



EXAMINING THE EFFICACY OF FLORIDA'S PUBLICALLY FUNDED MENTAL HEALTH SERVICES

THE SCIENCE. THE RESEARCH. THE RETURN ON INVESTMENT

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EFFICACY OF FLORIDA'S PUBLICALLY FUNDED MENTAL HEALTH SERVICES

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OVERVIEW

- Purpose of report
- Myths about mental illnesses & addictions
- The science around mental illnesses & addictions
- Published literature on evidence-based services and treatments
 - Level of evidence
 - Research highlights
- Return on Investment and Recommendations



PURPOSE OF THE REPORT

- Highlight the science behind mental illness diagnosis and treatment.
- Summarize the latest research on evidence-based treatments, services, and supports, especially those most utilized in Florida
- Provide data and information on the return on investment



BEHAVIORAL HEALTH DISORDERS: MYTHS VS. FACTS

Mental illnesses and addictions are...

- not biological conditions and are different than 'physical illnesses'
- rare
- cannot be treated effectively

Extensive research shows these conditions...

- are biological, impacting both brain and body
- affect 1:2 Floridians at some point in life
- treatments work



THE SCIENCE ON MENTAL ILLNESSES & ADDICTIONS

- Mental functions are *physical* functions carried out by the brain
- Mental illnesses and addictions are reflected in physical changes in the brain, which in turn can trigger physical changes in other parts of the body
- They disturb mental functions: in the process of transforming human experience into physical events, the brain undergoes changes in cellular structure and function
- They are identifiable by signs, symptoms, and functional impairments
- Diagnosis is made using specific criteria as reliable as those for general health disorders



THE BRAIN: MEDICINE'S NEXT FRONTIER

NIH, NIMH, NIDA, NIAAA, IOM, academic and research institutions are leading the way in research into the brain and behavioral health disorders, as well as their treatment and prevention.

The pace of research into neurobiology, and treatments is rapid, evolving daily

New research continues to identify genetic markers, biological markers, and new treatments

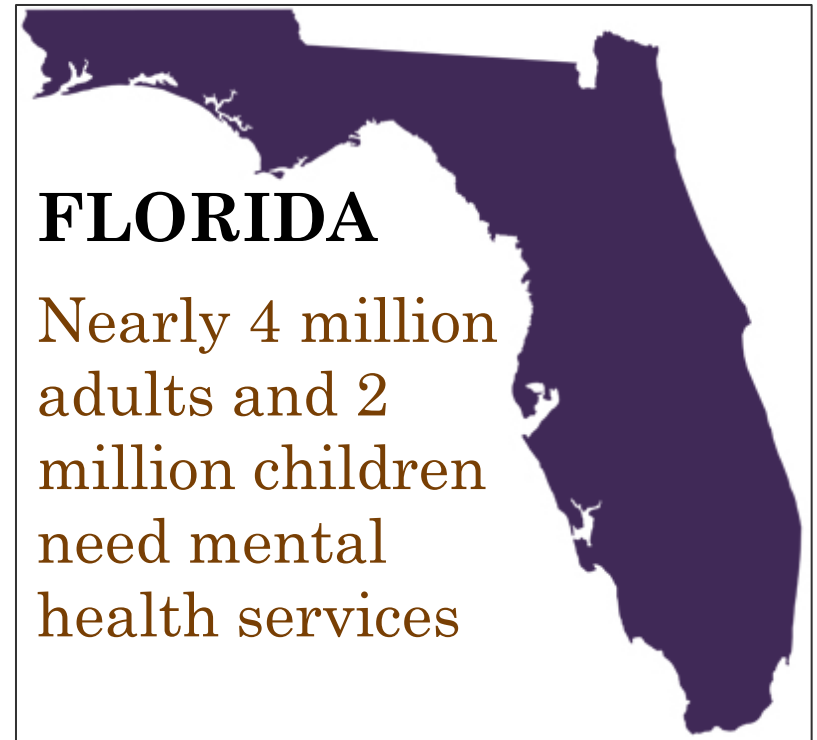


PREVALENCE

- Anxiety: 18.1% of adults/year; 25.1% of children/lifetime
- Depression: 6.7%; 11.2%
- Bipolar : 2.6%; <3%
- Schizophrenia: 1.1% adults

- Substance Use Disorders: 8.7% age 12 and older, or 22.1 million people.

