

Lakeview Neurorehabilitation Center
244 Highwatch Road
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2007 Program Evaluation Report

“Lakeview facilitates the full realization of human potential for individuals affected by neurologic and behavioral challenges through the provision of clinically sound goal-oriented treatment in a safe and caring environment.”

INTRODUCTION

Lakeview NeuroRehabilitation Center's programs and services provide a full continuum of care, through cost effective neurorehabilitative and behavioral services. The Center, established in 1987, has a strong track record of providing specialized treatment.

Lakeview's program evaluation report is an analysis of key performance improvement activities derived from a variety of sources including; department, program and committee quality improvement indicators, stakeholder input, annual facility wide Strategic Plan, Accessibility Plan, and various other outcome measures. Data is collected and analyzed from numerous empirical and non-empirical measures including:

- Woodcock-Johnson Scales of Independent Behavior, Revised. (SIB-R)
- Discharge Follow-up Outcomes Study
- Clinical, personnel and fiscal databases
- Daily Census reporting
- Stakeholder Satisfaction Surveys
- Department specific quality improvement indicators

This report analyses our programs' performance in four key domains; efficiency, effectiveness, access and stakeholder satisfaction. The data and recommendations from past analyses have been shared with internal and external stakeholders and subsequently became the genesis for programmatic changes as well as future strategic planning and ongoing performance improvement activities.

For example:

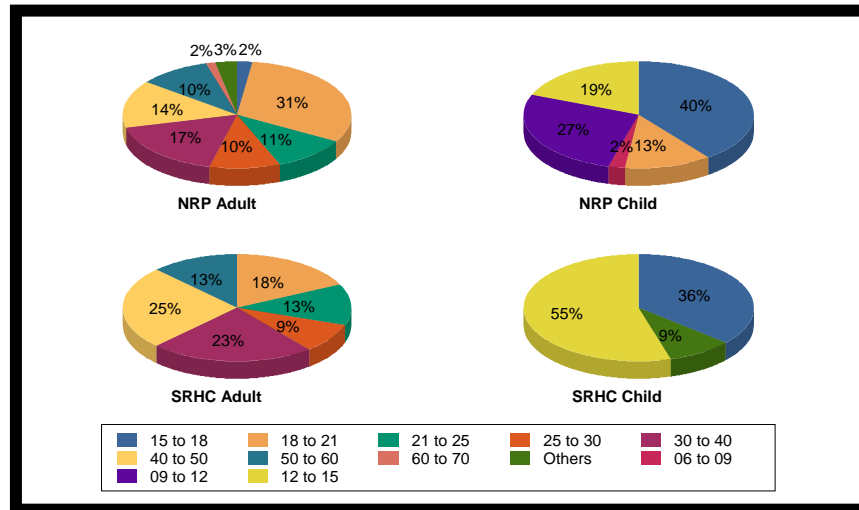
In 2004, analyses of physical intervention statistics including number of interventions, duration of events, and injuries to staff during events, lead to the conclusion that our standardized crisis intervention curriculum did not adequately meet the needs of our program participants. The recommendation to the Board of Directors was that alternate products should be evaluated. A number of products were evaluated and a determination was made that Professional Crisis Management (PCM) would most likely help us meet the goal of reducing the key indicators expressed above. PCM was implemented in April 2005. Ongoing monitoring of physical intervention data has proven that this product did reduce the number and duration of these events.

Although this report can only review a few key indicators, as part of our continuous quality improvement activity, each department within the organization is required to select their own quality indicators. These indicators, both clinical and administrative, are reviewed on a monthly basis by our Quality Counsel and quarterly with the entire team of program directors as well as the Board of Directors.

DEMOGRAPHICS

Lakeview Neurorehabilitation Center serves individuals with neurologically based behavioral challenges across a variety of age ranges.

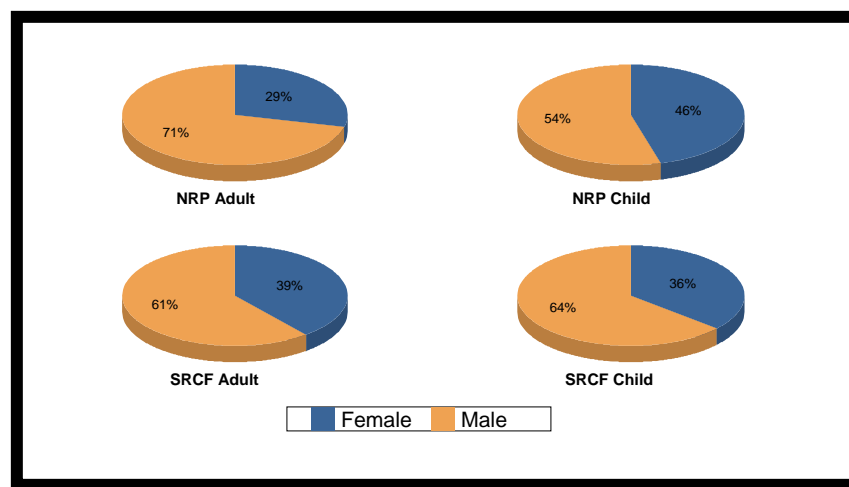
Figure 1: Age distribution by program



NRP – Neurorehabilitation Program SRHC – Supported Residential Housing

Lakeview’s youth program serves program participants 8 to 18 years of age. The adult program serves individuals 18 and older and recognizes the special needs of the 18 to 21 year old cohort who attend our on-site licensed school. Community Integrated Homes serve adult populations over the age of 18 with the exception of Sebago Place which serves program participants 8 to 21 years of age.

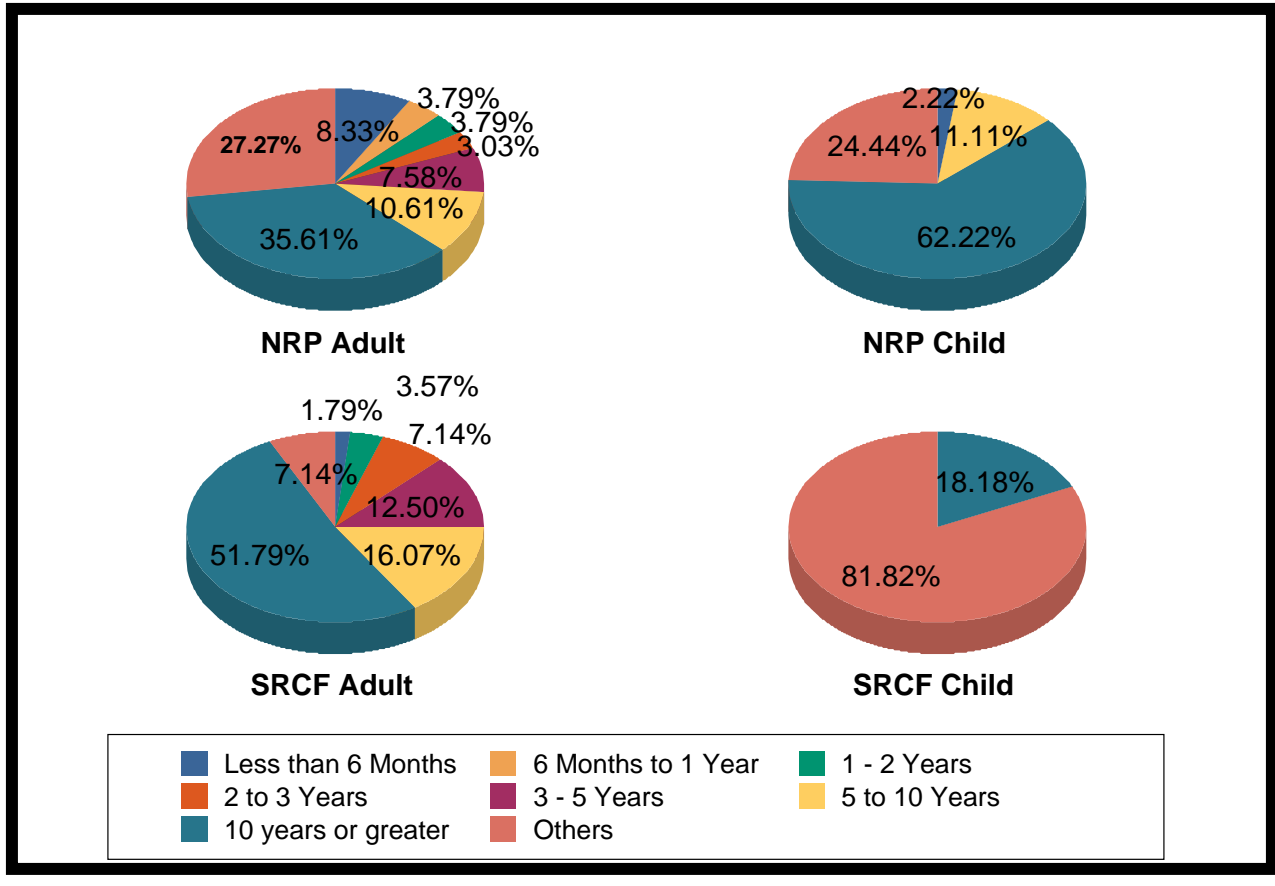
Figure 2: Gender distribution by program



