

Benchmarking Outcomes: Lessons from the Real World

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Objectives

- Describe method for benchmarking outcomes
- Suggest a stage developmental model for organizations implementing an outcomes management program
- Illustrate model with examples from two large scale multiyear outcomes initiatives
- Present commonalities in findings and experiences

Two Outcomes Initiatives

- Human Affairs International: 1995-1998
 - Tests: OQ-45 (adults) and YOQ (children)
 - Clinical Information System (CIS)
 - 17 large group practices, >500 solo providers
- PacifiCare Behavioral Health: 1999 – present
 - Tests: LSQ (adults) and YLSQ (children)
 - ALERT System
 - 16 large groups, >1000 solo providers

Measurement vs. Management

Outcomes management seeks to improve the *effectiveness* and *value* of the treatment services. Outcomes measurement is a means to this end. Outcomes measurement is concerned with improvement of the individual patient, outcomes management with the improvement in outcomes across an entire system of care.

Effectiveness (*effect size*)

- Effectiveness of the services is measured by the amount of improvement seen in the patients.
- Average improvement is reported as *effect size*.
- *Effect size* =
$$\frac{\text{Intake score} - \text{post treatment score}}{\text{standard deviation of the test}}$$
- Effect size permits aggregation of results from different measures.

Value

- Value of the services is a function of both effectiveness and cost.
- *Value=Improvement/Cost*
- An outcomes management program is judged by the improvement in both *effectiveness* and *value* of the treatment services for the entire system of care.

Benchmarking outcomes

- **Definition:** The practice of comparing treatment outcomes from one sample to another much larger normative sample
- **Requirement:** Case mix adjustment methodology to predict expected outcome based on normative sample
- **Purpose:** Provide a valid method of evaluating outcomes across sites/providers

