





NWIC

National Wraparound
Implementation Center

Advancing Systems  Enhancing the Workforce  Improving Outcomes

Analyzing Medicaid Data to Inform Quality and Cost Improvement in Systems of Care

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SCHOOL OF MEDICINE



THE INSTITUTE FOR INNOVATION & IMPLEMENTATION



Topics Covered

- I. Why Analyze Medicaid Data
- II. How to Analyze Medicaid Data
- III. Examples of What Analysis Tells You
- IV. How to Use Data from Analysis



Why Analyze Medicaid Data

- Medicaid is the largest funder of behavioral health care for children and youth
- To be effective and sustainable, system of care reforms must impact Medicaid delivery systems
- Understanding child behavioral health utilization and expense in Medicaid can guide SOC reform efforts

Why Analyze Medicaid Data



Can Identify Opportunities to:

- ✓ Maximize Medicaid and re-direct spending from high-costs poor outcomes spending – e.g. from facility-based care to home and community-based services, peer support and effective care coordination using fidelity Wraparound
- ✓ Address appropriate use of psychotropic medications
- ✓ Address disparities and disproportionality in access, in type of service used, in psychotropic medication rate and use - based on gender, age, race and ethnicity, aid category (TANF, Foster Care, SSI/Disabled) and geography

Why Analyze Medicaid Data



- Can examine physical health use and expense among Medicaid-enrolled children in your State who use behavioral health care to project number of children with co-morbidities
- Can identify “most expensive” children to project numbers for intensive care coordination using Wraparound
- Can examine your State’s utilization and expenditures in the context of national child behavioral health use and Expense
- Can establish benchmarks related to SOC goals (e.g., access, reduced disparities, increased use of home and community based services and peer support, reduced use of facility-based care)



Why Analyze Medicaid Data

- Understanding the data = understanding opportunities to improve the quality and cost of care

“If we have data, let’s look at data. If all we have are opinions, let’s go with mine.”

Jim Barksdale, CEO, Netscape



How to Analyze Medicaid Data

Core Study Questions

- Which children, and how many, use Medicaid-financed behavioral health services and psychotropic medications?
 - What types of services do they receive?
 - What types of psychotropic medications?
 - To what extent do they have chronic physical health conditions?
- What are the expenditures for the services and psychotropic medications used – in total and by type?
- What are utilization and expense patterns for the top 10% most expensive children?
- What is the variance in use and expense by aid category, gender, age, race/ethnicity and geographic region?
- What is the variance in use and expense by diagnosis?
- What are the policy implications of the study findings?



How to Analyze Medicaid Data

- Create a typology of child and adolescent behavioral health services
- Cross-walk the service typology to the billing codes used in your State for those services
- Extract claims or encounter data for identified billing codes by: BH diagnosis, BH provider type, and BH place of service
- Create an algorithm for psychotropic medications
- Extract psychotropic medication use from pharmacy claims data



How to Analyze Medicaid Data

- Use fee-for-service (FFS) claims and managed care encounters to capture utilization
- Use FFS expense (usually available on a subset of the study population) to impute total and mean behavioral health expenditures – Caveats: FFS mean expense may be higher than Medicaid managed care mean expense because FFS populations typically more high need/high cost, and FFS service types may be more high cost



Transformed Medicaid Statistical Information System (T-MSIS)

- States transitioning now
- More information on Medicaid managed care
 - Medicaid paid amount for encounter claims
 - State plan ID linkable to beneficiary enrollment and encounter records







Example of What Analysis Tells You:

Faces of Medicaid Study

- 2005, 2008, 2011 Medicaid Analytic eXtract (MAX) person-level data from all states
- Center for Health Care Strategies, Inc. (Kamala Allen)
- Human Service Collaborative (Sheila Pires)
- University of California-San Diego (Todd Gilmer)
- Consulting psychiatrist: Katherine Grimes, M.D.
- Funded by Annie E. Casey Foundation, Centers for Medicare and Medicaid Services, Substance Abuse and Mental Health Services Administration, Commonwealth Fund

