

International mental health outcomes and benchmarking using the FACE approach

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Abstract

This article describes and compares the nature and severity of problems encountered by persons receiving mental health services in the United Kingdom and Australia, and the outcome of their treatment. The perspective of service providers and service users in the two countries was strikingly similar. Treatment was effective in alleviating problems with social circumstances, and in increasing adaptive and interpersonal functioning. Treatment was less effective in addressing psychological or physical problems. Service users in the United Kingdom were more involved in developing their treatment care plan than those in Australia. The study demonstrates how data required for benchmarking and outcome evaluation purposes can be generated as part of routine clinical processes.

Purpose of the study

The aim of this article is to use mental health benchmarks to describe and compare populations in two countries who receive mental health care, and the outcomes achieved by mental health services in treating these people. The population benchmarks used in this comparison were created from mental health assessment data generated from the Functional Analysis of Care Environments or FACE (Clifford, Webb & Frazer 1993).

FACE is a set of informational tools developed to collect comprehensive, consistent and accessible information about individuals using human services (Clifford 1999). These tools include standardized assessments which document health, social and other circumstances in a manner which is meaningful to staff, and useful for measurement, auditing and evaluation purposes. FACE integrates the process of collecting qualitative details required by clinicians and quantitative data required for statistical purposes into a single clinical process (Clifford 1998). The measurement system embedded into the approach was developed to meet the psychometric standards of reliability and validity. An infrastructure is therefore created in which information required for outcome evaluation and the development of benchmarks is generated as part of the assessment process, rather than constituting a separate task (Elzinga & Meredith 2001a). In addition, all information collected can be electronically recorded, enabling person based information to be quickly accessed by or communicated to staff in different programs or locations.

A set of assessment tools for use in a mental health service context were developed in the United Kingdom, and the psychometric properties of the instrument have been established (Clifford 1995a, 1997; Elzinga & Meredith 2001b). These assessments are now being utilized by a number of mental health services in the United Kingdom and South Australia. As part of the outcomes evaluation protocol in both countries, persons receiving mental health care are assessed at the commencement of treatment, and at regular intervals during their care. The use

of common assessment items and measurement guidelines across a range of mental health services in both countries has made it possible to compare the two populations, and develop benchmarks in the mental health field.

Assessment measures

FACE assessment measures include both practitioner-based and user-based tools. The practitioner-based tool is known as the Health and Social Assessment (formerly the *Adult Mental Health Assessment*). The assessment comprises approximately 70 items that focus upon a number of assessment areas, described in the next section. There are two user-based tools. *'How Are You'* is a brief questionnaire that asks the service user about their quality of life, and mental and physical well being. It enables the service user to document their perceptions of their health and social situation in the same areas assessed by practitioners. *'Your Treatment and Care'* is a service evaluation tool that assesses the clients' experience of the treatment and care they receive from a (health) service. Areas assessed include involvement in devising a care plan, relationship with staff (including separate items for psychiatrists and key workers), the level of information provided about both the disorder and medications prescribed, and overall satisfaction with care.

FACE assessments generate a 'profile' of a person's current state using a standard framework. In essence, the FACE framework is a simple multi-dimensional model of human functioning (Clifford 1998) based on the following major 'axes'.

The **Psychological** axis assesses behaviour (e.g. suicidality, self-harm, substance misuse etc), cognition (e.g. orientation, attention/concentration) and general mental health (e.g. delusions, hallucinations, depression, anxiety etc).

The **Physical Well-Being** axis assesses physical health, diet, mobility, continence, side effects of prescribed medicine and any distress/pain caused by physical state.

The **Activities of Daily Living** (ADL) axis assesses self-care, activities of daily living inside and outside the home, money, keeping occupied, work activities and current support received in the context of activities of daily living.

The **Interpersonal** section assesses support networks, interpersonal orientation, intimate relationships, friendships, social activities, proximate relationships, social interaction and communication skills.

Finally, the **Social Circumstances** section assesses housing, finances, daytime activity and social contacts, involvement of and impact upon family or other carers, input from health and social services, and social vulnerability.

Each assessment contains a series of questions, or items, which address the above areas of functioning. All items in the clinician-based assessment are rated on a 5-point scale from 0 (No Problem) to 4 (Very Severe Problem). Consequently, the more severe the person's difficulty, the higher the score. Text fields accompany each item in order that qualitative details can be documented to support the quantitative severity ratings.

