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Progress Feedback and the OQ-System: The Past and the Future

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A serious problem in routine clinical practice is clinician optimism about the benefit clients derive from the therapy that they offer compared to measured benefits. The consequence of seeing the silver lining is a failure to identify cases that, in the end, leave treatment worse-off than when they started or are simply unaffected. It has become clear that some methods of measuring, monitoring, and providing feedback to clinicians about client mental health status over the course of routine care improves treatment outcomes for clients at risk of treatment failure (Shimokawa, Lambert, & Smart, 2010) and thus is a remedy for therapist optimism by identifying cases at risk for poor outcomes. The current article presents research findings related to use of the Outcome Questionnaire-45 and Clinical Support Tools for this purpose. The necessary characteristics of feedback systems that work to benefit client's well-being are identified. In addition, suggestions for future research and use in routine care are presented.

Keywords: progress monitoring and feedback, Outcome Questionnaire-45, clinical support tools, effects of feedback, prevention of treatment failure

Progress monitoring and feedback have roots in behaviorism, particularly operant conditioning, with its focus on targeting behavior for modification through the use of monitoring and reinforcement (e.g., Ulich, Stachnik, & Mabry, 1966). Behavior therapies in this context typically monitored and modified specific behaviors (cf. Wolf, Risley, & Mees's, 1966, classic treatment of the behavior problems of an autistic child through the use of operant conditioning). The current use of monitoring and feedback under discussion bears little resemblance to behaviorism and the experimental analysis of behavior except for a similar devotion to tracking the "consequences" of treatment in the form of creating progress graphs and feeding back this information to therapists. Rather than focusing on specific behaviors, the client's overall mental health functioning is the target of interest, and there is no particular focus on learning theories and human conditioning.

My own work on the use of feedback did not come from psychological theory or behaviorism but rather from a consulting job with a large managed behavioral health care company that was interested in measuring patient outcome within their "book of business." A secondary need was to reduce their expenses related to managing individual cases seen within their provider network. If individual client's mental health functioning could be managed via tracking change, case management could be focused on clients who were not responding to treatment. This would solve the problem of overmanaging clinicians and narrow the focus to managing cases that may benefit from oversight by the insurance company's case managers. This was potentially a win-win situation where providers would not be micromanaged and the insurance company could reduce the number of employees—thus becoming more efficient (and profitable). I brought to this situation academic expertise in measuring psychotherapy outcomes (e.g., Hill & Lambert, 2004; Lambert, Christensen, & DeJulio, 1983; Strupp, Horowitz, & Lambert, 1997) and a long-standing interest in reducing client deterioration (Lambert, 2010; Lambert, Bergin, & Collins, 1977).

With regards to improving the treatment response of clients in psychotherapy it became obvious that measuring, monitoring, and feedback needed to be done over the course of psychotherapy using a brief (5-min) self-report measure that would reflect important changes in client functioning. Most important the measure needed to accurately predict treatment failure before clients left treatment so that clinicians could be alerted and have time to problem-solve with the failing case. Our work in this area began in 1992 with the development of a self-report measure (the Outcome Quesstionnaire-45; OQ-45) of psychological disturbance/functioning, prediction of treatment failure, and eventually software (OQ-Analyst) aimed at scoring the measure, applying algorithms, and delivering the feedback instantaneously to therapists (www.OQMeasures.com). Although there are thousands of self-report measures that could be selected for use, I wanted to develop a single measure that would capture four broad areas of adult mental health—symptomatic distress, mostly depression and anxiety, interpersonal problems, social role disturbance (work, school, homemaking), and well being (positive functioning). Thus, instead of counting specific behaviors as a behaviorist might, monitoring of internal pain, interpersonal pain, and functioning in daily roles was the outcome of interest.

Measures and Psychometrics

OQ-45 respondents estimate frequencies of occurrence of 45 symptoms, emotional states, interpersonal relationships and social role functioning over the past week. Thirty-six negatively worded items (e.g., Item 5, "I feel blue") are scored on 5-point scale ranging from 0 (*never*) to 4 (*almost always*); scoring is reversed—that is, 4 (*never*) and 0 (*almost always*)—for nine positively worded items (e.g., Item 13, "I am a happy person"). This yields

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a total score ranging from 0 to 180. Higher scores reveal reports of more frequent symptoms, distress, interpersonal problems, and social dysfunction, and less frequent positive emotional states, pleasant experiences, successful social relationships, and adaptive role functioning.

The Administration and Scoring Manual (Lambert et al. (2013) reports an internal consistency reliability (Cronbach's alpha) for the OQ-45 of .93 and a 3-week test–retest reliability value of .84 for the OQ-45 total score. Moderate to excellent validity coefficients between the OQ-45 and a wide variety of other instruments that are frequently used in psychotherapy outcome research (such as the Beck Depression Inventory), consistently suggest the OQ-45 measures what it purports to measure. Note that the measures chosen for concurrent validity are, like the OQ-45, either measures of symptoms or measures of functioning (interpersonal, social role functioning) rather than measures of personality or those measures that clinicians use to diagnose client disorders (e.g., Minnesota Multiphasic Personality Inventory; MMPI). The OQ provides an index of mental health/dysfunction and reflects the degree of disturbance a person is currently experiencing or willing to report. These findings have been replicated across settings and countries (e.g., Germany, Norway, Netherlands, Italy, Portugal, Chile, Sweden, Israel, Canada, Pacific Islands, and the like). Evidence supporting the factor structure of the OQ-45 has been reported by Bludworth, Tracey, and Glidden-Tracey (2010); de Jong et al. (2007); and Lo Coco et al. (2008). These studies vary in their findings but generally suggest a bifactor model with a general psychological distress factor at one level and three subordinate factors similar to the subscales.