Four Stages of Development

- Preparation
- Implementation
- Performance feedback
- Managing outcomes

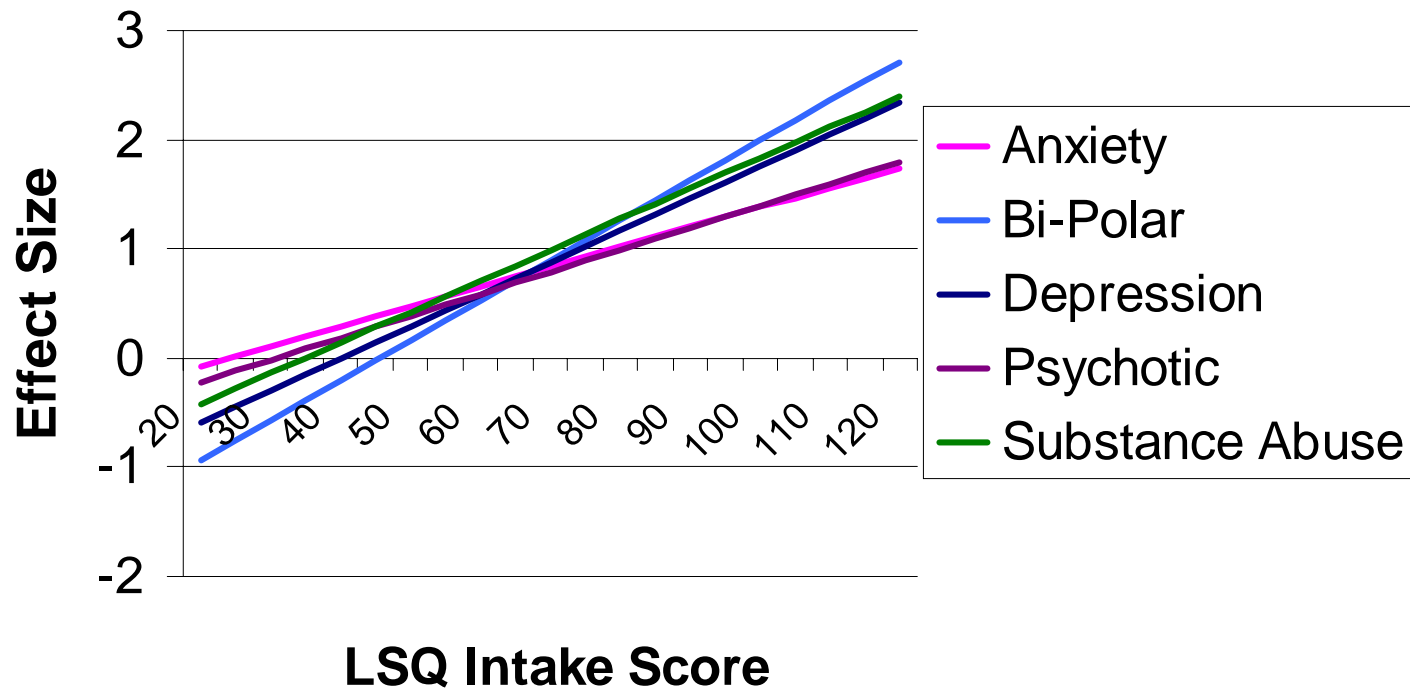
Stage one: Preparation

- Choice of measures
- Development of case mix model
- Prototyping of reports and decision support tools
- Training materials
- Education of providers and consumers

