

The Development and Utilization of Program Outcome Measures for Continuous Quality Improvement

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Demographics versus Outcomes: Are They the Same?

A. Demographics

- Demographics are the characteristics of a human population as used in research. For example: sex, race, age, income, employment status, diagnosis.
- Demographic data is important in research as it gives us a foundation for comparative analysis. For example, are there differences in outcomes in the study population across age range, race, diagnosis etc.?

Demographics versus Outcomes: Are They the Same?

B. Outcome Measures

- Outcome Measures are the quantifiable indicators that gauge program effectiveness.
- Program outcomes can be utilized for Continuous Quality Improvement.
- They inform us as to whether the program elements are optimal in effecting client change/improvement

Demographics versus Outcomes: Are They the Same?

Outcome Measures can be used to answer the questions:

- Are clients improving?
- How much are they improving?
- What is improving?

Outcome Measures do not necessarily assess whether the improvements are directly and solely related to participation in the program or what elements of the program are related to improvements.

“Evidenced-Based” Practice

The following points are from the American Psychological Association’s Policy Statement on Evidenced-Based Practice in Psychology:

- Evidence-based practice is the integration of “best research evidence” with clinical expertise and patient values.
- Best research evidence refers to scientific results related to intervention strategies, assessment, clinical problems, and patient populations in laboratory and field settings as well as to clinically relevant results of basic research in psychology and related fields.

“Evidenced-Based” Practice

- Evidence derived from clinically relevant research on psychological practices should be based on systematic reviews, reasonable effect sizes, statistical and clinical significance, and a body of supporting evidence.

- The validity of conclusions from research on interventions is based on a general progression from clinical observation through systematic reviews of randomized clinical trials, while also recognizing gaps and limitations in the existing literature and its applicability to the specific case at hand.

“Evidenced-Based” Practice

- Evidenced-Based Practice puts particular emphasis on the results of experimental comparisons to document the efficacy of treatments against untreated control groups, against other treatments, or both.
- Practice evaluation is quite different in that it takes place at the start of treatment, during treatment and after treatment. Practice evaluation also uses single case methods rather than large sample experimental research designs.

“Evidenced-Based” Practice

The Oregon Addictions and Mental Health Division has developed an operational definition for Evidence-Based Practices based on a continuum of three levels:

“Evidenced-Based” Practice

Level I

- A prevention or treatment practice, regimen, or service that is grounded in consistent scientific evidence showing that it improves client/participant outcomes in both clinically controlled and real world settings.
- The practice is sufficiently documented through research to permit the assessment of fidelity. This means elements of the practice are standardized, replicable, and effective within a given setting and for particular populations.

“Evidenced-Based” Practice

Level I (continued)

- As a result, the degree of successful implementation of the service can be measured by the use of a fidelity tool that operationally defines the essential elements of the practice.

“Evidenced-Based” Practice

Key points of Level I:

- Supported by scientifically sound randomized controlled studies that have shown consistently positive outcomes.
- Positive outcomes have been achieved in scientifically controlled and routine care settings.

“Evidenced-Based” Practice

Level II

- A treatment or prevention service that is sufficiently documented through research studies (randomized controlled studies or rigorously conducted and designed evaluations).
- It is not necessary that research has been conducted in both a controlled setting and a routine care setting.

“Evidenced-Based” Practice

Level II (continued)

- The elements of the practice are standardized and have been demonstrated to be replicable and effective within given settings and for particular populations.
- As a result, the degree of successful implementation of the service can be measured by the used of a fidelity tool or some other means, such as a quality review based on a manual definition of the practice that defines the essential elements of the practice.

“Evidenced-Based” Practice

Key points of Level II:

- Supported by scientifically sound experimental studies that have demonstrated consistently positive outcomes.
- Positive outcomes have been achieved in scientifically controlled settings or routine care settings.

“Evidenced-Based” Practice

Level III

- A practice or prevention service based on elements derived from Level I or Level II practices.
- The practice has been modified or adapted for a population or setting that is different from the one in which it was formally developed and documented.
- Based on the results of the outcomes, elements of the service are continually adapted or modified to achieve outcomes similar to those derived from the original practice.

“Evidenced-Based” Practice

Level III (continued)

- Practices difficult to study in rigorously controlled studies for cultural and/or other practical reasons but have been standardized, replicated, and achieved consistent positive outcomes will also be considered for Level III.
- Given these conditions, research published in an appropriate peer reviewed journal is still required.

“Evidenced-Based” Practice

Key points of Level III:

- Modified from Level I or II practice and applied in a setting or for a population that differs from the original practice.
- Practice may be difficult to study in a controlled setting.