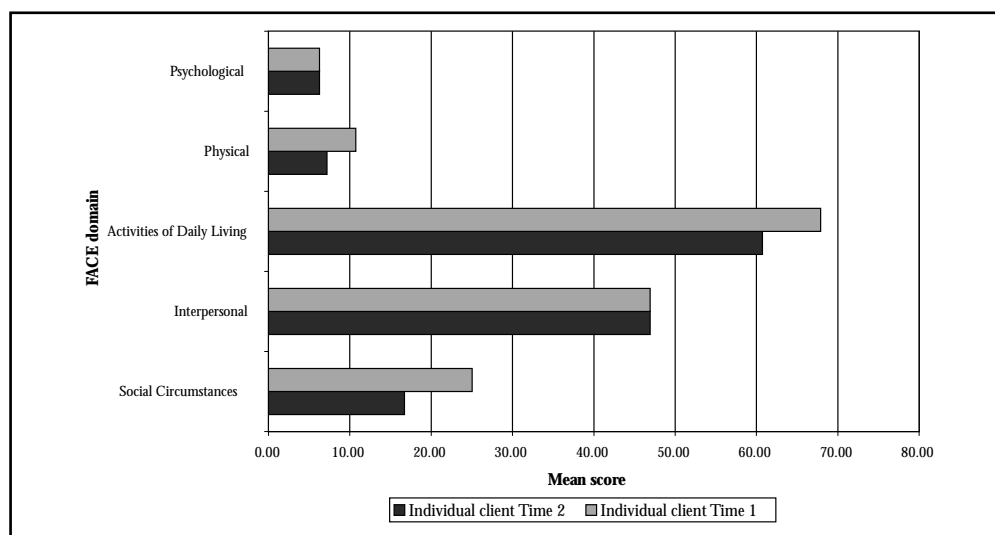
Mental health assessment tools were developed to summarize the information reasonably available to a clinician during the early stages of treating a client (Elzinga & Meredith, 2001). The items included were chosen to reflect the information most salient to a mental health professional (see Fonagy 1999, for a discussion of item selection). The mental health item set has evolved over time, and different constellations of the items can be used in different care environments. For instance, information regarding a patient's social circumstances is not generally available to clinical staff working in acute inpatient environments, and more emphasis is placed on items dealing with psychological and physical health. In contrast, staff in community settings are better able to observe the ability of the person to undertake activities of daily living, the extent of their support network, interpersonal skills and social circumstances, and the item-set in these environments accommodates this additional knowledge. A set of 'core' assessment items is common to all FACE assessments, regardless of treatment location or service type.

Assessment information can be viewed in a number of ways. By summing responses to all items it is possible to derive an 'overall' severity score. An 'index' score can be created which summarises the health or social profile of the assessment. It is also possible to view assessment data on the basis of 'axes', 'domains', or at the individual item level. Finally, clinicians, who require more detail about personal circumstances than that provided by severity ratings, can access qualitative information.

Figure 1 provides an example of the use of the FACE profile in practice. The figure depicts a sample clients'

profile at the beginning and end of treatment (initial and final assessment) broken down by axis. Upon initial presentation the client had most difficulty with activities of daily living and interpersonal issues, whilst their social circumstances, psychological and physical issues were less problematic. On completion of treatment, improvement had occurred in physical problems, activities of daily living and social circumstances, while psychological and interpersonal problems remained the same.

Figure 1. The FACE Profile - Axial Scores over time



Benchmarking

The characteristics of the populations, the manner in which data was collected, and the psychometric properties of the instruments used have been described elsewhere (Clifford 1995, 1997, 2001; Elzinga & Meredith 2001a, 2001b). Briefly however, assessments were conducted on approximately 6,000 persons from acute inpatient, community, rehabilitation and residential settings in a number of mental health trusts in the United Kingdom. In South Australia, assessment data was available for 611 clients of three community-based services in the Southern Metropolitan area of Adelaide. Two of these services provide mobile assertive care, and the third provides continuing community treatment.