- Co-occurring: 8.9 million Americans; 43% of those in addiction treatment have a mental illness



MEDICAID

1 in 4 Americans has a mental illness. Among Medicaid beneficiaries with disabilities, 49% have a mental illness.

Mental illness is one of the top 5 most prevalent diseases among the 5% of beneficiaries with the highest-cost of care

Among “dual eligibles,” 52% have a mental illness. A co-morbidity estimate implies less than 25% of these might have a co-occurring substance use disorder



TREATMENTS & SERVICES

Mental health treatments work – 80% success rate

- Major depression, panic disorder, OCD – 70%
- Schizophrenia – 60%

Success rates comparable to physical illnesses

- Asthma and diabetes – 70-80%
- Cardiovascular disease – 60-70%
- Heart disease – 41-52%

YET

- 2/3 go without treatment, mostly because of inability to access care and stigma



TREATMENTS & SERVICES: THE EVIDENCE BASE

- Emergency Room Diversion
- Acute Care and Crisis Stabilization
- Psychotropic Medications
- Psychotherapies and Psychoeducational Services
- Case Management and Assertive Community Treatment (ACT)
- Supported Housing
- Supported Employment
- Criminal Justice Diversion
- Integrated Primary and Behavioral Health Care
- Specialized Children and Family Services



EMERGENCY ROOM DIVERSION

Florida's lack of community services strains acute care hospitals and ERs.

36 private community psychiatric hospital closings since 1992, reflecting a loss of 4,430 psychiatric and substance abuse beds

1 in 8 ER visits and 1 in 4 hospital stays involves a person with a mental health and/or substance use disorder

FLORIDA: Emergency Department Diversion Services

Program	FY '10-'11		
	No. of Persons	Estimated Value	Average Estimated Service Value
Adult MH	53,297	\$5,139,974	\$96.44
Children's MH	10,859	\$1,388,677	\$127.88



EMERGENCY ROOM DIVERSION (CONT.)

Assertive Community Treatment

- Reduces ER use

Mobile Crisis Services

- Modest research showing effectiveness in diverting people from hospitalization and ER use.
- Effective in connecting suicidal or individuals in crisis discharged from ERs with outpatient services.



ACUTE CARE & CRISIS STABILIZATION

Short-term care addressing crisis. Growing need nationwide as many use costlier ER care or end up incarcerated.

Mobile Crisis Services effectively divert people from psychiatric hospitalization, but not arrest, and link people with outpatient care.

Crisis Residential Services

- Mixed evidence of effectiveness (need for a meta-analysis)
- No notable improvements related to symptoms and psychosocial functioning
- ↑ patient satisfaction, ↓ cost compared to hospital care; ↓ hospitalization days

23-Hour Crisis Stabilization has limited reliable research behind it, but does show to ↓ hospitalization rates



**Cost
Comparison**

Limited cost comparison data shows crisis stabilization units are cost-effective alternatives to inpatient hospitalization for some patients.



PSYCHOPHARMACOLOGY

Psychotropic medications alter the brain's chemical processes to address symptoms of mental illness

Best combined with other services and supports, and long-term, or even life-long, adherence is necessary

330,707 (8.36%) out of 3,955,828 adults in households below 200% poverty level need publically funded MH services. Of these, 24% (79,117) are uninsured.

Based on FY'10-'11 IDP treated rate of 17,173, only 22% of the need was met. Only 3,345 (19.5%) were or became Medicaid eligible.