Normative data were collected nationally from samples gathered from community phone books, individuals attending colleges, and individuals working for a variety of business organizations. Such samples were combined to establish the level of functioning of nonpatients (those taking psychoactive medications or participating in psychotherapy were screened out) and provided a benchmark for mental health. In contrast, patient samples were gathered from inpatient samples, community mental health centers, outpatient clinics, independent practice, university counseling centers, and employee assistance programs across the United States. Norms for each of these populations differ from each other in the level of severity of dysfunction manifest. As expected the patient samples, when combined, show much more disturbance than the nonpatient samples. For example, the average score for community nonpatients ($n = 815$) is 45.19 ($SD = 18.57$), while that for individuals receiving treatment in outpatient clinics/independent practice ($n = 1,185$) is 80.98 ($SD = 24.82$) and employee assistance programs ($n = 3,589$) is 68.48 ($SD = 22.88$).

Using the preceding samples, normal functioning, dysfunction, and meaningful change could be empirically defined. A critical characteristic of outcome measures is defining clinically meaningful change. *Clinically meaningful change* refers to change in patient functioning that is large enough to conclude that an individual patient has been impacted by their participation in psychotherapy in noticeable ways. It provides markers for classifying a person's outcome as recovered, improved, unchanged, or deteriorated. In psychotherapy research, meaningful change is commonly referred to as "clinically significant change" based on two criterion described by Jacobson and Truax (1991): that a patient's score on an outcome measure changes enough that it is unlikely due to error of measurement (the Reliable Change Index) and that the patient's score moves from one characterizing dysfunction to one that characterizes healthy functioning. The cut-off score that demarks dysfunction/normal functioning is 64/63. Note that individuals who score 63 or less on the OQ-45 are within a standard deviation of the normal population. Just as clinically significant change has been central in judging the relative value of empirically supported therapies as examined in clinical trials (Hansen, Lambert, & Forman, 2003) it can help clinicians ground their clinical judgments about treatment success on empirically standardized defined criteria. The Reliable Change Index of the OQ-45 is 14 points. Validity for reliable change and clinically significant change as demarcations for meaningful patient change has been published and suggest reasonable validity across instruments and measures (Beckstead et al., 2003). Results offer preliminary support for the use of the OQ-45 alone (instead of a battery of measures) to classify clients as functional or dysfunctional and to detect reliable change.

Lunnen and Ogles (1998) also reported a study that simultaneously used the OQ-45 and other measures of outcome for the purpose of validating clinical significance cutoffs. The purpose of their study was to explore the practical meaning of cutoff scores and criteria for the RCI. These authors compared the perceived level of change as subjectively reported from three distinct perspectives (patient, therapist, and significant other). They also compared reports of the therapeutic alliance and satisfaction across outcome groups. The results of this study suggested that those patients who were classified as improved also were rated as most improved on therapist and client ratings of perceived change. Improved clients also tended to have higher alliance scores.

Although more work needs to be done to validate the current cutoff scores, they appear to have important practical value, and to be a central aspect of effectively using the OQ-45. The Jacobson-Truax formulas for estimating reliable and clinically significant change are but one way of calculating cut-off scores (Lambert, Hansen, & Bauer, 2008). Bauer, Lambert, and Nielsen (2004) compared various formulas that have been proposed for this purpose, finding that the Jacobson/Truax method provided a moderate (neither overly optimistic nor overly pessimistic) estimate of clinically significant change.

According to a survey conducted by Hatfield and Ogles (2004), the OQ-45 is the third most frequently used self-report instrument for measuring adult patient outcome in the United States. Unlike most psychological tests, it was developed specifically for use in monitoring patient mental health on a weekly basis during routine care. The measure is taken prior to each treatment session, requires about 5 min of patient time, and is composed of items that reflect the consequences of receiving care, while remaining stable in untreated controls (Vermeersch et al., 2004).

Assessment for Signal Clients

The Assessment for Signal Clients (ASC) is a 40-item self-report measure designed to assess the kind and severity of problems that may be impeding treatment progress—specifically, problems with the therapeutic alliance, motivation, social support, and stressful life events. The items correspond to subscales that are then associated with specifically tailored interventions aimed at enhancing positive psychotherapy outcomes in clients predicted to be treatment failures. According to Lambert et al. (2015), the alpha

coefficient for each subscale is: therapeutic alliance (.87); social support (.88); motivation for therapy (.81); and life events (.81). The ASC does not sum to a total score but provides a separate score and cut-off for each domain, along with a cut-off score provided for each item, that indicates a possible problem to be explored. The rationale for providing individual item feedback based on a cut-score is that it enhances clinician problem-solving more than a total subscale score.

For example, the ASC alliance item "My therapist seems glad to see me" if it is rated below the cut-off suggests that the therapist may need to consider ways of greeting the patient with more enthusiasm—feedback that is more actionable than just broadly indicating that there is as problem with the alliance. We find that patients who go off-track for a positive outcome cluster in one of three types on the ASC: A third have problems internal to therapy (i.e., alliance and motivation); a third have problems external to therapy (i.e., social support and negative life events); and a third who have problems across all four areas (White et al., in press).

The ASC is presented within the context of what we refer to as a Clinical Support Tool (CST). The CST contains a decision tree to organize therapist problem-solving, as well as a list of possible interventions that the clinician can consider to increase their responsiveness to the patient. General suggestions, derived from the research literature, about ways to improve treatment are delineated in the CST. The ASC is only administered when and if the patient is predicted to have a poor outcome.