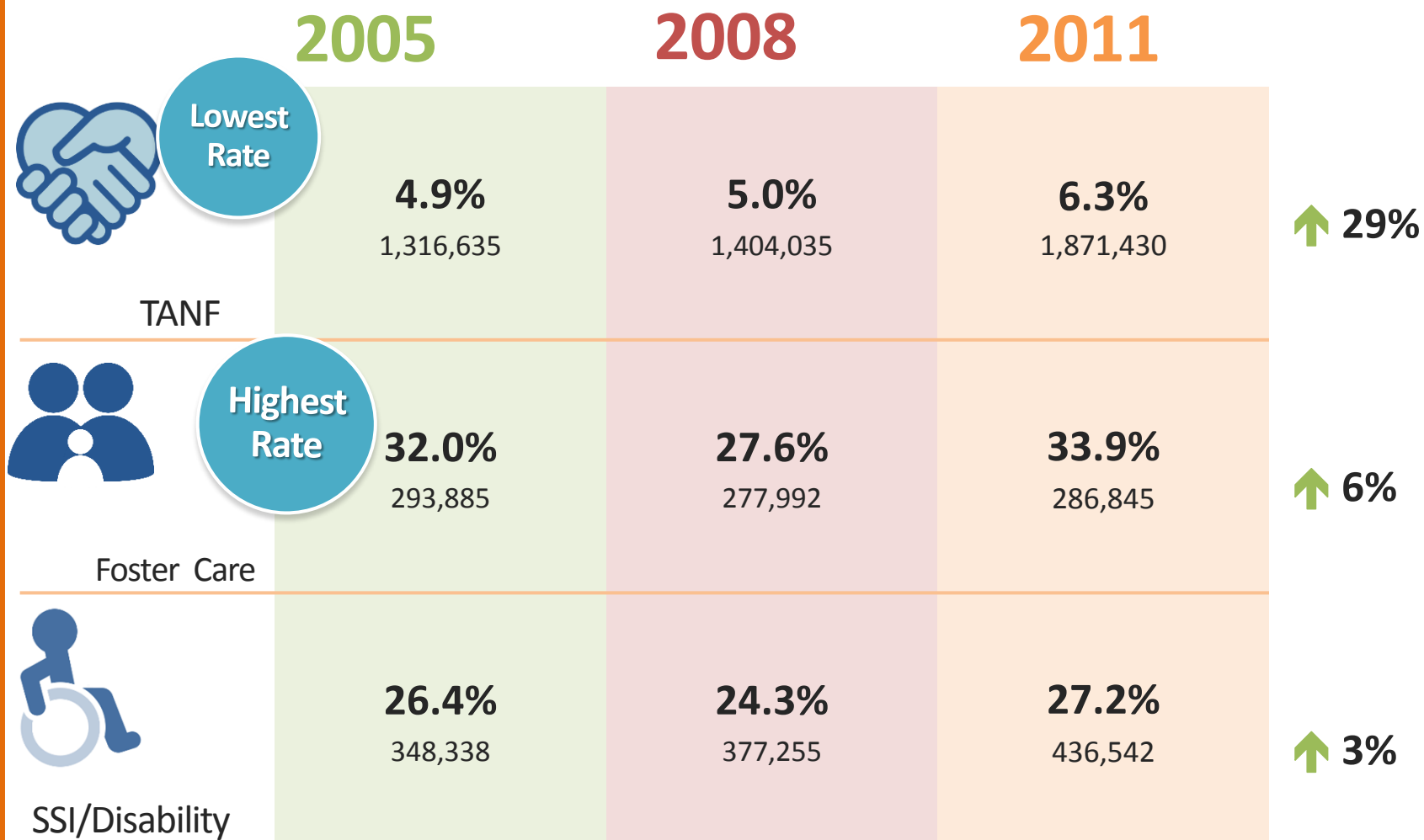


Child Behavioral Health Care Penetration Rates

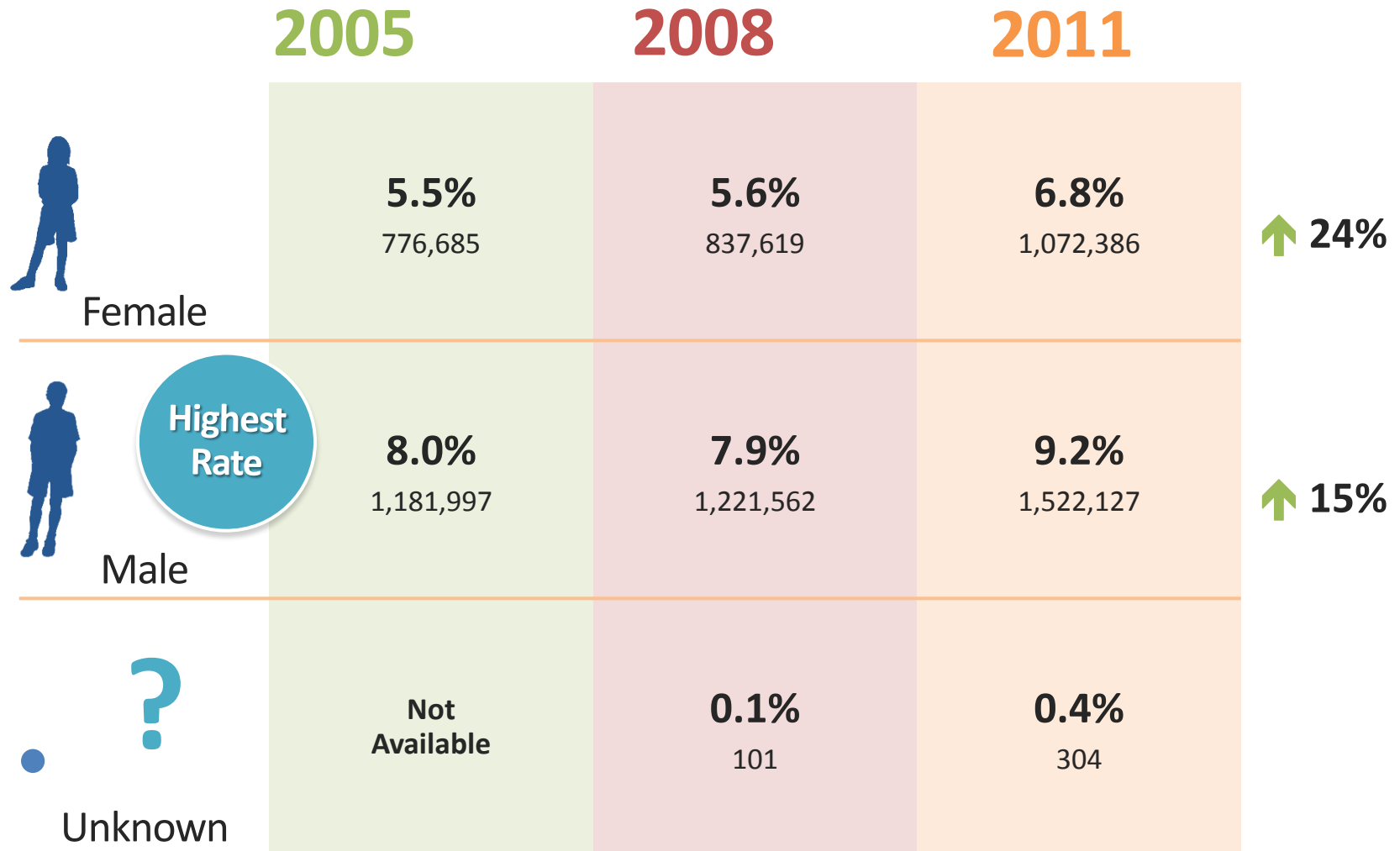
	2005	2008	2011	
 Total services and psych meds	9.6% 2,787,919	9.8% 3,002,796	11.2% 3,617,140	↑ 17%
 Services w/or w/out psych meds	6.7% 1,958,908	6.8% 2,059,282	8.0% 2,594,817	↑ 19%
 Psych meds with services	2.9% 857,376	3.0% 900,220	3.5% 1,134,722	↑ 16%
 Psych meds only	2.9% 829,011	3.0% 943,514	3.2% 1,022,323	



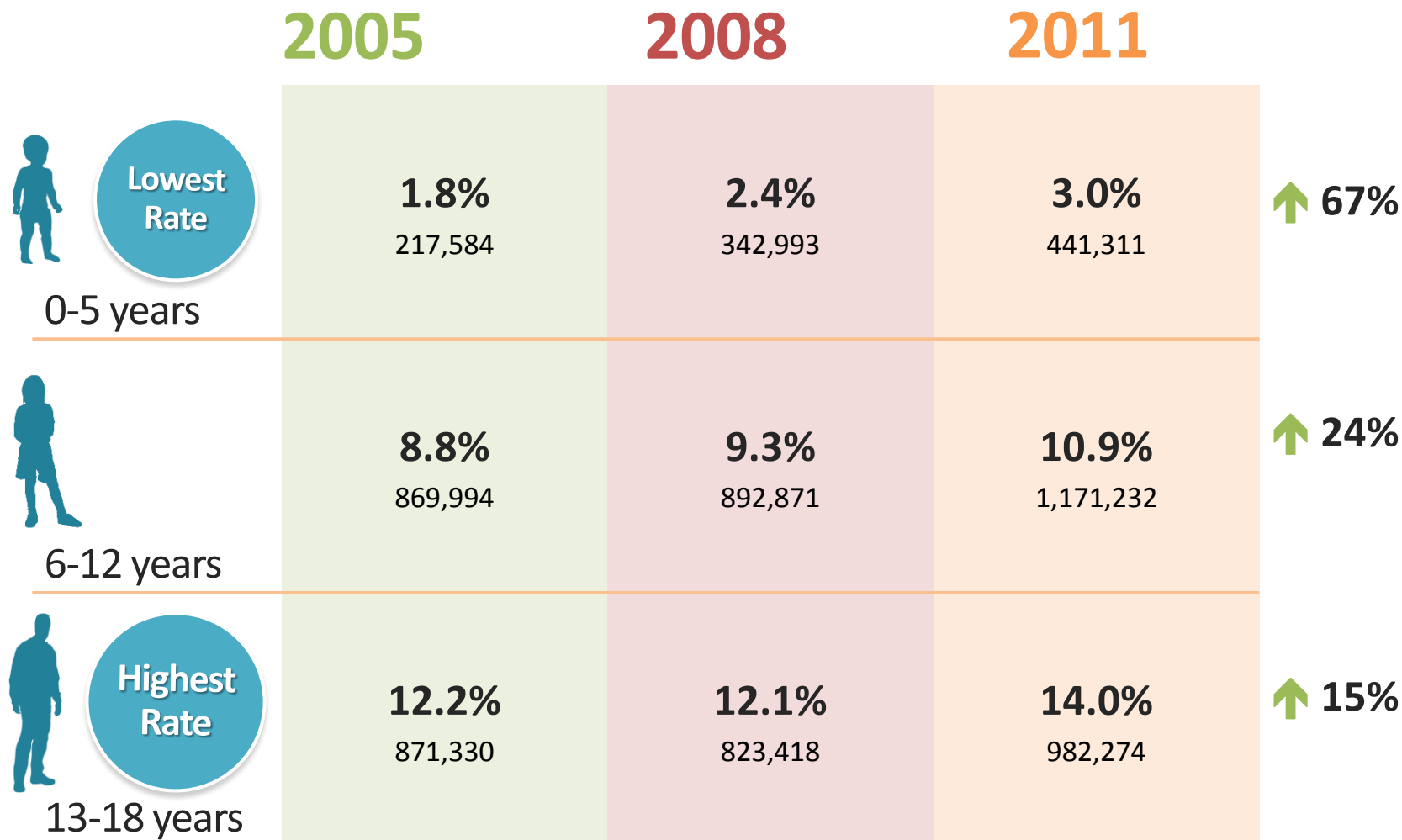
Child Behavioral Health Service Penetration by Aid Category



Child Behavioral Health Service Penetration by Gender



Child Behavioral Health Service Penetration by Age



Child Behavioral Health Service Penetration by Race/Ethnicity



	2005	2008	2011	
White	9.0% 1,015,126	9.1% 1,014,816	10.3% 1,228,951	↑ 14%
Black or African American	6.6% 496,426	7.1% 541,080	8.1% 602,129	↑ 23%
American Indian or Alaska Native	6.4% 28,870	7.6% 34,460	9.4% 36,460	↑ 47%
Asian	1.8% 11,458	1.9% 13,075	2.3% 17,983	↑ 28%
Hispanic or Latino	3.7% 234,398	3.4% 232,495	4.6% 331,780	↑ 24%
Native Hawaiian or Pacific Islander	3.1% 5,702	1.6% 3,275	2.9% 4,790	↓ 6%
Hispanic or Latino, plus one or more races	5.1% 43,521	5.2% 63,480	6.9% 119,048	↑ 35%
More than one race	7.2% 5,366	8.9% 9,747	11.3% 24,775	↑ 57%