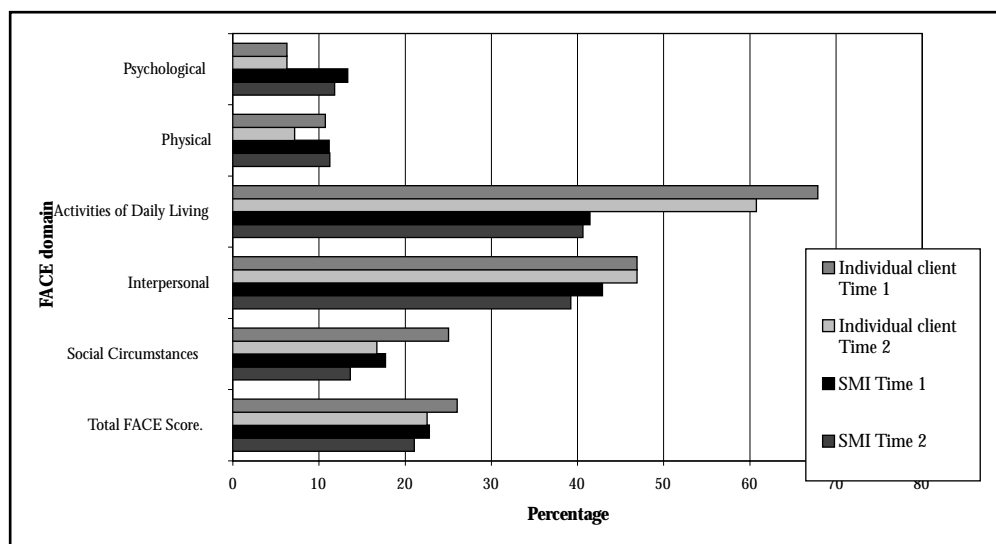
The first step in the benchmarking process was to derive broadly similar groups of persons, known as 'reference groups'. The use of reference groups ensures that comparisons are made between similar individuals and/or groups of people. Data analysis undertaken during the outcomes program in the United Kingdom suggested that it was meaningful to distinguish at least two reference groups (Clifford 2001). These were referred to as the Adult Mental Health (AMH) and Severe Mental Illness (SMI) groups. Generally speaking, the AMH group includes persons with anxiety and mood disorders such as obsessions or phobic disorders and/or depression. In contrast, the SMI group comprises persons with 'psychotic' disorders such as schizophrenia and bipolar depression. It was demonstrated that the AMH and SMI populations have a different constellation of problems, different patterns of severity of problems, and finally, different patterns of response when asked about their difficulties (Clifford 2001).

Benchmarking can be used in a number of ways. A clinician may wish to compare a client with Major Depression with a group of similar clients to determine the relative severity of that persons' mental health status, or their progress in comparison with others. It may also be useful to compare groups of clients to determine whether their characteristics vary across geographic or treatment locations, and the relative effectiveness of different services or treatment approaches. In time, and with a large enough database, it may be necessary to

identify a larger number of reference populations, for instance, to distinguish between people receiving inpatient or community care, or between specific diagnostic groups.

Figure 2 demonstrates the use of reference groups for benchmarking purposes by comparing a client with schizophrenia to members of the SMI reference population. This comparison is viewed at the axial level. It can be seen that at the beginning of treatment this client had less severe problems in the Psychological domain, and more severe problems in Activities of Daily Living relative to others in the SMI group. Over time, less improvement was seen in the Psychological domain and more improvement in the Activities of Daily living domain than was generally found in the SMI group. This is perhaps not surprising, as the more problems you have in a specific area, the more room there is for improvement.

Figure 2. Comparison of a single client with the SMI reference population



Key problems

A set of 'key problems' or indicators was identified which distinguished the SMI and AMH reference groups. These were selected using the following criteria:

- items sensitive to change over time for that population
- items of notable clinical relevance (for instance, delusions or attention/concentration)
- items for which more than 25% of the population had a problem upon initial assessment.

