

Psychometrics of the ORS and SRS

Results from RCT's and Meta-Analyses of Routine Outcome Monitoring & Feedback

The Available Evidence

2016

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The Outcome Rating Scale:

Reliability and Validity

Study	Sample	Reliability	Validity
Miller et al. (2003)	Clinical = 435 NonClin = 78 OP FSA	@ X 3 = .87, .96, .96 T/R = .66, .58, .49	.69 (OQ)
Brown, J. (2004) Miller & Duncan (2000)	Clinical = 15,778	@ = .79 T/R = .53	N/A
Duncan et al. (2006)	Clinical = 3611 NonClin = 374	@ ORS (13+) = .93 @ CORS (6-12) = .84	ORS/YOQ = -.53 CORS/CTYOQ = -.43 CTORS/CT-YOQ -.61 CT-CORS/CTYOQ - .61
Bringhurst et al. (2006)	NonClin = 98	@ X 3 = .91, .93, .97 T/R = .80, .81	.57 (OQ)

Miller, S.D., Duncan, B.L., Brown, J., Sparks, J.A., & Claud, D.A. (2003). The outcome rating scale: A preliminary study of the reliability, validity, and feasibility of a brief visual analog measure. *Journal of Brief Therapy, 2*(2), 91-100.

Brown, J. (2004). Internal report on the ORS for Resources for Living. Center for Clinical Informatics. Salt Lake City, UT.

Miller, S.D., & Duncan, B.L. (2000). *The Outcome and Session Rating Scales: Administration and Scoring Manual*. Chicago, IL: ISTC.

Duncan, B., Sparks, J., Miller, S., Bohanske, R., Claud, D. (2006). Giving youth a voice: A preliminary study of the reliability and validity of a brief outcome measure for children, adolescents, and caretakers. *Journal of Brief Therapy, 5*, 71-87.

Bringhurst, D., Watson, C., Miller, S., & Duncan, B. (2006). The reliability and validity of the ORS: A replication study of a brief clinical measure. *Journal of Brief Therapy, 5*(1), 23-29.



The Outcome Rating Scale:

Reliability and Validity

Study	Sample	Reliability	Validity
Reese et al. (2006)	Clinical = 89	@ = .90 (pretest)	-.57 SCL90 (GSI)
Biescad et al. (2008)	Clinical = 237 NonClin =178 (Inpatient)	@ = .82 @ = .86	.69 (OQ) .64 (OQ) -.73 (BDI), -.59 (SCL90), .70 (CORE)
Reese et al. (2009)	Clinical = 110	@ = .82 (session 1) @ = .90 (session 2)	N/A
Anker et al. (2009)	Clinical = 410	@ = .83 (First and last session)	

Reese, R.J., Norsworthy, L. Rowlands, S., Anderson, E., & Kieffer, K. (August, 2006). Does a popular client feedback model improve psychotherapy outcome? American Psychological Association Conference, New Orleans, LA.

Reese, R. J., Usher, E. L., Bowman, D., Norsworthy, L., Halstead, J., Rowlands, S., & Chisholm, R. (2009). Using client feedback in psychotherapy training: An analysis of its influence on supervision and counselor self-efficacy. *Training and Education in Professional Psychology*, 3, 157-168.

Biescad, M., & Timulak, L. (June, 2008). Comparison of CORE-OM, OQ 45, the ORS, and SLC-10R. Society for Psychotherapy Research. Barcelona, Spain.

Anker, M., Duncan, B., Sparks, J. (2009). Using client feedback to improve couple therapy outcomes: an RCT in a naturalistic setting. *Journal of Consulting and Clinical Psychology*, 77, 693-704.

The Outcome Rating Scale:

Reliability and Validity

Study	Sample	Reliability	Validity
Reese et al. (2009).	Clinical 1= 74 Clinical 2 = 74	@ = .88 T/R 10X = .70 @ = .84 T/R 10X = .77	-.57 SCL 90 Tx Setting required that SCL not be administered
Campbell et al. (2009)	Clinical = 65 (ages 18-62)	@ = .90 (Comparison: OQ = .95, DASS-21 = .95 QOLS = .90 RSES = .91 GPSE = .89)	-.75 OQ Total DASS -.71 Dep, -.46 Anx, -.60 Stress QOLS .74 RSES .66 GPSE .53
Reese et al. (2009).	Clinical 1= 74 Clinical 2 = 74	@ = .88 T/R 10X = .70 @ = .84 T/R 10X = .77	-.57 SCL 90 Tx Setting required that SCL not be administered

Reese, R., Norsworthy, L., & Rowlands, S. (2009). Does a Continuous Feedback Model Improve Psychotherapy Outcome? *Psychotherapy: Theory, Research, and Practice*, 46, 418-431.

Campbell, A., & Hemsley, S. (2009). Outcome rating scale and session rating scale in psychological practice: Clinical utility of ultra-brief measures. *Clinical Psychologist*, 13, 1-9.

Reese, R., Norsworthy, L., & Rowlands, S. (2009). Does a Continuous Feedback Model Improve Psychotherapy Outcome? *Psychotherapy: Theory, Research, and Practice*, 46, 418-431.



The Outcome Rating Scale:

Reliability and Validity

Study	Sample	Reliability	Validity
Anker, M. (2009)	Clinical 1 = 439 (266 couples) Clinical 2 = 282 (141 couples)		1. ETR and divorce/separation at follow up: Both = 15%; One = 29.9%; Neither = 40% Subgroup of intact couples > 25 on ORS at follow up: Both ETR = 65.8%; One = 38.1% Neither = 30.8%
Hafkenscheid, A. et al. (2010)	Clinical = 126 Summary stats at initial visit largely the same as in the US samples: Mean ORS = 19.6 S.D + 8.7 <25 = 75%	@ = .91 (Average across 10 sessions) T/R = .54 (1 & 2), .63 (2 & 3)	Predictive validity: Statistically significant linear and logarithmic trend toward more favorable ORS scores over course of treatment. Convergent validity: Statistically significant correlations between ORS and TSS
Anker et al. (2010)	Clinical = 500 (250 couples)	@ = .91 (First and last session)	

Anker, M. (2009). Client-directed, outcome-informed couples therapy. Dissertation. University of Bergen, Norway.

Hafkenscheid, A., Duncan, B., & Miller, S. (2010). Outcome Rating Scale and Session Rating Scale: Psychometric findings with the Dutch translation. *Journal of Brief Therapy, 1&2*, 1-12.

Anker, M., Owen, J., Duncan, B., & Sparks, J. (2010). The alliance in couple therapy: Partner influence, early change, and alliance patterns in a naturalistic sample. *Journal of Consulting and Clinical Psychology, 78(5)*, 635-645.



The Outcome Rating Scale: Reliability and Validity

Study	Sample	Reliability	Validity
Janse, P. et al. (2013)	Clinical = 587 Non Clinical = 116	Clinical Sample @ = .82-0.96 (Total scores at Intake, 1st, 3rd and 5th sessions); nonclinical sample @ = 0.94 T/R = .64 (1 & 2), .57 (2 & 3), 0.69 (3 & 4), 0.63 (4 & 5).	Criterion Validity: Different between Clinical and Non-Clinical groups significant ($t(636) = -17.4, p < .05$). Concurrent Validity (clinical sample): ORS _{total} and OQ-45 _{total} $r = -0.62$ ORS _{total} and SCL-90 _{total} $r = 0.5$ Concurrent Validity (non-clinical sample): $r = -0.19 - -0.7$ ORS _{total} and SCL-90 _{total} $r = 0.66$
Buccino et al. (2014)	17 Patients presenting to a Community Mental Health Centre with difficulties meeting diagnostic criteria for a mood disorder.		Concurrent Validity (clinical sample): ORS _{total} and Altman Self-Rating Mania Scale (ASRMS) $r = 0.31, p = 0.24$ ORS _{total} and Generalized Anxiety Disorder Scale (GAD-7) $r = -0.66, p = 0.004$ ORS _{total} and Patient Health Questionnaire (PHQ-9) $r = -0.81, p < 0.0001$

Janse, P., Boezen-Hilberdink, L., van Dijk, M. K., Verbraak, M. J. P. M. Hutschemaekers, G. J. M. (2014). Measuring Feedback From Clients: The Psychometric Properties of the Dutch Outcome Rating Scale and Session Rating Scale. *European Journal of Psychological Assessment*. Vol. 30, No. 2, Pg. 86-92.

