In the late 1990’s leadership in the Department of Psychiatry at Massachusetts General Hospital identified the need for “an outcome measure suitable for all patients, all treatments, and all levels of care”. The Schwartz Outcome Scale (SOS-10; Blais et al., 1999) was created to fill that need. The SOS-10 is a unique broadband low burden measure developed to monitor outcomes, at both the individual and aggregate level, across a wide range of adult mental health services. The distinctiveness of the SOS-10 derives from its method of development. Rather than relying on theory, symptoms or existing instruments, construction of the SOS-10 was guided by insights obtained from a diverse group of senior clinicians and patients. Specifically, interviews conducted with senior psychologists, psychiatrists and a neurosurgeon along with patient focus groups were used to discover the changes that occurred (excluding symptoms) with successful treatment. The interviews and focus group discussions were transcribed and reviewed for common themes. Common themes were used to generate an initial item pool. Empirical evaluation and refinement identified 20 well performing items and Rasch analysis was employed to reduce the scale to its final 10-item version (see Blais et al., 1999 for a detailed description of the development process).

The SOS-10 is suitable for individuals ages 17 and up. It has been formally translated into French, Czech, and Spanish. Chinese and Italian translations are also available. Recent promising efforts to extend the use of the scale downward into adolescent populations are also in process.

**Domains Assessed**
The SOS-10 is a measure of psychological health and well-being. Psychological health is conceived of as an overarching construct that encompasses life satisfaction, interpersonal effectiveness, positive self-appraisal, optimism, and the absence of psychiatric symptoms.

**Use and Procedures**
Patients are asked to rate how they have been doing over the last week on 10 items using a 0 (Never) to 6 (All or nearly all the time) scale. The SOS-10 is scored by summing the numerical ratings for each item. This process creates a total score ranging from 0 to 60 with higher scores representing greater psychological health well-being and lower scores indicating emotional distress and poorer psychological health. While the SOS-10 has no validity scale, scores at the extreme ends of the range (0 or 60) are rare (occurring
less than 2 percent of the time) and are therefore considered invalid. The scale can be scored with up to two missing items by using a mean score imputation to generate a total score. The SOS-10 can be administered in traditional paper-and-pencil format or electronically (score equivalence has been demonstrated for web based administration). It is recommended that patients complete the scale prior to a treatment appointment. This way the clinician can determine whether the SOS-10 was completed and is valid, and review the total score for clinical implications prior to the session.

The SOS-10 has been widely adapted as a program level treatment evaluation tool and many programs have contributed data to the SOS-10 interpretive database. Presently, the database contains intake SOS-10 scores for 8,056 outpatients and 5,541 inpatients. As a measure of psychological health and well-being, the SOS-10 is also attractive to non-clinical researchers. As a result our database also contains SOS-10 scores for 2,000 non-patients.

Although the SOS-10 is a proprietary instrument, the scale is made available free of charge for practitioners, researchers and non-profit healthcare organizations.

Assessment and Treatment Planning
Owen and Imel (2010) outline a rationale and a practice friendly procedure for incorporating the SOS-10 into ongoing clinical care. The availability of non-patient reference data is valuable as it allows for calculation of both a Reliable Change Index and Clinically Significant Improvement. The ability to apply more sophisticated treatment effectiveness analyses greatly enhances the information obtained from TAU outcome measurement programs and increases the comparability of findings across studies (see Blais et al., 2011). SOS-10 scores can also be used to rapidly identify a patient’s level of emotional distress or psychological dysfunction. Drawing on data from over 8,000 outpatients the following distress ranges may prove helpful markers: Minimal (59-40), Mild (39-33), Moderate (32-23) and Severe (22-1). Accurately identifying a patient’s level of distress at the outset of treatment can help clarify the intensity of services needed, i.e. weekly individual psychotherapy, multiple sessions per week or multiple forms of treatments. In this way routine use of the SOS-10 can aid treatment planning. Furthermore, as clinicians become familiar with the tool, the use of severity ranges can provide easily recognized reference points for multidisciplinary communication. Lastly, because SOS-10 items are not directly related to psychiatric symptoms, reviewing unique responses to individual items with patients can afford a non-threatening avenue for discussing personal strengths and weaknesses.

Psychometric Properties
The SOS-10 has outstanding psychometric properties. Its internal consistency in published studies has ranged from 0.84 to 0.96. The test-retest reliability for the scale is also strong, with studies reporting retest correlations of 0.86 and 0.87. In addition, no meaningful age or gender effects have been reported. Multiple studies both in the original English and in translations have found the SOS-10 to be uni-factorial. Factor invariance has also been shown across samples (patients & non-patients), and measurement points (pre & post treatments). The accumulated research also supports the construct validity of the SOS-10 as a broad measure of psychological functioning (Blais et al., 1999; Haggerty et al., 2009; Young et al., 2004). The SOS-10 correlates significantly and in the predicted direction with measures of psychiatric symptom severity (-0.67), alexithymia (-0.58), hopelessness (-0.66), negative affect (-0.72), self-esteem (0.81), satisfaction with life (0.78), positive affect (0.67) and physical functioning (0.36). SOS-10 is also significantly related to measures of the normal personality (Big Five Traits). The SOS-10 correlates significantly with the Outcomes Questionnaire-45 (OQ-45; Lambert et al., 1996). The SOS-10 is strongly correlated with OQ-45 total score (-0.84), and with its subscales. Together these findings demonstrate the breadth of the SOS-10 and offer solid evidence of its construct validity.

The SOS-10 has also demonstrated sensitivity to change for a wide variety of treatment modalities and may be especially sensitive to detecting early treatment change (Hilsenroth et al., 2001). The SOS-10 has been employed as an outcome measure in studies of Psychodynamic Psychotherapy, Dialectical Behavior Therapy, residential treatment for refractory Obsessive Compulsive Disorder, Inpatient psychiatric treatment as usual and inpatient substance abuse treatment as usual. A study by Blais et al. (2010) demonstrated the utility of the SOS-10 as a common outcome measure for evaluating treatment as usual across a large diverse outpatient psychiatric practice.

Institutional Implementation
The SOS-10 is currently used as a common outcome measure for all adult psychiatry services provided within the Partners Planning Assessment and Treatment Planning
Owen and Imel (2010) outline a rationale and a practice friendly procedure for incorporating the SOS-10 into ongoing clinical care. The availability of non-patient reference data is valuable as it allows for calculation of both a Reliable Change Index and Clinically Significant Improvement. The ability to apply more sophisticated treatment effectiveness analyses
Healthcare System. Partners Healthcare includes the majority of hospitals and community health clinics associated with Harvard Medical School. Many other psychiatric hospitals, community mental health centers and college counseling centers across the United States have been granted permission to use the SOS-10, as have a number of treatment facilities in the United Kingdom. It has also been licensed for use by managed care organizations.

REFERENCES