NRP – Neurorehabilitation Program SRHC – Supported Residential Housing

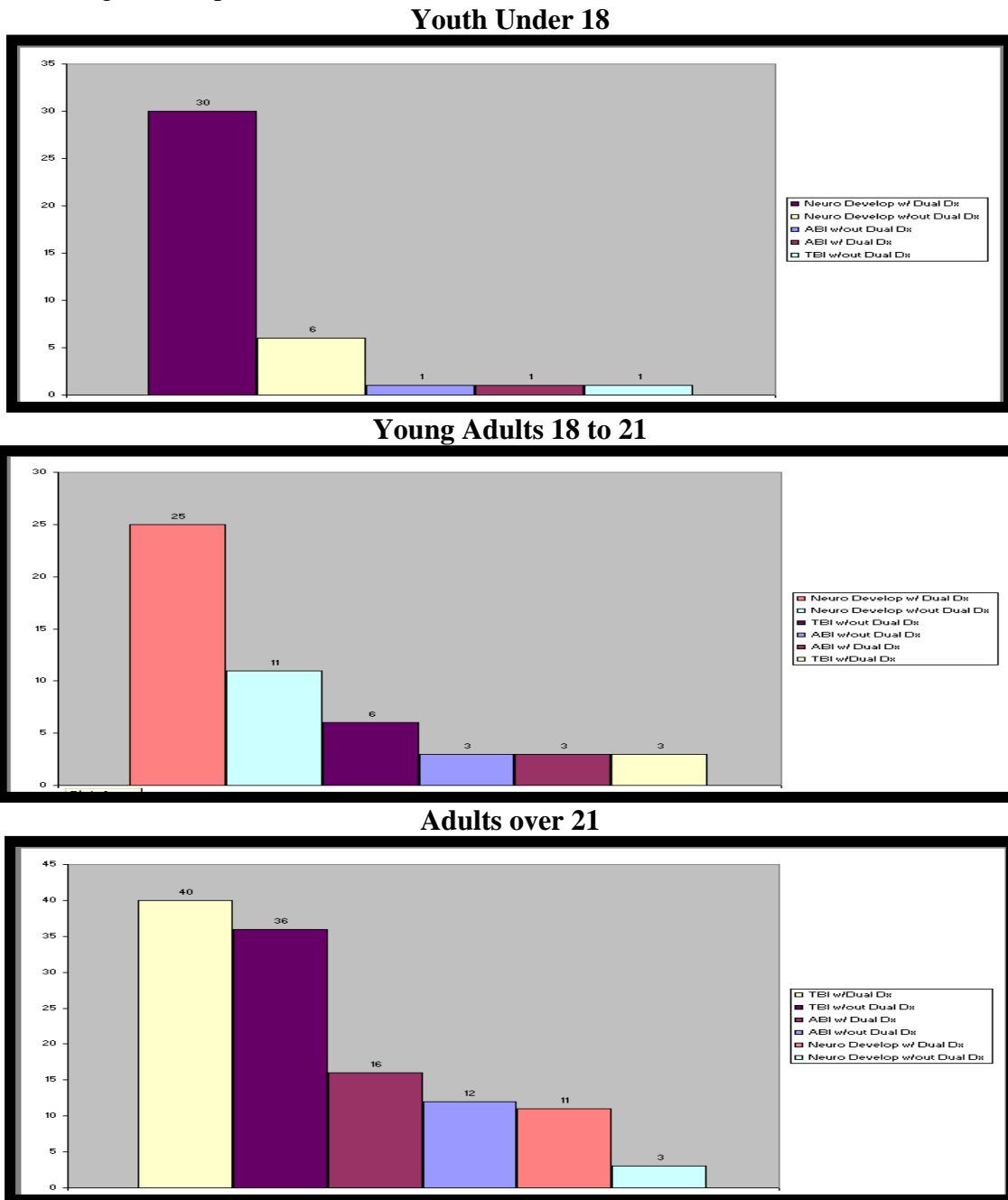
All programs within the Lakeview system of care serve program participants of both genders. Within the youth program individual cabins/floors are gender specific.

Figure 3: Time from onset of condition to admission by program



As the figure 3 shows, Lakeview serves adults throughout the rehabilitation process. Currently, the adult population is primarily post-acute in nature (i.e. Greater than ten years). On the other hand, the majority of the youth program participants experienced their neurological onset beginning at birth.

Figure 4: Diagnostic representation



Given the heterogeneous nature of our population, we identified six diagnostic clusters to represent the populations served. These are as follows:

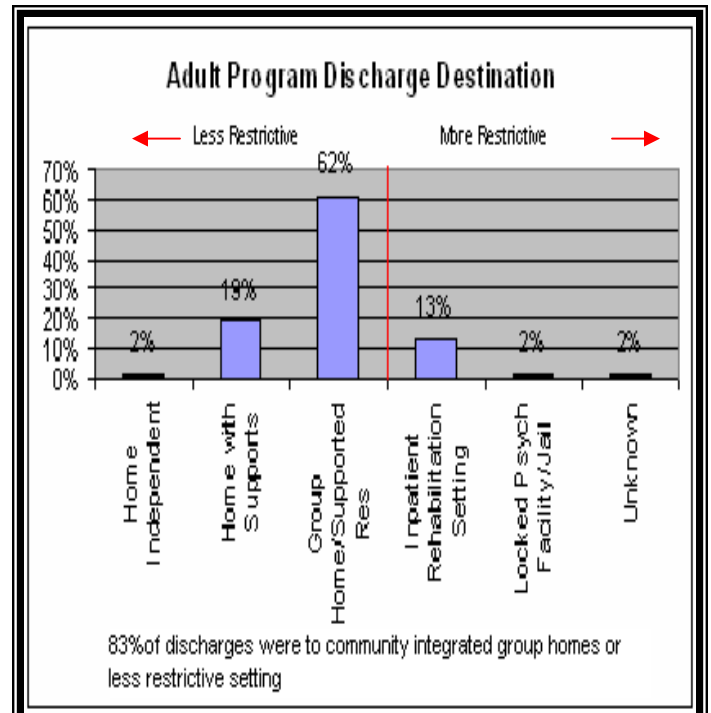
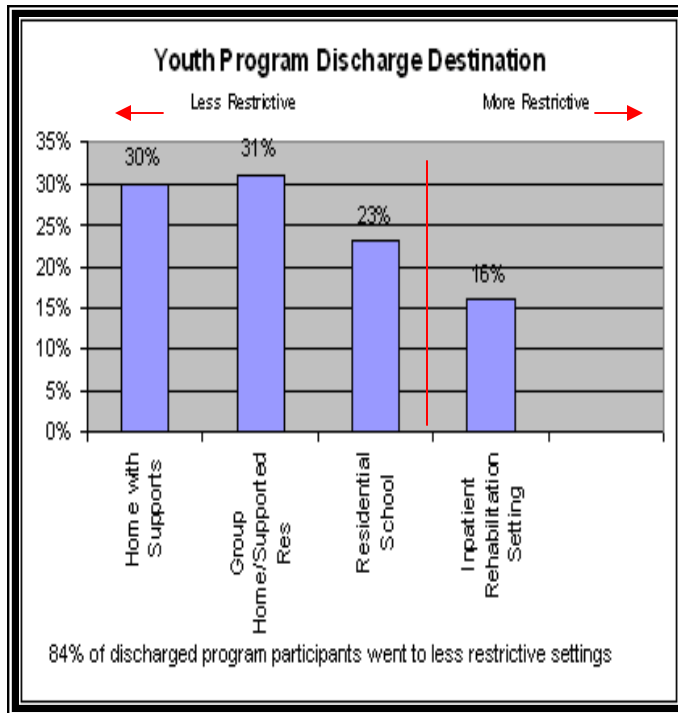
- 1) Traumatic Brain Injury (TBI) with dual diagnosis
- 2) TBI without dual diagnosis
- 3) Acquired Brain Injury (ABI) with dual diagnosis
- 4) ABI without dual diagnosis
- 5) Neurodevelopmental with dual diagnosis
- 6) Neurodevelopmental without dual diagnosis

PERFORMANCE IMPROVEMENT DOMAINS, DATA COLLECTION, AND ANALYSIS:

Our program evaluation is organized into four sections pertaining to domains outlined by CARF: Effectiveness, Efficiency, Stakeholder Satisfaction, and Access.