Example therapist feedback reports for the OQ-45 and ASC are provided in Figures 1 and 2. Therapists enjoy seeing the graph of patient progress over the course of psychotherapy, but the most important aspect of the report is in the upper right hand corner indicating the patient is a Not-On-Track (NOT) case at the most recent session. The ASC report in Figure 2 indicates that "George"

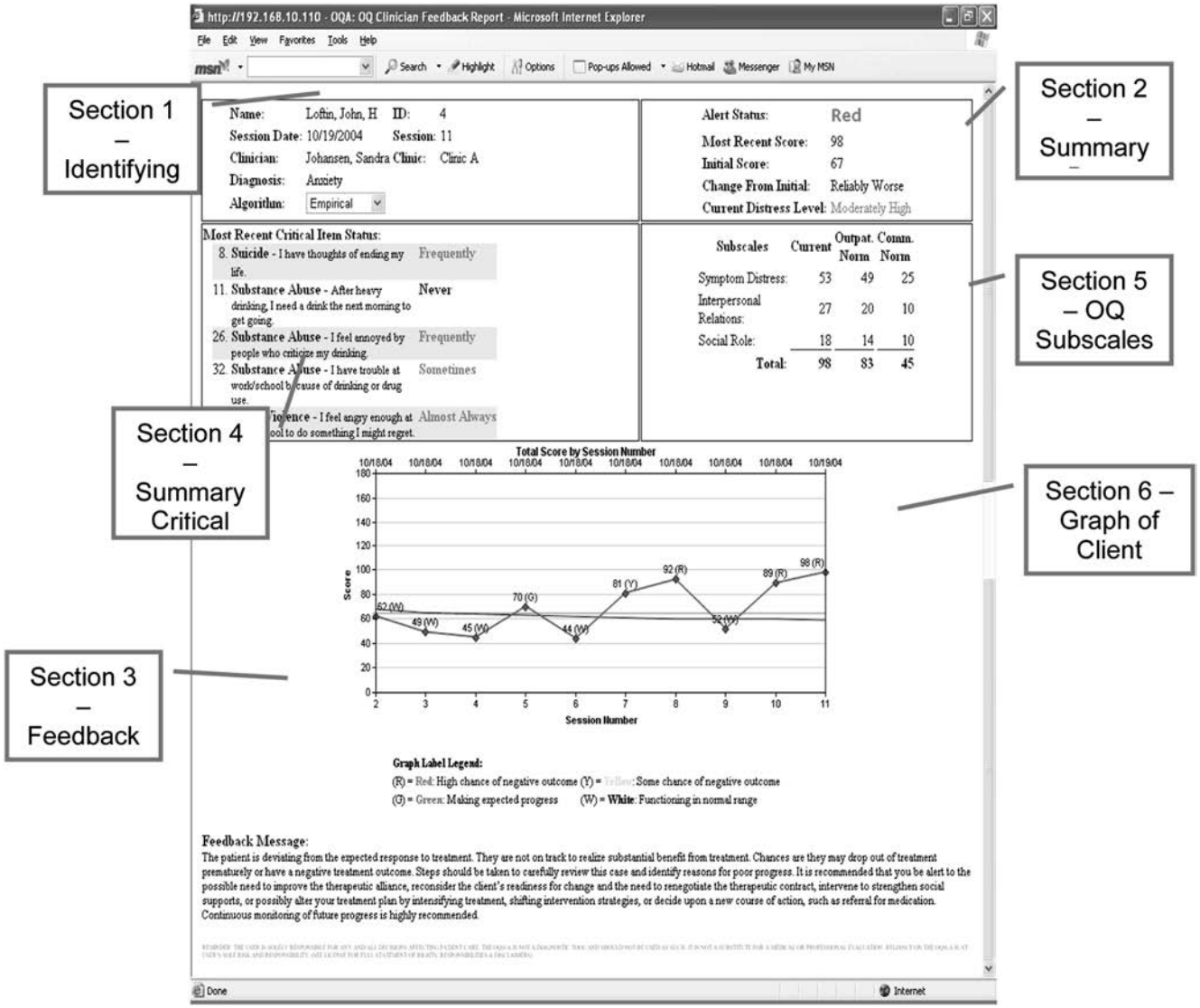
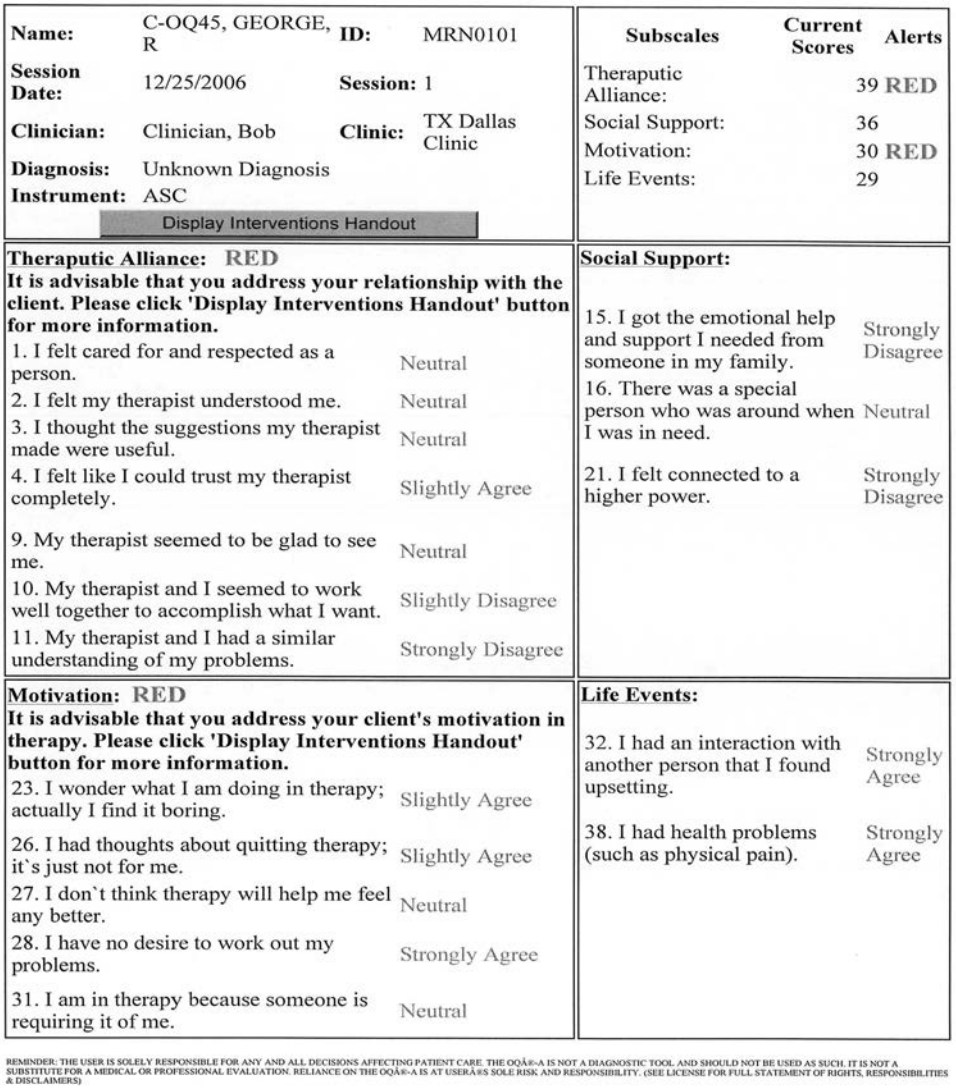