Buccino D.L., Ritchey M, Van Wert M, Schweizer B, Townsend L, Zandi PP, & Mondimore FM. (2014, October). *The Utility of the Outcome Rating Scales (ORS) in Routine Clinical Settings*. Poster presented at the annual Johns Hopkins Bayview Research Symposium, Baltimore, MD, and the annual meeting of the National Network of Depression Centers, Chicago, IL. Abstract retrieved from: <http://www.nndc.org/2014-conference-poster-submission-guidelines/>

The Session Rating Scale:

Reliability and Validity

Study	Sample	Reliability	Validity
Duncan et al. (2003)	OP (70) FSA (100) Home Based Service (50)	@ = .88 T/R X 6 = .64	.48 (HAQ II) .29 (r^2 Outcome)
Brown, J. (2004)	Clinical = 15,000	@ = .96 T/R = .50	N/A
Reese et al. (2006)	Clinical = 89	@ = .87 T/R = .70 (10 session mean)	
Reese et al. (2009)	Clinical 1 = 74 Clinical 2 = 74	T/R X10 = .70 (average) T/RX10 = .84	-.14 (r^2 Outcome SCL residualized gain score)

Duncan, B., Miller, S., Sparks, J., Reynolds, J., Claud, D., Brown, J., & Johnson, L. (2003). The session rating scale: Psychometric properties of a "working" alliance scale. *Journal of Brief Therapy, 3*(1), 3-12.

Brown, J. (2004). Internal report on the ORS for Resources for Living. Center for Clinical Informatics. Salt Lake City, UT.

Reese, R.J., Norsworthy, L., Rowlands, S., Anderson, E., & Kieffer, K. (August, 2006). Does a popular client feedback model improve psychotherapy outcome? American Psychological Association Conference, New Orleans, LA.

Reese, R.J., Norsworthy, L., & Rowlands, S. (2009). Does a Continuous Feedback Model Improve Psychotherapy Outcome? *Psychotherapy: Theory, Research, and Practice, 46*, 418-431.

The Session Rating Scale:

Reliability and Validity

Study	Sample	Reliability	Validity
Campbell et al. (2009)	Clinical = 65	@ = .93 (Comparison WAI = .91)	.58 WAI No correlation with: DASS, QOLS, RSES, GPSE
Hafkenscheid, A. et al. (2010)	Clinical = 126 Summary stats largely the same as in the US samples: >36 = 76%	@ = .91 (average across 10 sessions) T/R = .49 (1 & 2), .65 (2 & 3)	Predictive validity: r = .42 (p < .01) btwn 3 rd SRS and 10 th ORS Convergent validity: Statistically significant correlations between SRS and TSS
Anker et al. (2014)	Clinical = 500 (250 couples)	@ = .89 (First and last session)	N/A

Campbell, A., & Hemsley, S. (2009). Outcome rating scale and session rating scale in psychological practice: Clinical utility of ultra-brief measures. *Clinical Psychologist, 13*, 1-9.

Hafkenscheid, A., Duncan, B., & Miller, S. (2010). Outcome Rating Scale and Session Rating Scale: Psychometric findings with the Dutch translation. *Journal of Brief Therapy, 1&2*, 1-12.

Anker, M., Owen, Duncan, B., & Sparks, J. (2014). Accounting for therapist variability in couple therapy outcomes: What really matters. *Journal of Sex & Marital Therapy, 40* (6), 488-502.

The Session Rating Scale:

Reliability and Validity

Study	Sample	Reliability	Validity
Janse, P. et al. (2013)	Clinical = 587 Non Clinical = 116	@ = .85 - 0.95 (first 5 sessions) T/R X 5 = 0.48 - 0.72	Concurrent validity: $r_s = .46$ (SRS _{total} /WAV-12 _{total}) Predictive validity: SRS _{total} at sessions 2 ($B_1 = -0.14$) and 3 (B_1 not provided) predicted outcome ($p < 0.05$).

The Group Session Rating Scale: Reliability and Validity

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Study	Sample	Reliability	Validity
Quirk, Miller, Duncan, & Owen (2012)	N = 157 Age = 18-78 (Mean = 39.7) 66% ETOH 34% Other drugs	@ = .87, .87, .91, .93 T/R = Pearson r's between all administrations all significant at .01 level. ICC = .81 (most variance due to individual differences)	WAI-CC = .64 WAI-CT = .58 TFI = .48 (p < .01)

Quirk, K., Miller, S.D., Duncan, B.L., & Owen, J. (2012). The Group Session Ratings Scale: Preliminary Psychometrics. *Counseling and Psychotherapy Research*, 1-7, iFirst Article.



Studies on Feedback

Study	Design	Sample	Results
Lambert et al. (2001)	RCT (feedback versus no feedback) Therapist served as own control	609 Clients 31 Therapists: (1) used variety of approaches; (2) majority licensed.	For "at risk" clients: (1) increased duration of treatment; (2) twice as many achieved reliable or clinically significant change (ES = .44); (3) 1/3 as many classified as deteriorated. For "on track" clients: (1) reduced number of sessions with no impact on outcome.
Lambert et al. (2002)	RCT (feedback versus no feedback) Therapist served as own control	1020 Clients 49 Therapists: (1) used variety of approaches; (2) majority licensed.	<ul style="list-style-type: none"> •For "at risk" clients: (1) Fb ES = .40; (2) nearly twice as many reliably or clinically significant change; (3) 1/3 as many classified as deteriorated. •NOT Fb clients received more sessions than NOT Nfb. •NOT warnings appear at the 3rd session.

Studies on Feedback

Study	Design	Sample	Results
Whipple et al. (2003)	RCT: Progress feedback versus no feedback, versus feedback and Clinical Support Tools (CST). Progress was tracked using the OQ-45 and Therapists served as their own controls. CST consists of questionnaires used to assess the therapeutic alliance, client motivation, social support and stage of change. These were administered when progress went <i>off track</i> , and generated feedback for therapists to assist them in responding to deterioration or a lack of change. CST implementation was not enforced with those therapists for whom it was part of the treatment condition.	358 clients, 75% of whom presented with difficulties deemed to meet diagnostic criteria for Psychological Disorders. Clients met with 48 Therapists, a majority of whom were licensed. Therapists used a variety of therapeutic approaches.	<ul style="list-style-type: none"> •Of those clients whose therapists received outcome feedback and had access to CST, 8.5% deteriorated, 42.4% experienced no change and 49.2% improved or recovered. These rates were 13.6%, 53.4% and 33.0% respectively for those clients whose therapists received just progress feedback, and 19.1%, 55.7%, and 25.2% respectively for those clients whose therapists received no feedback. These differences were statistically significant. •Clients of therapists who had access to both progress feedback and clinical support tools, experienced more change than those of therapists with access to just progress feedback ($d = 0.7$ Vs. 0.28 respectively). These differences were statistically significant.
Hawkins et al. (2004)	RCT (feedback versus no feedback) Therapist served as own control Included CST	201 Clients 5 Therapists: (1) used variety of approaches; (2) majority licensed.	<ul style="list-style-type: none"> •Feedback improved outcome for all clients ($d = .31$) •Providing feedback to <i>both</i> client and therapist resulted in the largest improvement (53-57-64%)

Whipple, J., Lambert, M., Vermeersch, D., Smart, D., Nielsen, S. & Hawkins, E. (2003). Improving the Effects of Psychotherapy. *Journal of Counseling Psychology*, 50(1), 59-68.

Hawkins, E., Lambert, Vermeersch, D., Slade, K., Tuttle, K. (2004). *Psychotherapy Research*, 14(3), 308-327.



Studies on Feedback

Study	Design	Sample	Results
Slade et al. (2006)	RCT (feedback versus no feedback TAU). Monthly postal questionnaires assessing needs, QOL, MH problem severity, and therapeutic alliance. Clients and matched staff completed the measures separately. Feedback given twice at 3 rd and 6 th month	160 adult mental health outpatients 74 staff	<ul style="list-style-type: none"> •No difference in outcome for the three subjective measures •Feedback group had reduced hospital admissions and shorter stays (3.5 versus 10.0 days) •Costs increased by £1109 in non-feedback, decreased by £1928 in feedback group.
Schmidt et al. (2006)	RCT (feedback versus no feedback) Feedback consisted of personal letters after assessment and post treatment, feedback form halfway through treatment, computerized feedback about bulimia and other symptoms (anxiety, depression, interpersonal functioning at intervals and follow up (TREAT-EAT, SEED, HADS).	61 MH OP (Bulimia Nervosa)	<ul style="list-style-type: none"> •Feedback reduced self-induced vomiting and dietary restriction

Studies on Feedback

Study	Design	Sample	Results
Brodey et al. (2005)	RCT (feedback versus no feedback) At intake and at 6 weeks using the SCL-90	1374 OP Adults (Depression/Anxiety)	Feedback 28% > improvement than no feedback
Berking et al. (2006)	RCT (feedback versus no feedback)	118 Adults IP (Depression/Anxiety)	Feedback group improved more than no feedback group on all measures (EMI-B, BSI, IIP, INK): ES = .48, .50 on CGI
Harmon et al. (2007)	RCT (feedback versus no feedback) No random assignment of the new clients Included CST	1374 Clients plus archived data from an additional 1445 clients. 72 Therapists	<ul style="list-style-type: none"> •Feedback improved outcome for all clients •At risk clients with Fb: (1) 33% more reliable or clin/sig change; (2) received more sessions. •Use of CST doubled effectiveness (21-42%).