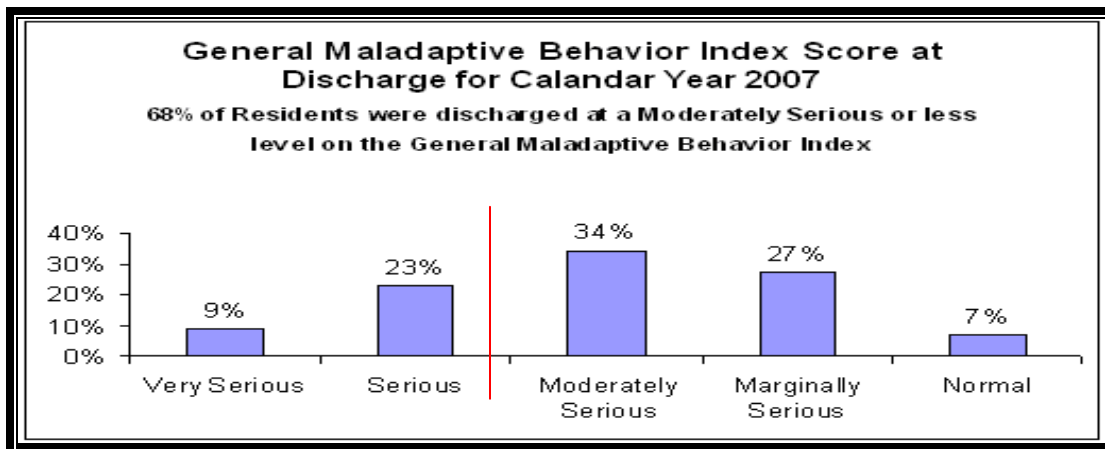
Effectiveness: Indicators of effectiveness address the outcomes of treatment by measuring progress over time.

Effectiveness Objective 1	Discharge to a less restrictive environment.
Indicator	Percent of program participants discharging to a community integrated group home or lesser restrictive environment.
Target Goal	75% of clients will discharge to a less restrictive setting
Results	83% of adult clients discharged to a less restrictive setting, 13 % discharged to a setting similar to that of Lakeview and 4% went to a more restrictive setting. 84% of youth clients discharged to a less restrictive setting.
Discussion/Plan	Given that almost all program participants served by Lakeview come with a history of multiple unsuccessful placements the data shows that our programs serve these populations well. Lakeview will continue to monitor discharge destinations, in addition will improve analysis of the durability data that is already collected at the 30 day, 120 day, and 1 year anniversary of discharge.



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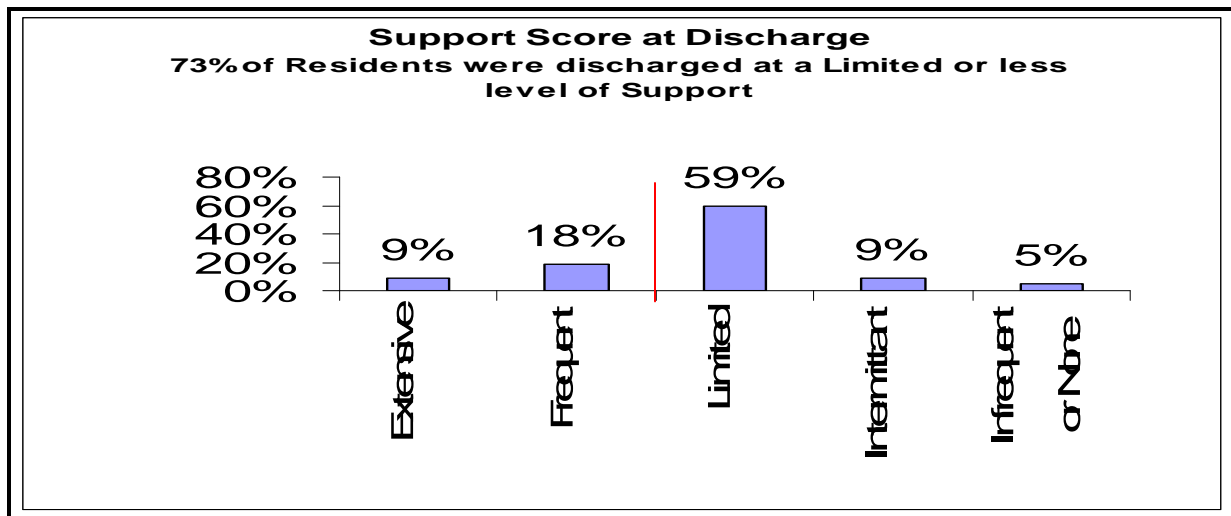
Effectiveness Objective 2	Discharge program participants with pro-social coping skills in the moderate to normal range as measured in SIB-R.
Indicator	% of discharged program participants that have reached the Moderately Serious or better level of impairment in the Maladaptive Index on the SIB-R
Target Goal	75%
Results	68% of program participants discharged at a Moderately Serious or better level in the Maladaptive Index on the SIB-R
Discussion/Plan	<p>In 2008 Lakeview plans to increase and enhance service delivery in both the Adult and Youth programs to further program skill development training.</p> <p>Our ability to analyze effectiveness has been limited by the following. Because of prior difficulties in our data collection systems, some of our program participants were not administered the SIB-R upon admissions limiting our ability to conduct within subject analyses or change scores. We are confident that we are remedying this problem and will benefit from this in future evaluations. Nevertheless, we do have the ability to look at aggregate data annually to assess the program's effectiveness. Below is a table indicating the percent of program participants with SIB-R Maladaptive Behavior Index Scores in the Serious to Very Serious Range at admission and at discharge for the last three calendar years.</p> <p>Although this analysis carries it's own limitations (e.g. differing sample sizes from admission to discharge) the direction of change is indicative of program effectiveness.</p>



	Admission	Discharge
2005	38%	14%
2006	39%	14%
2007	34%	8% *

* Two program participant scores were identified as outliers to their peers and were removed from this analyses

Effectiveness Objective 3	Program participants, at discharge, will demonstrate a level of independence consistent with discharge to a less restrictive setting.
Indicator	% of program participants discharged will leave at the Limited or better level on the Overall Support Score Index on the SIB-R
Target Goal	75%
Results	73 % of program participants discharged at a limited or less level of support.
Discussion/Plan	<p>Results indicate that our objective was met. Like in objective 2 the data would be enhanced by within subject design using change scores which we plan to do in 2008.</p> <p>Again, in the interim we turn to our aggregate data. Below is a table indicating the percent of program participants that scored SIB-R Support Scores in the Extensive to Pervasive Range at admission and at discharge for the last three calendar years.</p> <p>Once again, the data shows that the direction of change is indicative of program effectiveness.</p>