For the SMI reference population, key problems identified in the area of Psychological and Physical well being were:

- Problem Behaviour
- Hallucinations
- Attention/Concentration
- Medication Side Effect
- Delusions
- Elated/Expansive Mood and Ideation
- Physical Health Status

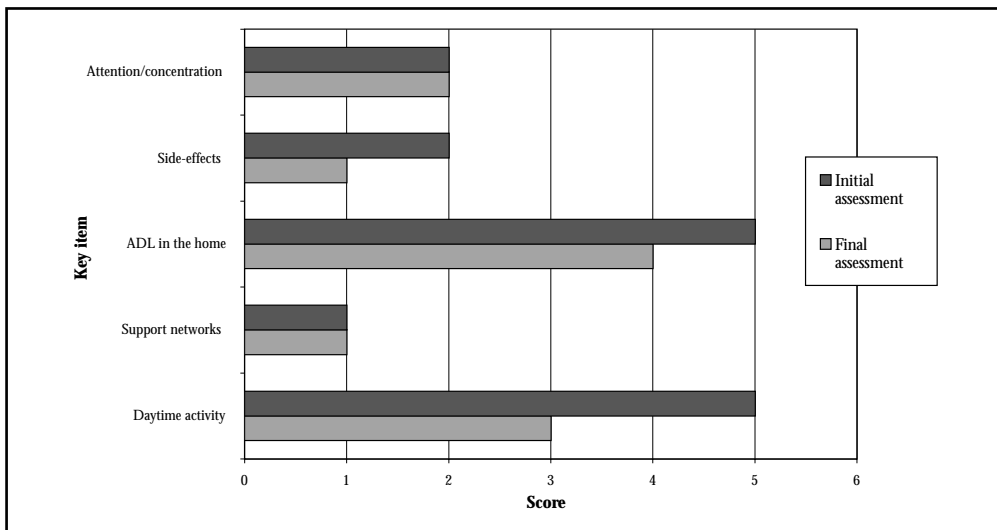
In the Social component of the assessment, the key problems identified were:

- Activities of Daily Living in the Home
- Availability of Support Network
- Friendships
- Keeping Occupied
- Communication
- Access to Health and Social Services

Tracking key problems enables the changes identified at the axial level to be elaborated and assume meaning at the clinical level. In Figure 3, a key problem from each of the FACE axes is monitored over time. Changes in these items will partially account for the changes in FACE axial scores depicted in Figures 1 and 2.

For example, the item 'attention and concentration (which forms part of the Psychological axis) has remained stable, whilst 'side effects of medication' (part of the Physical axis) and 'activities of daily living in the home' (part of the ADL axis) improved markedly.

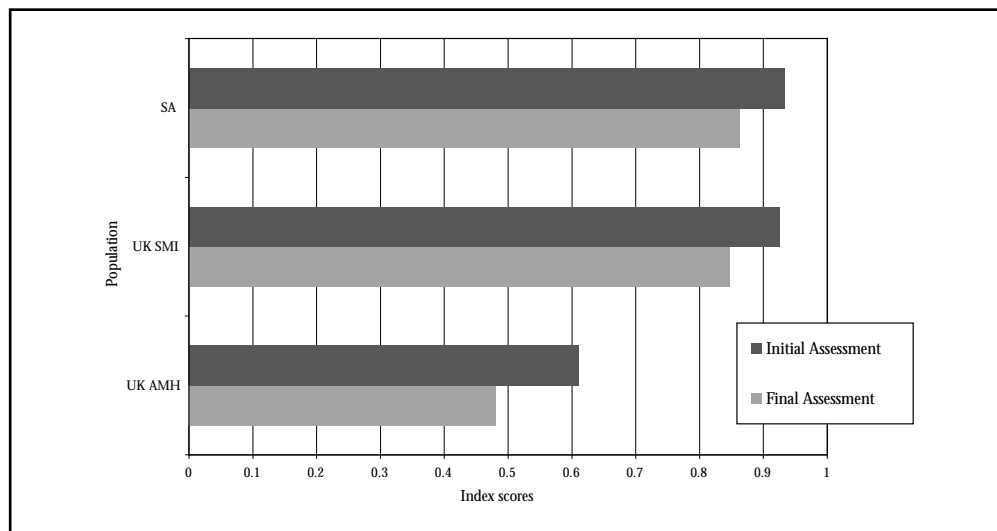
Figure 3. Change in Key Problems over time



The clinician's perspective

In what follows, clinician-based FACE assessment information will be used to compare persons with a mental illness in the United Kingdom and Australia. This information will be contrasted with the perspective of clients regarding the severity of their problems and their satisfaction with care in the next section.

