

## **Outcome Data for 2008**

Jasper Mountain Psychiatric Residential Program  
January 2009

### **Executive Summary**

The following outcome data derives from a project begun in January of 1998, and reports the eleventh year of data on children discharged from the intensive residential treatment program during calendar 2008. The twenty graduates were given post-tests to compare with data obtained from pretests at the start of treatment generally nine to twelve months earlier. The results of several measures provided by parents, caseworkers, clinical team as well as child self reports, reflected the following:

- Most of the major problem behaviors the children entered the program with were eliminated, and majority of the remaining problem behaviors were much improved. Major behavior improvement occurred in 82% of the problem areas.
- The data resulted in a strong 58% average improvement for clinical treatment goals and objectives for all children.
- The children's self-rating on a posttest reflected a more positive and accurate self-perception than they had at the start of treatment.
- The children were downgraded in impairment overall from "severe impairment" to "moderate impairment."
- Children with attachment disorders can be very difficult to treat, but the graduates with this diagnosis showed improved relationship skills at the end of treatment. All but one of the twenty children went into a family placement at graduation including the children with attachment problems.

The report ends with a discussion of what is viewed overall as very positive improvement for the 146 graduates coming out of the program the last eleven years.

## Introduction

Jasper Mountain implemented a comprehensive outcome data study in January of 1998. The information reported here is based upon data regarding the twenty children who were discharged from the intensive residential treatment program during calendar 2008, with some reference to all 146 children discharged since 1998.

Outcome data essentially indicates the changes that occur during the process of the treatment program. While very useful, outcome data has limitations. It does not say if the changes are temporary or lasting, for this purpose a longitudinal follow-up study is needed, which was also implemented in 1998 (see "Longitudinal Follow-Up Report" 7/1/01 and "Follow-Up Report Jasper Mountain Aggregate Data" 1/09). If the two data sets are compared, it is easy to see that lasting changes are of more practical importance than short-term changes. However, it is extremely unlikely that lasting changes are possible without the foundation of initial changes. Because of this, and the ability to identify improvement of children in a particular year, outcome data is very important.

Another reason outcome data is important is to determine if the treatment program is in fact accomplishing what it intends to accomplish during the time the child is in residence. Based upon the answer to, "do children in the program improve over time?" decisions can be made to improve specific aspects of the program. Follow-up data does not indicate if the child made changes during the program; to answer this question, outcome data is required. The best outcome data is a comparison of two snap shots--at the point treatment begins and again when it ends. The difference between the two measures indicates changes the child has made during treatment.

It must be mentioned that all changes that have occurred in the program cannot be immediately attributed to the treatment provided. Particularly with young children, there is a developmental or maturational expectation that the learning curve of young children is greater than for other periods of life. This is one reason that treatment can be most efficient (highest return for the investment) at younger developmental ages. Maturation indicates an expectation that some child would have matured even without treatment. An experimental research design with tightly controlled variables and random assignment would be necessary to indicate exactly what caused the changes. Such a design is impractical with the multitude of intervening variable in residential treatment. With such a research design, there would need to be a control group and random assignment of children to our program and no treatment. This creates ethical problems denying children seriously in need of treatment from obtaining it just so a research project can be conducted. The agency has opted to collect outcome data that can measure the changes themselves without definitively identifying the cause of the changes. This type of design is called outcome assessment and is a recognized

approach in the outcome literature. Our priority is to help children heal and grow regardless of whether we can take any specific credit for the improvement.

There are three types of data or observations of change that have been used. The first is quantified standardized data, the second is personal subjective judgments, and the third is objective behavioral tracking. One or more of these approaches is commonly used in outcome studies, with the most complete data coming from a combination of all three. All three have something to add to the reflection of changes the child has or has not made during treatment. Multiple sources of data and observers can provide a more complete picture.

One of the unique aspects of our agency's outcome study is the child has an opportunity to contribute to the process and provide a subjective point-of-view. The child's observations of himself or herself are combined with the observations of parents and the clinical team. All aspects of the outcome data have been quantified to enable measuring various important objectives of treatment.

