MEASUREMENT BASED CARE & COMMON AMBULATORY PSYCHIATRY
By Dr. Peter Roy-Byrne.

Many experts have written about the potential importance of measurement-based care in psychiatric practice, and yet, most psychiatrists do not routinely employ measures to help them assess patients on initial intake and monitor subsequent treatment outcomes. As a former full time academic psychiatrist who has recently made a transition to focus more time on clinical practice in the community, I have sought to identify the most simple, easy-to-use measures for syndromes I commonly encounter.

I have begun to use these routinely in my clinical practice because they save me time during an initial intake, alert me to the most severe clinical problem areas that a patient has, allow me to more sharply focus my clinical inquiry during that time, and then allow me to monitor my patient's progress over time during the course of treatment. There are, of course, times where this measurement is superfluous i.e. the patient responds fully, completely and fairly quickly to an initial course of treatment, and this is obvious to anyone without the need for any quantitative measurement. But this is not the rule: many patients have partial improvement, making it important for me to understand how much of an effect a given treatment has had, and in which domains and areas, and alerting me to the other areas where little if any change has occurred. This often facilitates my adjustment of current treatment, as well as my selection of subsequent treatment.

I outline below the group of measures I use, based on there being a documented literature showing that they have the ability to help with diagnosis, as well as being sensitive to change with treatment. They are all self-rated instruments because this saves clinician time and they cover the most commonly occurring disorders (likely prevalence of at least 3-5% in the general population). I do not include measurement of psychosis, which requires skilled clinician rating and assessment rather than self-rating, autism spectrum disorders for a similar reason, drug use disorders because patients are unlikely to truthfully fill out anything which might document illegal activity (although the following single question screen has high sensitivity and specificity\(^4\)), and for treatment monitoring, bipolar disorder because the longitudinal assessment of this requires careful daily ratings to assess the prominent symptom fluctuations that will occur over weeks to months, if not over days in some patients.

**MOST COMMON SYNDROMES IN AMBULATORY PSYCHIATRY**

**Major Depression**

- **PHQ9**

  The PHQ-9 has rapidly become the gold standard since being made available for free in the public domain\(^5\). It has the advantage of containing all 9 items from the major depression diagnosis, each scored on a frequency basis, has clear cut-offs to indicate likely depression requiring treatment (score of 10 or more) and growing levels of severity with each 5 points (15 moderate, 20 severe, 25 very severe), and is sensitive to change (a 5 point change on the PHQ is thought to be clinically significant and beyond "measurement error"). However, the subjective aspect of frequency judgments, makes this scale prone to bias i.e. very distressed patients may pick the highest frequency (‘every day”) for all items and get a falsely high score.

- **QUIDS-SR**

  The 16 item QUIDS-SR is a rating scale that was used in the seminal STAR-D study, has excellent cut-offs and sensitivity to change\(^6\). Multiplying the QUIDS score by 1.3 yields an approximate Hamilton Depression score, which is useful for clinicians familiar with the clinical trial literature (HAM-D =18 required for entry to clinical trials, HAM-D mid 20s usually characterizes inpatient clinical trial populations, HAM-D<7 defines remission etc.). Each scale item is anchored to a descriptor so even a transiently more distressed patient will be less likely to pick


a high value if the anchor does not equate with the way they are feeling. For example, the highest fatigue item says “I can’t carry out my usual activities at all because I don’t have enough energy” as opposed to being tired “every day”.

If a clinician prefers to use the PHQ-9 I would suggest obtaining the QUIDS-SR at intake to “calibrate” the two scales, so that a sudden increase in PHQ-9 score after improvement has previously been noted can be more adequately assessed by repeating the QUIDS. I have seen this situation numerous times where a distressed patient has a huge jump in PHQ-9 but only a very modest increase in QUIDS-SR.