Berking, M., Orth, U., Lutz, W. (2006). Effects of systematic feedback to the therapist on patient progress. An empirical study in a cognitive-behavioral inpatient setting (in German). *Z KI Psych Psychot*, 35, 21–29.

Brodey, B., Cuffel, B., McCulloch, J., Tani, S., Maruish, M., Brodey, I., et al. (2005). The acceptability and effectiveness of patient-reported assessments and feedback in a managed behavioral healthcare setting. *American Journal of Managed Care*, 11, 774–80.

Harmon, C., Lambert, M., Smart, D., Nielsen, Slade, K., Lutz, W. (2007). *Psychotherapy Research*, 17(4), 379-392.



Studies on Feedback

Study	Design	Sample	Results
Slade (2008).	RCT (Immediate and delayed feedback with and without Clinical Support Tools, and treatment as usual). OQ-45 used to track treatment progress and Clinical Support Tools used to generate treatment and process feedback.	1101 adult clients presenting to a US university counselling clinic, whose outcomes were contrasted with those of 2819 participants of previous studies.	Clients in the feedback conditions achieved more favourable outcomes than those in the Treatment as Usual (TAU) condition ($B = -9.43, p < 0.001$). No difference in outcome was detected between clients who received progress feedback in addition to their therapists, and clients whose therapists received feedback only ($B = -1.64, p > 0.3$). Only clients deemed <i>On Track</i> benefited from immediate feedback to their therapist, with outcomes achieved by clients whose progress was <i>Not on Track</i> yielding equivalent outcomes between the immediate, and week-delayed, feedback groups. Clients whose progress was <i>Not on track</i> attended more sessions in the feedback, than the TAU, group. Clients whose therapists received CST feedback yielded better outcome than those whose therapists did not ($F = 37.68, p < 0.001$). Again, no relationship was detected between timing of CST feedback (1 or 2 weeks) and client outcomes.

Slade, K., Lambert, M. J., Harmon, S. C., Smart, D. & Bailey, R. (2008). Improving psychotherapy outcome: The use of immediate electronic feedback and revised clinical support tools. *Clinical Psychology & Psychotherapy*. Vol. 15, No. 5, Pg. 287-303.



Studies on Feedback

Study	Design	Sample	Results
Newnham et al. (2010)	Quasi Experimental Design: Jan 2005-March 2006, wellbeing measured pre-post treatment using a number of questionnaires (DASS-21, SF-36, HoNOS). with no feedback generated; Apr 2006-Jul 2007, The World Health Organization's Wellbeing Index (WHO-5; Bech et al., 1996) administered throughout treatment but feedback not presented to patient or therapist until end of therapy; Aug 2007-Jan 2009, WHO-5 administered throughout treatment and feedback generated for patients and staff at day 5/10 using expected improvement trajectories calculated using data from 2006-2007 period.	1308 patients (60% inpatients and 40% day patients) attending a two week (10 day 9AM-5PM) cognitive behavioural therapy program offered by a private Australian inpatient hospital. Patients presented with difficulties meeting criteria for an array of psychological disorders.	No difference was detected in outcomes achieved by patients in either the pre/post treatment, or session 5/10, feedback conditions ($F(1,569) = 1.14, p = 0.287$). This finding held for both <i>on track</i> and <i>not on track</i> cases. Among patients <i>not on track</i> , outcome differences were detected using specific sub scales of particular measures (e.g. Depression scores on the DASS-21, Vitality sub-scale on the SF-36 etc.), between feedback and no feedback groups. These results were inconsistent however.
Bickman et al., (2011)	RCT (Feedback Vs. Intermittent feedback) used to investigate whether outcome monitoring and feedback were related to rates of change in outcome data generated by a behavioral healthcare organization. Outcome data was collected using the Symptoms and Functioning Severity Scale (SFSS), and clinician feedback of progress, or lack of it, was achieved using the Contextualized Feedback System.	340 youth with mean ages between 14-15 years, presenting to 28 different private, for-profit, behavioral health organization sites in 10 different U.S. states, offering in-home intervention.	Experimental sites in which clinicians accessed outcome data for clients each week, yielded data indicative of faster improvement compared to control sites, in which therapists had access to outcome data every 90 days ($d_{\text{youth}}=0.27, d_{\text{caregivers}}=0.24, d_{\text{clinicians}}=0.40; p<0.01$). Differences in change trajectories were reduced by 50-66% ($p<0.02$) when clinicians were included in the analysis who were part of the experimental group, but did not view the outcome data at least once.

Newnham, E. A., Hooke, G. R., & Page, A. C. (2010). Progress Monitoring and feedback in psychiatric care reduces depressive symptoms. *Journal of Affective Disorders*. Vol. 127, Pg. 139-146.
 Bickman, L., Kelley, S. D., Breda, C., de Andrade, A. R., Riemer, M. (2011). Effects of Routine Feedback to Clinicians on Mental Health Outcomes of Youths: Results of a Randomized Trial. *Psychiatric Services*, Vol. 62, No. 12. Pg. 1423-1429.

Studies on Feedback

Study	Design	Sample	Results
Simon et al. (2012)	<p>RCT (feedback versus no feedback). Outcome Questionnaire – 45 (OQ45) used to monitor progress across both treatment groups. OQ-Analyst was used to feedback progress, or lack of it, to therapists in feedback group. Assessment for Signal Clients-40 (ASC-40) was used to monitor therapeutic alliance, social support, motivation for therapy and life events, with deteriorated clients in the feedback group.</p>	<p>6 therapists worked with 370 adults presenting to a U.S. outpatient clinic, of which 95% were deemed to meet diagnostic criteria for mood and/or anxiety diagnoses by their therapist, and 5% were deemed to present with a primary diagnosis of substance abuse. 73% of sample was taking psychotropic medications during therapy.</p>	<p>Outcomes achieved by patients in the feedback group were twice that of those in the non-feedback group ($F(1,194) = 4.17, p = 0.04, d=0.12$). Deterioration rates among patients in the feedback group was half that of those in the no-feedback group. Clients who finished therapy after a period of deterioration were more likely to have experienced improvement in feedback Vs. no-feedback condition (34% Vs. 23% respectively).</p>

Simon, W., Lambert, M., Harris, M. W., Busath, G., Vazquez, A. (2012). Providing patient progress information and clinical support tools to therapists: Effects on patients at risk of treatment failure. *Psychotherapy Research*, Vol.22, No 6, Pg 37–41.



Studies on Feedback

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Study	Design	Sample	Results
Hansson et al. (2012)	RCT (feedback to therapists and patients versus no feedback) with therapists serving as their own control. The Swedish version of the OQ-45 questionnaire was used as the outcome measure, although no clinical support tools were used. Both clients and therapists in the feedback condition could view score trajectories over time.	56 therapists worked with 374 patients (22% of total number offered information about the study) who agreed to participate in the study. Patients presented to two general psychiatry outpatient clinics in Sweden, with difficulties that met diagnostic criteria for an array of mental health disorders	No statistically significant difference in outcomes was detected between the feedback and no feedback groups, despite data yielding an effect-size of 0.24 ($P = 0.076$) favouring the feedback group.



Hansson, H., Runberg, J., Osterling, A., Ojehagen, A. (2012). Interventino with feedback using Outcome Questionnaire 45 (OQ-45) in a Swedish psychiatric outpatient population. A randomised controlled trial. *Nordic Journal of Psychiatry*.

Studies on Feedback

Study	Design	Sample	Results
<p>00</p> <p>Crits-Christoph et al. (2012)</p>	<p>Quasi RCT (Feedback to therapists in second half of study, No Feedback during first half). The OQ-45 questionnaire, adapted to include alcohol and substance abuse items, was used to monitor progress. In second half of the study, the Assessment of Signal Cases (ASC) tool was used with Patients whose OQ-45 scores were not progressing as expected, to generate feedback about problematic aspects of each case.</p>	<p>38 Counsellors worked with 304 patients presenting to outpatient drug and alcohol treatment clinics in three different US centres. "The typical patient" reported problematic alcohol use for 11 years, and problematic drug use for 13 years. 80% reported no drug use, and 75% reported no alcohol use, when starting treatment.</p>	<p>Alcohol use of patients predicted to have poor outcomes improved faster and to a greater extent with the introduction of progress feedback and ASC ($d = 0.26, p = 0.023$). Similar results were achieved with drug use, although this result did not achieve statistical significance ($d = 0.2, p = 0.076$). Change as measured using the OQ-45 Total scores did not differ between the two conditions ($d = 0.13, p = 0.27$).</p> <p>Between the time that patients' progress went "off-track" (for those whose progress fell outside typical trajectories) and session 12 (when data collection ceased) OQ-45 scores and drug use, but not alcohol use, differed between feedback and no feedback groups, with the feedback group experiencing more favourable outcomes ($d = 0.48, p = 0.013$; $d = 0.38, p = 0.049$; $d = 0.02, p = 0.19$). The effect of progress feedback and ASC was only detected at one of the three treatment centres.</p> <p>No differences were detected in retention between the two groups.</p>

Crits-Christoph, P., Ring-Kurtz, S., Hamilton, J. L., Lambert, M. J., Gallop, R., McClure, B., Kulaga, A., Rotrosen, J. (2012). A Preliminary Study of the Effects of Individual Patient-Level Feedback in Outpatient Substance Abuse Treatment Programs. *Journal of Substance Abuse Treatment*. Vol. 42, No. 3, Pg. 301-309.