## **Measurement Tools**

The following seven measures have been used:

- State of Oregon Level 5 Criteria--this instrument is used by the State to screen which children need intensive treatment. The instrument identifies eleven areas of serious behavior disorder.
- The Vineland Adaptive Behavior Scales (Sparrow, Balla and Cicchetti, 1984)--this standardized instrument reviews the important skill areas of Communication, Daily Living Skills, Socialization and Maladaptive Behavior. Information on this instrument primarily comes from parents.
- The Personal Inventory of Kid's Optimal Capacities (Ziegler, 1998)--this scale allows children to assess their own development in multiple areas of skills and capacities.
- Clinical improvement--each child's individualized treatment plan forms the basis of rating improvement on very specific areas that are pertinent to the child. The observations of improvement come from the clinical team in each area of the measurable treatment objectives.
- The Attachment Disorder Assessment Scale--Revised (Ziegler, 2006)--this scale has been used for the last 16 years and recently published with the results of independent psychometric research from six states. It has been shown to be useful in determining the presence and severity of attachment issues.
- Child and Adolescent Functional Assessment Scale/CAFAS (Hodges, 1990)--this is a standardized assessment instrument to determine the level of

functioning in multiple areas of the child's life including home, school, community, behavior, emotions and others.

- LaneCare Clinical Evaluation Instrument (Scheck, 2000)--this is a standardized assessment instrument to reflect the overall psychiatric and behavioral functioning of the child in fourteen domains.
- Child and Adolescent Service Intensity Instrument (AACAP, 2005) This instrument has been chosen by the State of Oregon to help determine the level of need for treatment intensity.

## **Data Results**

### **State of Oregon Level 5 Criteria**

The State Department of Human Services uses this instrument to determine if children have a high level of need and are appropriate for intensive residential services. This information is completed by the caseworker at the time of referral, which represents the major behavioral concerns behind the referral. This form includes the following behaviors: aggressive, assaultive, abusive, destructive, depressed or suicidal, firesetting, sex offending, feces smearing or soiling, other inappropriate sexual behavior, psychosis, self-abuse, running away, mental retardation or developmental delays. The significance of these issues and behaviors is that they can often prevent a child from living in a family. This measure is more objective than other measures since the child either exhibits the behavior or does not.

As with the last eleven years, graduates of the program overall showed the most significant improvement on this particular scale of the seven measurements obtained. The twenty graduates this year came into the program with an average of 5 major problem areas each, this is identical to the last three years. This indicates that overtime the children in our program have multiple serious problem areas. At the end of treatment the average child reduced the serious behavior areas significantly. Significant improvement was noted at graduation in 82% of the problem areas present at admission compared to 74% last year. The rate of improvement improved this year after two years of lower rates of improvement associated with decreasing lengths of stay in the program due to factors outside of our program. Before length of stay began to decrease the average improvement over the last seven years was 90%. This data further underscores the program's track record of having very few children (one each year the last two years) leaving this intensive program needing to be referred to a subsequent residential program. Over this last year, all but one child who graduated was absent the serious behaviors that would prevent them from being in a family home.

In addition to the overall improvement of 82%, 43% of the problems areas were completely eliminated, 39% of problems that remained were much improved and 18% of problem areas persisted. Overall the children reflect significant improvement in the behaviors that caused their referral to treatment.

### **The Vineland Adaptive Behavior Scales**

The Vineland Adaptive Behavior Scales is a standardized instrument rating several adaptive "life skills"--communication, daily living skills, and socialization. It provides a reliable and validated means to compare children in the program with children in the general population. This instrument uses the opinions of the family, which is important since a family will be the most likely next step for the child.

The results of the Vineland for the graduates in 2008 varied by area. Coming into the treatment program, the children were quite delayed in all three domains, particularly socialization. This has been the pattern over the last eleven years. At the beginning of treatment the children collectively were the lowest functioning in the area of socialization averaging at the 5<sup>th</sup> %ile, which is the lowest of any previous year. This means that on average these twenty children would be 5<sup>th</sup> in line of 100 children in terms of socialization. Beginning treatment the children averaged the 9<sup>th</sup>%ile for daily living skills and 10<sup>th</sup>%ile for communication. These scores are some of the lowest scores of any previous cohort of children, indicating that they have more delays than previous residents. At the end of treatment the children showed mixed improvement overall. Two domains improved and one showed a decrease. Communication improved from 10<sup>th</sup>%ile to the 14<sup>th</sup> %ile compared to the 28<sup>th</sup>%ile to 32<sup>th</sup>%ile last year. For daily living skills they improved from the 9<sup>th</sup>%ile to 19<sup>th</sup>%ile, greater improvement than last year's 9<sup>th</sup>%ile to 10<sup>th</sup>%ile. Socialization decreased from the 5<sup>th</sup>%ile to 3<sup>rd</sup>%ile. These are some of the lowest gains made by graduates for a single year. These modest gains overall may continue to reflect the shorter length of stays in the program.

Of 55 overall Vineland measurements, 56% indicated improvement, 31% showed some decline and 13% remained the same. This year's graduates showed minor improvement overall but they remain significantly behind most peers of their age.