Florida Appropriation for Indigent Drug Program: FY'10-'11

	# Persons Served	Appropriation
Indigent Drug Program	17,173	\$6.7 million



PSYCHOPHARMACOLOGY (SCHIZOPHRENIA)

Patient characteristics & clinical circumstances affect effectiveness

Rx	+	-
Olanzapine	Longest to discontinuation	Weight/metabolic concerns
Perphenazine	As effective as newer Rx Most cost effective	
Clozapine	Best for those w/poor symptom response to antipsychotics	Associated with adverse effects
No differences in neurocognitive or psychosocial functioning		



PSYCHOPHARMACOLOGY (DEPRESSION)

Citalopram
(SSRI)

- 1/3 remission/become symptom-free
- Add'l 10-15% some improvement

Switch/Add
Another SSRI

- 1/3 symptom-free with the an additional medication and ¼ remission after switching to a either sertraline, bupropion-SR, or venlafaxine-XR

Switch

- 1/5 symptom-free when switched to a 3rd antidepressant (mirtazapine, nortriptyline, or Pamelor – a tricyclic antidepressant)
- Another 20% symptom-free when lithium *or* triiodothyronine (T3) added
- 23% of lithium group discontinued (significant side effects)



PSYCHOPHARMACOLOGY (BIPOLAR DISORDER)

Adding an antidepressant to a mood stabilizing medication regime is no more effective than taking a placebo

Careful management of mood stabilizer medications is a reasonable alternative to adding an antidepressant medication.

Patients taking bipolar medications seem to get and stay well faster if they receive intensive psychotherapy, in addition to taking medication



PSYCHOTHERAPY & PSYCHOEDUCATION

- Rx + Psychotherapy = Faster and lasting wellness
- All intensive psychotherapies similar in effectiveness

Cognitive behavioral therapy (CBT) – high level of evidence

- Better than other treatments and as effective as psychopharmacology.
- Whether alone or combined, CBT and medications rarely exceed 65% response rate.

Consumer/family psychoeducation

- Inconclusive if it ↑ compliance or prevents rehospitalization
- Strong evidence adult family psychoeducation brings positive outcomes
- Insufficient research to determine if it improve youth outcomes

Psychotherapy & Psychoeducation Services (non-medication based)

Program	FY'10-'11		
	No. of Persons	Estimated Value	Average Estimated Service Value
Adult MH	60,819	\$72,823,733	\$1,197
Children's MH	58,687	\$50,741,356	\$865



ASSERTIVE COMMUNITY TREATMENT

- Decades-old definition and fidelity model
- Overwhelmingly superior to standard case management, standard care, and hospital-based rehabilitation
- Research has shown little effect on social functioning, arrests and time spent in jail, or vocational functioning.
- No strong evidence re: substance abuse



**Cost
Comparison**

ACT lowers cost of care



CASE MANAGEMENT & ACT IN FLORIDA

Case and Care Management Services

Program	FY'10-'11		
	No. of Persons	Estimated Value	Average Estimated Service Value
Adult MH	67,327	\$63,630,021	\$945.09
Children's MH	29,891	\$25,944,966	\$867.99



SUPPORTED HOUSING

- Improvements in housing tenures and ↓ homelessness, hospitalizations, and inpatient and ER use
- Little/no effect on symptoms, though it receives the highest consumer preference ratings compared to other housing models



Cost Comparison

Cost savings compared to more restrictive models and standard care, esp. for chronically homeless and individuals addicted to alcohol

Residential Treatment and Supportive Housing

Program	FY'10-'11		
	No. of Persons	Estimated Value	Average Estimated Service Value
Adult MH	4,907	\$63,249,351	\$12,890
Children's MH	1,249	\$35,456,904	\$28,388



SUPPORTED EMPLOYMENT

- Substantial positive effects, establishing it as one of the most successful interventions available
- Outcomes are better than traditional vocational or standard rehabilitation approaches
 - Competitive employment rate is 61% (vs. 23%)
 - Half achieve competitive employment
 - Hours worked and wages earned superior
 - Better competitive employment outcomes regardless of background demographic, clinical, and employment history characteristics
- Despite its success, further evidence is needed in terms of long-term job retention and economic self-sufficiency



CRIMINAL JUSTICE DIVERSION

Mental Health Courts

- Research literature limited in terms of numbers and scope
- Some have lower rates of recidivism and ↓ the likelihood of arrests for new crimes
- More effective at connecting individuals with care
- Can potentially save money through reduced recidivism and the associated jail and court costs that are avoided, and also through decreased use of the most expensive treatment options.
- More research needed to confirm mental health court effectiveness in improving outcomes and achieving cost savings

Many interventions have returns on investment that exceed a ratio of 10:1 – that is, for every dollar invested, the return on investment is tenfold.