Studies on Feedback

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Study	Design	Sample	Results
Byrne et al. (2012)	Naturalistic historical follow-up study using Newnham et al.'s (2010) sample. Re-admission rates of Patients in the feedback, and no feedback, groups were tracked in the six months following their completion of the 10 day group CBT course.	1308 patients (60% inpatients and 40% day patients) attending a two week (10 day 9AM-5PM) cognitive behavioural therapy program offered by a private Australian inpatient hospital. Patients presented with difficulties meeting criteria for an array of psychological disorders.	Re-admission rates of patients whose progress remained <i>on track</i> ($n = 473$) during the Newnham et al. (2010) study, differed between those in the feedback (10%) and no feedback (18%) groups ($p < 0.05$), with outcomes favouring those patients in the feedback group. For patients whose progress was <i>not on track</i> ($n = 219$) during the Newnham et al. (2010) study, there was no difference in readmission rates during the 6 month period following their completion of the CBT group between the feedback (17%), and no feedback (15%), groups ($p > 0.01$).

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Byrne, S. L., Hooke, G. R., Newnham, E. A., Page, A. C. (2012). The effects of progress monitoring on subsequent readmission to psychiatric care: A six-month follow-up. *Journal of Affective Disorders*. Vol. 137, Pg. 23 113-116

Studies on Feedback

Study	Design	Sample	Results
De Jong et al. (2013)	RCT (feedback to clinicians only, or feedback to both therapists and clients, versus no feedback). A Dutch version of the OQ-45 was used to monitor progress, and feedback was generated using a system developed by the authors. Deterioration between the current session, and the first and last session, was detected using reliable change metrics. After two sessions of reliable deterioration, clinicians were alerted that their client was Not on Track (NOT).	110 clinicians worked with 475 clients presenting to Dutch private community therapy practices and outpatient mental health institutes. Clients presented with difficulties that met diagnostic criteria for an array of Psychological Disorders, with approximately half presenting with co-morbid disorders.	Rate of improvement for clients in the <i>feedback to both clinicians and client group</i> (FbTP), was faster than that of clients in the <i>no feedback</i> (NFb) group ($d = 0.16$ after 35 weeks; $d = 0.2$ after 78 weeks). No statistically significance difference in outcome was detected between clients in NFb and <i>feedback to clinicians only group</i> (FbT). For treatments whose length <35 weeks and clients were identified as at risk of poor treatment outcomes, rate of improvement for clients in both the FbTP, and FbT, groups was faster than that of those in the NFb group ($d = 1.28$ and 0.91 respectively). Feedback had no effect on cases deemed not at risk of poor treatment outcomes. For treatments conducted >35 weeks, rate of improvement for clients in the FbTP group was faster compared to that of those in the NFb group ($d = 0.29$ at 78 weeks), whether or not they were identified as at risk of poor treatment outcomes. Client functioning (proportion <i>Recovered, Improved, Unchanged</i> and <i>Deteriorated</i>) at the end of therapy did not differ between feedback groups ($\chi^2(6) = 8.01, p = 0.24$), although there was a trend for clients in the FbTP group to experience the lowest rate of deterioration.

De Jong, K., Timman, T., Hakaart-Van Roijen, L., Vermeulen, P., Kooiman, K., Passchier, J., Van Busschbach, J. (2013). The effect of outcome monitoring feedback to clinicians and patients in short and long-term psychotherapy: A randomized controlled trial. *Psychotherapy Research*, DOI: 10.1080/10503307.2013.871079



Studies on Feedback

Study	Design	Sample	Results
Probst et al. (2013)	<p>RCT (Feedback Vs. No Feedback) German version of the OQ-45 used for treatment outcome monitoring.</p> <p>The Assessment of Signal Cases tool was used to assess problematic processes in cases with poor treatment outcomes.</p> <p>The Clinical Support Tools (CST) tool was used to generate both progress feedback, and feedback about problematic aspects of cases to therapists.</p>	<p>17 therapists worked with 253 patients receiving treatment at two German inpatient clinics. 13 therapists worked with 43 patients whose poor treatment progress generated alarms on the CST, and whose data was used to ascertain feedback effectiveness. Patients presented with difficulties meeting diagnostic criteria for a number of ICD-10 mental health disorder classifications.</p>	<p>An equivalent number of patients from both experimental (feedback) and control groups (no feedback) deteriorated during the course of treatment, 17.1% in total. Over the entire course of treatment, outcomes achieved by these patients who were in the feedback group exceeded that achieved by those in the control group ($d = 0.54$); however, both groups generated average OQ-45 scores at the end of treatment that were deteriorated compared to intake. At the conclusion of treatment, of those patients who had deteriorated during treatment in the feedback group, 65% fewer had reliably deteriorated compared to comparable patients in the control group. The only two patients to have achieved reliable improvement at the conclusion of treatment, following deterioration, were in the experimental group.</p>



Probst, T., Lambert, M. J., Loew, T. H., Dahlbender, R. W., Gollner, R., Tritt, K. (2013). Feedback on patient progress and clinical support tools for therapists: Improved outcome for patients at risk of treatment failure in psychosomatic in-patient therapy under the conditions of routine practice. *Journal of Psychosomatic Research*. Vol. 75, Pg. 255-261.

Studies on Feedback

Study	Design	Sample	Results
Simon et al. (2013)	RCT of feedback to clinicians versus no feedback (TAU), with therapists serving as their own controls. The OQ-45 was used to monitor progress, and Clinical support Tools (CST) was used to generate progress feedback. The Assessment of Signal Cases questionnaire was used to generate feedback about problematic aspects of cases.	16 Therapists (Psychologists, Therapists and Social Workers) working with 137 patients presenting to an inpatient clinic for women with eating disorders in Western United States.	Outcomes achieved by patients whose progress went "off-track" during therapy, did not differ from those whose progress remained "on-track." Progress achieved by patients in the feedback condition was greater than that achieved by those in the TAU group ($d = 0.3$; $F = 4.6$, $P = 0.03$). Patients in the feedback condition achieved clinically significant, or reliable, change more frequently (75%) than those in the TAU condition (68.3%). Deterioration was equivalent between the two groups (3.2-4.4%), and no difference in weight gain/loss (weight change towards the mean) was detected during therapy between the two groups.
Probst et al. (2014)	RCT with therapists serving as their own controls. German translations of the following tools were used: The OQ-45 German version was used to monitor progress, Clinical Support Tools (CST) were used to feedback progress to therapists, and Assessment of Signal Cases (ASC) was used to generate feedback about problematic aspects of cases.	209 patients presenting to Psychosomatic Departments in two German Hospitals. These patients were selected from a larger sample ($n = 252$) due to their progress data staying "on-track" during the study. Patients worked with 17 therapists, and presented with difficulties mostly meeting diagnostic criteria for depressive, somatoform and anxiety disorders.	Feedback effects for patients whose progress remained on-track throughout treatment was only evident in one of the four OQ-45 sub-scales, the Symptom Distress Scale, and only over the course of one week. This effect only generated a small effect-size ($g = 0.12$; $p = 0.03$).

Simon, W., Lambert, M. J., Busath, G., Vazquez, A., Berkeljon, K. H., Granley, M. Berrett, M. (2013). Effects of providing patient progress feedback and clinical support tools to psychotherapists in an inpatient eating disorders treatment program: A randomised controlled study. *Psychotherapy Research*. Vol. 23, No. 3, Pg. 287-300.

Probst, T., Lambert, M. J., Dahlbender, R. W., Loew, T. H., Tritt, K. (2014). Providing patient progress feedback and clinical support tools to therapists: Is the therapeutic process of patients on-track to recovery enhanced in psychosomatic inpatient therapy under the conditions of routine practice? *Journal of Psychosomatic Research*. Vol. 76, Pg. 477-484.