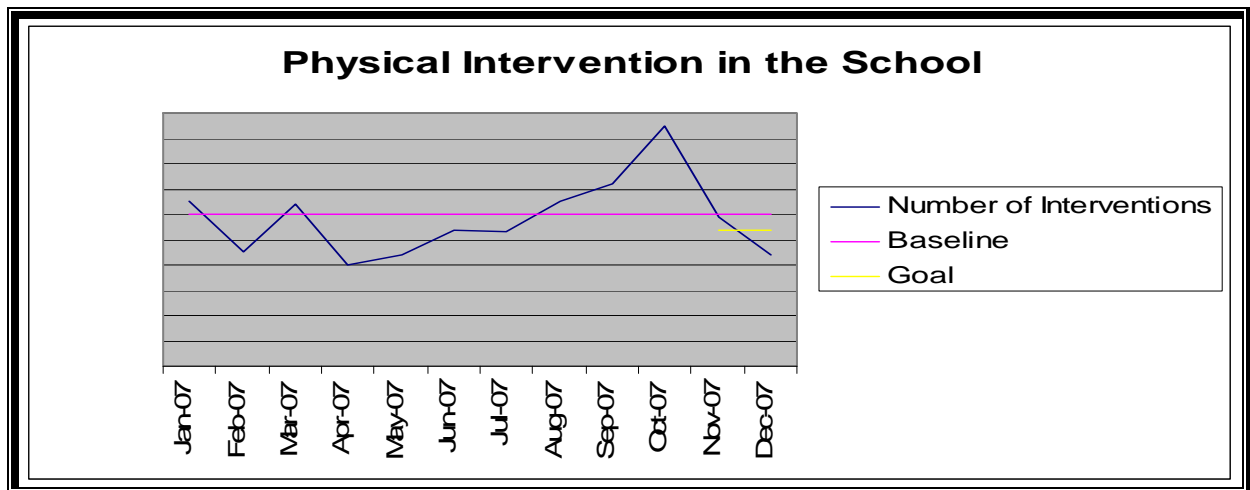
	% of Program Participants with AMI Scores of Extensive to Pervasive	
	Admission	Discharge
2005	16%	11%
2006	16%	3%
2007	14%	3% *

* Two program participant scores were identified as outliers to their peers and were removed from this analyses

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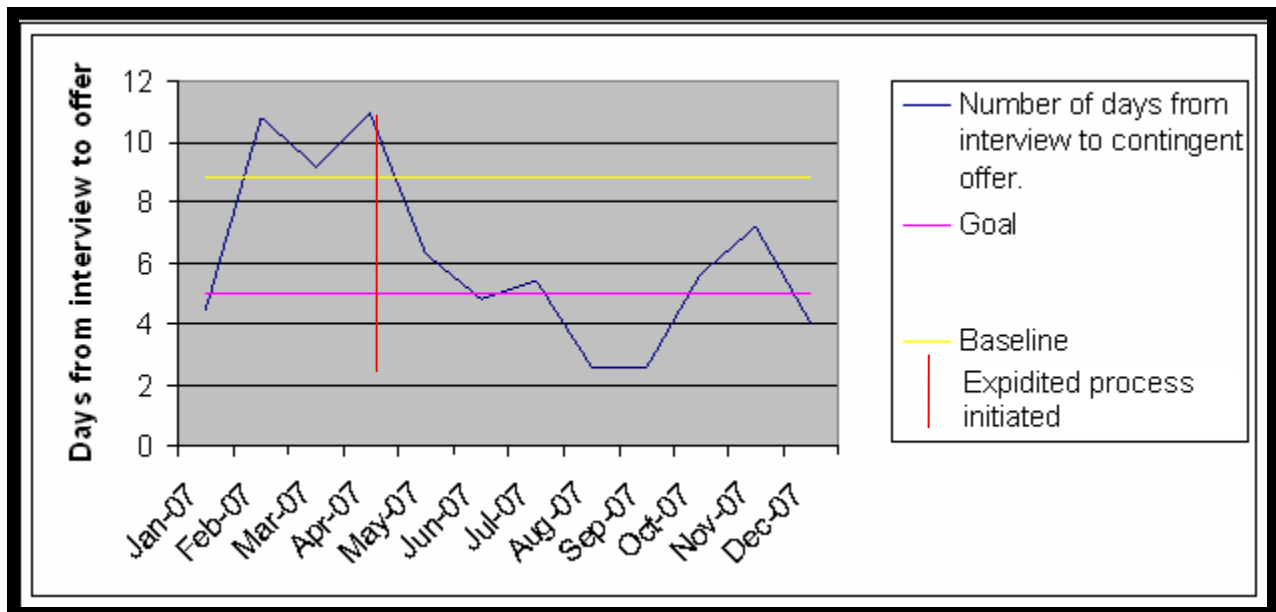
Efficiency: Our indicators of efficiency address the relationship between resources used and the results or outcomes achieved.

Efficiency Objective 1	Increase clinical support to the education program in order to decrease the number of behavioral incidents in the school.
Indicator	Number of physical interventions in the school
Target Goal	10% decrease in physical interventions in the school
Intervention(s)	<ul style="list-style-type: none"> • Positive Praise Campaign • Increase service delivery programming by Behavior Specialists in the school.
Results	Baseline was derived from the first 10 months of 2007. Following implementation of interventions, staff's use of physical intervention dropped by 2% in November and 26% for December.
Analysis Discussion	<p>Due to the lack of environmentally specific baseline data for 2006, we decided to use the first ten months of 2007 to establish our baseline before implementing intervention strategies. The preliminary results are very significant and encouraging. It would appear that with the infusion of clinical expertise into the educational environment, the need for physical intervention was drastically reduced. We hypothesize that the reasons for these changes are twofold:</p> <ol style="list-style-type: none"> 1. The behavior specialists have been able to model non physical interventions for our staff who have then been able to incorporate these strategies into their therapeutic repertoire. 2. The students have benefited from the positive praise campaign as well as enhanced skill development training.



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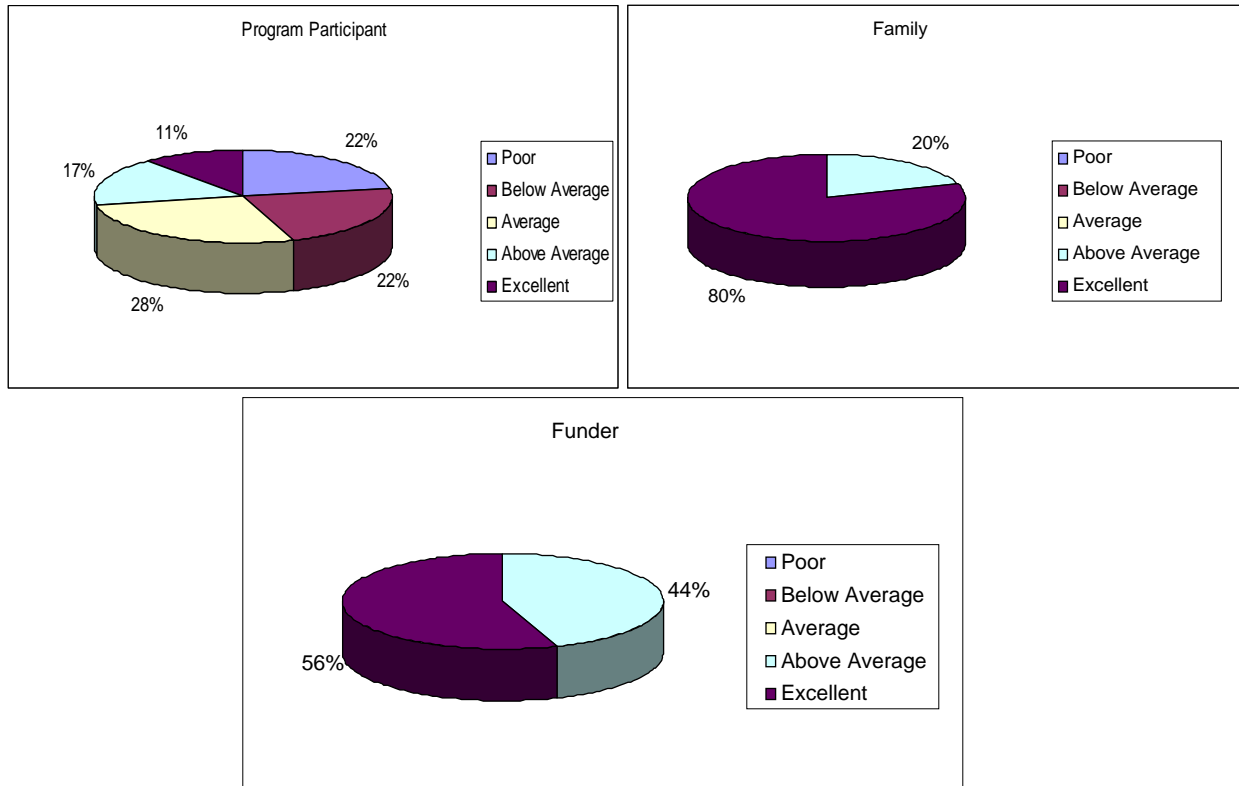
Efficiency Objective 2	Improve efficiency of our recruiting process by decreasing the time between interview and offer of employment.
Indicator	Days from interview to contingent offer of employment
Target Goal	5 business days
Intervention(s)	Streamline evaluation process by: <ul style="list-style-type: none"> • Set guidelines for reference checks with timeframes • Make offers contingent on external checks, physicals, and TB tests.
Results	After monitoring, initiatives were put into place during the second quarter of 2007. Following this there was a significant drop in the days from interview to contingent offer. (See Graph)
Analysis Discussion	<p>There was a significant spike over the first quarter of 2007 averaging 8.8 days from interview to offer of employment, initiating a review of the process of interviews and offers.</p> <p>A number of issues were initially identified in the process, these included but were not limited to paperwork flow, lack of timeframes for reference checks and other outside verifications, and that offers were not being made until all outside checks were in and complete. This often resulted in the potential staff member taking another position somewhere else. In order to efficiently fill vacancies and promote a positive impression on potential new hires, the following were implemented; 1) supervisors were trained on the interview process and paperwork flow; 2) human resource staff were trained on an improved reference check process and given timeframes for completion of reference checks; 3) offers of employment are now given as contingent on passing physical, drug and TB testing, and criminal background checks. The result has been a more streamlined process.</p>