Figure 1. Clinician progress feedback report generated by the OQ-Analyst. See the online article for the color version of this figure.



Name:	C-OQ45, GEORGE, R	**ID:**	MRN0101
Session Date:	12/25/2006	**Session:**	1
Clinician:	Clinician, Bob	**Clinic:**	TX Dallas Clinic
Diagnosis:	Unknown Diagnosis		
Instrument:	ASC		

Display Interventions Handout

Subscales	Current Scores	Alerts
Theraputic Alliance:	39	RED
Social Support:	36	
Motivation:	30	RED
Life Events:	29	

Theraputic Alliance: RED

It is advisable that you address your relationship with the client. Please click 'Display Interventions Handout' button for more information.

1. I felt cared for and respected as a person.	Neutral
2. I felt my therapist understood me.	Neutral
3. I thought the suggestions my therapist made were useful.	Neutral
4. I felt like I could trust my therapist completely.	Slightly Agree
9. My therapist seemed to be glad to see me.	Neutral
10. My therapist and I seemed to work well together to accomplish what I want.	Slightly Disagree
11. My therapist and I had a similar understanding of my problems.	Strongly Disagree

Social Support:

15. I got the emotional help and support I needed from someone in my family.	Strongly Disagree
16. There was a special person who was around when I was in need.	Neutral
21. I felt connected to a higher power.	Strongly Disagree

Motivation: RED

It is advisable that you address your client's motivation in therapy. Please click 'Display Interventions Handout' button for more information.

23. I wonder what I am doing in therapy; actually I find it boring.	Slightly Agree
26. I had thoughts about quitting therapy; it`s just not for me.	Slightly Agree
27. I don`t think therapy will help me feel any better.	Neutral
28. I have no desire to work out my problems.	Strongly Agree
31. I am in therapy because someone is requiring it of me.	Neutral

Life Events:

32. I had an interaction with another person that I found upsetting.	Strongly Agree
38. I had health problems (such as physical pain).	Strongly Agree

REMINDER: THE USER IS SOLELY RESPONSIBLE FOR ANY AND ALL DECISIONS AFFECTING PATIENT CARE. THE OQÂ®-A IS NOT A DIAGNOSTIC TOOL AND SHOULD NOT BE USED AS SUCH. IT IS NOT A SUBSTITUTE FOR A MEDICAL OR PROFESSIONAL EVALUATION. RELIANCE ON THE OQÂ®-A IS AT USERÂ®S SOLE RISK AND RESPONSIBILITY. (SEE LICENSE FOR FULL STATEMENT OF RIGHTS, RESPONSIBILITIES & DISCLAIMERS)

Figure 2. Sample clinician feedback report based on the Assessment for Signal Clients generated by the OQ-Analyst. This report is at the core of the Clinical Support Tool intervention for problem-solving with predicted treatment failures.

met the cut-off for having significantly poor ratings on the alliance and motivation subscales. Problem items within these subscales are listed as well as significant items within the social support and life events categories, even though these latter two categories were not, on the whole, problematic. Clinicians can press the interventions button for suggested actions.

Related Measures

The OQ-Analyst software also contains a shorter version of the OQ-45, the OQ-30, also for adults, and a version, the Severe Outcome Questionnaire, for patients who have severe psychopathology such as bipolar, schizophrenia, and other psychotic illnesses. In addition, the OQ-Analyst includes two measures for children, the 64-item Youth-Outcome Questionnaire, and the 30-item Youth-Outcome Questionnaire, both in forms suitable for caregiver and youth self-report. The children measures include a problem-solving measure equivalent to the ASC.