Example: Case mix adjustment



Diagnosis and Outcome



PacifiCare Behavioral Health project

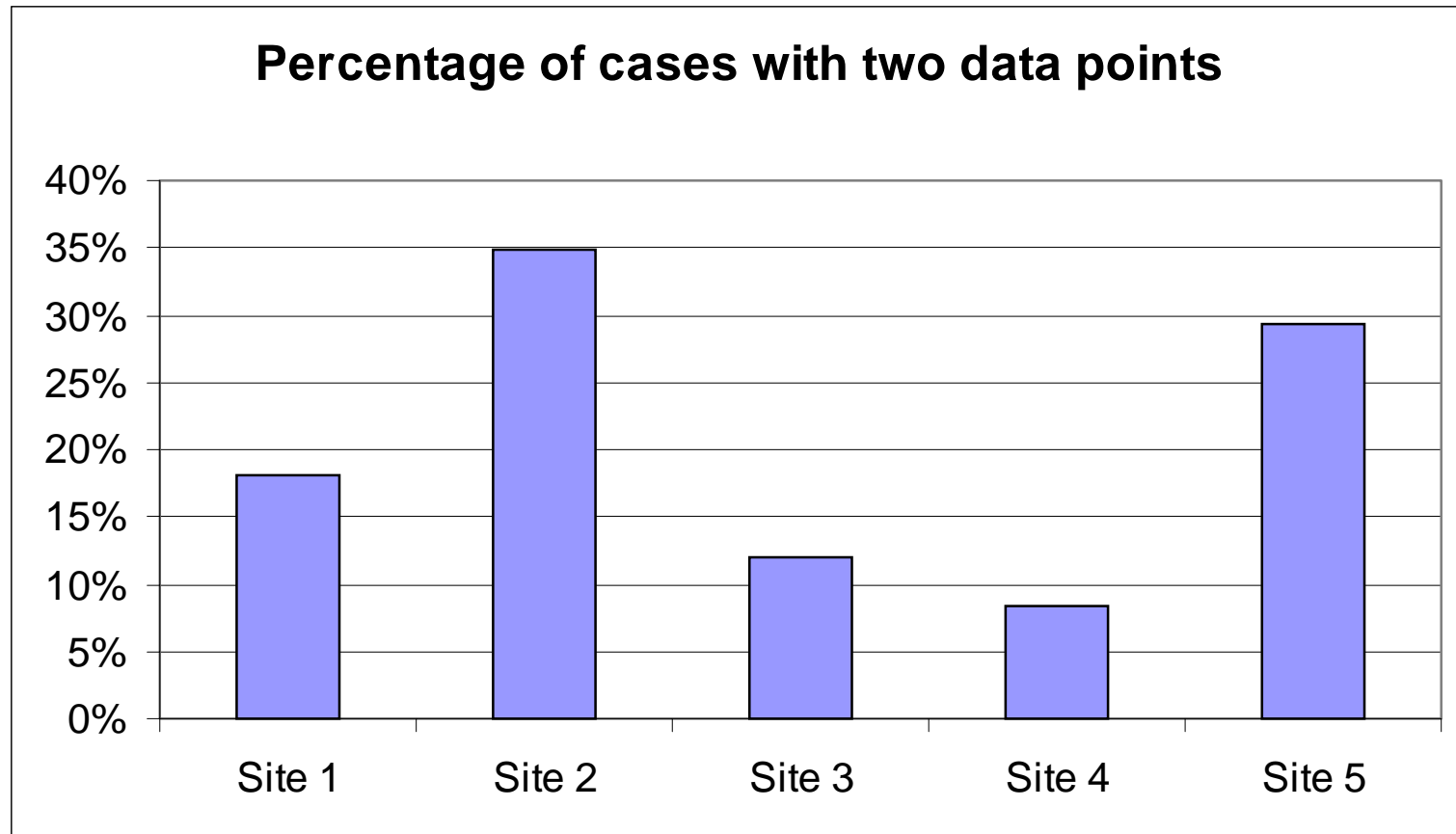
Example: Targeting at risk cases

- Change in early sessions highly predictive of outcome
- This can be used to target at risk cases
- Most likely outcome is patient terminates prematurely
- Provide immediate feedback to provider – seek to prevent premature termination

Stage two: Implementation

- Pilot system with sub set of high volume providers and clinics
- Refine reports and decision support tools based on feedback from users
- Monitor and provide feedback on data quality compliance with data collection protocols
- Validate and refine case mix adjustment model

Example: Data quality monitoring



Stage 3: Performance feedback

- Provide performance feedback on continuous basis
- Make direct comparisons across sites or providers; identify top performers
- Institute remedial measures as necessary to improve data quality
- Disseminate results; respond to concerns re data quality, validity of methods, etc.

Example: Outcomes Report

Provider ID: Site 2
Date of report: 5/14/01

Age Group Severity at intake	Total Cases	# cases with > 1 data point	Change (effect size)		Change Index (actual-expected)
			actual	expected	
Adults					
Normal range	57	9	-0.53	-0.28	-0.25
Mildly distressed	59	21	0.25	0.18	0.07
Moderately distressed	77	28	0.40	0.47	-0.08
Severely distressed	126	53	1.07	0.90	0.18
Combined Adult	319	111	0.62	0.56	0.06

Children & Adolescents					
Normal range	22	2	0.93	-0.14	1.08
Mildly distressed	28	8	0.16	0.14	0.02
Moderately distressed	32	8	0.95	0.39	0.56
Severely distressed	36	10	0.82	0.77	0.05
Combined Child/Adolescent	118	28	0.68	0.42	0.26

Aggregate Results for All Age Groups

Total number of cases: 437
Number of cases with > one data point: 139
% of cases with > one data point: 32%