Lowest Rate




Highest Rate

Child Medicaid Population Using BH Services: Aid Category Breakdown



KEY



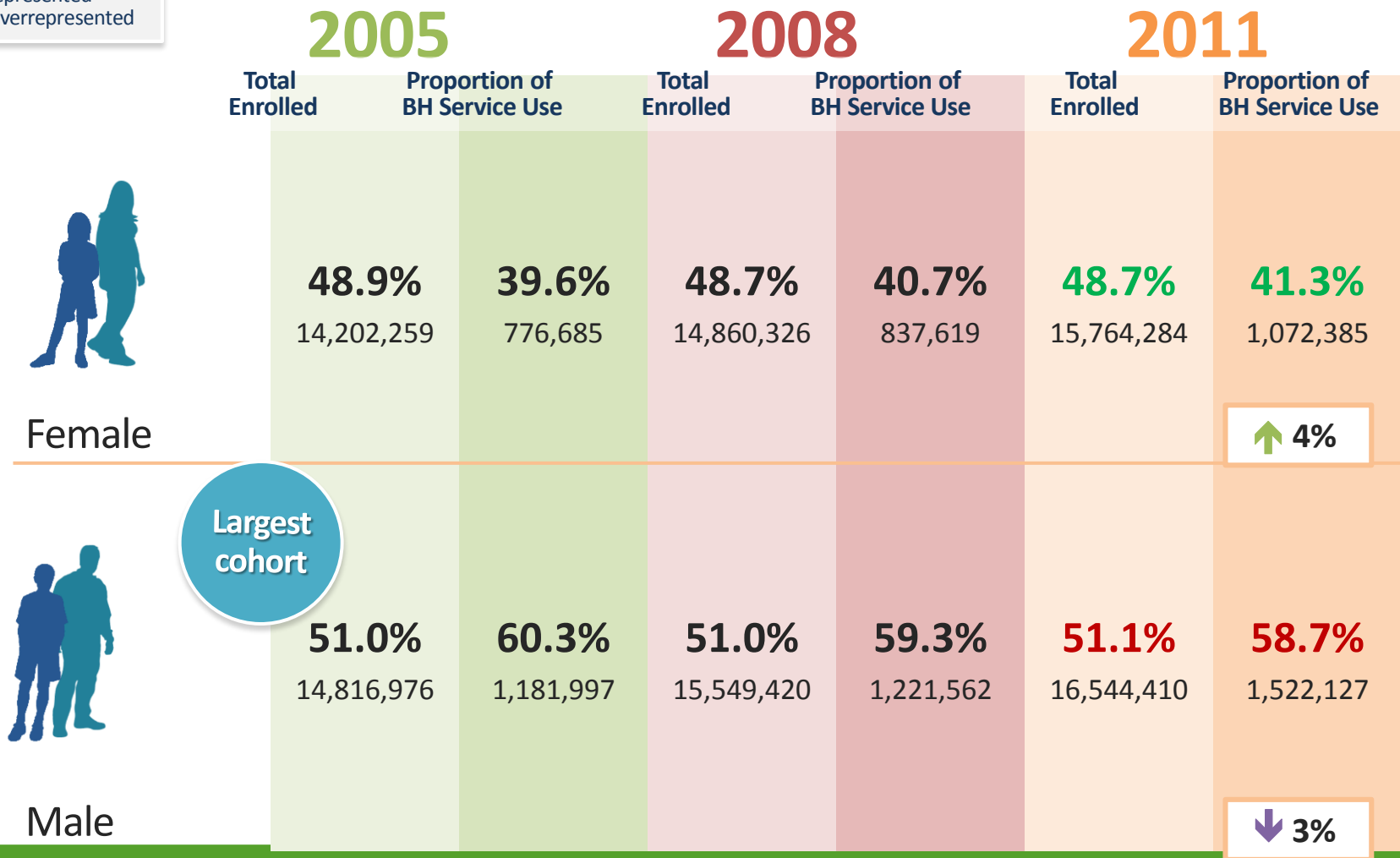
	2005		2008		2011	
	Total Enrolled	Proportion of BH Service Use	Total Enrolled	Proportion of BH Service Use	Total Enrolled	Proportion of BH Service Use
 <div>Largest cohort</div> TANF	92.3%	67.2%	91.1%	68.2%	92.4%	72.1%
	26,812,742	1,316,635	27,947,758	1,404,035	29,932,214	1,871,430
						↑ 7%
 Foster Care	3.2%	15.0%	3.3%	13.5%	2.6%	11.1%
	919,590	293,885	1,005,542	277,992	844,963	286,845
						↓ 26%
 SSI/Disability	4.5%	17.8%	5.1%	18.3%	5.0%	16.8%
	1,317,973	348,338	1,550,314	377,255	1,607,079	436,542
						↓ 6%

Child Medicaid Population Using BH Services: Gender Breakdown



KEY

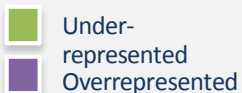
- Under-represented
- Overrepresented






Child Medicaid Population Using BH Services: Age Breakdown



KEY





		2005		2008		2011	
		Total Enrolled	Proportion of BH Service Use	Total Enrolled	Proportion of BH Service Use	Total Enrolled	Proportion of BH Service Use
 0-5 years		41.3%	11.1%	46.3%	16.7%	45.2%	17.0%
		12,001,451	217,584	14,128,316	342,993	14,625,040	441,311
		↑ 53%					
 6-12 years	Largest cohort	34.0%	44.4%	31.3%	43.4%	33.2%	45.1%
		9,889,507	869,994	9,559,021	892,871	10,742,593	1,171,232
		↑ 2%					
 13-18 years		24.6%	44.5%	22.3%	40.0%	21.7%	37.9%
		7,159,347	871,330	6,816,277	823,418	7,016,623	982,274
		↓ 15%					

Child Medicaid Population Using BH Services: Race/Ethnicity Breakdown



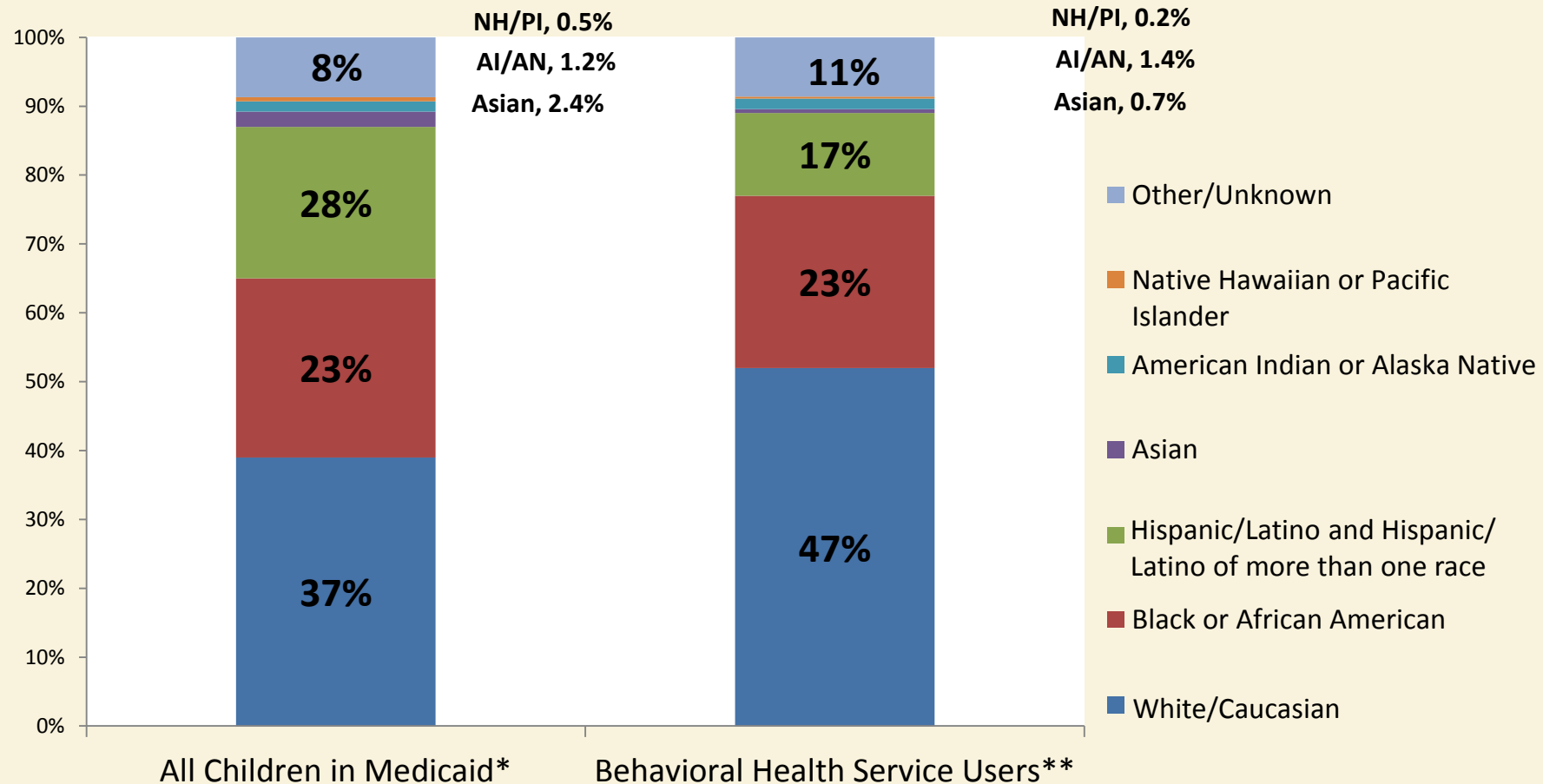
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 Under-represented
 Overrepresented

Largest cohort

	2005		2008		2011		
	Total Enrolled	% BH Users	Total Enrolled	% BH Users	Total Enrolled	% BH Users	
White	11,271,574	51.8%	11,210,800	49.3%	11,989,616	47.4%	↓ 8%
Black or African American	7,537,925	25.3%	7,586,425	26.3%	7,399,372	23.2%	↓ 8%
American Indian or Alaska Native	448,234	1.5%	455,040	1.7%	388,749	1.4%	↓ 7%
Asian	644,744	0.6%	678,467	0.6%	774,040	0.7%	↑ 17%
Hispanic or Latino	6,413,067	12.0%	6,932,396	11.3%	7,255,224	12.8%	↑ 7%
Native Hawaiian or Pacific Islander	185,598	0.3%	205,304	0.2%	162,835	0.2%	↓ 33%
Hispanic or Latino, plus one or more races	846,083	2.2%	1,231,961	3.1%	1,723,148	4.6%	↑ 109%
More than one race	74,093	0.3%	109,000	0.5%	218,671	1.0%	↑ 233%

Medicaid Enrollment and Behavioral Health Service Use by Race/Ethnicity



Child Psychiatric Diagnoses Rates



	Largest cohort	2005		2008		2011		
ADHD		33.4%	654,863	34.5%	709,512	36.4%	944,452	↑ 9%
Conduct disorder		13.9%	272,288	31.3%	644,288	32.5%	843,041	↑ 134%
Mood		16.0%	312,642	30.0%	617,080	31.9%	828,153	↑ 99%
Anxiety		13.8%	270,721	17.5%	360,490	21.4%	554,460	↑ 55%
PTSD		N/A	N/A	5.0%	103,343	5.9%	152,991	↑ 18%
DD		3.6%	69,541	4.8%	98,794	5.3%	138,298	↑ 47%
Psychosis		2.6%	51,323	2.6%	53,010	2.7%	70,951	↑ 4%
SUD diagnosis		N/A	N/A	6.0%	122,696	6.1%	157,764	↑ 2%
No diagnosis		39.1%	766,525	15.6%	322,196	12.3%	318,292	↓ 69%
		N=1,958,908		N=2,059,282		N=2,594,817		