Post-Traumatic Stress Disorder

- **PCL-C**

The PCL-C is a validated 17 item scale that contains each item from the PTSD DSM-IV diagnostic criteria\(^7\). There are a variety of established cut-offs, which provide diagnostic sensitivity and specificity for the PTSD diagnosis (a cut-off of 30 will maximize identification of cases but will provide some false positives). More recently, a shorter, 6 item version of the scale has been validated as a diagnostic screening scale (cut-off 14) and has also been shown to be sensitive to change in PTSD symptoms with treatment (similar to the PHQ-9 a change of 5 points is thought to be clinically significant and beyond measurement error or random fluctuation). The PCL-C questions are also answered with respect to a serious stressor or trauma that the patient has suffered. The scale does not provide a place to list what particular stressor or trauma the patient is thinking of when answering the scale but for clinical utility, it is a good idea to add a blank line so the patient can fill this in.

Generalized Anxiety Disorder

- **GAD-7**

The GAD-7 has been recently developed to complement the PHQ-9 and is likely the best available measure to use for symptoms of generalized anxiety\(^8\). Cut-offs are similar to the PHQ-9 even though there are two fewer items i.e. a score of 10 indicates clinically significant though modest anxiety, a score of 15 indicates more serious anxiety and the maximum score is 21. It has some diagnostic sensitivity and specificity and has also been shown to be sensitive to change (we can similarly assume that a 5 point change would be clinically significant). Interestingly, some of my bipolar patients with mixed states as the opposite pole to their depression will show elevations on this scale during their mixed states, though it has clearly not been designed for this, and there is no data that would

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validate this kind of use.

**Panic Disorder**

- **Panic Disorder Severity Scale (PDSS) / Automatic Nervous System Questionnaire**

The Panic Disorder Severity Scale (PDSS) is the scale most well validated to measure severity of the panic disorder syndrome and sensitivity to change\(^9\). It has 7 items, 5 that are specific to panic (attack frequency and intensity, anxiety about future attacks, avoidance, and sensitivity to physical sensations) and two items measuring social and occupational disability. The scale is useful to gauging the severity of panic (most outpatients with panic have a score of at least 14 and a score of less than 7 usually indicates substantial clinical improvement). However, for diagnostic screening, there is a simpler 2 item scale, well validated in multiple studies, the Autonomic Nervous System Questionnaire\(^10\). A “yes” answer to either of the two questions has very high sensitivity but lower specificity (e.g. there will be some false positives) for panic. In my practice it is rare to see a patient only suffering from panic attacks and so the ongoing measurement of the panic syndrome with the PDSS is less useful if there are substantial comorbidities (e.g. depression) that are being tracked over time.

**Social Anxiety Disorder**

- **Social Phobia Inventory (SPIN)**

The Social Phobia Inventory (SPIN) is a validated 17 item scale that has good diagnostic sensitivity and specificity\(^11\). A score of 19 is a cut-off that provides good sensitivity and modest specificity. Three items on this scale have been used as a brief screen and a score of 6 has been found to function quite well in terms of diagnostic sensitivity and specificity. The scale is sensitive to change with treatment and with a maximum score of 68, it provides a broad range of values to describe the severity of someone’s social anxiety.

**ADHD**

- **Adult ADHD Self Report Scale (ASRS)**

Over the last decade, it has been increasingly recognized that a large proportion (4-6%) of adults suffer from ADHD. There has been a need to develop an

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instrument with items that are more specific to adult rather than childhood behaviors. The Adult ADHD Self Report Scale (ASRS) is a 17 item scale that was developed originally for the large NCS-R survey of mental disorders in the US and has been well validated, used in treatment studies to measure change, and has a 6 item subscale that is highly sensitive as a screening measure for ADHD. If an adult scores positive on this 6 item screener, they can go on to fill out all 17 items. No cut-off score values are provided for this scale, which has a maximum score of 68. In my experience, scores less than 35 are infrequent for adults with untreated ADHD.

Alcohol Abuse/Dependence

- **Alcohol Use Disorder Inventory Test (AUDIT)**

The Alcohol Use Disorder Inventory Test (AUDIT) is a 10 item scale that has been well validated for use. The first 3 items are most useful for measuring frequency and amounts of alcohol use and has very well validated cut-offs that can be used to determine whether there is a modest or more serious alcohol problem. A score of 5 indicates problem drinking and a score of 8 indicates serious alcohol problems likely to constitute alcohol dependence. The other items detect whether there has been problems due to use, lack of control of use, craving etc. Repeating the three item test over time is probably sufficient to track frequency and intensity of use over time and could be used to monitor the effectiveness of treatment.