Change		Change Index
actual	expected	(actual-expected)
0.63	0.53	0.10

Above average

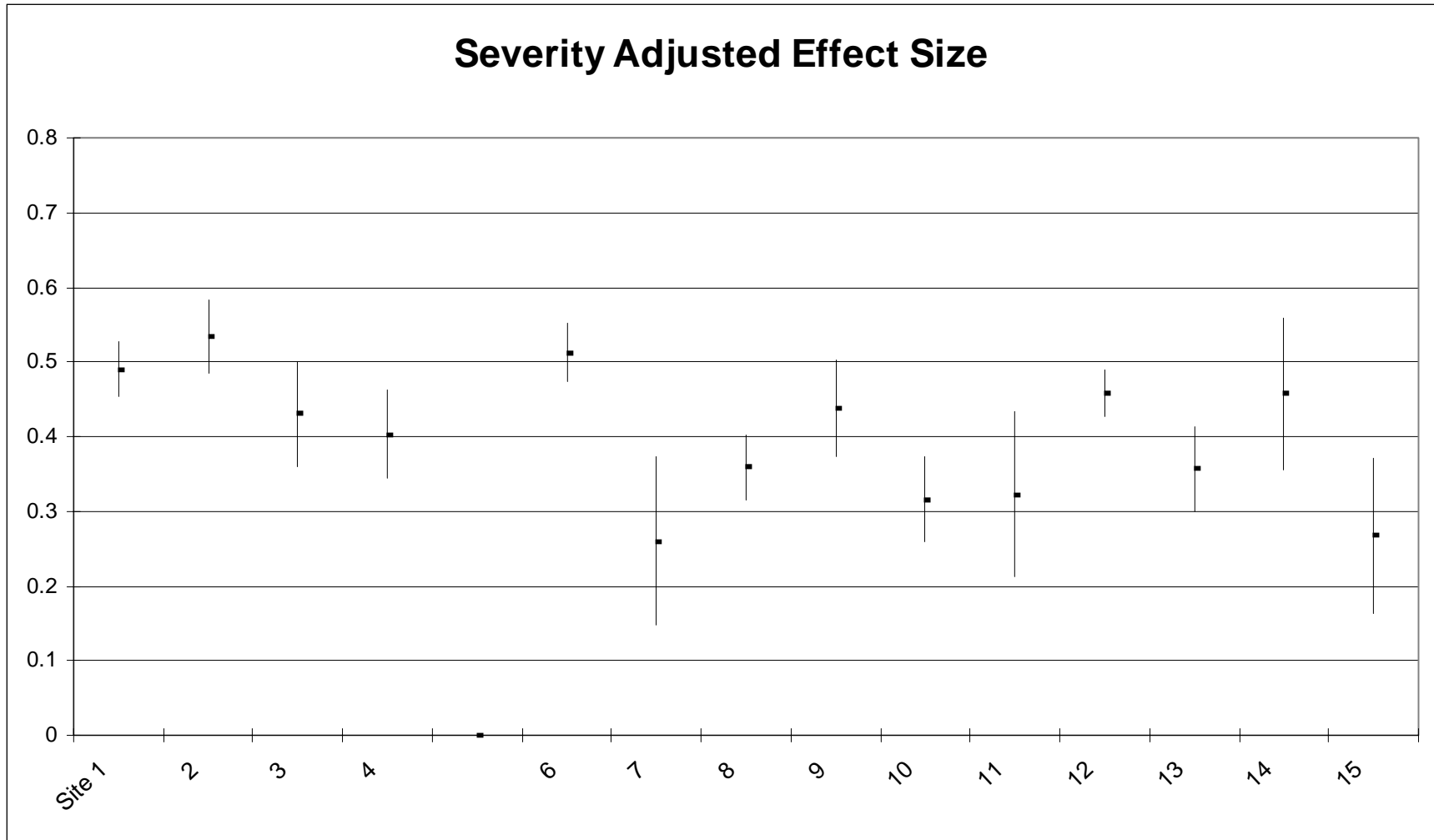
Aggregate Results for Severe Range

Total number of cases: 162
Number of cases with > one data point: 63
% of cases with > one data point: 39%