Child Psychiatric Diagnoses Rates by Aid Category (2011)



KEY

- Lowest rates
- Highest rates



TANF



Foster Care



SSI/Disability



	TANF	Foster Care	SSI/Disability
ADHD	33.5%	38.0%	47.8%
Conduct disorder	31.8%	39.9%	30.4%
Mood	30.9%	39.3%	31.4%
Anxiety	22.5%	23.2%	15.4%
PTSD	5.0%	13.1%	5.0%
DD	2.9%	4.6%	16.4%
Psychosis	2.0%	3.1%	5.5%
SUD diagnosis	6.3%	7.7%	3.9%
No diagnosis	12.7%	9.1%	12.6%



Child Psychiatric Diagnoses Rates by Gender (2011)

KEY

 Highest rates

	 Female	 Male
ADHD	25.7%	44.0%
Conduct disorder	28.5%	35.3%
Mood	32.5%	27.5%
Anxiety	26.9%	17.5%
PTSD	8.0%	4.4%
DD	2.8%	7.1%
Psychosis	2.8%	2.7%
SUD diagnosis	5.4%	6.5%
No diagnosis	12.4%	12.2%

Child Psychiatric Diagnoses Rates by Age (2011)



KEY	
	Lowest rates
	Highest rates

	0-5 years	6-12 years	13-18 years
ADHD	25.9%	47.6%	27.8%
Conduct disorder	33.1%	34.0%	30.4%
Mood	13.4%	27.3%	45.8%
Anxiety	14.9%	21.5%	24.1%
PTSD	3.9%	5.9%	6.8%
DD	7.7%	5.6%	3.9%
Psychosis	0.5%	1.8%	4.7%
SUD diagnosis	0.3%	0.6%	15.2%
No diagnosis	24.8%	7.6%	12.2%



Child Psychiatric Diagnoses Rates by Race/Ethnicity (2011)

KEY

- Lowest rates
- Highest rates

	White	Black/ African American	American Indian/ Alaska Native	Asian	Hispanic or Latino	Native Hawaiian/ Pacific Islander	Hispanic/ Latino + one/more races	More than one race	Unknown
ADHD	37.8%	38.5%	28.6%	19.3%	27.4%	18.9%	29.9%	35.8%	42.9%
Conduct disorder	31.9%	37.3%	37.1%	21.7%	28.8%	24.5%	30.9%	39.9%	28.9%
Mood	34.4%	29.2%	37.0%	29.9%	29.6%	30.6%	31.3%	32.7%	28.6%
Anxiety	24.6%	14.8%	26.3%	23.8%	22.5%	23.8%	22.8%	25.3%	17.6%
PTSD	6.6%	4.8%	11.0%	5.0%	5.2%	7.0%	6.3%	8.6%	4.8%
DD	6.0%	3.4%	3.3%	9.2%	2.9%	5.4%	4.3%	4.3%	11.1%
Psychosis	2.3%	3.3%	2.5%	3.7%	2.4%	3.3%	3.5%	2.4%	3.5%
SUD diagnosis	6.4%	5.6%	13.8%	5.9%	6.8%	7.3%	5.8%	5.2%	3.7%
No diagnosis	10.1%	13.2%	11.1%	20.2%	16.0%	20.7%	14.7%	8.6%	14.6%

Rates of Child Behavioral Health Services Used by Service Type



	2005	2008	2011	
*Outpatient treatment	53.1%	48.2%	53.6%	↑
*Psychotropic medication	43.8%	43.7%	43.7%	—
*Screening/assess./eval.	40.9%	45.2%	46.9%	↑
*Medication mngmt.	22.3%	24.3%	24.2%	↑
*Family therapy/ fam. ed. and training	19.4%	23.2%	24.4%	↑
*Psychosocial rehabilitation	12.4%	18.4%	23.8%	↑
Substance use outpatient	N/A	N/A	1.7%	↑
Psychological testing	9.3%	4.5%	4.4%	↓
Case mngmt.	8.7%	9.6%	6.3%	↓
Group therapy	7.6%	8.5%	8.0%	↑
Targeted case mngmt.	7.1%	5.6%	8.3%	↑
Behavior mngmt. consult./therapeutic behavioral support	4.7%	2.6%	4.3%	↓
Res. treat./therapeutic group homes	3.6%	4.8%	4.2%	↑
Crisis intervention/stabilization (non ER)	3.5%	3.6%	4.3%	↑
Inpatient psychiatric treatment	3.3%	3.2%	5.2%	↑
Partial hospitalization/day treatment	3.3%	4.6%	3.9%	↑
Mental health consultation	3.1%	3.5%	3.3%	↑
Substance use screening/assess.	2.9%	3.5%	1.7%	↓
Wraparound	1.1%	1.1%	1.5%	↑
Therapeutic foster care	0.8%	0.9%	0.5%	↓
Substance use inpatient/residential	0.3%	N/A	0.2%	↓
Respite	0.2%	0.3%	0.2%	—
Supported housing	0.2%	0.2%	0.3%	↑
Emergency room	N/A	6.0%	6.1%	—
Peer services	0.1%	0.1%	0.3%	↑
Home-based (e.g., in-home services)	0.1%	0.1%	0.1%	—
Activity therapies	0.1%	0.1%	0.1%	—
Multi-systemic therapy	0.0%	0.1%	0.1%	↑
N=	1,958,908	2,059,282	2,594,817	

Rates of Specific Child BH Services Used by Aid Category (2011)