Research is often cited that congregate care can have adverse results with the contagion of child learning problem behaviors. This may occur in some settings but is not indicated in the data on graduates of Jasper Mountain over time. First of all the vast majority of serious problem behaviors are extinguished and it continues to appear that the significant opportunities in a residential setting to interact and develop social skills, communicate with peers and adults, and learn daily living skills (although these areas showed less improvement than in the past with shorter stays) has helped these children gain ground on their normal peers. Other research has postulated that shorter lengths of stay in residential settings show the same gains or improve gains. This has not been

found in our outcome studies over the years. Longer stays have reflected better improvement than shorter stays.

### **The Personal Inventory of Kid's Optimal Capacities--The PIKOC**

The PIKOC provides a unique tool currently available only to our program. This instrument brings an important component of growth to the overall consideration of improvement--the child's opinion. Although some would question the value or truthfulness of the child's self-opinion, research on the PIKOC has shown that children tend to rate themselves more evenly than parents or teachers, in that they rate their weakness slightly higher and their strengths slightly lower than adults (parents and teachers). With this in mind, the self-reflection of the children is of interest given that most have shown significant growth and improvement on several other measures. Consistent with all previous years, the opinions of the children were less positive about their own progress than the opinions of adults. Overall 56% of the children indicated self improvement on health issues with 44% indicating some decline. Overall the children rated themselves on average 11% improved, which is similar to previous years.

Overall the "health integrity index" or total score on the PIKOC gives a picture of how the child views his/her overall functioning in eleven areas. In 1998 there was not a significant change in the pre and post test, in 1999 there was a 6% improvement, in 2000 a 13% improvement, in 2001 a 4% improvement, in 2002 a 3% improvement, in 2003 a 15% improvement, in 2004 a 12% increase, 18% in 2005, 15% in 2006, 18% in 2007 and 11% in 2008.

Overall the rate of improvement indicates that the children see themselves modestly better. Since other measures indicate that children improved more than this area, this modest effect may be caused by several factors. Although it can't be determined from this data exactly what each child was thinking, there are a couple useful clues. First, a major aspect of the treatment program is on honest self-reflection (some children gave lower post scores which were more accurate). Peer feedback has been built into the program on a daily basis. Second, children tend to understate strengths on the instrument. It appears conceivable that many of the children may be cautious about their own improvement. It is possible that children have both adjusted their self-perceptions (accurately lowered their scores based on improved self-awareness) as well as raised other scores based on awareness of self-improvement. As with the data from previous years, the children's self-reports of improvement are the most conservative of any of the outcome measures. Although this surprises some adults, this pattern is consistent with research findings that children are conservative when rating personal improvement.

## **Clinical Improvement**

The clinical improvement is the data that is most specific to the individualized programs of each child. Improvement on clinical treatment issues rounds out the outcome data by adding the opinion of the clinical team who are responsible to develop, implement, and evaluation the treatment plan. Because treatment issues go right to the heart of the child's problems, they can be some of the more difficult improvements for the child to make.

Each of the treatment goals was assessed for the percent of improvement based on the manageable objectives in the treatment plan. Each child's treatment issue scores were averaged, as were the average overall scores for each child's clinical improvement. The result was significant improvement across the board in clinical treatment areas. The average percent increase was 58%, which is just close to the 59% average of the last eleven years. Since these issues some of the more difficult and intractable concerns for each child, this rate of improvement is considered very good given the intensive population it reflects.

## **The Attachment Disorder Assessment Scale--Revised**

This instrument is only given to children with a primary diagnosis of reactive attachment disorder. Assessing the severity of attachment problems involves consideration of the child's developmental history, the quality of relationships with others and problematic behaviors. The instrument has now been given to 87 of 146 graduates, or 60% of the graduates.

Although some children rated in the "severe attachment disorder" range, the average of the children at the beginning of treatment was rated "moderate attachment disorder." After residential treatment, the average score dropped 34%, which is the highest level of improvement over the last eleven years. 82% of the children improved in their ability to develop attachment relationships this year, which is among the best percentages of any year. In considering these results it is important to keep in mind that of the three areas that determine the child's score, one cannot be lowered--the child's history. Therefore the gains came in the child's behavior and quality of relationships, which are important gains and will be needed in the family placements most of the children transitioned into.