Change		Change Index
actual	expected	(actual-expected)
1.03	0.88	0.16

Above average

Example: Comparing Results



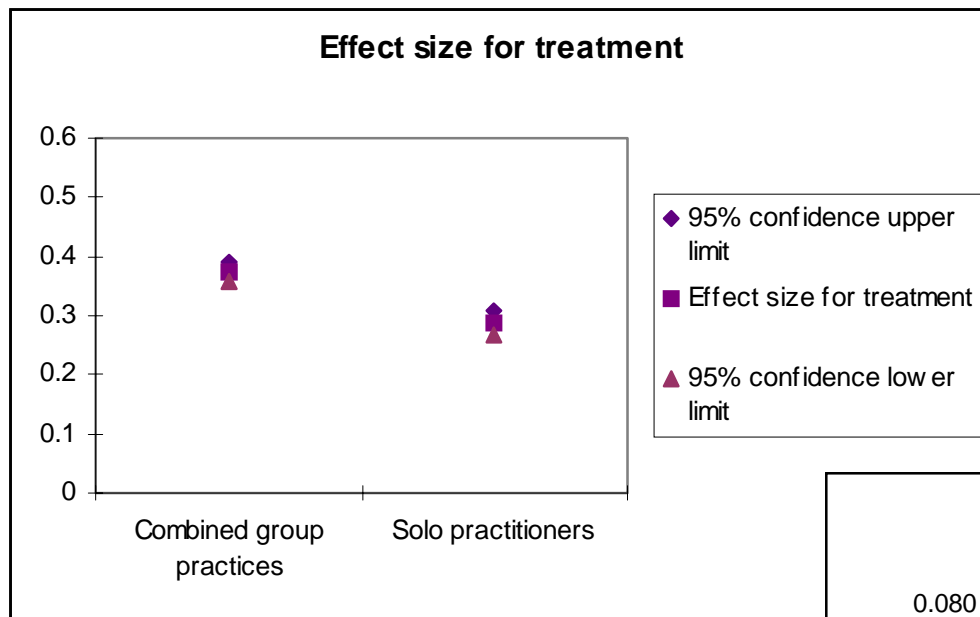
Stage 4: Managing outcomes

- Continued data analysis to explore opportunities for quality improvement
- Communicate clear expectations for performance improvement for sub par performers
- Provide additional support in form of consultation, data analysis, reporting and decision tools as needed
- Reward top performers with recognition, incentives, increased referrals, etc.

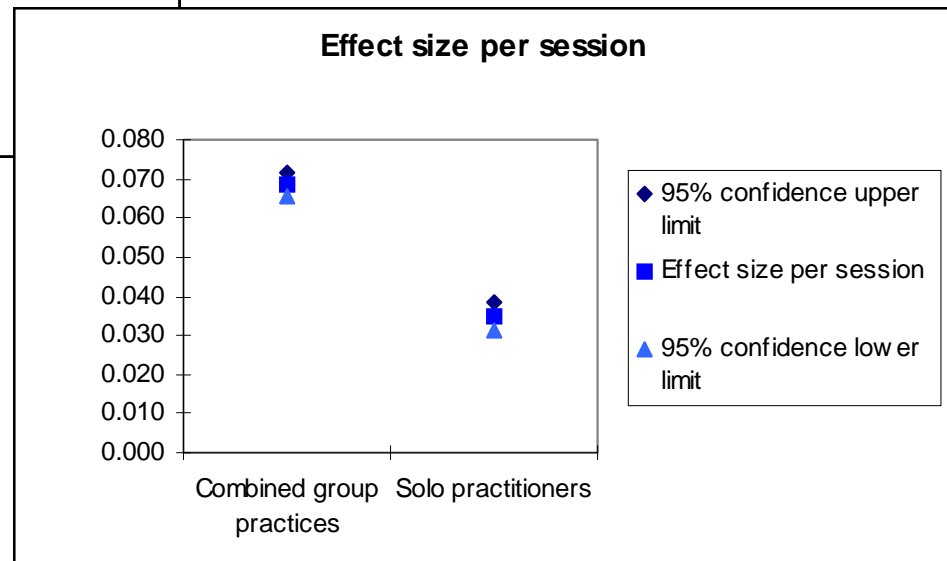
What have we learned?

- At least two data points on 45-50% of cases is realistic target
- Most of the change occurs in the first few sessions
- Organized groups of providers are getting better results than solo providers
- Top providers get results quickly – better outcomes are associated with shorter lengths of treatment

Initiative one results *



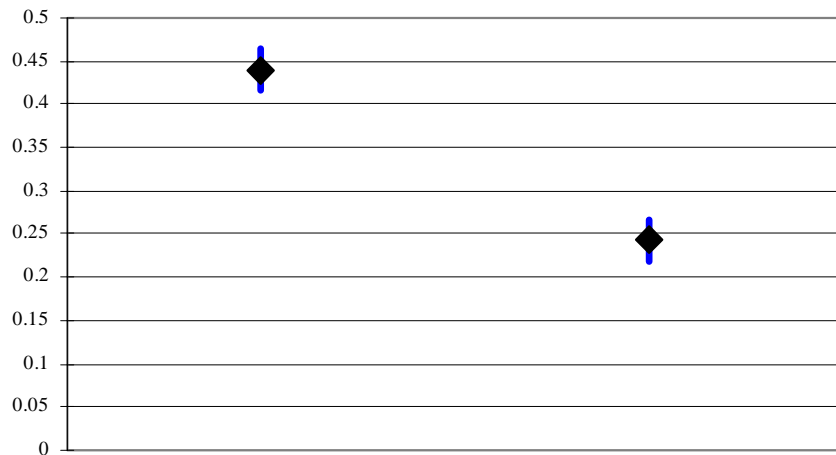
Group practices had benefit of decision support tools while solo practitioners did not.



