. Having highlighted the main issues from each of the services it was important to examine how the issues from one service related and impacted upon the other, to identify feasible changes that might be initiated to improve the relationship between the two services. Land (1994) stressed the importance of 'addressing what is feasible and desirable so that

Table 2. Comparing concept with reality

Acute admission unit			
Activity	Exist	Mechanism	Performance
Manage bed availability	Yes	Bed management meetings	Weekly
Admit patients in crisis	Yes	Through RMO, and duty manager out of hours	Can involve unplanned transfers between units to free beds
Identify care needs	Partial	Key worker on admission and through multidisciplinary (MDT) meetings	MDT meetings weekly. Focus on current problems. Lack of forward planning
Devise plans of care	Partial	Key worker and through MDT meetings	MDT meetings weekly. Lack of forward planning
Referral to specialist services	Partial	Key worker and MDT through referral processes	Lack of forward planning. Poor knowledge of referral procedures
Transfer to specialist services	Partial	Key worker in liaison with service. Duty manager in emergency	Lack of forward planning. Frequent out-of-hours transfers – often inappropriate
Discharge to community	Yes	Through MDT	Lack of forward planning. Often hurried, patients ill prepared

Rehabilitation service			
Activity	Exist	Mechanism	Performance
Communicate with other departments	Partial	Ward manager, key workers	Sporadic, usually in response to problems. Lack of understanding of service's role
Liaise with referrers	Partial	Ward manager, nurse specialist, key workers	Undertaken as a direct response to referrals. No regular liaison
Assess and screen referrals to the service	Yes	Referral form and patient history. MDT meeting with patient	Weekly referral meetings. Can cause delays in assessment
Admit with minimum delay	Partial	Identify key worker who then manages process	Lack of formal system can cause delays
Identify care needs of patient	Yes	Nurse specialist, key worker	Clear and detailed needs assessment using a variety of specialist tools
Devise specialist plans of care	Yes	Key worker through MDT	Detailed plans based on current issues. Lack of discharge planning
Discharge patients back to referrer	Yes	Key worker through MDT	Frequent delays due to lack of liaison and forward planning
Discharge patients to community	Yes	Key worker through MDT	Frequent delays due to lack of liaison and forward planning