Identification of Potential Treatment Failures

A central feature of the OQ system family of measures is not the measures themselves, although they were specifically made for the purpose of quantifying the impacts of treatment, but their ability to predict negative psychotherapy outcomes. As important as the choice of a specific measure for measuring and monitoring patient functioning is, the primary characteristic of a useful measure is its ability to accurately predict treatment failure and identify at risk cases.

Although clinicians are confident in their ability to care for patients in the absence of formal monitoring systems, it is apparent that the task of judging whether a treatment response is adequate

is a job best left to more systematic and formal methods. With regards to therapist reliance on their own judgment of outcome it is true historically (Bergin, 1971), as well as today (Walfish et al., 2012), that therapists estimate about 85% of their patients have a positive outcome. In contrast, measured positive outcomes in clinical trials is closer to two-third and measured positive outcomes are much less in routine care, with estimates closer to one-third of patients. Treatment failure/nonresponse in clinical trials hovers around 30–40%, with routine care outcome failure/nonresponse rates closer to 60% (Hansen, Lambert, & Forman, 2003). In addition to the problem of discrepancies between therapist-estimated outcomes and measured outcomes is the degree to which therapists believe they have outcomes that are superior to their peers. Walfish et al. (2012) in a survey across professions found that almost all (90%) therapists thought they were among the top quartile of providers with none rating themselves as below average.

There is good reason to believe that therapists are overly optimistic about the effects they have on clients mental health functioning and that this tendency probably hinders positive treatment response for a substantial number of cases because therapists consistently fail to identify those individuals who go on to have a negative outcome.

To examine therapist accuracy in predicting poor treatment outcome, Hannan et al. (2005) asked 40 therapists (20 trainees and 20 experienced professionals), at the end of each session with each of their clients, if they believed the client would leave treatment in a deteriorated state, and, in addition, if the client was worse off at this particular session than when they entered treatment. We expected that experienced clinicians, given their extensive contact with clients over the years, would be more accurate in their judgments than trainees (who ranged from first year graduate students to intern level providers).

Therapists were aware of the purpose of the study, understanding it to be a contest between experienced and less experienced providers compared with statistical methods. They also understood that there was no consequence to the client for making any prediction, as the research was aimed at understanding how well clinicians could forecast negative final treatment outcome. They were aware that the dependent measure used to categorize patient change was the OQ-45 and understood the cut-off scores for judging deterioration, but they did not have access to the patient's OQ-45 scores. They were reminded that the base rate for deterioration was likely to be 8%. So the phenomenon they were to predict was relatively rare, perhaps one in 10 of their clients. Thus, the experiment was a straightforward contest between licensed providers with an average of 10 years postdoctoral experience, novice providers (mostly psychology trainees), and empirical algorithms.

During a 3-week period predictions were made for 550 clients who participated in therapy sessions. In every other way treatment continued as usual and clients' progress was followed until they terminated treatment, at which time their intake OQ-45 score could be compared with their end of treatment OQ-45 score. Although 40 clients were deteriorated at termination of treatment, only three of 550 clients (.01%) were predicted by their therapist to leave treatment worse off than when they began. In general, clients' eventual deterioration was not forecast by clinicians who were attempting to do so. Rather than experienced clinicians being more able to predict the phenomenon, they did not identify a single client who deteriorated—the only accurate prediction out of the three that were made was made by a trainee. In contrast 36 of the 40 (90%) clients who deteriorated were predicted to do so based on applying actuarial predictive methods to data from the same time period. Hannan et al. (2005) provides evidence that therapists not only cannot/do not predict end-of-treatment deterioration, but they also see nearly 40% of clients as being in an improved state (based on the question "How is your client doing today compared to when they started treatment?") even though they were reporting more symptoms (on the OQ-45) than they had when they started treatment.

The ability of OQ-45 (and OQ-30) statistical methods to be able to predict treatment failure is well documented through five published studies (Ellsworth, Lambert, & Johnson, 2006; Hannan et al., 2005; Lambert, Whipple, Bishop, et al., 2002; Lutz et al., 2006; Spielmans, Masters, & Lambert, 2006) suggesting between 85% and 100% of negative outcomes can be predicted well before treatment termination. It is no wonder that therapists have a hard time preventing treatment failure, their perception of progress and outcome is at odds with measured mental health functioning. The tendency to ignore the warning signs of treatment failure probably have several causes: (a) Self-assessment bias is common across professions and trades where individuals do not receive performance feedback; (b) this bias is likely to be especially strong in complex situations such as psychotherapy, where practitioners have very little control over client decision-making, as well as social, biological, and contextual factors that effect mental health, including treatment length—it is important to be optimistic; (c) the work of Hill and collages (Hill, Thompson, Cogar, & Denman, 1993) based on video-assisted client-recall of sessions suggests that clients intentionally hide or mask negative reactions within sessions, thus misleading therapists; (d) because it would take considerable time for therapists to assess a client's life functioning at each session without the use of a self-report measure, it is impossible for therapists to gather the necessary data to judge progress; and (e) prediction of treatment failure is too complex for the human mind, although a computer algorithm can quickly weigh the predictive factors such as "exact" degree of initial disturbance and functioning later in treatment and compare change in a particular case against that made to hundreds of similar cases. The obvious solution is to rely on science to identify potential treatment failures, a job it is better suited to than clinical intuition.

Do Measuring, Monitoring, and Feedback Enhance Psychotherapy Outcomes?