* Brown GS, Lambert MJ: Tracking patient progress: decision making for cases who are not benefiting from therapy. Presented at the 29th Annual Meeting of the Society for Psychotherapy Research at Snowbird, Utah, 1998

Initiative two results

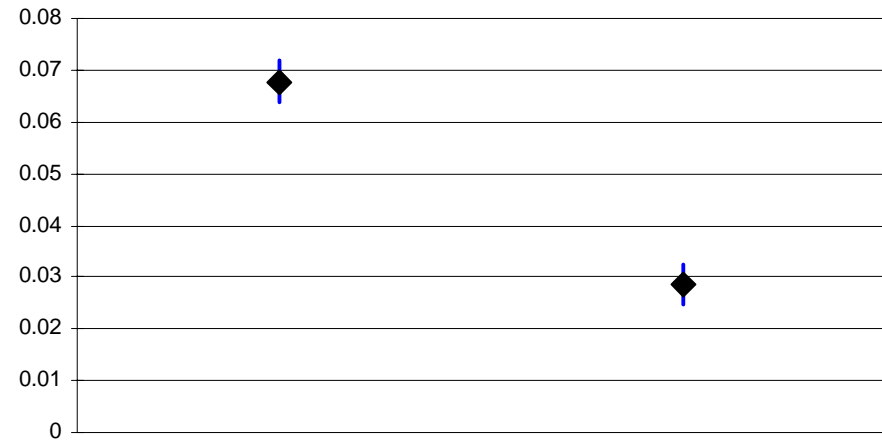
Severity Adjusted Effect Size



**High volume
group practices
(n=4175 patients)**

**Individual providers
(n=4196 patients)**

Effect Size per Session



**High volume
group practices**

Individual providers

Stage 4: Next Steps

- A panel of outside experts asked to analyze the data and advise future research.
- Increased referrals to well organized group practices that meet expectation for data collection and outcomes management
- Increased feedback and decision support to individual providers in effort to bring results in line with groups.

Definition of terms

- Benchmarking outcomes: The practice of comparing treatment outcomes from one sample to another much larger normative sample
- Case mix adjustment: Statistical adjustment to account for differences in the mix of diagnoses and severity of symptoms from one sample to another
- Change score: Difference in test scores from intake to later assessment point
- Effect size: standardized change score (raw score change divided by standard deviation)
- Change Index: a residualized effect size, i.e. the difference between predicted change (using case mix adjustment model) and actual measured change. Scores above 0 indicate above average effect size.
- Severity Adjusted Effect Size: Average effect size for the entire population sample plus Change Index for that particular subgroup of cases for a site, provider, provider type, etc.

About the presenter

G.S. (Jeb) Brown is a licensed psychologist with a Ph.D. from Duke University. His twenty plus year career he has taken him from full time clinician to clinician/administrator/researcher and finally to full time researcher and clinical informatics consultant. His present projects include the development of a comprehensive outcomes management and clinical informatics program for PacifiCare Behavioral Health (4,000,000 covered lives).

Jeb has over a decade's experience in all aspects of managed behavioral healthcare. He served as the Executive Director for United Behavioral Systems of Utah (an United Health Care subsidiary) from 1987 to 1993. In 1993 he accepted a position as the Corporate Clinical Director for Human Affairs International (then a subsidiary of Aetna Health Plans). Jeb was the primary driver behind HAI's outcomes management initiative, and in 1996 his title was changed to Director of Clinical Informatics. He left HAI (then part of Magellan Health Services family of companies) in 1998 to found the Center for Clinical Informatics.

He is a frequent presenter at national conferences. Recent publications include:

–“What really makes a difference in psychotherapy outcomes? Why does managed care want to know?” appearing in *The Heart and Soul of Change*, Hubble, M.A., Duncan, B.L. & Miller, S.D., Eds.; American Psychological Association Press, 1999.

–“Pushing the quality envelope: A new outcomes management system” Brown, G.S., Burlingame, G.M., Lambert, M.J., Jones, E. & Vacarro, J. *Psychiatric Services*. (in press) July, 2001.

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