## **The Child and Adolescent Functional Assessment Scale/CAFAS**

The next instrument was the Child and Adolescent Functional Assessment Scale. To obtain aggregate data, the overall score for the instrument was compared pre and post treatment. On the scale, the higher the score, the higher the dysfunction. The cohort

mean score upon entering the program was 154, reflecting by far the most disturbed population in our program's history. When these same children were discharged from the program the mean score dropped to 95. While 95 is a very high CAFAS score to discharge a child, and the highest average of any previous year, the improvement rate of 38% is one of the best rates of improvement for past years. For a comparison last year was the previous high for incoming and outgoing children at 121 to 77. 90% of the children improved, 5% stayed the same and 5% deteriorated during the transition out of the program. On the CAFAS this reflects that the children went from "severe impairment" overall to "moderate impairment" for the combination of the four areas of Role Performance, Behavior toward others, Moods/self harm, and Thinking. The change in scores reflects that, while not cured at the end of the program, the children were able to continue their growth and development in a less structured and intensive setting, such as a family. However, due to the pressures of managed care and shorter residential stays, this data also reflects that children are being transitioned at a much higher level of disturbance than in the past. This can be a cause for concern in family homes and in the community.

### **The LaneCare Clinical Evaluation Instrument**

The fourteen domains of the LCEI are: hospitalizations, medications, recent problems, severity of symptoms, intensity of service need, symptom management, duration of symptoms, school/work functioning, daily living activities, family support, stability of housing, community support, quality of life, and self-efficacy.

The highest (most severe) score possible is 52. The twenty children were very consistent on this scale at the beginning of treatment ranging from a low of 30 and high of 45 and went to a low of 24 and high of 56 in the posttest. On the LCEI range, the mean pretest score of graduates was 40, which equates to the higher range between serious and severe problems in overall functioning. The posttest mean was 32, which equates to moderate/serious problems in overall functioning. Considering the full group, 85% improved, 0% stayed the same, and 15% regressed. As a group, the children improved in functioning from serious/severe problems to moderate/serious problems. The significant result was that the program's residents exhibited significant psychiatric and behavioral problems in the beginning of treatment but much so at the end.

### **Child Assessment of Service Intensity Instrument (CASII)**

This is the third year that this instrument has been included in the outcome measures. This instrument was designed by psychiatrists to determine the level of intensity of treatment the child needs. It was included due to the fact that the new intensive mental health system now uses it on all children.

On the pretest the children averaged a score of 26. On the post test they improved to 21. 90% of the children improved on this measure, 0% stayed the same and 10% showed deterioration of functioning. One of the two children who deteriorated left the program due to her age and had an extremely difficult transition.

## **Discussion**

This year's data, when considered with data from all graduates of the program since 1998, and utilizing several sources of observations, provides data that children improved most substantially in the areas of serious behavior disturbances. Secondly, the children showed significant improvement in relationship skills and levels of attachment to adults. Third, they showed good progress in specific treatment areas. Next their level of disturbance decreased on each of the measures. When their overall impairment is measured, they were downgraded on average from severe impairment to moderate impairment. The children this last year reflected modest gains in their self-report on the health index, approximately the same as previous years.

There was strong agreement across measures reflecting improvement. Only one scale out of ten subscales showed a decline (socialization). The other nine scales reflected good to significant improvement. Notable was the Attachment Disorder Assessment Scale-Revised, where 82% of the children with attachment disorders showed a significantly improved ability to form relationships.

We are also monitoring the impact of the changes in the Oregon mental health system. There appear to be three impacts we observe in our data. There is no question that shorter stays have resulted in more children entering and graduating from the program than in any previous year, this year's turnover of twenty children is a new record, and double several previous years. The second impact is with fewer children in the residential programs in Oregon the population is anticipated to be more disturbed. The data from our program would support this impact, with this cohort scoring the highest level of disturbance of any previous year.

The final impact of the new intensive mental health system is somewhat less clear. Over the last three years shorter residential stays have coincided with a lower level of improvement on some measures. This result may be due to the clearly more serious cohort of children over the last three years, but with all other factors within the program being approximately the same, the only specific change is that children now are removed from the program by funding sources at a more serious level than in the past. Although research is sometimes referenced that shorter stays have not hindered outcomes or may even improve outcomes, this has not been the case at Jasper Mountain over the last three years. If the program could guarantee to parents at the point of intake

for new children, the following track record reflected in the above outcomes, it would undoubtedly be received with enthusiasm:

- 82% improvement in serious behavior.
- Downgraded impairment allowing 95% of graduates to go into a family.
- Improved relationship skills in children with attachment disorders.
- An improved self-perception of health by the child.
- Improvement in global functioning from serious problems to moderate problems.

We are now eleven years into the process of outcome measurements with all 146 children who have graduated since 1998. However, the results to date are showing an emerging and consistent trend toward significant improvement in most areas. The data to date provides a strong positive reflection of the improvement made by these children at the point they left the program compared to when they began treatment.