Table 1 lists 12 published clinical trials testing the effects of feedback on patient well being. The first six studies came out of our lab with the raw data from these studies combined in a mega/meta analysis published by Shimokawa et al. (2010). The six studies have many similarities: (a) each included consecutive cases seen in routine care regardless of patient diagnosis or comorbid conditions (rather than being disorder specific); (b) random assignment of patient to experimental conditions (various feedback interventions) and treatment-as-usual conditions (no feedback) was made in four of the six studies, although reasonable measures were taken in two studies to ensure equivalence in experimental and control conditions at pretreatment; (c) psychotherapists provided a

Table 1
Published Clinical Trials Examining the Effects of Progress Monitoring With Alarm Signals and Clinical Support Tool, Total Feedback Using the Outcome Quesstionnaire-45

Study	*N* total/NOT	Setting/sample	Significant effect	CST	Effect size (d)
Lambert et al., 2001	609/66	CC	Yes	No	.44
Lambert et al., 2002	1,422/240	CC	Yes	No	.40
Whipple et al., 2003	1,339/278	CC	Yes	Yes	.70
Hawkins et al., 2004	306/101	OP	Yes	No	.28
Harmon et al., 2007	1374/369	CC	Yes	Yes	.73
Slade et al., 2008	1101/328	CC	Yes	Yes	.75
Crits-Christoph et al., 2012	304/116	SA	Yes	Yes	.48
Simon et al., 2012	370/207	OP	Yes	Yes	.12/.34
Simon et al., 2013	133/59	ED/IP	Yes	Yes	.36
De Jong et al., 2012[a]	413/67	OP	No/Yes	No	?
Amble et al., 2014[b]	259/?	OP	Yes	No	.32
Probst et al., 2015[c]	252/66	IP/Som	Yes	Yes	.54

Note. Total *N*/NOT (Not-On-Track) cases = predicted treatment failure. CC = college counseling center clients; OP = outpatient clinics; SA = substance abuse clinics; ED = eating disorder patients; IP = inpatient treatment setting; Som = psychosomatic patients; CST = Clinical Support Tool.
[a] Study conducted in the Netherlands. [b] Study conducted in Norway. [c] Study conducted in Germany.

variety of theoretically guided treatments, with most adhering to cognitive–behavioral and eclectic orientations and fewer representing psychodynamic and experiential orientations; (d) a variety of clinicians were involved—postgraduate therapists and graduate students each accounted for about 50% of patients seen; (e) therapists saw both experimental (feedback) and no feedback cases, thus limiting the likelihood that outcome differences between conditions could be due to therapist effects; (f) the outcome measure as well as the methodology (rules/standards) for identifying not-on-track patients (failing cases) remained constant; (g) the length of therapy (dosage) was determined by patient and therapist rather than by research design or arbitrary insurance limits; and (h) patient characteristics such as gender, age, and ethnicity were generally similar across studies and came from the same university counseling center, with the exception of the Hawkins, Lambert, Vermeersch, Slade, and Tuttle (2004), study, which was conducted in a hospital-based outpatient clinic.

The first discovery in this line of research was that feedback was not especially helpful to all clients. Clients who make relatively steady progress continue to make steady progress even when their therapists are notified that the progress from week-to-week is positive. This is the majority of patients and reflects the fact that therapy as it is routinely practiced is helping many individuals. The feedback did make a marked difference for patients who went significantly off-track (about 20–40% of treated individuals, depending on the patient population). The *N*'s listed in Table 1 indicate the total number of individuals recruited into the study and the total number of NOT clients studied. The *d* statistic presented is based on NOT clients. In the case of the NOT clients, notifying therapists that the patient was in trouble allowed therapists and clients to change the future course of therapy—therapists and clients found a way to turn the treatment course around as can be seen in the small to large effect sizes.

Apparently this is achieved in many cases without direct discussions with the patient about OQ-45 or ASC scores, but rather via therapist reflection and modifications of behaviors. For example, an older male therapist working with a college student who was approaching her wedding date wanted the therapist's opinion about wedding gowns. He initially interpreted this topic as a matter of resistance to getting closer to her fears of marriage. Reflecting on the fact that she recently signaled as NOT on the OQ-45 and that her ASC showed definite problems with social support he realized that as her wedding date approach she was beginning to have serious problems with her parents who disapproved of her choice of partner. Each time she sought her mother's advice on the wedding the mother used the opportunity to try to create doubt as to the wisdom of her choice. Her relationship with her parents was deteriorating. This gave the therapist more insight into the meaning of his client's seeking his opinion about dresses. He suggested that a conjoint session be scheduled with her parents to change the pattern that had emerged.

In other instances the therapist initiates a discussion about progress: "Looks like you are feeling quite badly this week, and even worse than when we started. Most people are feeling more relief at this stage of therapy than you are and I am hoping we can talk a bit about your progress." If the patient has taken the ASC, the discussion can be more specific: "I notice from the test I gave you that you do not really have anyone that you are close to that you can confide in right now. Has something changed?" Attention to lack of social support emerged as a therapeutic focus with a greater sense of immediacy. There are many things that therapists might do with clients as a result of feedback and because they have the skills. These skills can be put to use once they are alerted to the existence of problems they have over looked. It is often a matter of therapist openness and flexibility.

The Shimokawa et al. (2010) summary found that feedback to therapists with at-risk individuals reduced deterioration from 20.1% in treatment as usual to 5.5% in feedback conditions that included the CST. The percentage of individuals who had a positive outcome more than doubled when feedback was offered, from 22.3% to 55.5%. These are rather dramatic effects when one considers that it takes a client about 5 min to take the OQ-45 and 5 min to take the ASC; the OQ-Analyst about 1 s to deliver a report through a wireless network to the clinician's computer, and the

therapist about 18 s to access the report—with graphs of progress and warning messages (like those shown in Figures 1 and 2), if the patient is predicted to deteriorate.