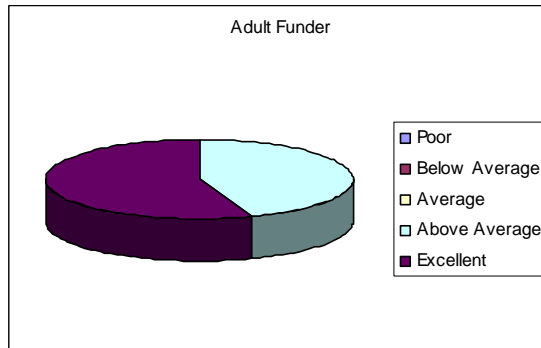
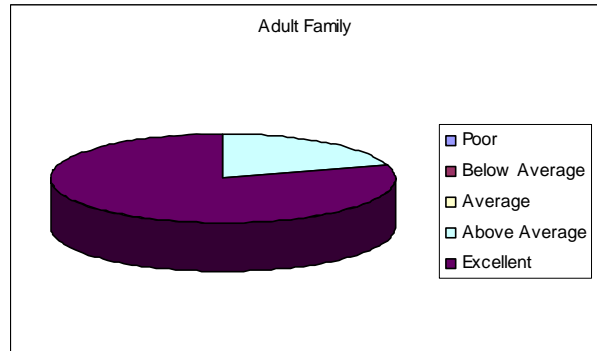
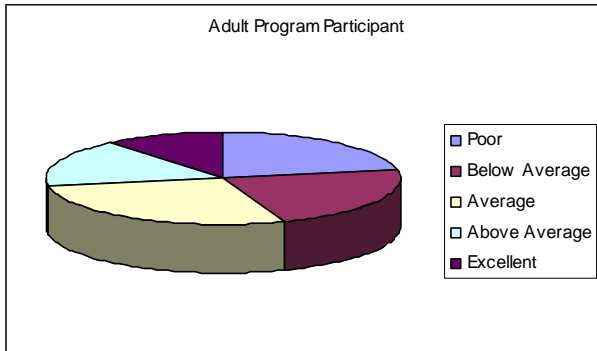
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Stakeholder Satisfaction Objective 1	Maintain a high degree of stakeholder satisfaction.
Indicator	Overall satisfaction score
Target Goal	95% of respondents in each of the Program Participant, Family, and Funder surveys will rate satisfaction in all domains 3 or greater on the annual satisfaction survey.
Results	100% of Families and funders scored at least 4 or above on the annual satisfaction survey. 78% of program participants scored at least 3 or above in the annual satisfaction survey.
Analysis Discussion	<p>While families and funders scored above our target goal for this indicator, program participants did not. When item analysis failed to point out any pattern of areas needing improvement, it was determined that in 2008 the program participant survey would be redesigned to better assess areas of dissatisfaction.</p> <p>Comparison of the program participant data with previous years revealed that two areas were remarkable for improvement: residential and food services. Extensive renovations in a number of our living environments and improvement in food delivery services are believed to have contributed to improvement in satisfaction scores.</p>

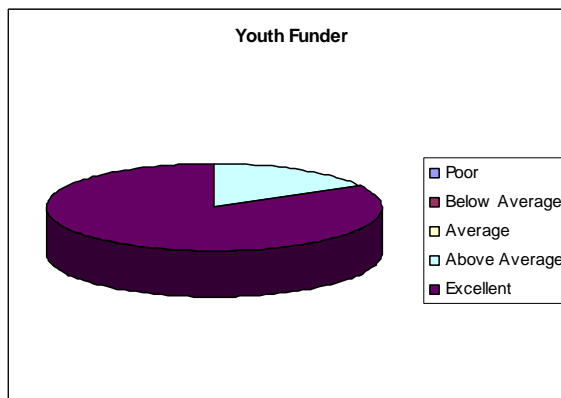
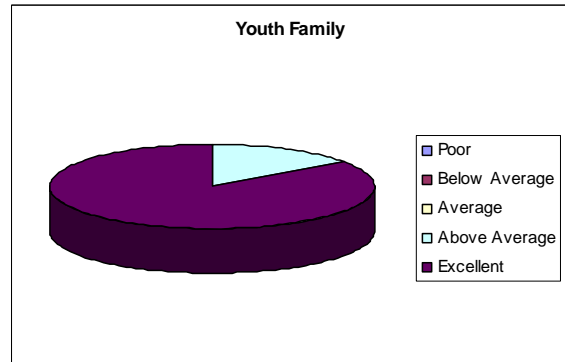
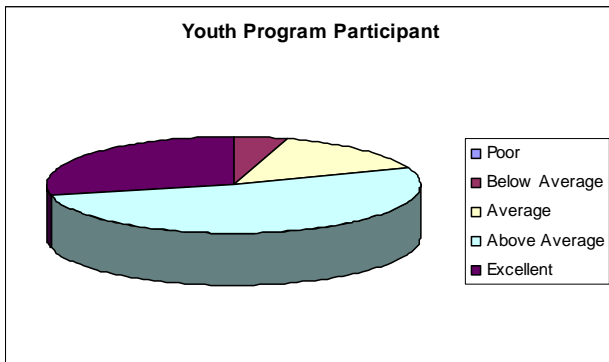
Overall Stakeholder Satisfaction



Adult Program Stakeholder Satisfaction



Youth Program Stakeholder Satisfaction



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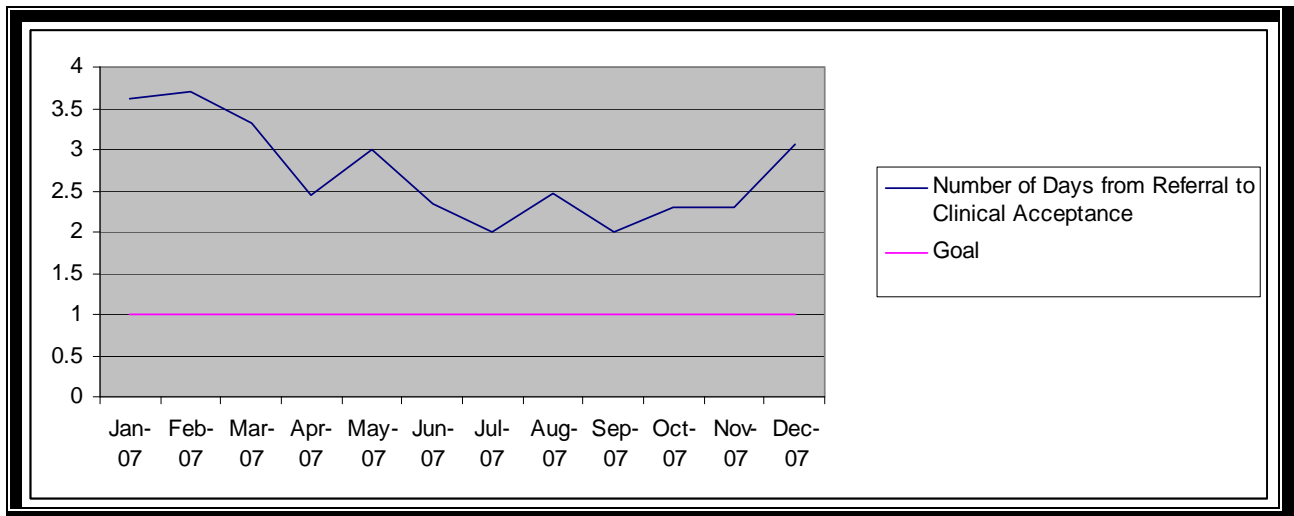
Stakeholder Satisfaction Objective 2	Upon hiring a new Director of Education, a survey was administered to the Teachers and Teacher Assistants to assess their self-appraisal of competency and confidence in key areas of job performance.
Indicator	Results of the survey lead us to two key areas needing attention: <ol style="list-style-type: none"> 1. Teacher and TA confidence in their familiarity with each student's IEP and their understanding of how to help the student make progress. 2. Teacher and TA confidence in utilizing and/or implementing behavioral interventions.
Results	<p>50% of Teacher and TAs felt that they were confident that they were familiar with each student's IEP and understood how to facilitate progress. None were extremely confident.</p> <p>75% of Teachers and TAs were confident in utilizing and/or implementing behavioral interventions. Only 25% were extremely confident.</p>
Analysis Discussion	<p>Based on the results of our survey interventions are being designed to increase Teacher and Teacher Assistant competence in both key areas. The effectiveness of these interventions will be analyzed by re-administering our survey in 2008 as part of our program evaluation.</p> <p>Interventions included the following; 1) additional training on IEP/Curriculum integration; 2) empowering teachers with supervisory responsibilities; 3) on site instruction and support in behavioral modification were implemented over the end of 2007 and the beginning of 2008.</p>