Studies on Feedback

Study	Design	Sample	Results
Dyer, Hooke & Page (2014)	Comparison of two cohorts. The first (n=377) participated in Newham et al., (2010)'s study in which feedback of subjective wellbeing was generated using the WHO-5 questionnaire and presented to therapists on days 5 and 10 of treatment. Participants in the second cohort (n=468) filled in both the WHO-5 and DI-5, a measure of subjective distress, which in turn were used to generate feedback for therapists on days 5 and 10.	Participants in cohort 2 were 468 day- and in-patients at an Australian psychiatric hospital participating in an intensive 2-week cognitive-behavioural therapy program. Participants presented with difficulties meeting diagnostic criteria for a number of different diagnoses.	Adding the DI-5 in the feedback condition improved outcomes for the "not-on-track" patients as measured using the DI-5 ($F(1,626) = 5.30, p = 0.022, n_2p = 0.08$) but not the WHO-5 or any of the other outcome measures used (DASS-21, SF-36). This suggests that adding feedback about experienced subjective distress improves outcomes in this domain but not in subjective wellbeing, psychiatric symptoms or vitality domains. This was despite a negative correlation between scores obtained using the DI-5 and WHO-5 measures.
Shechtman & Tutian (2015)	Quasi experimental naturalistic study of feedback effects in a program for aggressive child behaviour in school settings. Children in the feedback condition filled in the BPAQ (a self-rated measure of aggression) after each session, and their results were then fed back to Teachers who were trained in delivering an intervention for aggressive behaviour.	230 children in Israeli schools were identified as aggressive by their respective 64 Teachers. 50 Teachers were trained in an intervention for aggressive behaviour which was then delivered to 167 children they identified as aggressive. 14 Teachers and 63 children served as controls.	No difference in outcomes were detected between the feedback, and no feedback, experimental conditions. Adoption of feedback varied between Teachers but improvements in aggression of those 44 students whose Teachers had made use of feedback did not differ from those achieved by students whose Teachers did not use it.



Dyer, K., Hooke, G. R. & Page, A. C (2014). Effects of providing domain specific progress monitoring and feedback to therapists and patients on outcome. *Psychotherapy Research*. Vol. 23, No. 3, DOI:10.1080/10503307.2014.983207.

Shechtman, Z., & Tutian, R. (2015). Feedback to semi-professional counselors in treating child aggression. *Psychotherapy Research*, 3307(March). doi:10.1080/10503307.2015.1095368

Studies on Feedback

Study	Design	Sample	Results
Amble, Gude, Stubdal et al., 2015	Randomised trial in which clients were randomly assigned to treatments with and without either feedback or no feedback treatment conditions. Feedback was generated using the OQ-45 and OQ-Analyst software. The OQ-45 was also the outcomes measure used in this study.	259 clients/patients (aged between 18-65) presenting to Norwegian outpatient and inpatient mental health centres, and a substance abuse program. Clients presented with a multitude of different difficulties which met diagnostic criteria for a number of different disorders. 45 therapists participated in the study and served as their own controls. No effort was made to influence the type of treatment offered, nor to influence how therapists used feedback. In the feedback condition, therapists were taught how to interpret progress graphs and were encouraged to use them in informing their treatment plans.	Clients in the feedback conditions experienced more improvement during therapy than those in the no feedback condition ($d = 0.32, p = 0.027$). Whether or not client progress remained "on-track" during therapy made no difference to the feedback effect. 40% of clients in the feedback group either recovered or improved during therapy, compared to 31% in the no feedback group; 57% of the feedback group either experienced no change or deterioration during therapy, compared to 67% of the no feedback group.

Amble, I., Gude, T., Stubdal, S., Andersen, B.J., & Wampold, B.E. (2015) The effect of implementing the Outcome Questionnaire-45.2 feedback system in Norway: A multisite randomized clinical trial in a naturalistic setting, *Psychotherapy Research*, 25:6, 669-677, DOI: 10.1080/10503307.2014.928756

Benchmark Studies on Feedback

Study	Design	Sample	Results
Reese et al., (2014)	Benchmarking study conducted in an adult outpatient centre. The ORS was used to track outcome, the SRS was used to attain session feedback. No particular feedback system was mentioned. A lack of progress over a number of sessions was used to assess risk of poor outcomes, and efforts were made to target and tailor services for clients in this group.	86 therapists treated 5168 adult clients of a US community mental health team, Southwest Behavioral Health Services. Clients presented with a broad range of diagnoses. Outcome data of a subsample of 1589 clients presenting with depressive disorders was compared to that collected during a number of RCTs for depression used to calculate performance benchmarks by Minami et al., (2007). Data of the complete sample was also compared to aggregate outcome metrics generated by nine feedback studies with comparable populations, measures and feedback systems (reviewed in Lambert & Shimokawa, 2011).	Outcomes achieved by the agency with clients with depression generated an effect size of $d = 1.34$, $p < 0.001$. Minami's (2007) RCT benchmark was $d = 0.89$, $p < 0.001$, for clients who completed treatment; $d = 0.76$, $p < 0.001$, for clients who did not complete treatment, and $d = 0.2$, $p < 0.001$, for clients on wait list. Outcomes achieved with all clients participating in this study, generated an effect-size of $d = 0.71$, $p < 0.05$; while outcomes achieved during the other nine feedback studies (Lambert & Shimokawa, 2011) generated an effect-size of $d = 0.6$. TAU control groups in benchmark studies generated effect-size of $d = 0.45$

Reese, R. J., Duncan, B. L., Bohanske, R. T., Owen, J. J., & Minami, T. (2014). Benchmarking Outcomes in a Public Behavioral Health Setting: Feedback as a Quality Improvement Strategy *Journal of Consulting and Clinical Psychology*, Vol. 82, No. 4, Pg. 731-742.



Studies on Outcome Monitoring

Study	Design	Sample	Results
Warren et al. (2010)	Ad-hoc analysis conducted by authors investigating rates of change evident in outcome data generated by two community mental health services. Outcome data was collected using the OQ-45, and the analysis investigated whether frequency of administration was related to differences in outcome trajectories identified between the two services.	936 youth 4–17 years-old presenting to either public community, or private managed care, services in a U.S. community mental health system.	Private managed care services generated outcome data indicative of faster change than that generated by public community services; however, there was no difference between outcome trajectories once frequency of OQ-45 administration was controlled for ($p < 0.05$). Caution is warranted with this finding however, as large amounts of data were not included in this analysis as follow-up data was missing for a large body of the public services data.

Warren, S. J., Nelson, P. L., Mondragon, S. A., Baldwin, S. A., Burlingame, G. M (2010). Youth Psychotherapy Change Trajectories and Outcomes in Usual Care: Community Mental Health Versus Managed Care Settings. *Journal of Consulting and Clinical Psychology*, Vol. 78, No. 2, Pg. 144-155.



Meta & Mega Analyses on Feedback

Lambert et al. (2003)	Meta-analysis of feedback studies	3 RCT's (2602 Clients, 128 Therapists)	E.S. = .39
Knaup et al. (2009)	Meta-analysis of feedback studies (10 RCT, 2 controlled; 10 OP, 2 IP)	12 RCT's	Short term outcomes: d = .10; 95% ci .01-.19
Shimokawa, K., Lambert et al. (2010)	Mega-analysis (6 studies using original raw data)	6 RCT's	ES = .10 (all clients) ES = .40-.70 (signal cases)
Lambert, M. (2011)	Meta-analysis (3 studies of the ORS and SRS, 6 studies of the OQ 45).	9 total RCT's	Documented the effectiveness of both systems in improving outcome and retention.

Table 2 Characteristics of the included studies and their participants

	Country and setting	Design; intervention group/control group <i>n</i> ; follow-up time points	<i>n</i>	Age, years (mean)	Female, % ^a	Illness	Outcome measures	Feedback to
Ashaye <i>et al</i> (2003) ²⁶	UK day hospital	RCT; 1/1; 3 months	112	≥65 (76.4)	64	Depression, dementia	HoNOS (65+), CAPE-BRS	Staff
Bauer (2004) ¹⁶	Germany in-patient	CT; 2/2; discharge	391	18–79 (34.9)	71	Personality disorder, depression, anxiety	SCL-11, OQ-45, IS	Clinician
Berking <i>et al</i> (2006) ²¹	Germany in-patient	RCT; 1/1; discharge	118	Adults (49.4)	62	Depression, anxiety	FEP, VEV, CGI	Clinician
Brodey <i>et al</i> (2005) ²³	USA out-patient	RCT; 1/1; 6 weeks	1374	≥18	75	Depression, anxiety	SCL-11	Clinician
Hawkins <i>et al</i> (2004) ¹⁴	USA out-patient	RCT; 2/1; discharge	201	Adults (30.8)	68	Mood and anxiety disorders	OQ-45	Clinician or clinician and patient
Lambert <i>et al</i> (2001) ¹⁵	USA out-patient	RCT; 1/1; discharge	609	17–57 (22.2)	70	Personal concerns	OQ-45	Clinician
Lambert <i>et al</i> (2002) ¹³	USA out-patient	CT; 1/1; discharge	1020	17–57 (22.3)	70	Personal concerns	OQ-45	Clinician
Marshall <i>et al</i> (2004) ²⁷	UK out-patient	RCT; 2/1; 12 months	304	Adults	–	Schizophrenia, depression	BPRS, WHO-DAS	Care coordinator
Schmidt <i>et al</i> (2006) ²²	UK out-patient	RCT; 1/1; discharge and 6 months	61	Adults	100	Eating disorder	SEED	Patient
Slade <i>et al</i> (2006) ²⁴	UK out-patient	RCT; 1/1; 7 months	160	18–64 (41.2)	22	Schizophrenia, affective disorder	BPRS, HoNOS, TAG	Staff and patient
Trudeau (2001) ²⁰	USA out-patient	RCT; 1/2; 2 and 4 months	127	Adults (33.9)	72	Mental health problems	OQ-45, RAND-36	Clinician
Whipple <i>et al</i> (2003) ²⁵	USA out-patient	RCT; 1/1; discharge	981	18–54 (22.9)	66	Personal concerns	OQ-45	Clinician