“Practice-Based Evidence”

- A treatment or prevention service or practice not yet sufficiently documented and/or replicated through scientifically sound research procedures.
- However, the practice is building evidence through documentation of procedures and outcomes, and if fills a gap in the service system.
- The practice is not yet sufficiently researched for the development of a fidelity tool.

“Practice-Based Evidence”

Key point

- Intended to fill a gap in the service system and supported through sound research, documentation of service procedures, and consistently measured outcomes.

Program Elements versus Program Outcomes

Program elements can be assessed using standardized “fidelity scales.”

Program outcomes can be assessed using “outcome measures.”

Evidenced-Based Practice Fidelity Scales

The following information is from the Implementing EBP Project

- “Fidelity” refers to the degree of implementation of an evidenced-based practice.
- A scale that measures fidelity is called a “fidelity scale.”
- The scale items provide concrete indications that the practice is being implemented as intended.

Evidenced-Based Practice Fidelity Scales (continued)

- Assumptions underlying the use of fidelity scales:
 - A fidelity scale should adequately sample the critical ingredients of the EBP
 - Fidelity scales should be sensitive enough to detect progress in the development of a program from the start-up phase to complete development
 - High-fidelity programs are expected to have greater effectiveness than low-fidelity programs in achieving desired outcomes

Evidenced-Based Practice Fidelity Scales (continued)

- Fidelity scales should monitor programs over the course of their development and then routinely
- Programs that are not monitored may erode over time in fidelity of implementation
- Routine use of fidelity scales provides an objective, structures way to give feedback about program development
- Use of fidelity scales can diagnose program weaknesses and clarify strengths

Evidenced-Based Practice Fidelity Scales (continued)

- The Implementing EBP Project has developed fidelity scales consisting of simple-to understand, face-valid items that are rated on a 5-point response format, ranging from 1 = not implemented to 5 = fully implemented, with intermediate numbers representing progressively greater degrees of implementation.
- The response alternatives identify concrete measurable elements of the practice.

Evidenced-Based Practice Fidelity Scales (continued)

- Six fidelity scales have been developed through the Implementing EBP Project:
 - Assertive community treatment (ACT)
 - Supported employment (SE)
 - Illness management and recovery (IMR)
 - Family psychoeducation
 - Integrated treatment for dual disorders treatment (IDDT)
 - Medication management according to protocol (MedMAP)

Outcome Measures

Definition (Lynn D. Woodhouse, M.Ed, Ed.D.)

- The quantifiable indicators that gauge productivity or effectiveness
- The measurable variables by which attainment of objectives may be judged

Outcome Measures (continued)

Purpose of using outcome measures (Lynn D. Woodhouse, M.Ed., Ed.D.)

Monitoring of outcome measures enables a program to document:

- The successes (if successful, what will be different)
- Areas in need of improvement
- The effectiveness of efforts to meet goals
- What can be reported as different because of changes

Outcome Measures (continued)

From the National Resource Center:

Common Myths Regarding Outcome Measures:

- Establishing outcome measures and program evaluation is too complex. We don't have time to do this.
- Evaluation is something to just do once and move on
- There is only one "right" way to do establish outcome measures and perform program evaluation
- I know how well my program is doing. I don't need outcome measures or program evaluation to know this.

Outcome Measures (continued)

From the National Resource Center

Tips for Developing Outcome Measures

- Measure what you can, and measure what you should
 - measure that which is most vital to the intended results of your program
 - ensure that the objectives are actually measurable

Outcome Measures (continued)

Tips for Developing Outcome Measures (continued)

- Plan the evaluation and the program together
 - If possible, develop the evaluation plan and the program design simultaneously rather than after the program has been begun
 - Include program staff in the development of outcome measures

Outcome Measures (continued)

Tips for Developing Outcome Measures (continued)

- Consult generally accepted tools, models and standards
- Take baseline measures
- Take the baseline measures early
- Utilize both client self-report and staff administered measures

Outcome Measures (continued)

Tips for Developing Outcome Measures (continued)

- Use program outcomes as a form of Continuous Quality Improvement
 - Inform staff of outcomes
 - Use outcomes to improve program elements

Development of Program Specific Outcome Measures

What/Why/How

- What data would actually measure the outcomes?
- What is a data base and who should design it?
- What is a data field? (Garbage In/Garbage Out)
- Where should the data base be stored?
- Who should collect the data?

Development of Program Specific Outcome Measures (continued)

What/Why/How (continued)

- Who should enter the data into the data base?
- How frequently should the data be collected?
- Who should analyze the data?
- How should the data be analyzed?
- How should the data be reported (and to whom)?
- How should the data be used?

Operational Definitions

- “Operational Definition” – description of term as applied to a specific situation to facilitate the collection of meaningful (standardized) data.
- An Operational Definition gives communicable meaning to a concept by specifying how the concept is measured and applied within a particular set of circumstances.