KEY

- Lowest rates
- Highest rates



TANF



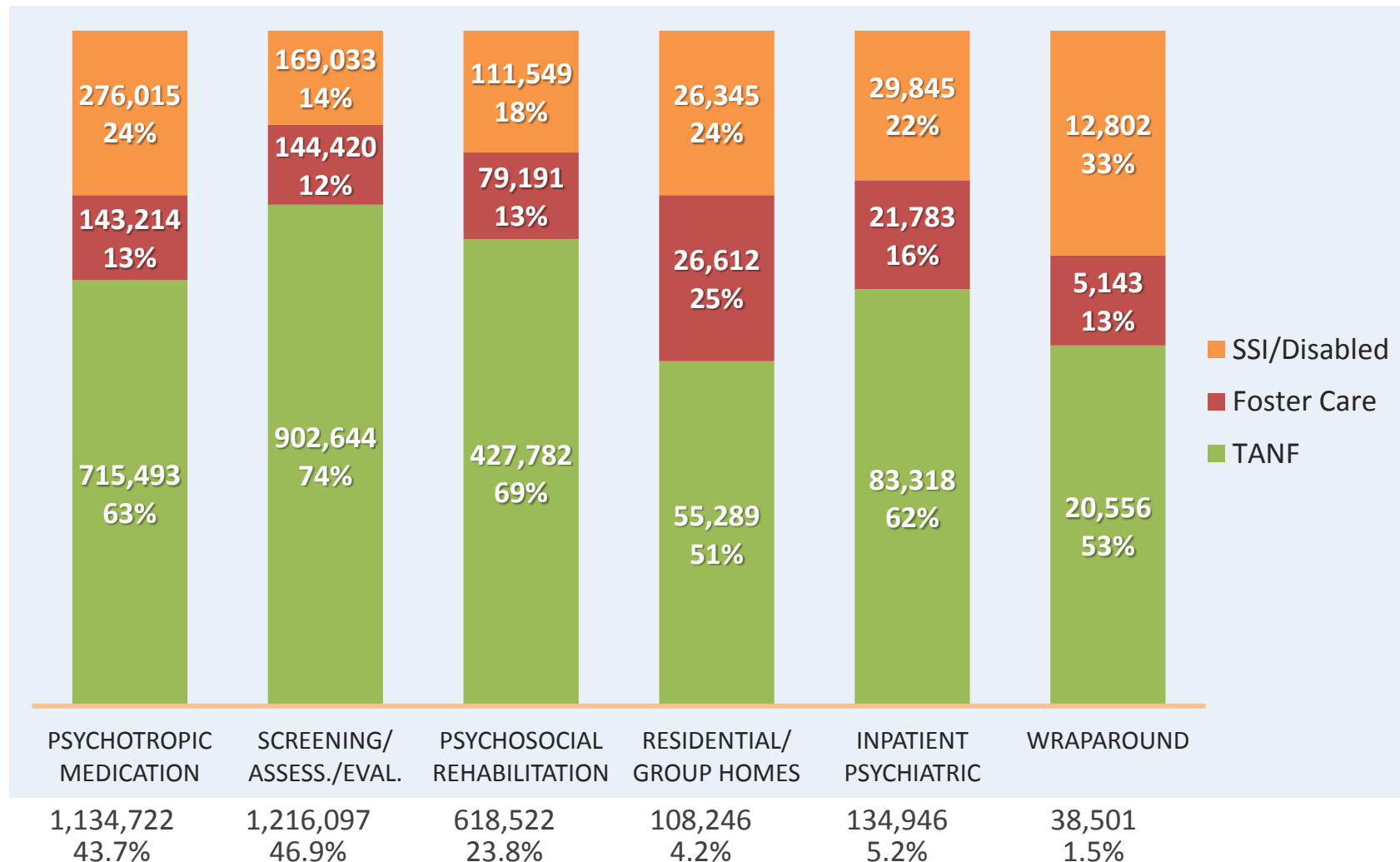
Foster Care



SSI/Disabled

Outpatient treatment	<div><div></div><div>53.9%</div></div>	<div><div></div><div>57.9%</div></div>	<div><div></div><div>49.2%</div></div>
Psychotropic medication	<div><div></div><div>38.2%</div></div>	<div><div></div><div>49.9%</div></div>	<div><div></div><div>63.2%</div></div>
Screening/assess./eval.	<div><div></div><div>48.2%</div></div>	<div><div></div><div>50.3%</div></div>	<div><div></div><div>38.7%</div></div>
Medication mngmt.	<div><div></div><div>20.8%</div></div>	<div><div></div><div>29.5%</div></div>	<div><div></div><div>35.1%</div></div>
Family therapy/ fam. ed. and training	<div><div></div><div>24.2%</div></div>	<div><div></div><div>27.0%</div></div>	<div><div></div><div>23.3%</div></div>
Psychosocial rehabilitation	<div><div></div><div>22.9%</div><div>(↑ 99%)</div></div>	<div><div></div><div>27.6%</div><div>(↑ 140%)</div></div>	<div><div></div><div>25.6%</div><div>(↑ 55%)</div></div>
Substance use outpatient	<div><div></div><div>1.8%</div></div>	<div><div></div><div>2.5%</div></div>	<div><div></div><div>0.9%</div></div>
Psychological testing	<div><div></div><div>3.4%</div></div>	<div><div></div><div>11.2%</div></div>	<div><div></div><div>4.2%</div></div>
Case mngmt.	<div><div></div><div>6.0%</div></div>	<div><div></div><div>7.3%</div></div>	<div><div></div><div>7.1%</div></div>
Group therapy	<div><div></div><div>7.5%</div></div>	<div><div></div><div>9.6%</div></div>	<div><div></div><div>9.3%</div></div>
Targeted case mngmt.	<div><div></div><div>7.0%</div></div>	<div><div></div><div>11.2%</div></div>	<div><div></div><div>12.2%</div></div>
Behavior mngmt. consult./ therapeutic behavioral support	<div><div></div><div>3.7%</div></div>	<div><div></div><div>5.5%</div></div>	<div><div></div><div>6.0%</div></div>
Res. treat./therapeutic group homes	<div><div></div><div>3.0%</div><div>(↑ 11%)</div></div>	<div><div></div><div>9.3%</div><div>(↑ 52%)</div></div>	<div><div></div><div>6.0%</div><div>(↑ 20%)</div></div>
Crisis intervention/stabilization (non ER)	<div><div></div><div>3.9%</div></div>	<div><div></div><div>5.2%</div></div>	<div><div></div><div>5.6%</div></div>
Inpatient psychiatric treatment	<div><div></div><div>4.5%</div><div>(↑ 61%)</div></div>	<div><div></div><div>7.6%</div><div>(↑ 49%)</div></div>	<div><div></div><div>6.8%</div><div>(↑ 79%)</div></div>
Partial hospitalization/day treatment	<div><div></div><div>3.2%</div></div>	<div><div></div><div>4.2%</div></div>	<div><div></div><div>6.6%</div></div>
Mental health consultation	<div><div></div><div>3.1%</div></div>	<div><div></div><div>2.6%</div></div>	<div><div></div><div>5.0%</div></div>
Substance use screening/assess.	<div><div></div><div>1.8%</div></div>	<div><div></div><div>2.6%</div></div>	<div><div></div><div>0.9%</div></div>
Wraparound	<div><div></div><div>1.1%</div></div>	<div><div></div><div>1.8%</div></div>	<div><div></div><div>2.9%</div></div>
Therapeutic foster care	<div><div></div><div>0.2%</div></div>	<div><div></div><div>1.7%</div></div>	<div><div></div><div>0.6%</div></div>
Substance use inpatient/residential	<div><div></div><div>0.2%</div></div>	<div><div></div><div>0.2%</div></div>	<div><div></div><div>0.0%</div></div>
Respite	<div><div></div><div>0.2%</div></div>	<div><div></div><div>0.3%</div></div>	<div><div></div><div>0.7%</div></div>
Supported housing	<div><div></div><div>0.3%</div></div>	<div><div></div><div>0.4%</div></div>	<div><div></div><div>0.3%</div></div>
Emergency room	<div><div></div><div>5.8%</div></div>	<div><div></div><div>6.0%</div></div>	<div><div></div><div>7.3%</div></div>
Peer services	<div><div></div><div>0.2%</div></div>	<div><div></div><div>0.1%</div></div>	<div><div></div><div>0.7%</div></div>
Home-based (e.g., in-home services)	<div><div></div><div>0.1%</div></div>	<div><div></div><div>0.1%</div></div>	<div><div></div><div>0.1%</div></div>
Activity therapies	<div><div></div><div>0.0%</div></div>	<div><div></div><div>0.1%</div></div>	<div><div></div><div>0.3%</div></div>
Multi-systemic Therapy	<div><div></div><div>0.1%</div></div>	<div><div></div><div>0.1%</div></div>	<div><div></div><div>0.2%</div></div>
N=	1,871,430	286,845	436,542

Utilization Breakdown of Select Services by Aid Category





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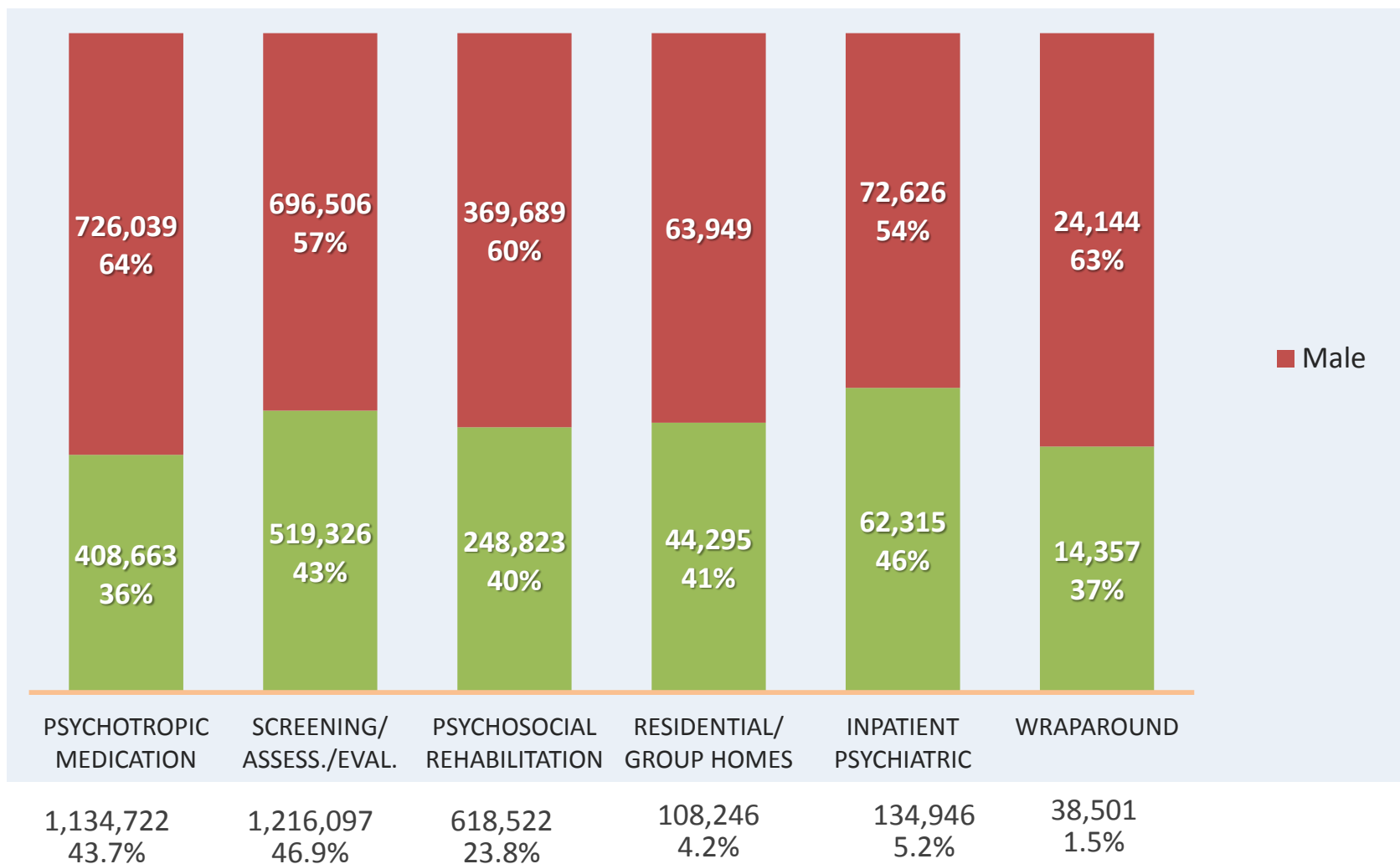
■ Highest rates

Rates of Specific Child BH Services Used by Gender (2011)