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Stakeholder Satisfaction Objective 3	Evaluate employee job satisfaction with the goal of implementing improvements to the work environment.
Indicator	The employee survey was used to direct some key initiatives within the organization. The goal is to demonstrate improvement in a number of areas from the first survey done in 2006 to the second survey in 2009. Two specific areas to be evaluated are career opportunities and overall employee satisfaction. The initial survey resulted in a response rate of 199 employees, which accounts for approximately 2/3 of the workforce.
Target Goal	<p>At least 50% of employees will be able to say they believe or strongly believe that they can further their career aspirations at Lakeview.</p> <p>At least 60% of employees will be able to say that they agree or strongly agree that they are a satisfied employee.</p>
Results	<p>In the initial survey, 32% of employees felt that they could achieve their career aspirations through Lakeview.</p> <p>In the initial survey, 41% of employees agreed or strongly agreed that, overall, they were a satisfied employee, 36% were neutral, 23% disagreed or strongly disagreed.</p>
Analysis Discussion	<p>Based on the above results, a career ladder was developed with positions that included Behavior Tech, Group Leader, Rehab Facilitator and Assistant Program Director.</p> <p>Improvement in overall job satisfaction was addressed through a number of initiatives including but not limited to increased clinical support to direct care staff, increased presence/visibility of weekend administrator and program directors, improved physical plant per feedback, modified pay structure and annual review process. (all areas identified as needs within the survey).</p> <p>The employee survey will be re-administered biannually to assess progress. The core instrument will be the same with the additions of some questions to illicit other feedback as well.</p>

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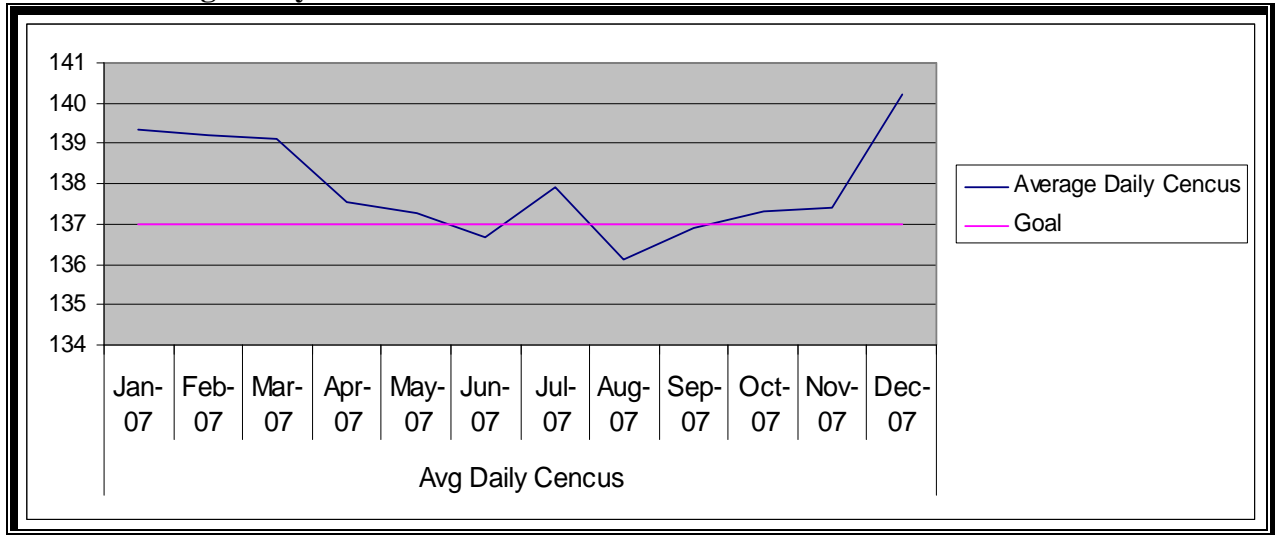
Access Objective 1	Improve clinical review timeliness of new program applicants applying to Lakeview program
Indicator	Time from applicant submission to clinical acceptance/denial.
Target Goal	Less than 1 day
Intervention(s)	<ul style="list-style-type: none"> • Notification of clinical review system was evaluated and modified in a number of ways. • Instituting backup system for review of admission packets • Discussion/review in Directors meeting weekly.
Results	The goal of less than one day was not met in any of the periods during this year.
Analysis Discussion	There were a number of initiatives that attempted to address this issue. Many provided a short term improvement but, the system invariably drifted back to longer periods, ending the year at almost three days. It is obvious from this data that the system that is currently in place has a normal stasis of about 2.5 to 3 days. In order to reach the goal of 24 hours or less, the system itself will need to be redesigned. A committee began looking at this late in 2007 and a new system will be put in place over the first six months of 2008 that will hopefully bring this process into alignment with our goal.



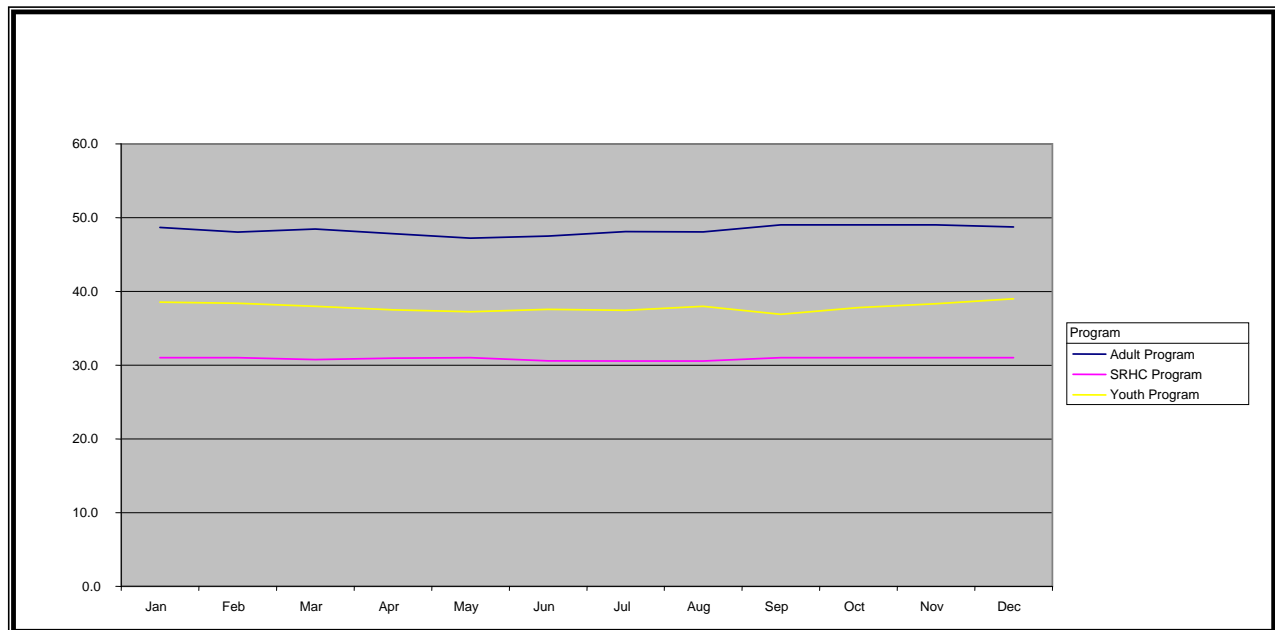
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Access Objective 2	Maximize access to Lakeview clinical programs for persons awaiting admission by improving census
Indicator	Average Daily census
Target Goal	Maintain average daily census per month at 137 or greater
Intervention(s)	<ul style="list-style-type: none"> • Begin review of clients 'aging out' in UR earlier • Begin planning for students who are graduation early in the year • Mass marketing mailings • Improved intra-organizational referrals
Results	<p>Although the majority of the periods in 2007 met the average daily census goal of 137 or higher, seasonal trending below the goal was noted in June (at the end of the regular school year) and August (the end of the extended school year).</p> <p>It was also noted that although the majority of the periods showed an average daily census above the goal, there were often days within the period that fell below the goal census.</p>
Analysis Discussion	<p>One factor impeding a consistent census was the number of students graduating each spring. In preparation for this anticipated census decline there was significant pre planning for this event in the early months of 2007. As a result, the impact was less than in previous years though still of concern. The marketing and admissions departments have put together mass mailings and other marketing tools targeted at getting youth into our system.</p> <p>It was also noted that the average daily census, while providing an overview of bed occupancy, this measure can mask the number of days below census in any given month. Therefore, in 2008, we will track both the average daily census as well as the number of days below budgeted census.</p>