INTEGRATION OF PRIMARY AND BEHAVIORAL HEALTH CARE

Individuals with serious mental illness die, on average, 25 years earlier than the general population – mostly because of complications related to co morbid chronic conditions (e.g., heart disease, obesity, diabetes).

- Decreases costs associated treatment of chronic conditions.
- Increases primary and prevention care utilization and improves physical health
- Reduces ER visits, hospital admissions, and hospitals days
- Can achieve cost savings, markedly with some interventions



CHILDREN AND FAMILY SERVICES

Functional Family Therapy (FFT)

- Consistently positive findings, particularly in post-treatment arrest rates
- Intensive family support programs are substantially weaker, comparatively
- No significant effects demonstrated on some outcomes (e.g., behaviors, emotion disturbances, social functioning)
- Reduction in symptoms

Therapeutic Foster Care

- Advantage in outcomes such as runaways and days in treatment
- For some outcomes such as child behavior, emotion disturbances, and social functioning, no significant effects demonstrated
- For outcomes such as runaways and days in treatment there were statistically significant effects in favor of therapeutic foster care
- Reduction in symptoms

Family-Center Behavioral Management

- Promising in reducing and preventing adolescent problem behaviors
- School-based interventions have consistently demonstrated positive outcomes for universal support programs, particularly in reduced disciplinary actions
- Integrated behavioral management interventions (i.e., Fast Track and CLAS programs) demonstrate promising findings in preventing and reducing problem behaviors





Medications for Drug Addiction

- Buprenorphine
- Methadone
- LAAM
- Naltrexone
- Nicotine Replacement
 - patches
 - gum
 - bupropion





Motivation to Enter/ Sustain Treatment

- **Effective treatment need not be voluntary**
- **Sanctions/enticements (family, employer, criminal justice system) can increase treatment entry/retention**
- **Treatment outcomes are similar for those who enter treatment under legal pressure vs voluntary**





HIV/AIDS, Hepatitis and Other Infectious Diseases

- **Drug treatment is disease prevention**
- **Drug treatment reduces likelihood of HIV infection by 6 fold in injecting drug users**
- **Drug treatment presents opportunities for screening, counseling, and referral**





Effectiveness of Treatment

- Goal of treatment is to return to productive functioning
- Treatment reduced drug use by 40-60%
- Treatment reduces crime by 40-60%
- Treatment increases employment prospects by 40%
- Drug treatment is as successful as treatment of diabetes, asthma, and hypertension





Self-Help and Drug Addiction Treatment

- **Complements and extends treatment efforts**
- **Most commonly used models include 12-Step (AA, NA) and Smart Recovery**
- **Most treatment programs encourage self-help participation during/after treatment**