The FACE Index score is the mean item score across all items in the FACE mental health assessment. This Index is equivalent to an overall severity score, and is used in Figure 4 to compare the South Australian population to the SMI and AMH reference groups in the United Kingdom. The figure illustrates that the South Australian population was very similar to the SMI reference group with respect both problem severity at initial assessment and outcomes achieved over time. Over time, a positive change was noted in all three populations between the first and final assessments.

Figure 4. Change in Index score over time

The Health and Social Indexes are the mean item score for all items in the Psychological/Physical and Social components of the FACE assessment respectively. Table 1 provides the Health and Social Index scores for the South Australian and English populations.

Table 1. Mean Health and Social Index scores at Initial and Final assessment

Index		SA	SMI	AMH
Health				
	Initial	0.54	0.51	0.38
	Final	0.46	0.46	0.28
Social				
	Initial	1.38	1.45	0.95
	Final	1.28	1.35	0.75

It can be seen that within the Health Index, the South Australian population was equally impaired upon initial assessment as the SMI population, and considerably more impaired than the AMH population. On the Health Index, average improvement in the AMH group was 27%, and was greater than for the South Australian and SMI groups (15% and 10% respectively). In the Social Index, greater improvements were also seen in the AMH group in comparison with the South Australian or SMI groups. The South Australian population were only slightly less impaired than the UK SMI group, and both improved by about 7% between initial and final assessment, whereas the AMH group improved by about 21%.

This section compares the South Australian population with the SMI reference group in the United Kingdom at the axial level. The AMH group has been excluded as it has been demonstrated that this group is less impaired than the South Australian and UK SMI populations. Table 2 shows mean axial scores for both of these groups, and the percentage change seen between the first and final assessments.

Table 2. Mean Axial Scores and percentage change from Initial to Final Assessment

Axis	SA Initial	SA Final	UK SMI Initial	UK SMI Final	% Change for SA	% Change for SMI
Psychological	14.5	13	14.0	11.8	5%	16%
Physical	11.4	11.6	11.9	12.1	-2%	-2%
Activities of Daily Living	40.9	37.5	41.6	41.3	13%	0.7%
Interpersonal	41.1	37.5	43.0	39.7	16%	8%
Social Circumstances	14.9	13	17.8	12.1	10%	32%
Total	23.3	21.5	23.1	21.2	10%	8%

The South Australian population was equally as impaired as the English group on all FACE axes with the exception of Social Circumstances. The pattern of outcomes was broadly similar in the two countries. Both populations improved over time in all FACE domains. Particularly noticeable changes were observed in the Interpersonal domain in the South Australian population, and in the Social circumstances axis in the English population. Activities of Daily Living and Interpersonal relationships were particularly problematic for both groups, however the South Australian population made greater improvements in these areas.

Table 3 compares the South Australian population with both the SMI and AMH groups in the United Kingdom on the basis of the frequency with which key problems occurred. The table identifies the percentage of persons within each group who had a key problem that fell in the moderate, severe or very severe range. As would have been anticipated given their higher FACE Index scores, all key problems were more common in the South Australian and SMI populations than in the AMH population. The South Australian population had almost four times as many persons with moderate to very severe difficulties in taking their medication relative to reference groups in the United Kingdom.

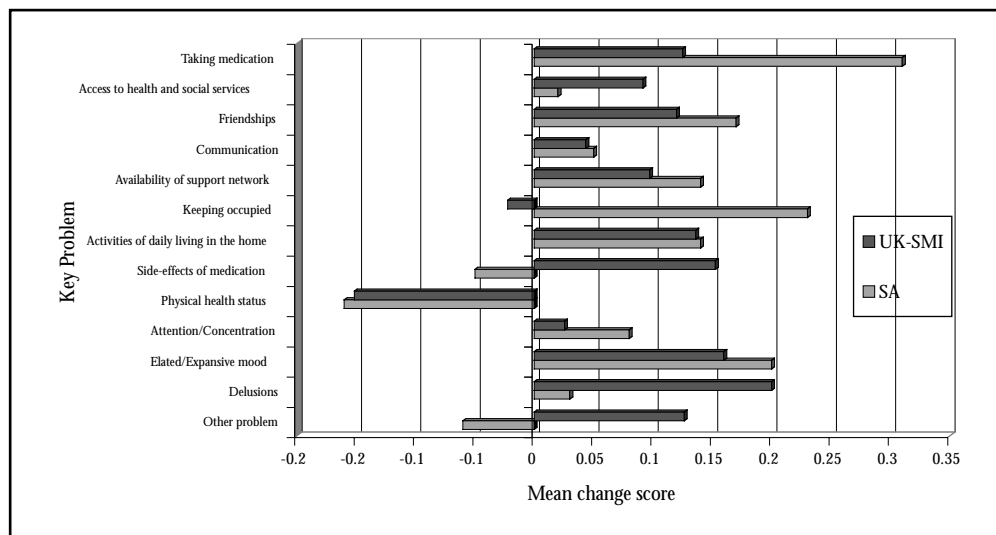
Table 3. Percentage of clients with moderate, severe or very severe scores for key problems