Fig. 3. Conceptual model: rehabilitation service

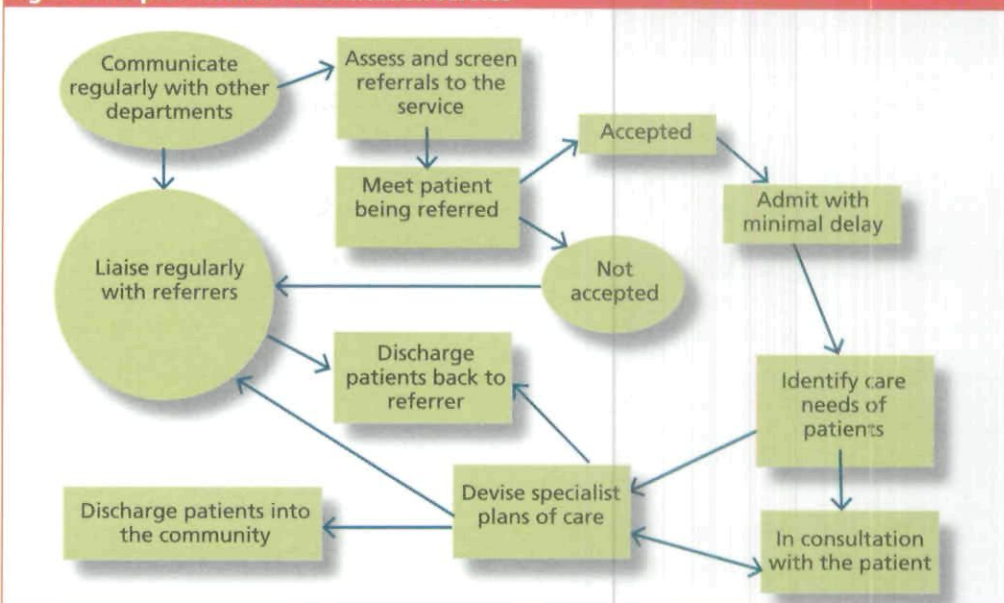


Table 3. Implementing changes

Objective	Desired outcome	Lead	By when?
Rehab attendance at weekly bed-management meeting	Identify potential referrals early and identify patients who should be transferred in emergency	Unit manager, nurse specialist	March 2006
Establish regular in-reach to the acute unit by all qualified staff from rehab service	Identify potential referrals early. Address problems regarding transfer of patients or recent referrals	All nursing staff	April 2006
Distribute rehab operational policy to all consultants, wards and departments	Promote greater understanding of the role of the service	Nurse specialist	March 2006
Undertake structured presentations to all clinical teams	Ensure all referrers are aware of the process for referring to the service	Nurse specialist	June 2006
All future referrals to the service to be assessed at current location within three days of referral. Response to referrer within five days	Streamline the process of referral to the rehab service and lessen delays in transfer	Unit manager, nurse specialist	April 2006
Create unit policy to formalise the process of transfer of patients who have been accepted by the rehab service	Streamline the process of transfer and lessen delays. Lessen 'bed blocking' on acute unit	Unit manager	May 2006

any change is discussed and implemented with the agreement of participants and pays full regard to the culture, environment and politics of the system'.

The following issues and potential changes were identified:

- Bed availability on the acute unit is managed through a weekly bed-management meeting. No representative from the rehabilitation service attends, although this would clearly be helpful in identifying potential referrals. Informal bed management is frequently undertaken by the ward manager and duty managers as a response to emergency admissions and can result in forced transfers to the rehabilitation service. Often such transfers don't fully meet the criteria for the rehabilitation service and are 'best fit' at the time.
- The busy nature of the admission ward means that care is often planned and delivered in response to current ward

management problems and lacks forward planning. This issue could be partly addressed by more proactive 'in-reach' to the unit by the nurse specialist and staff from the rehabilitation service to help identify patients who may require rehabilitation in the long term.

- The nursing staff and sector consultants had a poor understanding of the role of the rehabilitation service and procedures for referral. This could be addressed by a wide distribution of the service's operational policy, and more proactive in-reach and liaison with potential referrers.
- A key issue identified was the rehabilitation service's lack of communication and liaison with potential referrers. As a result there was little understanding and acknowledgement of the role the service plays in the 'bigger picture'.
- The rehabilitation service had traditionally considered referrals at a weekly meeting, which the patient being referred was expected to attend. This concrete and formalised process can not only be intimidating for the patient, but can often cause delays in transfer to the service. This process could be abolished in favour of referrals being assessed by an individual member of staff in the patient's current location, which would also speed up the process.
- Delays in transfer of patients to the rehabilitation service are partly caused by a lack of any formal process once a patient has been accepted. This procedure could be formalised and standards agreed which could then be audited.

Stage 7: taking action

The final stage of the process is concerned with the implementation of changes to address the problem. To ensure that these were implemented in a clear and measurable way, the planned changes were translated into

planned service objectives within the rehabilitation service with defined time boundaries (Table 3).

Conclusion

Checkland and Holwell (1998, cited in Jacobs 2004) stated that 'soft systems methodology is not about testing hypotheses using quantitative data' and that the naturally unstructured way with which it immerses the researcher within the problem can at first appear 'messy' and intimidating. However, it can quickly become apparent that many organisational problems can appear 'messy' with no clear understanding of the issues causing the problem. 'Underpinning the soft systems method is a belief that in a problem situation there is often a sense of discontent without focus' (Checkland 1981, cited in Wells 1995). It is in such situations of 'discontent without focus' that soft systems methodology thrives and assists the researcher in making sense of extremely ambiguous issues.

The use of this methodology to examine the relationship between the two mental health services was particularly useful in drawing out what were seen to be quite simple issues that were relatively straightforward to address. It also showed how negative attitudes and lack of communication can have a hugely negative impact upon service provision. This project highlighted that soft systems methodology, unlike more formalised organisational systems and management structures, is particularly effective in allowing the researcher to take stock of the 'whole picture' and refocus thinking. As such it may be utilised very effectively when reflecting on clinical systems that are, by their very nature, vague and unfocused ■

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