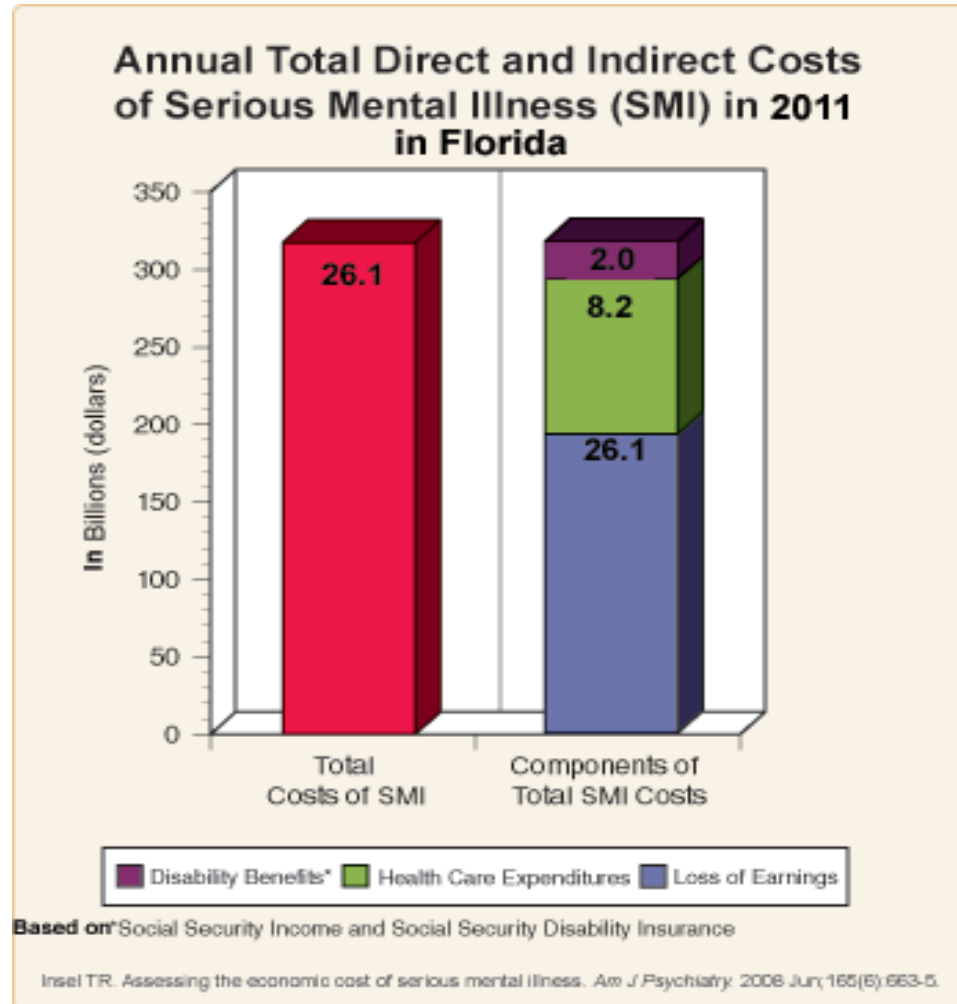
Cost-Effectiveness of Drug Treatment

- **Treatment is less expensive than not treating or incarceration (1 yr methadone maintenance = \$4,700 vs. \$18,400 for imprisonment)**
- **Every \$1 invested in treatment yields up to \$7 in reduced crime-related costs**
- **Savings can exceed costs by 12:1 when health care costs are included**
- **Reduced interpersonal conflicts**
- **Improved workplace productivity**
- **Fewer drug-related accidents**



COST OF MENTAL ILLNESS

- Direct Costs
- Indirect Costs



DIRECT COST

- In 2006, 36.2m received mental health services totaling \$57.5 billion, an average expenditure of \$1,591/person.
- 4.6 million children received services totaling \$8.9 billion, with an average expenditure of \$1,931/child
- Direct costs associated with treatment and services represent *only part* of the cost of mental illness. The true and more burdensome costs stem from indirect costs

Florida Mental Health Services FY '10-'11	
Type	Amount
Adult MH services	\$291,938,593
Children's MH services	\$ 92,696,734
MH treatment facility: civil	\$165,462,349
MH treatment facility: forensic	\$132,747,650
TOTAL MH Services Program	\$682,845,326

INDIRECT COSTS

- The true cost of mental illness relates more to *indirect* costs
- Indirect costs consist of morbidity and mortality costs
- Serious mental illnesses cost American society over \$200 billion annually in lost earnings alone
- Mental illnesses exact demands and impose costs on other systems and society

Extrapolating to Florida in 2011 dollars, the estimated lost earnings is \$26.1 billion; the lost productivity in Florida is \$21.8 billion; estimated mortality costs are \$4.3 billion