Key problem	SA	UK SMI	UK AMH
Health Index			
Problem Behaviour	31%	28%	17%
Delusions	33%	36%	4%
Hallucinations	12%	18%	2%
Expansive Mood and Ideation	17%	16%	2%
Attention/Concentration	22%	27%	21%
Physical Health Status	27%	26%	25%
Medication Side Effects	21%	17%	8%
Social Index			
ADL in the home	44%	48%	15%
Keeping occupied	49%	53%	43%
Support network	35%	42%	21%
Communication	54%	52%	33%
Friendships	68%	68%	32%
Access to health and social services	2%	6%	3%
Taking of medication	41%	13%	10%

Figure 5 shows the change in key problems for the South Australian and SMI populations between the initial and final assessment. Changes in both populations were mainly positive, and the overall direction of change was broadly similar. The South Australian group improved more than the SMI group on the items "Taking

Medication', 'Friendships', 'Availability of Support Network', 'Activities of Daily Living in the Home', 'Keeping Occupied', and 'Elated/Expansive Mood'. The SMI group improved more than the South Australian group on 'Communication', 'Delusions', and 'Attention/Concentration'. 'Physical Health Status' deteriorated in both populations, and the South Australian population also deteriorated on 'Side Effects of Medication', and 'Other Problems'.

Figure 5. Change in Key Problems Over Time



The client's perspective

This section provides results of outcomes benchmarking from the perspective of the service user in order to illustrate the approach and the tools used. Unfortunately, numbers participating within South Australia are too small to draw meaningful conclusions at this stage.

How are you?

The 'How Are You' questionnaire consists of around 40 items which ask the client about aspects of their psychological and physical health, their relationships, and their social circumstances. The client is asked to indicate to what extent their lives are affected by specific issues, rated on a five-point scale from 'not at all', to 'most or all of the time'. Like assessments used by clinicians, information generated from the 'How Are You' questionnaire can be grouped into a number of domains. 'How Are You' was completed by 47 clients from one community service in South Australia. This section summarises some of the key findings, and contrasts these with findings in the English sample, where 500 people participated.

Table 4 provides the mean 'How Are You' scores in the South Australian and English populations in each domain. The two groups had a similar pattern of results in all quality of life domains, however the English population had higher scores in all areas, reflecting a lower quality of life. The English population included persons from inpatient and residential settings, while the South Australian clients lived in community settings. The increased severity of symptoms and differences in living arrangements between the two groups may partially account for the poorer perception of quality of life by the English respondents.

Table 4. Mean ‘How Are You?’ domain scores

Domains	SA	UK
Health	27.6	30.7
Feeling	21.2	27.0
Activities of Daily Living	27.8	32.0
Social Circumstances	26.3	27.7
Relationships	20.6	27.5
Overall	26.5	36.2
Total	26.1	32.1

Examination of item scores for the South Australian population indicated that their greatest area of difficulty was feeling unable to cope when things went wrong. The group felt they had only occasionally been in good health or felt OK about themselves. They also indicated that they often experienced difficulty taking care of their appearance, having enough money for basic necessities, having enough to do during the day, finding support when they required it, and getting along with those around them.

Perception of Treatment and Care

‘Your Treatment and Care’ is an evaluation of service delivery from the perspective of the service user. It is divided into four sections, each of which asks questions on the following areas: involvement in care plan, relationship with key worker, relationship with psychiatrist, and overall experience of care. Each question requires a yes/no response. 47 persons who completed the ‘Your Treatment and Care’ evaluation questionnaire in South Australia, while 750 participated in the United Kingdom.