	Female	Male
Outpatient treatment	55.3%	52.4%
Psychotropic medication	38.1%	47.7%
Screening/assess./eval.	48.4%	45.8%
Medication mngmt.	20.8%	26.6%
Family therapy/ fam. ed. and training	24.8%	24.1%
Psychosocial rehabilitation	23.2%	24.3%
Substance use outpatient	1.3%	2%
Psychological testing	4.0%	4.7%
Case mngmt.	5.9%	6.6%
Group therapy	6.9%	8.8%
Targeted case mngmt.	7.8%	8.6%
Behavior mngmt. consult./ therapeutic behavioral support	4.1%	4.5%
Res. treat./therapeutic group homes	4.1%	4.2%
Crisis intervention/stabilization (non ER)	4.7%	4.1%
Inpatient psychiatric treatment	5.8%	4.8%
Partial hospitalization/day treatment	3.3%	4.3%
Mental health consultation	3.3%	3.4%
Substance use screening/assess.	1.4%	1.9%
Wraparound	1.3%	1.6%
Therapeutic foster care	0.5%	0.4%
Substance use inpatient/residential	0.1%	0.2%
Respite	0.2%	0.3%
Supported housing	0.2%	0.3%
Emergency room	7.0%	5.4%
Peer services	0.3%	0.3%
Home-based (e.g., in-home services)	0.1%	0.1%
Activity therapies	0.1%	0.1%
Multi-systemic Therapy	0.1%	0.1%
N=	1,072,386	1,522,127



Utilization of Select Services by Gender








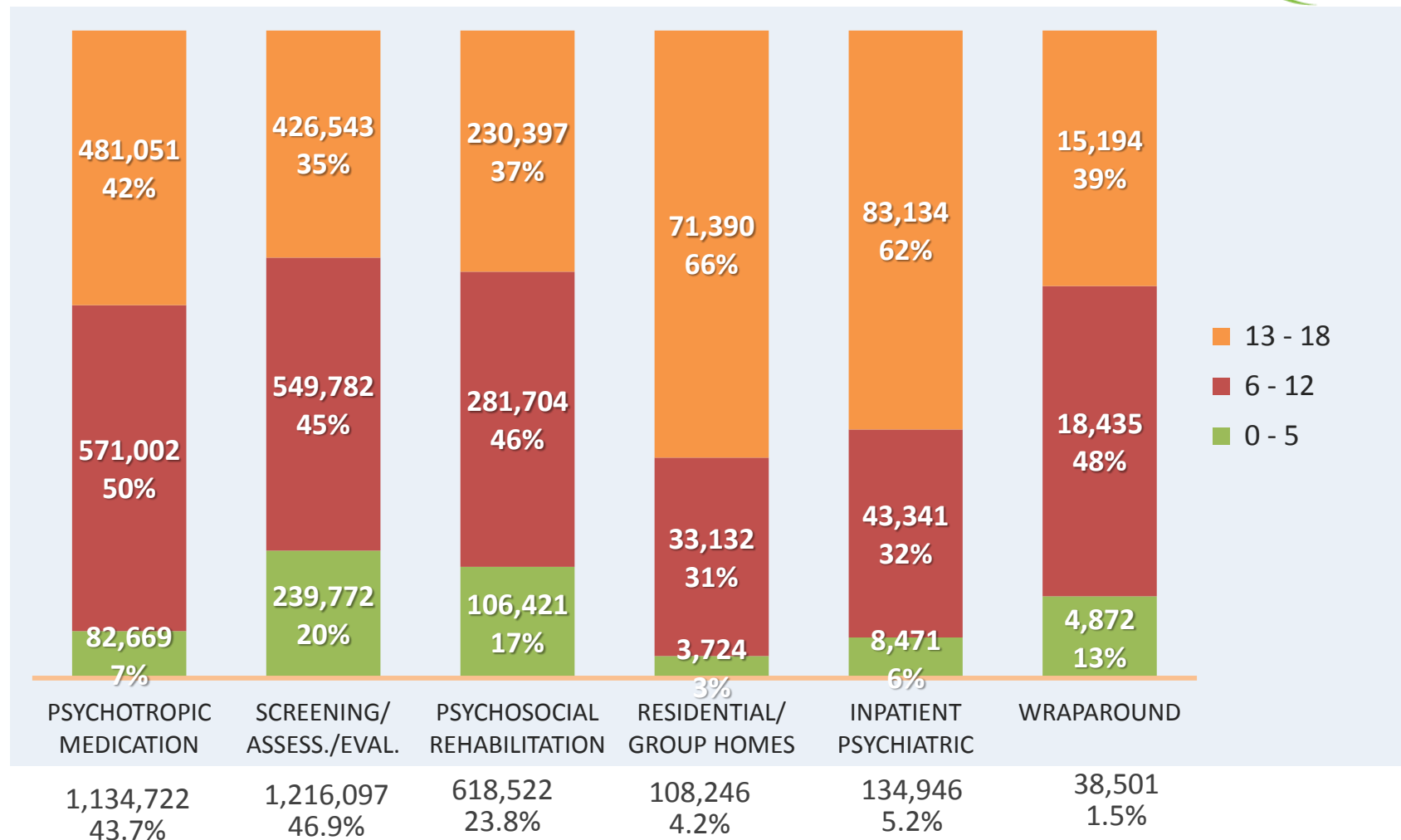
Rates of Specific Child BH Services Used by Age (2011)

KEY

- Lowest rates
- Highest rates

	 0 - 5	 6 - 12	 13 - 18
Outpatient treatment	39.4%	57.9%	54.8%
Psychotropic medication	18.7% (↑ 26%)	48.8%	49.0%
Screening/assess./eval.	54.3%	46.9%	43.4%
Medication mngmt.	10.6%	27.2%	26.7%
Family therapy/ fam. ed. and training	25.5%	27.7%	19.9%
Psychosocial rehabilitation	24.1% (↑ 90%)	24.1% (↑ 106%)	23.5%
Substance use outpatient	0.1%	0.2%	4.2%
Psychological testing	5.4%	4.7%	3.6%
Case mngmt.	4.1%	6.3%	7.3%
Group therapy	4.5%	8.8%	8.7%
Targeted case mngmt.	7.2%	8.1%	9.0%
Behavior mngmt. consult./ therapeutic behavioral support	3.5%	4.6%	4.3%
Res. treat./therapeutic group homes	0.8%	2.8%	7.3%
Crisis intervention/stabilization (non ER)	1.3%	3.5%	6.7%
Inpatient psychiatric treatment	1.9%	3.7% (↑ 95%)	8.5%
Partial hospitalization/day treatment	3.2%	4.2%	3.8%
Mental health consultation	2.6%	3.9%	2.9%
Substance use screening/assess.	0.2%	0.4%	4.0%
Wraparound	1.1%	1.6%	1.5%
Therapeutic foster care	0.5%	0.3%	0.6%
Substance use inpatient/residential	0.0%	0.0%	0.4%
Respite	0.1%	0.3%	0.2%
Supported housing	0.1%	0.3%	0.3%
Emergency room	1.5%	3.8%	10.8%
Peer services	0.2%	0.3% (↑ 100%)	0.3%
Home-based (e.g., in-home services)	0.1%	0.1%	0.1%
Activity therapies	0.0%	0.1%	0.1%
Multi-systemic Therapy	0.0%	0.1%	0.2%
N=	441,311	1,171,232	982,274

Utilization of Select Services by Age



Rates of Specific Child BH Services Used by Race/Ethnicity (2011)