Because the Shimokawa et al. (2010) mega/meta-analysis was published six additional studies have been published. These studies have expanded the evidence-base showing the positive effects of feedback across treatment settings, patient samples, and countries (Amble et al., 2014; Crits-Christoph et al., 2012; de Jong, van Sluis, Nugter, Heiser, & Spinhoven, 2012; Probst et al., 2013; Simon et al., 2012; Simon et al., 2013). The 12 studies published to date suggest that progress feedback with alarm-signals enhances outcomes in both in- and outpatient settings, across a variety of patient diagnosis ranging from the mildly disturbed to highly disturbed individuals who meet criteria for multiple Axis I disorders as well as Axis II pathology. In addition, positive effects have been reported for patients as varied as those who are somaticizing, abusing substances, or are severely depressed, as well as across four different languages and countries.

The effect sizes (*d*) presented in the last column of Table 1 need some explanation. They represent the difference between therapists practicing a wide variety of single school treatments ranging from CBT to psychodynamic to humanistic and eclectic interventions according to their preferences. In both TAU and feedback-assisted treatment, the same therapists and treatments were used because randomization to treatment condition was typically done within therapist—differences in patient outcome contrasted patient success with and without feedback. Typical *d* values in psychotherapy research studies compare the posttreatment difference between an active treatment and a waitlist control (untreated individuals) and hover around an effect size of .60 (.40 to .80), meaning that about 65% of treated patients will have a positive outcome compared to 35% of patients who are on a wait-list for the same time period (Lambert, 2013).

Reanalyses of older reviews as well as newer meta-analytic reviews have tended to produce smaller effect sizes than the original estimates. Nevertheless, the broad finding of therapy benefit across a range of treatments for a variety of disorders remains, because even the smaller effects show treatments are working. Indeed, psychotherapy is more effective than many "evidence-based" medical practices, some of which are costly and produce significant side effects, including almost all interventions in cardiology (e.g., beta-blockers, angioplasty, statins), geriatric medicine (e.g., calcium and alendronate sodium for osteoporosis), and asthma (e.g., budesonide); influenza vaccine; and cataract surgery, among other treatments (Wampold, 2013). Considering the high burden of illness manifest in psychological disorders, and the fact that the psychotherapies studied last only weeks, the consequences of entering treatment versus having no formal treatment are dramatic.

In contrast, studies examining one active treatment versus another active treatment (this is the most similar comparison to feedback assisted treatment vs. treatment as usual) typically hover around 0.0–0.20. For example, Elliott et al., (2013) identified 76 studies that compared humanistic psychotherapy to CBT finding a mean difference of $d = 0.13$ in favor of CBT. But this small difference disappeared when researcher allegiance effects were accounted for. Using the above information as a context, it is easy to see that the size of feedback effects for NOT clients summarized in Table 1 easily surpasses those found in comparisons of different psychotherapies (empirically supported psychotherapies), especially when the feedback includes the CSTs intervention. Relatively little training is needed to use the system (which has received very high marks for training material and readiness for implementation by SAMHSA's National Registry of Evidence-Based Programs and Practices when they rated the system as an evidence-based practice; NREPP, 2014).

Implications for the Future

A major paradigm shift in the practice of psychotherapy is unfolding. Multiple forces are at work, including the general pressure for accountability in medicine and education. The pressure to include outcome assessment in psychotherapy is caused by the fact that a major solution to the issue of quality, giving the right psychotherapy for the right disorder, is a false guarantee of success. No patient needs a therapy that is not working for them. Evidence that a paradigm shift in psychotherapy is underway is the degree to which scientific bodies (including American Psychological Association; APA), governments, government agencies, policymakers, administrators, and the like are encouraging and even requiring the use of progress monitoring and feedback. For example, in 2007 the National Health Service in the United Kingdom announced on World Mental Health Day its initiative for improving Access to Psychological Therapies. In addition to training new therapists to offer evidence-based psychotherapies it insisted upon and implemented outcome monitoring on a session-by-session basis of patients who receive services. Other countries are following suit (e.g., Norway, Sweden, Netherlands) and in still others one can find sporadic applications across the world (e.g., China, Australia, South America).

Other examples of the emerging paradigm include state-wide community mental health services (e.g., Utah, Maine, Arkansas), behavior health insurance companies that insure millions of individuals (e.g., Pacific Health care, Human Affairs International) and hospital systems (e.g., Intermountain Health Care), and the military. The shift is also in evidence in the number of systems and methods that have emerged in the last 10 years. Drapeau (2012), for example, reviewed 10 distinct measurement methods.

Innovations to existing systems are starting to emerge. Safran, Muran, and Eubanks-Carter's (2011) work on repairing alliance ruptures and which made major contributions to our CSTs with regards to interventions to repair the therapeutic alliance have developed video links to be embedded in the OQ-Analyst that model rupture repair. This will allow us to not only suggest interventions to clinicians but to be able to model effective problem-solving. In this regard we expect many improvements in the CST intervention in the future, including more complete use of information technology.

