JASPER MOUNTAIN
Hope for Children & Families

Outcome Data for 2009

Jasper Mountain Psychiatric Residential Program
February 2010

Executive Summary

The following outcome data derives from a project begun in January of 1998, and reports the twelfth year of data on children discharged from the intensive residential treatment program during calendar 2009. 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 74% of the problem areas.
- The data resulted in a 45% 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 but remained at a serious level.
- 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. There was improvement in relationship skills and ability to attach and bond in 79% of the graduates.

The report ends with a discussion of what is viewed overall as very positive improvement for the 169 graduates coming out of the program the last twelve 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-three children who were discharged from the intensive residential treatment program during calendar 2009, with some reference to all 169 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 (see "Follow-Up Report Jasper Mountain Aggregate Data" 1/10). 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.

The third value of outcome data is to consider the cohort of children the program has been asked to work with over the last year and the years previously. In this regard the trends in the children will be discussed over the last five years. This time period has been picked because the Oregon mental health system changed the way it uses intensive residential treatment five years ago.

It must be mentioned that all changes made by children 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 variables 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 assessment 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 or referral source at the time of admission, 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 twelve years, graduates of the program overall showed the most significant improvement on this particular scale of the seven measurements obtained. The twenty-three graduates this year came into the program with an average of 4.7 major problem areas each, this is constant with 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 74% of the problem areas, somewhat lower than last year but consistent with data over time. The rate of improvement went down slightly but very similar to the average of the last five years. 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 leaving this intensive program needing to be referred to a subsequent residential program.

In addition to the overall improvement of 74%, 28% of the problems areas were completely eliminated, 36% of problems that remained were much improved and 36% 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 2009 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 twelve years. At the beginning of treatment, the children collectively were the lowest functioning in the area of socialization averaging at the 2nd percentile, which is the lowest in four years. This means that on average these twenty-three children would be 2nd in line of 100 children in terms of socialization. Beginning treatment the children averaged the 8th percentile for daily living skills and 5th percentile for communication. These scores are by far 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 did not improve. Communication improved from 5th percentile to the 13th percentile. For daily living skills they improved slightly from the 8th percentile to 9th percentile. Socialization decreased on average from the 2nd percentile to 1st percentile, however this is an average and more children improved than deteriorated. 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, 49% indicated improvement, 26% showed some decline and 26% 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 the children rated themselves on average 16% improved, which is somewhat higher than 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, 11% in 2008, and 16% in 2009.

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 treatment 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 45%, which is the lowest level of improvement of the last five years. Since these issues are some of the more difficult and intractable concerns for each child, this rate of improvement is considered good given the intensive population it reflects.

The Attachment Disorder Assessment Scale--Revised

This instrument was given to most of the children this year where in the past it was 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 101 of 169 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 22%, which is less improvement than last year but about average over time. 79% 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 140, just under the most disturbed population in our program's history in 2008. When these same children were discharged from the program the mean score dropped to 100. This is the highest CAFAS discharge score in our program's history indicating that funding sources removed children with very serious existing disorders. The improvement rate of 29% is a similar rate of improvement for past years. 74% of the children improved, 4% stayed the same and 22% deteriorated during the transition out of the program. On the CAFAS this reflects that the children on average left the program with severe impairments for the combination of the four areas of Role Performance, Behavior toward others, Moods/self harm, and Thinking. The change in scores reflects improvement for many of the children and most were able to transition to families. 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-three children were very consistent on this scale at the beginning of treatment ranging from a low of 26 and high of 46. On the LCEI range, the mean pretest score of graduates was 41, which equates to the higher range between serious and severe problems in overall functioning. The posttest mean was 35, which equates to moderate/serious problems in overall functioning. Considering the full

group, 74% improved, 9% stayed the same, and 17% 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 fourth 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 25. On the post test they improved to 22. 78% of the children improved on this measure, 5% stayed the same and 17% showed deterioration of functioning.

Comparison of the Last Five Years

Comparing program graduates the last five years reflects more similarities than differences. The children over this period are remarkably similar in overall functioning on several measures. The exceptions are Vineland scores, CAFAS scores and clinical improvement. On the Vineland, the children are much more delayed in the last two years and the discharge CAFAS scores this year were the highest in our history. There is no question looking at this data that the system of care is referring more damaged children and requiring that they discharge with more severe issues than in the past. Because of both of these factors the level of clinical improvement, while good, is far lower than the decades before the mental health system changed in 2005. While Jasper Mountain has its view of the system changes, the system has its own view. Higher levels of disturbance indicate the right children are receiving help. While the children are being discharged at higher levels of disturbance, the shorter stays mean more children are given the intensive treatment they need.

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 level of relationship skills, disturbance as measured by the CASII and serious behavior disturbances. When their overall impairment is measured, they were downgraded but as a group they remained very impaired. 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 modest to good. Notable was the Attachment Disorder Assessment Scale-Revised, were 79% 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-three children is a new record, and double the numbers before 2005. 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 five years since the system changed. 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:

- 74% improvement in serious behavior.
- Improved relationship skills in children with attachment disorders.
- An improved self-perception of health by the child.
- Improvement in global functioning.

We are now twelve years into the process of outcome measurements with all 169 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.