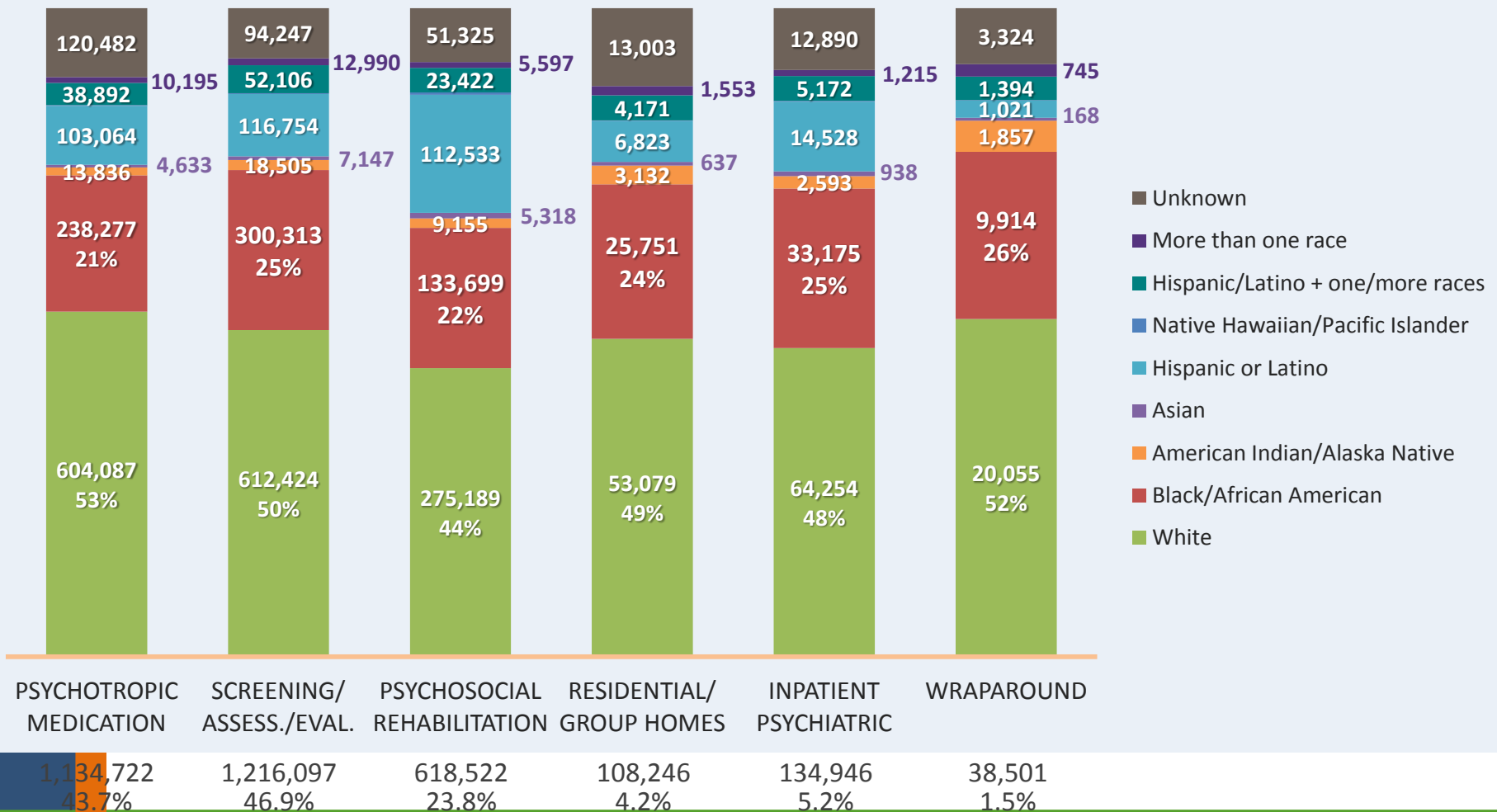


KEY

- Lowest rates
- Highest rates

	White	Black/ African American	American Indian/ AK Native	Asian	Hispanic or Latino	Native HI/ Pacific Islander	Hispanic/ Latino + one/more	More than one race	Unknown
Outpatient treatment	57.5%	54.3%	56.6%	41.6%	36.6%	28.7%	64.7%	64.0%	49.2%
Psychotropic medication	49.2%	39.6%	37.9%	25.8%	31.1%	26.2%	32.7%	41.2%	52.6%
Screening/assess./eval.	49.8%	49.9%	50.8%	39.7%	35.2%	33.6%	43.8%	52.4%	41.2%
Medication mngmt.	25.8%	22.8%	19.0%	15.1%	21.6%	18.2%	15.7%	20.2%	29.4%
Family therapy/ fam. ed. and training	26.7%	21.2%	20.9%	16.9%	19.7%	15.1%	25.6%	27.5%	27.6%
Psychosocial rehabilitation	22.4%	22.2%	25.1%	29.6%	33.9%	47.7%	19.7%	22.6%	22.4%
Substance use outpatient	1.6%	1.8%	3.4%	1.9%	2.1%	1.8%	2.2%	1.9%	0.8%
Psychological testing	4.5%	4.6%	7.1%	2.9%	3.9%	1.6%	2.5%	6.1%	4.4%
Case mngmt.	7.6%	5.7%	6.0%	3.8%	3.9%	6.0%	3.5%	2.9%	6.6%
Group therapy	7.2%	10.2%	7.4%	8.6%	5.7%	7.4%	10.7%	5.7%	8.7%
Targeted case mngmt.	7.0%	7.5%	7.8%	11.0%	14.6%	19.7%	4.8%	7.5%	9.8%
Behavior mngmt./therapeutic support.	4.1%	3.7%	3.7%	3.4%	4.3%	2.3%	4.6%	6.0%	7.6%
Res. treat./therapeutic group homes	4.3%	4.3%	8.6%	3.5%	2.1%	2.0%	3.5%	6.3%	5.7%
Crisis intervention/stabilization (non ER)	4.4%	4.3%	3.6%	4.2%	3.8%	5.1%	5.0%	4.9%	4.6%
Inpatient psychiatric treatment	5.2%	5.5%	7.1%	5.2%	4.4%	3.8%	4.3%	4.9%	5.6%
Partial hospitalization/day treatment	3.4%	6.6%	1.9%	2.9%	1.5%	2.9%	5.3%	3.0%	2.5%
Mental health consultation	3.2%	3.4%	0.7%	3.8%	0.7%	2.5%	9.9%	5.3%	4.5%
Substance use screening/assess.	1.8%	1.8%	3.6%	1.7%	1.2%	2.9%	2.3%	1.8%	1.1%
Wraparound	1.6%	1.6%	5.1%	0.9%	0.3%	0.5%	1.2%	3.0%	1.5%
Therapeutic foster care	0.5%	0.4%	1.8%	0.2%	0.2%	0.2%	0.1%	0.3%	0.7%
Substance use inpatient/residential	0.2%	0.1%	0.5%	0.1%	0.1%	0.2%	0.1%	0.2%	0.1%
Respite	0.3%	0.1%	0.4%	0.3%	0.1%	0.2%	0.2%	0.3%	0.1%
Supported housing	0.2%	0.8%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%
Emergency room	6.5%	5.9%	7.2%	6.6%	4.7%	5.1%	7.1%	5.3%	5.5%
Peer services	0.3%	0.2%	0.1%	0.3%	0.0%	0.2%	0.6%	0.9%	0.7%
Home-based (e.g., in-home services)	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Activity therapies	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.2%	0.1%
Multi-systemic Therapy	0.1%	0.1%	0.3%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%
N=	1,228,951	602,129	36,460	17,983	331,780	4,790	119,048	24,775	228,901

Utilization of Select Services by Race/Ethnicity





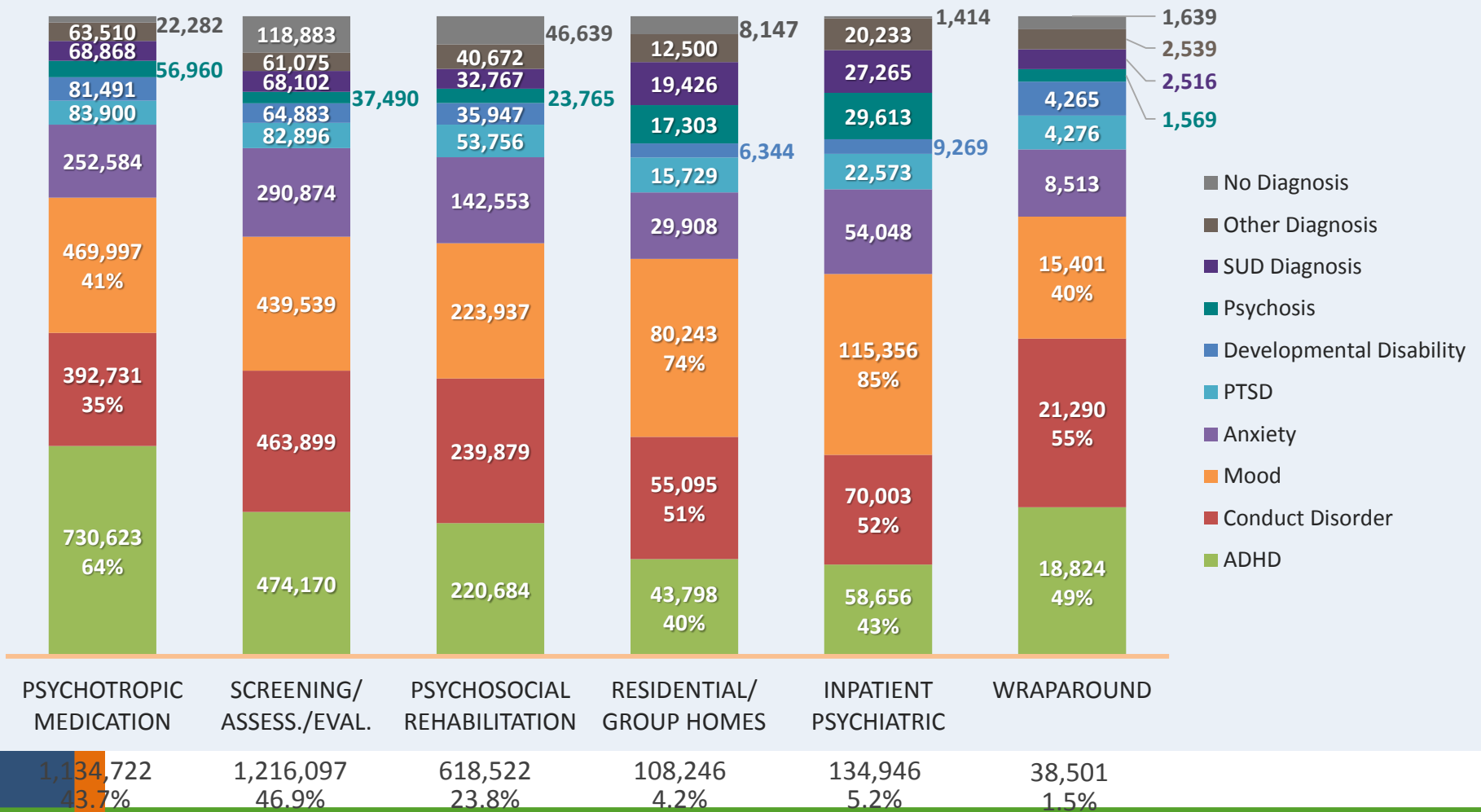
KEY	
■	Lowest rates
■	Highest rates

Rates of Use of Select Child BH Services by Diagnoses (2011)