Greater implementation of monitoring in routine care is also starting to affect supervision practices in which trainees and practicing professionals are expected to provide supervisors with tracking data at supervisory sessions. Several authors have recommended changes to supervision that include the use of feedback (Lambert & Hawkins, 2001; O'Donovan et al., 2011; Sparks, Kisler, Adams, & Blumen, 2011; Worthen & Lambert, 2007). Among the more comprehensive contributions in this area, Swift, Callahan, Rousmaniere, Whipple, Dexter, and Wrape (2015) made numerous suggestions for using this data

and extended the idea to using similar methods to improve supervision. At the very least, trainees can be expected to prioritize cases for supervision if a patient goes off-track for a positive outcome. In this situation supervisors can join with trainees in analyzing the reasons for predicted failure. This is especially true when the ASC is administered and the supervisor can support the trainee's reflective practice and problem solving, including taking actions to change the trajectory of change. For example, in a recent supervisory session after I saw that the patient was off-track for a positive outcome and that the alliance, and in particular poor task agreement as identified by the ASC was flagged, I asked the trainee if they could check out with the client if the way they were spending time together made sense. This led to clarification of client expectations as well as a renegotiation of the therapeutic contract.

Unfortunately paradigm shifts are not primarily based on the strength of research evidence that accumulates. Resistance to changing established practice habits is widespread. Most formal monitoring of patient mental health is being imposed on clinicians by systems of care that have come to realize that such practices can enhance patient outcomes or because they believe that the data can be used to increase the quality of care offered to patients by examining outcomes on a program or clinic basis. Clinicians often cooperate out of necessity rather than leading the way. The paradigm shift will be complete if training programs in clinical, counseling, and professional psychology routinely teach their graduate students outcome monitoring methods that include alarm signals. As it stands now clinical and counseling psychology programs do not emphasize feedback methods; neither is their use in extern and intern cites insisted upon. For example, based on a 2006 survey of directors of clinical training at APA-approved Internship sites, Mours, Campbell, Gathercoal, and Peterson (2009) found very few who trained interns to use established monitoring systems, despite the fact that there was widespread agreement that monitoring was a very promising practice. Thus, even young clinicians entering the field do not habitually track client progress with standardized scales and actuarial predictive methods with alarm signals. Training programs seem to be lagging behind innovations that are becoming more and more common in routine practice.

We have found that a significant therapy-related cause of poor outcomes is the failure of therapists to be aware of poor treatment response as it develops over the course of therapy. Our proposed solution is to measure patient mental health functioning on a session-by-session basis, apply algorithms for predicting treatment failure, and provide this information to therapists, along with additional problem-solving tools that help pinpoint problems and possible solutions. This research-based innovation (formal monitoring and problem-solving) has little downside for clinicians (it is cheap and effective) and large upsides for patients. When automated through computer technology, this takes very little patient or therapist time. The effects of these procedures are much larger than those achieved by providing the right treatment for the right disorder. Given the strength of research support it makes little sense to continue to offer routine care in the absence of effective feedback practices.

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Practice Review

This is an open invitation for authors to submit what Charlie Gelso developed and termed a *Practice Review* for possible publication in *Psychotherapy*. I want to continue this series as a step toward enhancing the value and relevance of scientific research on psychotherapy and related processes to practice.

The general aim of the *Practice Review* is to clarify, as much as the current state of knowledge permits, what empirically-derived findings in a given area imply for practice in that and related areas. In this type of review article, the reviewer begins the process with the intent of deriving implications for practice from the research and theory that is examined. Much like program evaluation research, the central question for the writer of a *Practice Review* may be phrased as: "Despite the near inevitability of at least somewhat mixed findings on virtually any topic, what is the most likely relationship between these variables, and what does that relationship imply for the practitioner?"

The above kind of question is based on an awareness that the practitioner must do his or her practice, despite the general lack of fully consistent research findings; and it will be useful in that practice if the *best available* knowledge were used. This, of course, is not to say that the reviewer may take a cavalier attitude toward drawing implications for practice. The reviewer needs to derive such implications with great care. At the same time, the *Practice Review* does not convey the same degree of scientific skepticism that is typical of the classical scholarly review. For example, in the traditional scholarly review, as in classical scholarly inquiry in general, one takes a very conservative attitude toward accepting results. Substantial evidence must accumulate before we may safely say a given finding is confirmed and valid. In the *Practice Review*, on the other hand, the investigator searches for the *most likely* conclusion, when all evidence is weighed, and then seeks to place that conclusion within the context of practice.

The process of relating a "most likely conclusion" or finding to practice is rarely if ever a straightforward or linear process. As but one example, the most likely conclusions about the role of duration of treatment in outcome is that, other things being equal, the longer the therapy (at least up to a certain point), the more positive the outcomes. What implications does this have for the practitioner? For implications to be drawn, this finding needs to be placed within the context of related findings, existing theory, and other factors (e.g., pragmatic ones) that help the practitioner conceptualize duration factors in his or her practice. Placing findings within contexts such as these may well modify the findings.

With these considerations in mind, the following guidelines are offered for those who write *Practice Reviews*:

1. Your set from the beginning should be to find out what are the most likely conclusions about the relationships under investigation.
2. In doing so, consider how particular findings may be integrated with related findings in your area of review.
3. Once the most likely conclusions are arrived at and placed in the context of related knowledge, discuss what these findings imply for the practitioner.
4. In relating findings to practice, show an appreciation of the likelihood that the findings-to-practice links will not be direct and clear cut. Rather, given findings ("facts") may relate to practice through their connection to theories, clinical wisdom, practical and political concerns, etc.
5. Although the refrain, "more research is needed," is virtually always valid, the practice review must not hide behind scientific equivocation. Rather, the approach ought to be that, although more research is surely needed, here is our best available knowledge and what it implies for practice.

Although the length of practice reviews should be dictated by the subject matter, such reviews generally should be limited to about 25 pages of text. Reviews of relatively narrow topics should naturally be much briefer. Authors are invited to contact me if they are considering writing such a review but have questions about the process. Email me at Psychotherapy@adelphi.edu.