Operational Definitions (continued)

- An Operational Definition gives a precise meaning to the spoken or written word, forming a “common language” between two or more people.
- An Operational Definition defines how a word or phrase is used when it is applied in a specific context. This implies that words may have different meanings when used in different situations.

Operational Definitions (continued)

Examples of Operational Definitions in Every Day Life

Operational Definitions (continued)

If you thought coming up with Operational Definitions is easy

Examples from the Ventura County Behavioral Health Integrated Dual Diagnosis Program:

- How we defined “engagement” in the program
 - Problem: Attrition rate was high
 - Solution: Defined “engagement” as two visits post-assessment

Operational Definitions (continued)

Examples from the Ventura County Behavioral Health Integrated Dual Diagnosis Program:

- How we defined “participation” in group
 - Problem: “Participation” can mean different things to different people
 - Solution: “Participation” was defined with four observable measures: (1) talking; (2) listening; (3) giving feedback to others; and (4) accepting feedback from others

Operational Definitions (continued)

Examples from the Ventura County Behavioral Health Integrated Dual Diagnosis Program:

- How we defined "relapse"
 - Problem: How long do you need to be clean/sober to have "relapsed?" Is there a difference between a "slip" and a "relapse?" How long does a "relapse" last to be defined as a "relapse?"
 - Solution: We defined "relapse" as return to use after 30 days of being clean or sober. We have separate questions for alcohol use and other drug use.

Operational Definitions (continued)

Some very strong suggestions in developing operational definitions for your program:

- Have the staff participate in the development of the program outcomes and the outcome measures
- Test drive the outcome measure documents
- If staff are completing the documents differently ----- you have not come to a consensus of the operational definition. Go back to the drawing board!!

*VENTURA COUNTY
INTEGRATED DUAL DIAGNOSIS TEAM
PROGRAM
OUTCOMES*

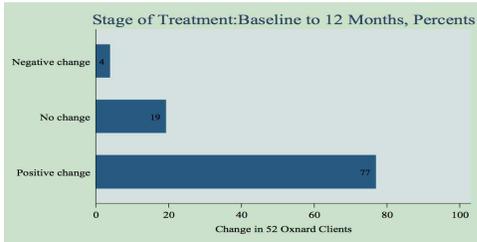
PROGRAM OUTCOMES

Stages of Treatment

- Clients who recover from dual disorders participate in the treatment process through a series of four stages:
 - engagement*
 - persuasion*
 - active treatment*
 - relapse prevention*
- The goal of treatment is to assist clients with movement along this continuum of stages.

Graph of Stage of Treatment Change over 12 Months

This change is highly statistically significant



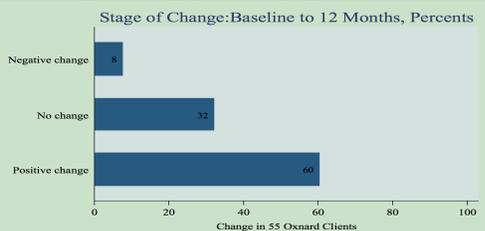
PROGRAM OUTCOMES (continued)

Stages of Change

- People who change maladaptive behaviors progress through a series of distinct stages:
 - precontemplation*
 - contemplation*
 - preparation*
 - action*
 - maintenance*
- As with stages of treatment, the goal is to assist clients in movement along the continuum of the stages of change.

Graph of Stage of Change Transitions over 12 Months

This change is also highly statistically significant

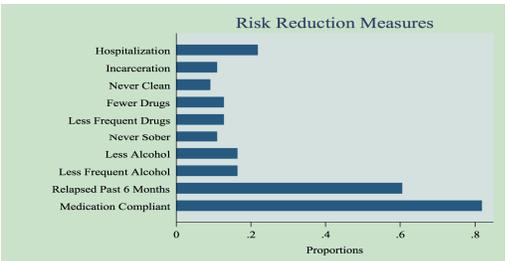


PROGRAM OUTCOMES (continued)

Risk Reduction Factors (First 6 Months of Treatment)

- 80 % of the clients in the IDDT Program avoided hospitalizations and incarcerations
- 80% reduced the frequency and/or amount of substances (if not totally clean and sober)
- 81% of the clients were compliant with their medication regimen
- Only 1% of the clients were never completely clean and sober (for a period of 30 continuous days) during the first 6 months of treatment

Graph of Indicators of Reduced Risk Associated with Treatment at 12 Months

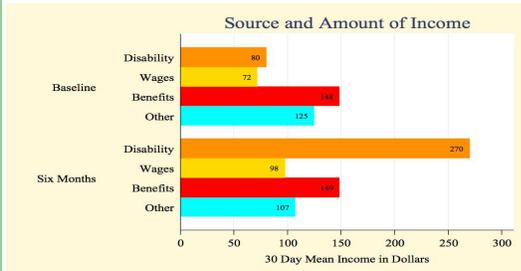


PROGRAM OUTCOMES (continued)