INDIRECT COSTS: STATE AGENCIES AND ECONOMIES

- If services are not funded directly, these costs show up in other systems, often at much higher rates and for longer time spans.
 - A national study examined the cost of mental health services *across state agencies*. In one state, the mental health agency paid for less than 50% of all state expenditures on mental health services with the rest being paid for by child welfare, education, and juvenile and criminal justice agencies.
- Mental disorders cost national economies billions in expenditures incurred and loss of productivity
 - The average annual costs (medical, pharmaceutical, disability), for employees with depression may be 4.2 times higher than those incurred by a typical beneficiary. Yet, treatment costs are often completely offset by reductions in the number of days of absenteeism and productivity lost



INDIRECT COSTS: SOCIETY

- Major causes of widespread illness, disability, premature death
- In 2009, the Florida suicide rate was the highest in 15 years; more died of suicide than from homicides and HIV *combined*.
- Worldwide, 3 of 6 leading causes of years lived with disability are due to mental illnesses
- 1:4 families has at least one member with a mental disorder
- Those with mental illnesses are also victims of human rights violations, stigma, and discrimination.



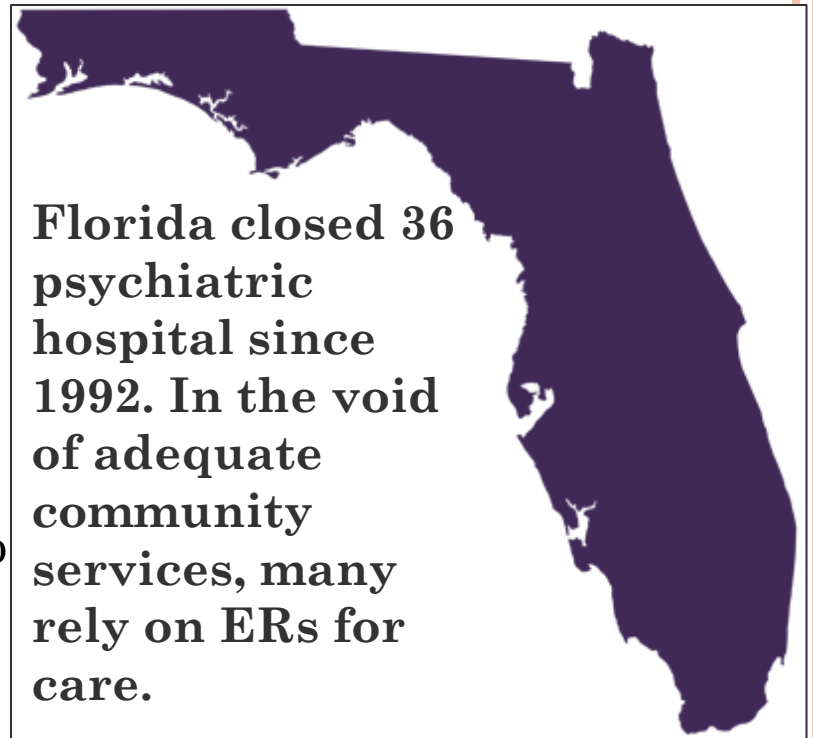
INDIRECT COSTS: CRIMINAL JUSTICE SYSTEMS

- Individuals with mental illness in Florida jails and prisons outnumber those in state mental hospitals by nearly 5 to 1. The Miami-Dade county jail holds 5 times the number of persons with mental illness than any state psychiatric hospital.
- The cost of repeatedly arresting people with mental illness is staggering.
 - In one year, the Summit County, OH government spent more than \$1m on just 20 people who were repeatedly arrested, committed to hospitals for 72 hours, jailed, or put in detoxification facilities.
 - In Pennsylvania, inmates with mental illness cost nearly twice as much per day as persons without mental illness



INDIRECT COSTS: EMERGENCY ROOMS

- Of all ER visits in 2007, 12 million (12.5%) involved a behavioral health condition. This is 1 in 8 visits.
- 1 in 4 hospital stays involves a person with a behavioral health disorder.
In 1995, only 1/3 were seen in the ED prior to admission; by 2004, the rate was +/-60%



RETURN ON INVESTMENT: ADULTS

In FY 2010, the median cost for adults receiving mental health services in Florida was \$456. This average cost belies the range of services cost represented in terms of expenditures by individual which spanned less than \$100 to over \$200,000.