Overall Average Daily Census



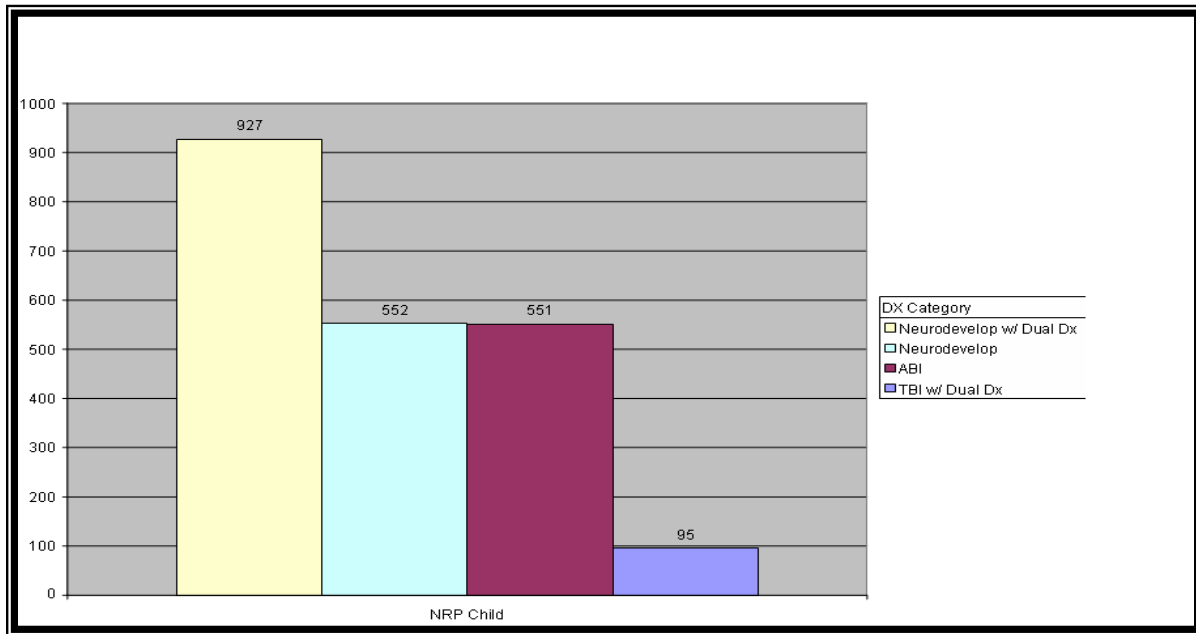
Average Daily Census By Program



Outcomes Analysis

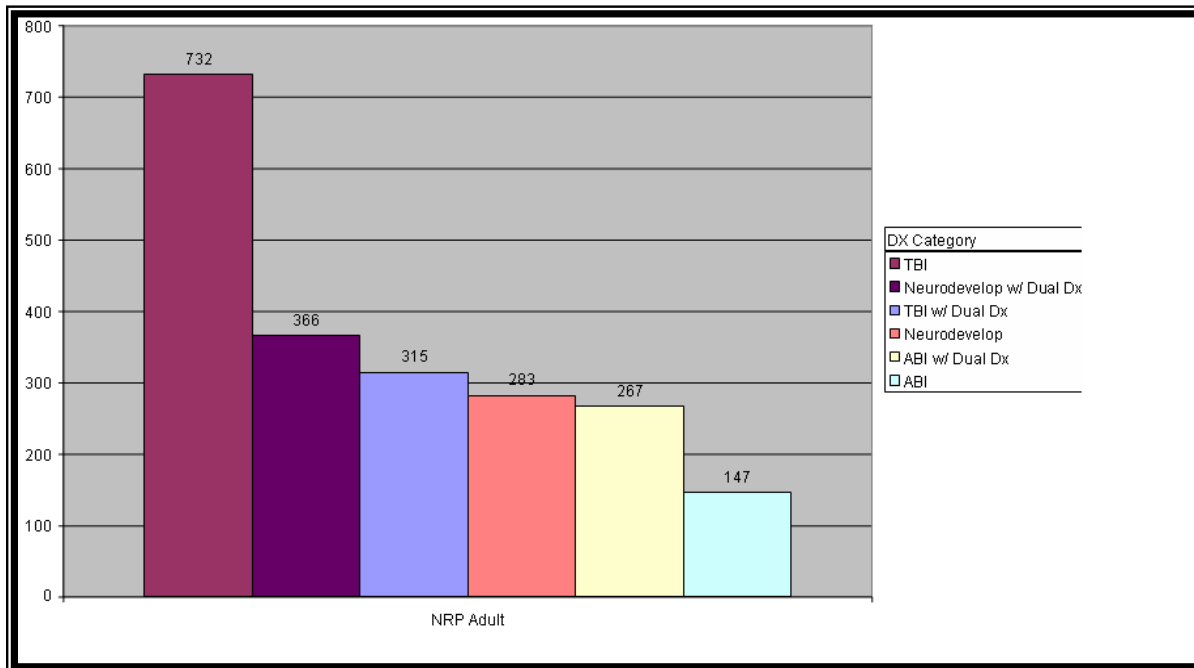
In the introduction of this report, we identified six major diagnostic clusters for Lakeview's program participants. In an effort to assess relative effectiveness between clusters, we re-ran select effectiveness indicators for each cluster.

Length of stay of Youth Program participants discharged in 2007



The graph above documents that program participants in the Neurodevelopmental and ABI clusters average about 1.5 years for length of stay. The Neurodevelopmental with dual diagnosis cluster averaged 2.5 years. This deviation was unexpected and warranted a more in depth analysis. The investigation revealed that two outliers within this cluster accounted for the between cluster variance. In reviewing these two program participants, it was evident that the reason for their extended length of stay (over three years for one resident and six years for the other) was due to the lack of an appropriate discharge site in their home state not reflective of program ineffectiveness. Eventually extensive advocacy and persistence on the part of the case manager and external stakeholders resulted in a successful reintegration into their respective communities. When outliers were pulled from the data the average daily census for the Neurodevelopmental with Dual Diagnosis cluster changed from 927 to 560 days. Taken together these data indicate that our treatment approaches are equally effective, as measured by length of stay, across most diagnostic clusters. While it would appear that the average length of stay is significantly lower for participants with a diagnosis of TBI w/ dual diagnosis, our sample size (n=1) in this area is too small to draw this conclusion.