Not a real feedback study

Unpublished dissertation

Not a real feedback study

Unpublished dissertation

RCT, randomised controlled trial; CT, controlled trial; HoNOS, Health of the Nation Outcome Scales (working-age adults); HoNOS (65+), Health of the Nation Outcome Scales (older adults); CAPE-BRS, Clifton Assessment Procedures for the Elderly – Behaviour Rating Scales; SCL-11, Symptom-Check-List; OQ-45, Outcome Questionnaire; IS, Impairment Score; FEP, Questionnaire to Evaluate the Course of Psychotherapy; VEV, Questionnaire to Assess Changes in Experiencing and Behavior; CGI, Clinical Global Impression; BPRS, Brief Psychiatric Rating Scale; WHO-DAS, World Health Organization Disability Assessment Schedule; SEED, Short Evaluation of Eating Disorders; TAG, Threshold Assessment Grid; RAND-36, 36-item Short Form Health Survey.
 a. Dashes indicate that no data were reported.

Knaup, C., Koesters, M., Schoefer, D., Becker, T., & Puschner, B. (2009). Effect of feedback of treatment outcome in specialist mental healthcare: Meta-analysis. *The British Journal of Psychiatry*, 195, 15-22.

Table 3 Feedback systems used ^a						
	Measures used for feedback	Rated by	Modalities of feedback			
			Timing ^b	Frequency	Content	Features
Ashaye et al (2003) ²⁶	CANE	Clinician	–	Once	Unmet needs and suitable interventions	List
Bauer (2004) ¹⁶	OQ-45, GBB, CSC, PAE, HAQ, FLZ	Patient	Timely	Once	Phase 1: Early treatment response; Phase 2: Additionally prognosis of treatment duration, treatment recommendation	Graphs, tables, text ^{c,d}
	HAQ, ICD-10	Clinician				
Berking et al (2006) ²¹	FEP	Patient	Timely	Weekly	Progress, goal achievement	Progress graph, percentage of goal achievement
Brodey et al (2005) ²³	SCL-11	Patient	Timely	Twice	Progress, extreme answers, fill-in time	Graph, tables, text ^c
Hawkins et al (2004) ¹⁴	OQ-45	Patient	Delayed	Weekly	Progress, treatment recommendation	Graph, coloured progress markers, text ^c
Lambert et al (2001) ¹⁵	OQ-45	Patient	Delayed	Weekly	Progress, treatment recommendation	Graph, coloured progress markers, text ^c
Lambert et al (2002) ¹³	OQ-45	Patient	Delayed	Weekly	Progress, treatment recommendation	Graph, coloured progress markers, text ^c
Marshall et al (2004) ²⁷	CNS	Patient	Delayed	Once	Needs, required interventions, access to intervention	Text
Schmidt et al (2006) ²²	TREAT-EAT, SEED, HADS	Patient	–	Biweekly	Physical and psychological status, variables facilitating or hindering change	–
Slade et al (2006) ²⁴	CANSAS, HAS, MANSA CANSAS, HAS, TAG	Patient Staff	Delayed	Twice	Progress, areas of disagreement	Graphs, text
Trudeau (2001) ²⁰	OQ-45	Patient	Delayed	Weekly	Progress	Graphs ^e
Whipple et al (2003) ²⁵	OQ-45	Patient	Delayed	Weekly	Progress and treatment response; CST for non-responders	Graph, coloured progress markers, text ^{c,f}
	CST based upon Haq-II, SCS, MSPSS	Patient	Delayed	–	Treatment guidelines, CST results	Text

CANE, Camberwell Assessment of Need for the Elderly; OQ-45, Outcome Questionnaire; GBB, Physical Complaints Questionnaire; CSC, Client Satisfaction Questionnaire; PAE, Treatment progress scale; HAQ, Helping Alliance Questionnaire (German version); FLZ, Life Satisfaction Questionnaire; FEP, Questionnaire to Evaluate the Course of Psychotherapy; SCL-11, Symptom Checklist; CNS, Cardinal Needs Schedule; TREAT-EAT, Outcome monitoring system; SEED, Short Evaluation of Eating Disorders; HADS, Hospital Anxiety and Depression Scale; CANSAS, Camberwell Assessment of Need Short Appraisal Schedule; HAS: Helping Alliance Scale; MANSA: Manchester Short Assessment of Quality of Life; TAG, Threshold Assessment Grid; CST, Client Support Tools (decision tree of possible interventions tailored to severity of impairment); Haq-II: Revised Helping Alliance Questionnaire; SCS, Stages of Change Scale; MSPSS, Multidimensional Scale of Perceived Social Support.

a. Dashes indicate that no data were reported.
b. Timely: within 1 week after assessment; Delayed: more than 1 week thereafter.
c. Reliable Change Index (RCI) and cut-offs between functional and dysfunctional based on Jacobson & Truax.³⁵
d. Based on algorithms of the 'Stuttgart-Heidelberg model'.¹⁶
e. Community cut-off points.
f. Algorithms based on patient's intake impairment level and on the specific session change score.

Knaup et al. (2009)

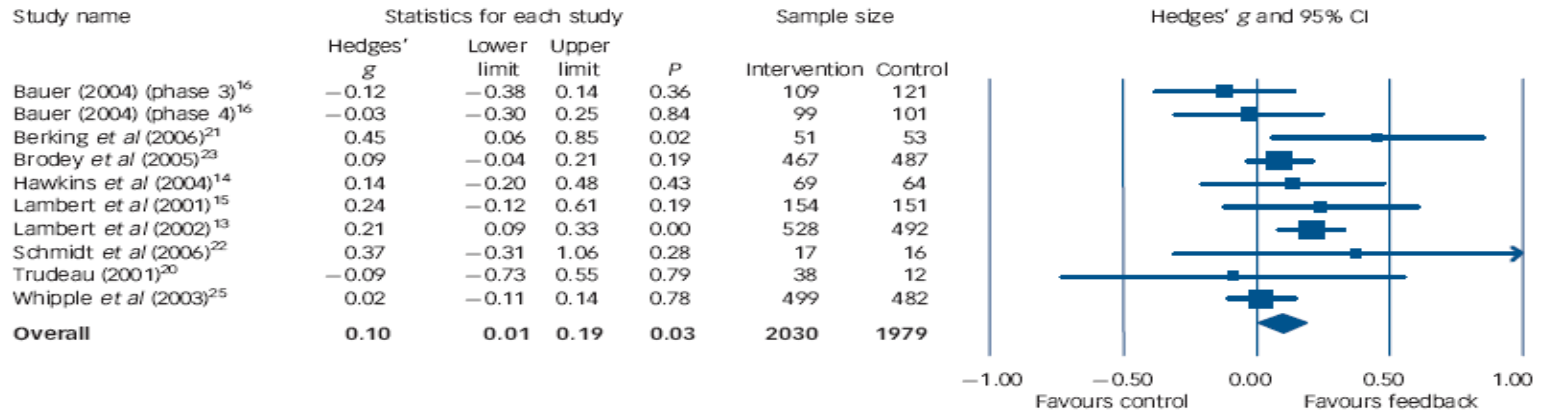


Fig. 1 Forest plot for short-term mental health outcome (random-effects model).^a

a. Treatment outcomes were coded as short-term if they were measured within 9 weeks after initial assessment.

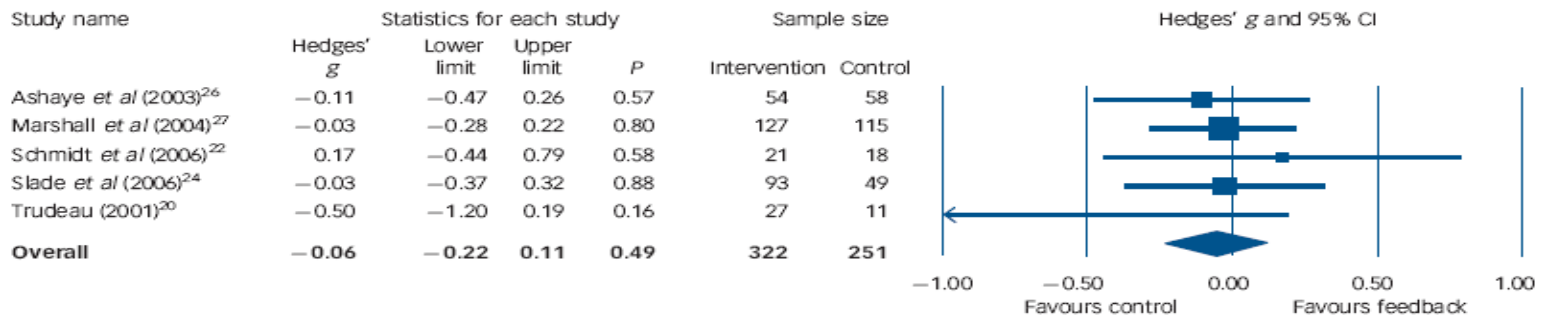


Fig. 2 Forest plot for long-term mental health outcome (random-effects model).^a

a. Treatment outcomes were coded as long-term if they were measured between 3 and 12 months after initial assessment.