- 90.6% of Florida clients cost \$3,000 or less; they represented 34.6% of adult mental health expenditures
- 8.2% cost between \$3,001 and \$20,000 was 8.2%, representing 37% of the costs
- 1.2% cost \$20,001-\$200,000, represented 28.4% of the costs. In terms of actual numbers, this last group consisted of 2,157 persons and they accounted for \$78.3 million dollars.
 - \$22m was spent on room and board, \$27m went to residential services, and \$9m was spent on crisis stabilization or support in the community.



RETURN ON INVESTMENT: CHILDREN

- In FY 2010, the median cost for children and adolescents served with mental health services in Florida was \$313. This average service cost belies the range represented in terms of expenditures by individual, which spanned less than \$100 to over \$200,000.
 - 93.6% cost \$3,000 or less and represented 50% of mental health expenditures
 - 6% The group costing between \$3,001 and \$20,000, representing 33% of the costs.
 - Residential services accounted for 6.5% of costs
 - case management, crisis stabilization, in-home services, medical services and outpatient services accounted for 72.5% of costs
 - 0.4% cost between \$20,001-\$200,000, accounting for 17.3% of costs. In terms of actual numbers, this group consisted of 224 children and adolescents and they accounted for \$9.8 million.
 - 82% of the costs were for residential services.



RECOMMENDATIONS

Recommendation 1: A rigorous course of analyses should be identified and pursued to demonstrate potential impact and savings of behavioral health programs that are already in place in Florida. Such analyses could also identify key target populations and services where such benefits could potentially be derived.

Recommendation 2: Building on the initial work in this document, additional analyses should be conducted on “high utilizers” and “low utilizers” of both adult and children’s mental health services. More in-depth analysis may indicate opportunities to reduce the use of residential services for youths, and to develop a broader array of services for adults that could augment the community-based service system and reduce (in relative terms) use of state psychiatric hospitals.

Conclusion: Increasing information sharing for advocacy and quality assurance purposes would help to “make the case” for mental health services in Florida.



RETURN ON INVESTMENT:

- People enter the mental health system at different levels of functioning, with most showing significant improvement within 6 months.
- FY2010 data on admission shows:
 - 43.4% of adults showed significant improvement in functioning; 90.2% either improved or were maintained at their level of functioning.
 - 92.7% of children showed improved functioning or maintained the same functioning (38.4% showed significant improvement)

Community Functioning & Support	PERFORMANCE (Percent)
School days attended by children with SED	91%
Children with SED in stable housing	99%
Competitively employed adults	18%
Adults experiencing crisis who have stable housing	94%



RECOMMENDATIONS

- **Recommendation 3:** Since there is sufficient evidence of the efficacy of behavioral health treatments on quality of life, health and human service costs, productivity gains, expanded life span, and because of Florida's current per capita spending rank, at a minimum funding should be maintained and hopefully new short- and long-term funding increases will reduce other system costs and secure better outcomes.
- **Recommendation 4:** Given the databases that are available in Florida's behavioral health system, data analyses should be conducted and used more often for advocacy and for quality management purposes. Data used in this fashion can help build consensus and will facilitate an examination of the current system's design yielding opportunities to look for expanding existing or behavioral mental health clients. Regularly providing data and feedback to providers in the context of quality assurance/quality improvement can also have a positive impact on achieving systems and outcomes progress.
- **Conclusion: Focusing More on Streamlining Services and Systems for Quality Improvement and Efficiency May Result in Further Savings and Efficiencies.**



RECOMMENDATIONS

Recommendation 5: Using existing data supported by more in-depth assessments it may be possible to identify a number of both adults and children who could be involved in a demonstration project to examine the benefits of shifting resources so that evidence-based practices implementation could occur and the results measured. This would not only help the behavioral health system learn how to move forward with a new range of Evidence-Based practices, but, with positive results, could also serve as a model to go to scale with such practices across the State.

Recommendation 6: Building on Recommendation 5, State policymakers, administrators, advocates, consumers and families should consider collaborating to develop a plan to increase the number and span of evidence-based behavioral health, rehabilitation, and recovery-based services provided in Florida.