**Changes in Income Categories for
53 Clients Homeless at Program Entry**

	Baseline	Six Months
Disability Income	5 persons	16 persons
Average Disability Income	\$80.00	\$270.00
Employment	0 persons	9 persons
Mean Wage Increase Per Month	\$3,803.00	\$5,072.00

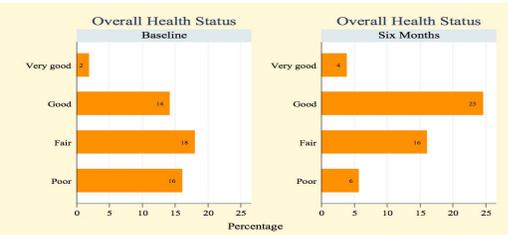
Graph of Changes in Major Income Categories for Clients Homeless at Time of Entry and at Six Months



PROGRAM OUTCOMES (continued)

The next graph shows how client self-rating of overall health status improved. In particular the percentage with poor health declined dramatically.

Graph of Overall Self-Rating of Health



PROGRAM OUTCOMES (continued)

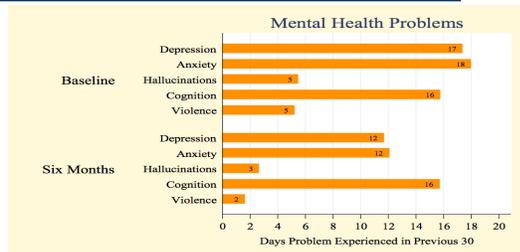
Mean Number of Days the Symptom was Experienced During the Previous 30 Days

(All changes are statistically significant)

	Baseline	Six Months
Depression	17.3	11.7
Anxiety	18.0	12.0
Hallucinations	5.6	2.6
Cognition*	16.0	16.0
Violent Behavior	5.2	1.6

* (comprehension/concentration/memory – these mental functions can be impaired for an extended amount of time following abstinence)

Graph of Mean Number of Symptoms (experienced per day) at Baseline and Six Months

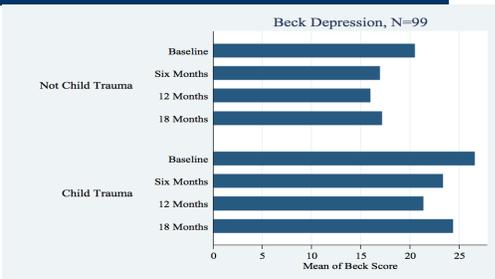


PROGRAM OUTCOMES
CLIENTS WITH TRAUMA HISTORY

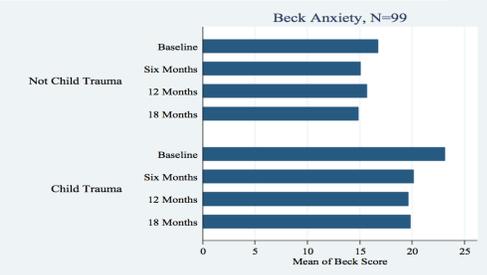
A significant body of research indicates a very high co-morbidity between substance use disorders and trauma. Incidence rates in our program are:

	Males	Females
Childhood Physical Abuse	48%	52%
Childhood Sexual Abuse	32%	63%
Adult Abuse	13%	78%
Abuse of Any Type	48%	94%

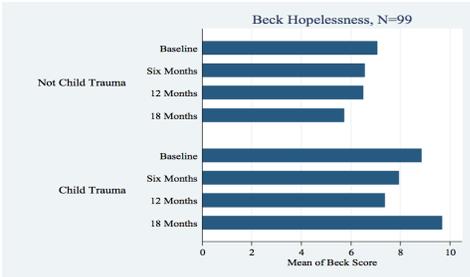
Mean Beck Depression Scale Scores



Mean Beck Anxiety Scale Scores



Mean Beck Hopelessness Scale Scores



Statistical significance of association between number of group therapy or individual therapy sessions and outcomes at six months (N=99)

Outcome	Group Sessions	Individual Visits	Attend 12-step
Hospitalized in the 6 months	Not Significant	Significant Positive Effect	Not Significant
SATS improvement	Not Significant	Significant Positive Effect	Not Significant
Combined outcomes*	Not Significant	Significant Positive Effect	Not Significant

*Combined outcomes includes hospitalization, jail, never being clean, never being sober, relapsing. Each outcome was assigned a numeric value of 1, resulting in groups of 0, 1, 2, 3 and 4 outcomes having occurred (though in practice no one had 4).