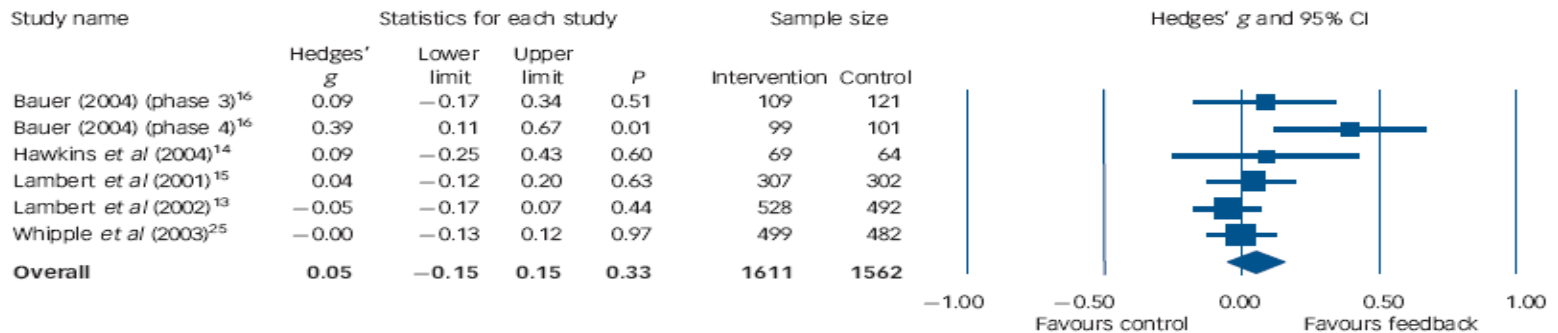


Fig. 3 Forest plot for treatment duration (random-effects model).

Studies on Feedback Using PCOMS

Study	Design	Sample	Results
Miller et al. (2006)	Quasi-experimental (Pre-no feedback versus post feedback)	6424 Clinically, culturally, and economically diverse	<ul style="list-style-type: none"> •Feedback doubled the effect size •Significantly improved retention
Sorrell, R. (2007)	Naturalistic	205 individuals with an average BMI of 44	<ul style="list-style-type: none"> •Average participant lost 3% of intake weight •Significant improvements in distress, absenteeism and presenteeism •Increases in nutrition and exercise
Reese et al. (2009)	RCT (Feedback versus no feedback)	28 Trainee therapists 110 CMH Clients	<ul style="list-style-type: none"> •Trainees in both conditions had better outcomes at end of year, but those receiving improved more. •No difference in ratings of supervisory alliance or satisfaction between groups. •Counselor self-efficacy higher in feedback group.

Miller, S.D., Duncan, B.L., Sorrell, R., Brown, G.S., & Chalk, M.B. (2006). Using outcome to inform therapy practice. *Journal of Brief Therapy*, 5(1), 5-22.

Sorrell, R. (2007). Application of an outcome-directed behavioral modification model for obesity on a telephonic/web-based platform. *Disease Management*, 10, Supplement 1, 23-26.

Reese, R. J., Usher, E. L., Bowman, D., Norsworthy, L., Halstead, J., Rowlands, S., & Chisholm, R. (2009). Using client feedback in psychotherapy training: An analysis of its influence on supervision and counselor self-efficacy. *Training and Education in Professional Psychology*, 3, 157-168.



Studies on Feedback Using PCOMS

Study	Design	Sample	Results
Reese et al. (2009)	RCT (Feedback versus no feedback TAU)	74 Student Counseling Center 74 OP CMH	•Feedback improved overall outcomes: (1) 2X as much change on the ORS; (2) 25-66% more reliable improvements; (3) significantly decreased deterioration.
Anker et al. (2009)	RCT (feedback versus no feedback TAU) Therapist served as own controls	410 Norwegian Couples	•Feedback group experienced significantly: (1) more reliable change (25%); (2) 4X greater chance of recovery; (3) significantly less deterioration; (4) 50% less divorce/separation rate.

Studies on Feedback Using PCOMS

Study	Design	Sample	Results
Reese, Toland, Slone, & Norsworthy (2010)	RCT (Feedback versus no feedback TAU)	46 couples	<ul style="list-style-type: none"> •Couples in the feedback condition experienced statistically significantly more improvement as well as more rapid improvement compared to the TAU group. •4 times as many couples in the feedback condition experienced clinically significant change by the end of treatment.
Murphy et al. (2012)	RCT (feedback versus no feedback). ORS used to monitor progress and A.S.I.S.T for agencies was used to feedback progress, or lack of it, to therapists.	8 Student Counselors worked with 110 adults presenting to a U.S. university counseling centre. Therapists described presenting problems as: Anxiety, depression, relationships and other.	Feedback group yielded changes in ORS scores 25% greater than no-feedback group ($d=0.85$ Vs. 0.64); however, the results were not statistically significant ($F(1, 110) = 0.04, p > 0.05$). Deterioration rates between groups were equivalent. Clients who finished therapy after a period of deterioration were no more likely to have experienced improvement in feedback Vs. no-feedback condition ($F(1,65), 1.11, p =0.29$)

Studies on Feedback Using PCOMS

Study	Design	Sample	Results
0011 Schuman, Slone, Reese & Duncan (2014)	RCT (feedback versus no feedback) using the ORS as an outcome measuring tool, and using a “software program” to generate progress feedback using expected treatment response algorithms from previous US studies. Therapists served as own control, and no protocols were implemented for deteriorating clients.	263 soldiers referred for substance abuse by their commander to 10 therapists conducting 10 therapy groups.	<ul style="list-style-type: none"> • Outcomes achieved by Soldiers in feedback group compared to the no feedback group was small to moderate ($d = 0.28$; $F(1,260) = 6.57$, $p = 0.011$), and favoured the feedback group. • “Clinically significant change” was achieved by twice the number of Soldiers in the feedback group compared to the control group (28% Vs. 15%; $p < 0.001$), with those in the feedback group also attending more sessions (average of 4/5 Vs. 3/5 sessions attended; 67% completed treatment Vs. 44%). Fewer soldiers in the feedback condition ended treatment prematurely ($p < 0.05$). • Both commander and therapist rated outcomes favoured soldiers in the feedback condition ($p < 0.001$ in both conditions).

Benchmark Studies on Feedback Using PCOMS

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Study	Design	Sample	Results
Buccino et al. (2014)	Benchmarking study conducted in a Community Mental Health Centre using the ORS as an outcome measure.	351 adult patients presenting to an outpatient community mental health centre in the US during 2012-2014. Patients presented with an array of different difficulties meeting diagnostic criteria for a number of different disorders. Patients were treated by both intern therapists, and regular staff.	<ul style="list-style-type: none"> Those students and staff deemed to “faithfully” utilise the ORS (using measures at each session and checking score trajectories) achieved better outcomes with their clients than those who employed the measure intermittently and did not review score trajectories ($z = 3.894, p = 0.0001, d = 1.15$ Vs. 0.59). Patients of students faithfully utilising the ORS achieved reliable and clinically significant change at higher rates than those of regular staff ($z = 3.555, p = 0.0004; z = 2.773, p = 0.006$). Some regular staff utilised the ORS and some did not.