Bipolar Disorder

- **Mood Disorder Questionnaire (MDQ)**

Because of the fluctuating nature of this disorder, with alternating mood states, it is difficult to accurately diagnose without careful clinician questioning. Currently, the Mood Disorder Questionnaire (MDQ) is the best available instrument to use as a preliminary screening device, although its diagnostic sensitivity and specificity is more suitable for a primary care setting where the prevalence of bipolar illness is lower than it would be in a specialty setting. Psychiatric outpatients with symptoms of anxiety, agitation, dysphoria, and poor concentration can have combinations of major depression, an anxiety disorder, PTSD, ADHD or alcohol/substance abuse, and hence this MDQ is at best a preliminary screening device to assist the clinician during further inquiry. Tracking treatment outcomes requires a longitudinal daily diary. Examples are readily available on the Web for free [download](#).

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Functional Disability

- **Sheehan Disability Scale**

A number of the above measures either contain added items to measure functional impairment (PDSS) or provide an additional item at the end of the scale to measure it (PHQ-9). In my view it is simpler to obtain the simple 3-item Sheehan Disability Scale which consists of a single item for degree of impairment in work, social and family function, rated on a 0 to 10 scale with 1-3, 4-6 and 7-9 corresponding to ratings of mild, moderate, and severe disability\(^\text{16}\).

**CONCLUSION**

There is no question that these rating scales are quite useful for clinical practice. The challenge becomes how to obtain them in a consistent fashion. Currently, I have my office manager e-mail a set of intake assessments (I use all of these on intake routinely) to a patient who has scheduled an initial appointment. Before I had an office manager I would do this myself. It is more difficult currently to make sure patients do these each time they have an appointment and I have had my staff hand them to each patient before the appointment (often just a QUIDS and GAD7 for the large proportion of patients with depression and anxiety and rarely more than three scales).

I input the values each time I write a note in my electronic medical record so I can graph the values over time and determine how patients are doing. I am looking forward to integrating the technology recently created that will allow the patients to do these on the web before coming in to the appointment and having them automatically imported into the note that I am doing, saving me much more time.

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ABOUT DR. PETER ROY-BYRNE

Dr. Peter Roy-Byrne is Professor Emeritus in the Department of Psychiatry at the University of Washington School of Medicine. After graduating from Vassar College, he attended Tufts Medical School, completed a residency at the UCLA Neuropsychiatric Institute, and spent four years at the NIMH Intramural Research Program before coming to the University of Washington in 1986. Dr. Roy-Byrne’s initial research focused on the phenomenology and neurobiology of mood and anxiety disorders, with a special interest in benzodiazepine tranquilizers and the role of the benzodiazepine receptor in mood and anxiety disorders. He has spent the last decade planning and coordinating two large multisite trials funded by the NIMH focused on the delivery of evidence based behavioral and pharmacologic treatments in primary care for multiple anxiety disorders. He currently has a similar large effectiveness trial funded by NIDA examining brief interventions for problem drug abuse in primary care.

Dr. Roy-Byrne published and funded work has emphasized issues of co-morbidity, particularly the intersection of depression and anxiety with each other, and with additive disorders and medical illness. He recently stepped down after 18 years as Department Vice-Chair and Chief of Psychiatry at the University’s Harborview Medical Center, where he developed expertise in assessing and measuring quality of care, and understanding the intersection of health services research and health care policy.

Dr. Roy-Byrne currently divides his time between work on three funded treatment intervention and dissemination studies and the private practice of ambulatory psychiatry, with a focus on complex and treatment resistant cases of depression and anxiety. He is Past President of the Society for Biological Psychiatry, Editor in Chief of Depression and Anxiety, Editor in Chief of Journal Watch Psychiatry, Co-Editor in chief of UpToDate Psychiatry, and the author of over 300 peer review articles and book chapters.