Table 5 presents the number of positive responses to questions regarding client’s involvement in their care plan. Relatively few persons knew what their care plan was, were involved in developing the care plan, or knew when it was to be reviewed. There was also considerable variation between responses in the United Kingdom and South Australia. The South Australia group were very clear about their medication and its possible side effects, but their involvement in their care plan was very limited. The dissimilar findings between the two populations may be related to the policy emphasis placed upon client involvement within the Care Program Approach in the United Kingdom. In the team in South Australia, this emphasis was low.

Table 5. Percentage of positive responses for items regarding the Care Plan

Your Care Plan	UK	SA
I know what my care plan is	57.1	39.1
I was involved in drawing up my care plan	46.7	21.7
My care plan has been explained to me	60.9	26.1
I know what my medication is for	81.5	88.9
I know about the possible side-effects of my medication	65.3	84.8
I know when my care plan is going to be reviewed	34.9	23.9

Table 6 shows the percentage of positive responses regarding clients’ perception of the help they received from their key worker. These are quite high in both countries, and indicate a very high level of satisfaction in the South Australian group. In both groups, the weakest item concerns the key worker keeping the GP informed of the client’s progress, with only 45% of clients saying ‘yes’. In South Australia, this may reflect the limited involvement of General Practitioners in the ongoing treatment of mental health difficulties.

Table 6. Percentage of positive responses for items regarding the Key Worker

The help you receive from your Key Worker	UK	SA
The term 'key worker' has been explained to me	71.3	78.3
I know the name of my key worker	84.9	97.8
My key worker has explained to me his/her view of my problems	64.0	63.0
My key worker is helping me to cope with my mental health problems	75.7	81.8
If I have a problem I can easily contact my key worker	78.3	89.1
My key worker helps me with practical problems	67.1	87.0
I can easily talk about my personal problems with my key worker	72.4	84.8
My key worker lets my GP know how I'm getting on	45.0	45.0
I can always rely on my key worker to show up at arranged times	74.5	88.9
My key worker helps make sure I keep my appointments with the psychiatrist	68.6	97.8
My key worker makes sure I'm alright if I don't turn up for an appointment	68.5	86.7

Table 7 shows the percentage of positive responses regarding clients relationship with their psychiatrist. About 60% of clients in both countries reported that their psychiatrist had explained their problems to them, and approximately half felt that their psychiatrist had explained how their problems affected their lives. There was variation between the two countries. South Australian clients appeared more satisfied with their psychiatrist relative to persons in the United Kingdom on all items, with the exception of whether the psychiatrist was helping them with their mental health problems. In the English group, the percentages who believed that their key worker and psychiatrist was helping them with their problems were similar. In South Australia 81% believed their key worker was helping them, compared with 61% who believed their psychiatrist was helping their mental health problems.

Table 7. Percentage of positive responses for items regarding the Psychiatrist

The help you receive from your Psychiatrist	UK	SA
My psychiatrist has explained my problems to me	59.4	63.0
I can easily talk about my personal problems with my psychiatrist	60.7	73.9
My psychiatrist is helping me with my mental health problems	70.3	60.9
My psychiatrist keeps me informed about my progress	56.0	69.6
My psychiatrist has explained how my problems affect my life	47.9	52.2

Table 8 presents the results for the overall satisfaction component of the questionnaire. Approximately 80% of clients in both countries were happy with the treatment and care they received, however the South Australian group felt that they received less information about their problems relative to participants in the United Kingdom.

Table 8. Overall satisfaction

Overall	UK	SA
I am happy with the treatment and care I have received	83.0	82.6
I have received enough information about my problems	73.8	56.5

When viewed together with the results of other sections, these findings confirm that global reports of satisfaction provide a crude but somewhat over-positive perspective, which can contrast sharply with responses to specific questions.

Discussion

This article has provided an overview of how information required for benchmarking and outcome evaluation purposes can be generated as part of routine clinical processes. The use of comprehensive measurement instruments has made it possible to derive information that enables clients in South Australia to be benchmarked against reference groups in the United Kingdom. To our knowledge this is the first time this has been possible.

Broadly speaking, the results of benchmarking between the two groups indicate that South Australian clients are similar to the Severe Mental Illness reference group derived in the United Kingdom. South Australian community clients had a higher percentage of persons with a diagnosis of psychotic disorders, and their symptomatology was rated as more severe than clients in the Adult Mental Health group in the United Kingdom.