Benchmark Studies on Feedback Using PCOMS

Study	Design	Sample	Results
Reese et al., (2014)	Benchmarking study conducted in an adult outpatient centre. The ORS was used to track outcome, the SRS was used to attain session feedback. No particular feedback system was mentioned. A lack of progress over a number of sessions was used to assess risk of poor outcomes, and efforts were made to target and tailor services for clients in this group.	86 therapists treated 5168 adult clients of a US community mental health team, Southwest Behavioral Health Services. Clients presented with a broad range of diagnoses. Outcome data of a subsample of 1589 clients presenting with depressive disorders was compared to that collected during a number of RCTs for depression used to calculate performance benchmarks by Minami et al., (2007). Data of the complete sample was also compared to aggregate outcome metrics generated by nine feedback studies with comparable populations, measures and feedback systems (reviewed in Lambert & Shimokawa, 2011).	Outcomes achieved by the agency with clients with depression generated an effect size of $d = 1.34$, $p < 0.001$. Minami's (2007) RCT benchmark was $d = 0.89$, $p < 0.001$, for clients who completed treatment; $d = 0.76$, $p < 0.001$, for clients who did not complete treatment, and $d = 0.2$, $p < 0.001$, for clients on wait list. Outcomes achieved with all clients participating in this study, generated an effect-size of $d = 0.71$, $p < 0.05$; while outcomes achieved during the other nine feedback studies (Lambert & Shimokawa, 2011) generated an effect-size of $d = 0.6$. TAU control groups in benchmark studies generated effect-size of $d = 0.45$

Reese, R. J., Duncan, B. L., Bohanske, R. T., Owen, J. J., & Minami, T. (2014). Benchmarking Outcomes in a Public Behavioral Health Setting: Feedback as a Quality Improvement Strategy *Journal of Consulting and Clinical Psychology*, Vol. 82, No. 4, Pg. 731-742.



Benchmark Studies on Feedback Using PCOMS

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Study	Design	Sample	Results
Hansen, Howe, Sutton & Ronan (2015)	Initially, outcome and progress data were gathered using the ORS and SRS from 35 young people but this information was not fed-back to clinicians. Later, more data was gathered using the two measures, and it was then fed back to clinicians.	73 clients of a Child & Youth Mental Health Service based in Australia, and their respective therapists, participated in the study. Young people presenting to the service were deemed to present with "moderate to severe" mental health difficulties, and their ages varied between 9-17 years.	Clients participating in the study attended an average of 8 sessions but ORS and SRS scores were only gathered during an average of 4 sessions. Comparisons between outcomes achieved in feedback Vs. No feedback conditions generated moderate effects favouring the feedback condition (e.s. = 0.5-0.9) across outcomes measured using a number of questionnaires (HoNOSCA, CGAS, SDQP & SDQY).

Details of Some Feedback Studies Using the ORS/SRS

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- Miller, Duncan, Brown, Sorrell, & Chalk (2006):
 - Quasi-experimental study;
 - 6,424 culturally and economically diverse clients (66% female, 34% male);
 - Levels of distress equivalent to typical CMH;
 - Presenting complaints included anxiety, depression, alcohol and drug abuse, work and family issues, chronic mental and physical health problems

Miller, S.D., Duncan, B.L., Sorrell, R., Brown, G.S., & Chalk, M.B. (2006). Using outcome to inform therapy practice. *Journal of Brief Therapy*, 5(1), 5-22.



Miller, Duncan, Brown, Sorrell, & Chalk (2006)

0011

- 75 “in-house” therapists:
 - 72% female, average age 37 years;
 - Average 7 years of experience:
 - 45% psychology;
 - 35% social work;
 - 20% Marriage and Family;
- Feedback:
 - ORS trajectories and messages at each session;
 - SRS messages at the end of each session.

Miller, Duncan, Brown, Sorrell, & Chalk (2006)

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- Overall, the effect size increased from .37 to .79 (113%):
 - Using the RCI, 13% of improvement due to increase in clients reporting significant improvement, 11% due to decrease in people reporting deterioration.
 - When analysis is restricted to clients who started in the clinical range, the end effect sizes rises to 1.06 (186%).

Miller, S.D., Duncan, B.L., Sorrell, R., Brown, G.S., & Chalk, M.B. (2006). Using outcome to inform therapy practice. *Journal of Brief Therapy*, 5(1), 5-22.



Reese, Norsworthy, & Rowlands (2009)

0011

- Randomized Clinical Trial:
 - Two experimental groups:
 - University Counseling Center (74)
 - Community Mental Health OP (74)
 - Participants randomized into either TAU or TAU with feedback;
 - Therapists were licensed master's prepared therapists and advanced practicum students.

Reese, Norsworthy, & Rowlands (2009)

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- In both settings, participants in the feedback condition:
 - More reliable change
 - 80 versus 54% in study 1; 66 versus 41% in study 2;
 - 2X as much change on the ORS (pre-post change score);
 - Showed improvement sooner (7 versus 10);
 - Showed a trend toward attending more sessions

Reese, R., Norsworthy, L., & Rowlands, S. (2009). Does a Continuous Feedback Model Improve Psychotherapy Outcome? *Psychotherapy: Theory, Research, and Practice*, 46, 418-431.



Reese, Usher, Bowman et al. (2009)

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- Controlled Clinical Trial (assignment to conditions mixed) to determine the effect of continuous feedback regarding outcome and alliance on supervision:

- Two experimental groups:

- Feedback (MFT program, n = 5 supervisors, 9 trainees; CP program, n = 1 supervisor, 2 trainees)
- No feedback (MFT program, n = 3 supervisors, 10 trainees; CP program, n = 1 supervisor, 7 trainees)
- Clients (n = 110)

Reese, Usher, Bowman et al. (2009)

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- Outcome improved for both the feedback and no feedback groups over the course of the academic year:

- Trainees in the feedback group demonstrated better outcomes than trainees in the no feedback group ($\eta^2 = .07, p < .05$):

- Feedback ES = .70 (first semester) and .97 (second);

- No feedback ES = .30 (first semester) and .37 (second);

- No differences between groups at the outset, no differences in numbers of sessions, no significant supervisory differences.

Reese, R. J., Usher, E. L., Bowman, D., Norsworthy, L., Halstead, J., Rowlands, S., & Chisholm, R. (2009). Using client feedback in psychotherapy training: An analysis of its influence on supervision and counselor self-efficacy. *Training and Education in Professional Psychology, 3*, 157-168.



Reese, Usher, Bowman et al. (2009)

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- No difference between the feedback and no feedback conditions on trainee ratings of the supervisory alliance or satisfaction with the supervision process;
- The relationship between counselor self-efficacy and outcome *stronger* for trainees in the feedback versus no feedback condition:
 - Trainees in the feedback group did *not* report larger increases in self-efficacy (COSE) compared to the no feedback group;
 - COSE scores did *not* correlate highly with measures of supervisory satisfaction or alliance.
 - At the end of training, trainee COSE in feedback condition *strongly* related to aggregate outcome ($r = .51$) but strongly negatively correlated in the no-feedback condition ($r = -.38$). Correlations near 0 at the outset.

Anker, Duncan, & Sparks (2009)

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- Randomized Clinical Trial:
 - 205 Norwegian Couples (410 individuals):
 - Average age 37.8 (r = 20-71)
 - 77% employed full time (15% unemployed)
 - 39% college educated;
 - Average number of years together 11.2.
 - 72% wanted to improve relationship, the remainder wanted to decide whether to continue in relationship.

Anker, M., Duncan, B., & Sparks, J. (2008). Using client feedback to improve couple therapy outcomes: an RCT in a naturalistic setting. *Journal of Consulting and Clinical Psychology*, 77, 693-704.



Anker, Duncan, & Sparks (2009)

0011

- Randomized Clinical Trial:
 - 10 Therapists:
 - 4 psychologists, 5 social workers, 1 nurse.
 - All eclectically oriented.
 - Average age 42, 5 years of experience with couples treatment.
 - Couples blind to purpose of the study and randomly assigned either to feedback or treatment as usual.

Anker, Duncan, & Sparks (2009)

Controlling for Allegiance Effects

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- Site was not using the measures prior to the study;
- Therapist served as own controls;
- Pre-study attitude survey re: feedback:
 - 6 +, 4 neutral, none used it;
 - All stated that they routine sought client feedback;
 - All believed that the process would not improve outcome;
- Post study:
 - 4 believe it did help, 4 believed no difference, 1 believed TAU better, 1 left agency.

Anker, M., Duncan, B., & Sparks, J. (2008). Using client feedback to improve couple therapy outcomes: an RCT in a naturalistic setting. *Journal of Consulting and Clinical Psychology*, 77, 693-704.



Anker, Duncan, & Sparks (2009)

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- The effect size for couples in the feedback versus no feedback was $d = .50$.
 - Twice as many of the couples experienced reliable or clinically significant change (22.6 versus 50.5%)
- High correlation in outcome between couples at the end of treatment ($\rho_{couple} = .49$).
- Fewer “at risk” clients emerged over the course of treatment in the feedback condition.
 - At risk clients, 3 X more likely to improve with feedback.

Reese, Toland, Slone, & Norsworthy (2010)

0011

- Randomized Clinical Trial:
 - 46 heterosexual couples;
 - Randomized into either TAU or TAU with feedback;
 - Therapists were 13 second year practicum students enrolled in an AAMFT approved MFT program.

Reese, Toland, Slone, & Norsworthy (2010)

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- The effect size for couples in the feedback versus no feedback was large ($d > .8$);
 - Twice as many of the couples experienced reliable change (22.6 versus 50.5%)
 - Change occurred more rapidly.
- More clients (both individual and couples) experienced clinically significant change (53 vs. 18%).