Length of stay of Adult Program participants discharged in 2007

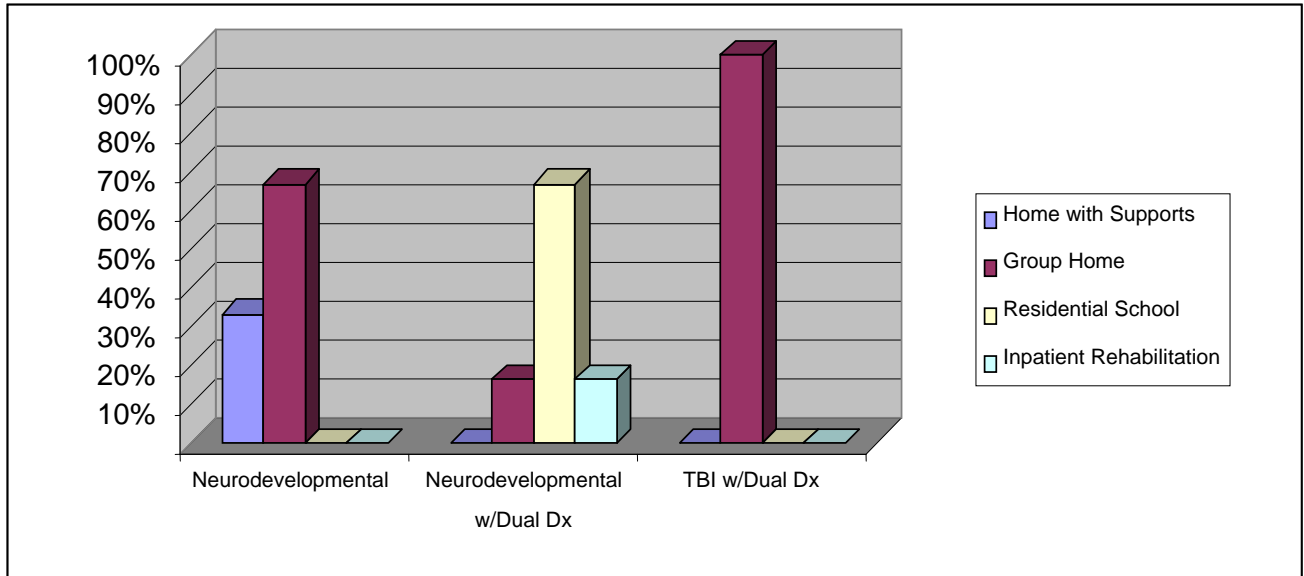


The graph above documents that for adult program participants in all diagnostic clusters other than ABI and TBI, average length of stay ranges from 9 to 12 months. We did not believe that the sample size of the ABI cluster (n=1) was large enough to draw any conclusions. The TBI average length of stay was 2 years. Given the variance between this and the other diagnostic clusters further analysis was done. The investigation revealed that one outliers within this cluster accounted for the variance. In reviewing the program participant, it was found that this resident was one of our few long term care residents from Maine who was temporarily discharged in order to undergo medical treatment in his home state. This resident has since readmitted to our longer term program. When removing this resident from the data the average length of stay for our traditional TBI discharges was 353 days. Taken together these data indicate that our treatment approaches are equally effective, as measured by length of stay, across most diagnostic clusters.

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The next step in our outcome analysis was to analyze discharge destination by diagnostic cluster. The graph below demonstrates that across diagnostic clusters, the majority of the youth program participants are discharged to a less restrictive setting than Lakeview including home with supports, group home, and non behavioral residential schools. About 10% of program participants with Neurodevelopmental with dual diagnosis are discharged to an inpatient rehabilitation setting which was not highly unexpected given the complexity of this population. Nevertheless, this data will be reviewed with our board certified psychiatrist to assist with future treatment programming and admission procedures.

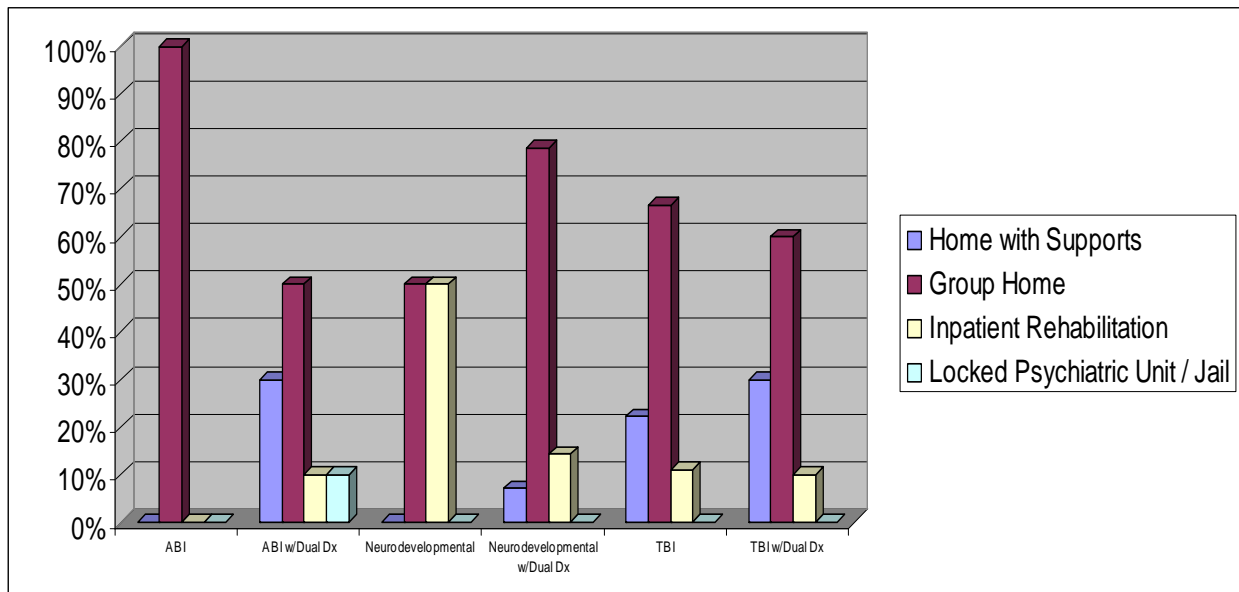
Youth Program discharge destination by diagnostic category



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A similar analysis was conducted with our adult program participants discharged in 2007. Again the majority of program participants across diagnostic clusters were discharged to a less restrictive environment than Lakeview, including home with supports and group homes. However, discharge to more restrictive settings was not limited to one diagnostic cluster as was the case in the youth program. As the graph demonstrates, discharge to inpatient rehabilitation or locked psych unit / jail was noted across diagnostic clusters with the exception of ABI. Again, the exceptionally low sample size (n=1) does not warrant interpretation. Again program participants with a Neurodevelopmental diagnosis seem more likely to require a more intensive setting than do participants from other clusters. These data will be reviewed by our clinical management team and admissions department to assist with future program development and / or revision to admission criteria.

Adult Program discharge destination by diagnostic category



PLAN:

A. Augment ongoing performance improvement initiatives that began in 2007

- Continue to monitor select objectives and interventions initiated in 2007 to ensure durability of system improvements.
- In addition, the following new interventions will be implemented in 2008 to enhance performance in existing objectives:
 - Addition of Behavior Analyst into the school.
 - Implement discrete trial training with students
 - Continued support from Behavioral Services in the education. (100 hours per week)
 - Re-design the Program Participant survey to assist in identifying areas needing improvement.
 - Increase Teacher and TA training on individual student IEPs, goal intervention and behavior training.
 - Re-administer the Teacher and Teacher Assistant survey in 2008 in order to assess the effectiveness of initiatives put into place.
 - Implement Discrete Trial Training with students.
 - Re-administer the Employee Survey in 2009 to assess the effectiveness of initiatives put into place over 2007 and 2008.
 - Review and redesign the pre admission clinical review process to accelerate time from referral to acceptance/denial.

B. New Performance Improvement Initiatives For 2008

- Reduce use of physical intervention by use of the following:
 - Training and mentoring on therapeutic relationships and boundaries
 - Increase cadre of Professional Crisis Management instructors
 - Audit staff supervisory structure and consider revisions
- Increase retention by the following:
 - Further develop the career ladder for direct care staff
 - Augment job satisfaction through enhanced clinical training
 - Increase Certified Brain Injury Specialist (CBIS) and (CBIST) training opportunities
 - Introduce supervisory skill training curriculum for first line managers
 - Administer and assess results of a targeted staff survey.
- Improve quality and access to community.
 - Implement community access tracking system for program participants
 - Set both quantitative and qualitative client specific goals
- Increase resident access to the dining room to enhance socialization and freedom of choice.
- Conduct a system wide analysis of overtime utilization with the goal of improving efficiency.
- Improve the quality of the medical record and increase efficiency in all areas influenced by the record.
- Implement the Mayo Portland Adaptability Inventory (MPAI-4) to enhance comparison with peer programs.

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Respectfully Submitted,

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