Presently our conclusions are limited to the clients of three South Australian teams, however it would be of interest to determine whether this population of community clients is representative of all community clients in Australia, or whether a cohort of less severe clients is also present. Were data available from a range of community services within Australia, results could be compared to see whether the characteristics of those receiving treatment were similar, whether patterns of improvement were normative, or whether people with similar difficulties get better or worse in different places or with different approaches to care (Clifford 1998).

It may be possible that some community services treat a larger proportion of persons with depression and anxiety. In the United Kingdom, the larger sample size has made it possible to identify two distinct groups of people who can be broadly distinguished on the basis of both diagnosis and severity of problems. If differences in the type and severity of problems of groups of clients can be identified in Australia this would have major implications for the distribution of resources and development of treatment protocols.

Professionals are being required to do more in less time, thus the request that they complete outcome evaluation measures in addition to their normal assessment procedures represents a considerable imposition on their time. FACE represents an opportunity to combine clinical and evaluation tasks, and is therefore a more efficient approach to information collection and retrieval. In addition to the obvious advantage of rapid access to complex clinical information, the FACE approach also increases the likelihood that evidence will influence treatment practices. Daly, McDonald and Willis (1992) suggest that to maximize the chances that evidence is translated into practice, information must be readily available to and utilized by professionals. FACE generates information for clinical, evaluation and benchmarking purposes that can be utilized immediately. Professionals have access to the information they have collected, and the means to compare a client against a reference group that they specify. This ownership of the information also promotes accurate assessment.

In Australia, the Mental Health Classification and Service Costs Project (Buckingham, Burgess, Solomon, Pirkis & Eagar 1998) used the Health of the Nation Outcome Scales (HoNOS) (Wing, Curtis & Beevor 1986) and several other outcome evaluation measures to distinguish between groups of mentally ill persons receiving more or less intensive services. Based on data from 18,000 people from different treatment and service locations across the country, the combined measures were able to distinguish statistically significant differences between inpatient and community clients, and between changes seen during an inpatient episode of care. The tools were unable to distinguish between types of community clients or identify outcomes of community care. The failure of these tools to detect the changes that occur during community treatment is perhaps not surprising given their brevity and lack of emphasis on the social and adaptive elements that contribute to mental health disability. Several follow-up studies utilizing parts of this database highlighted other limitations of the HoNOS (Brooks 2000; Preston 2000). Tools such as the HoNOS have been shown to have limited applications in clinical practice, and may be useful only in a research capacity (Stein 2000). This may explain why the uptake of these measures in Australia to date has largely been limited to those clinicians persuaded by management to use them.

As FACE was devised to address the broader informational requirements of a health service, it has several advantages over traditional approaches to outcome evaluation. Firstly, outcomes are assessed from the perspective of both the client and provider in a manner that allows the two opinions to be directly compared. The consumer and user outcome evaluation tools presently available were developed independently of one another. These tools focus on different areas of assessment, and have different measurement characteristics, making it difficult to compare the perspective of the client and provider regarding treatment outcome and service delivery.

Second, the clinical evaluation measures now available are brief and functionally specific. As a result, several tools are required to evaluate mental health outcomes, as no one measure comprehensively addresses all areas of functioning. That these tools also have different measurement properties make it difficult to compare the severity of different aspects of functioning relative to one another, or the magnitude of change seen over time in each area.

FACE Measurement tools are comprehensive enough to illustrate the areas in which clients differ and where changes occur, both in global and specific terms. The use of common measurement characteristics across all domains of assessment makes it possible to contrast changes seen in different areas of functioning. This represents a considerable improvement on less detailed measures. The level of detail facilitates development of benchmarks that can then be used to detect subtle differences within and between groups of people in both community and inpatient settings.

Perhaps the most salient feature of the results discussed here is the similarity of findings between the United Kingdom and Australia, which provides strong evidence that the FACE measurement tools have generic application across mental health services in different countries.

Differences identified between the two countries (or between services) may provide a platform to share experiences. From the present data it appears that mental health professionals in both countries are currently more successful in dealing with social and interpersonal difficulties as opposed to psychological and physical problems. In addition, clients of mental health services in the United Kingdom are more involved with and informed about their treatment care plan than those in South Australia, possibly reflecting a policy difference between the two countries. Such information provides a lever to identify areas needed for change.

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