	ADHD	Conduct Disorder	Mood	Anxiety	PTSD	DD	Psychosis	SUD	None
Psychotropic medication	730,623 77.4%	392,731 46.6%	469,997 56.8%	252,584 45.5%	83,900 54.8%	81,491 58.9%	56,960 80.3%	68,868 43.7%	63,510 50.4%
Screening/assess./eval.	474,170 50.2%	463,899 55.0%	439,539 53.1%	290,874 52.5%	82,896 54.2%	64,883 46.9%	37,490 52.8%	68,102 43.2%	61,075 48.5%
Psychosocial rehabilitation	220,684 23.4%	239,879 28.5%	223,937 27.0%	142,553 25.7%	53,756 35.1%	35,947 26.0%	23,765 33.5%	32,767 20.8%	40,672 32.3%
Res. treat./therapeutic group homes	43,798 4.6%	55,095 6.5%	80,243 9.7%	29,908 5.4%	15,729 10.3%	6,344 4.6%	17,303 24.4%	19,426 12.3%	12,500 9.9%
Inpatient psychiatric treatment	58,656 6.2%	70,003 8.3%	115,356 13.9%	54,048 9.7%	22,573 14.8%	9,269 6.7%	29,613 41.7%	27,265 17.3%	20,233 16.1%
Wraparound	18,824 2.0%	21,290 2.5%	15,401 1.9%	8,513 1.5%	4,276 2.8%	4,265 3.1%	1,569 2.2%	2,516 1.6%	2,539 2.0%

N= 944,452 843,041 828,153 554,560 152,991 138,298 70,951 157,764 125,980

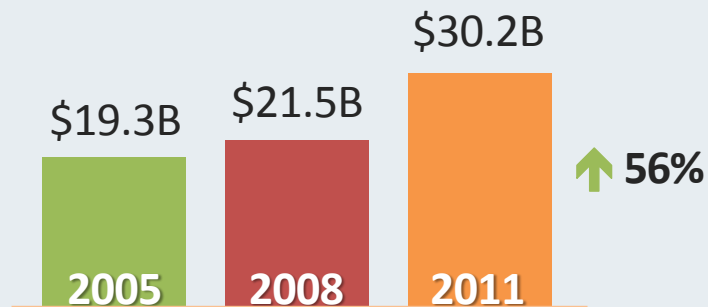
Utilization of Select Services by Diagnosis



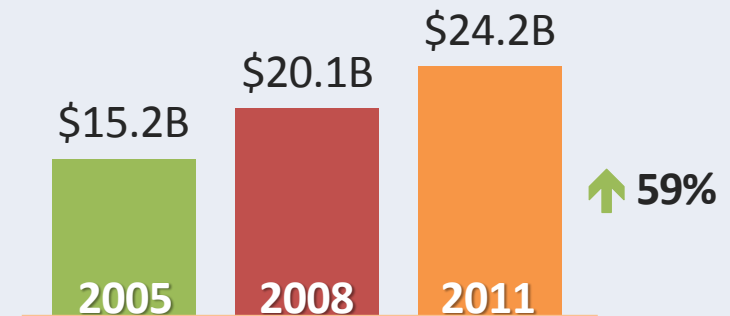
Total Expenditures for Children in Medicaid Using Behavioral Health Care



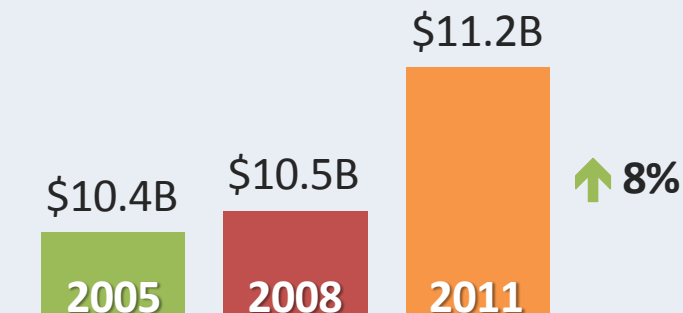
Expenditure for
Total BH Care Pop (Services and Meds)



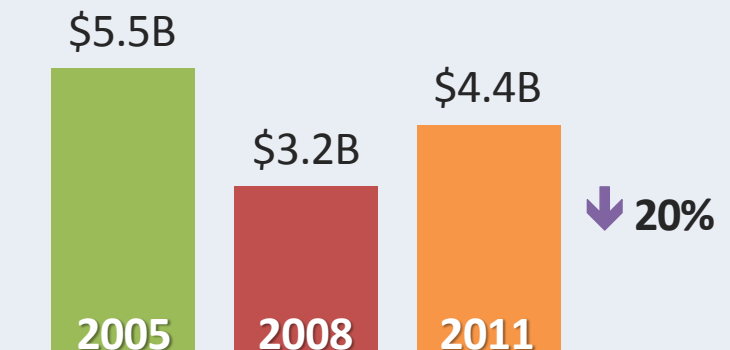
Expenditure for
BH Services Pop (w/without meds)



Expenditure for
BH Services in FFS Arrangement



Expenditure for
BH Services in FFS (Top 10% of Utilizers)





Mean Expenditures for Children in Medicaid Using Behavioral Health Services

All Children in Medicaid Using Behavioral Health Services

	2005	2008	2011	
Behavioral health	\$4,868	\$4,571	\$5,517	↑ 13%
Physical health	\$3,652	\$5,357	\$4,742	↑ 30%
Total services	\$8,520	\$9,928	\$10,259	↑ 20%

Top 10% Most Expensive Children in Medicaid Using Behavioral Health Services

	2005	2008	2011	
Behavioral health	\$28,815	\$27,654	\$36,646	↑ 27%
Physical health	\$8,532	\$10,429	\$10,314	↑ 21%
Total services	\$37,348	\$38,083	\$46,959	↑ 26%

Mean Expenditures by Aid Category



(Physical and Behavioral Health Combined)

2005

2008

2011

MEAN ↑/↓



Lowest Mean

TANF

\$5,082

\$6,275

\$6,287

BH mean:
\$3,634

PH mean:
\$2,653

↑ 24%



Foster Care

\$12,130

\$12,939

\$13,105

BH mean:
\$9,318

PH mean:
\$3,787

↑ 8%



Highest Mean

SSI/Disability

\$15,159

\$16,226

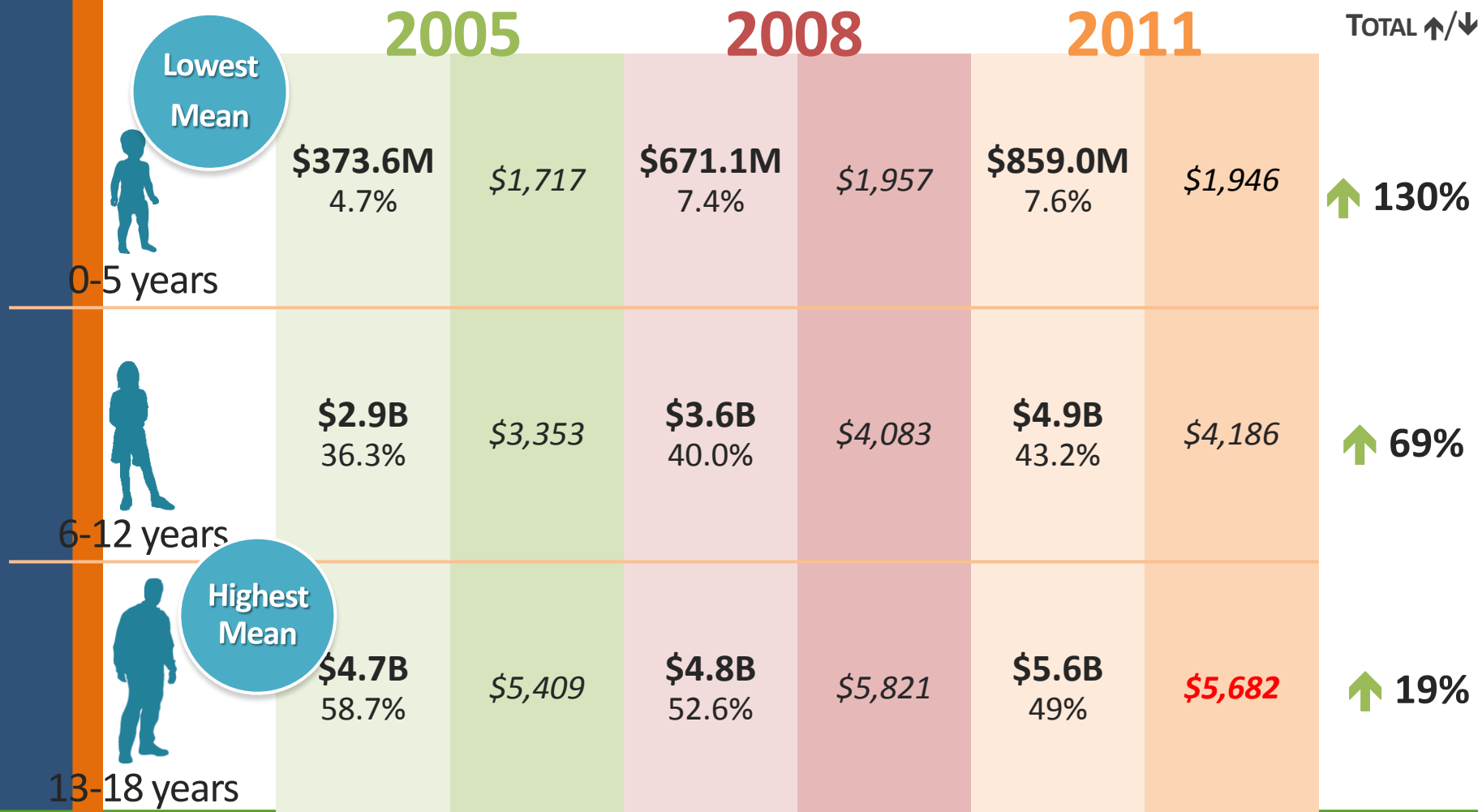
\$19,086

BH mean:
\$8,034

PH mean:
\$11,051

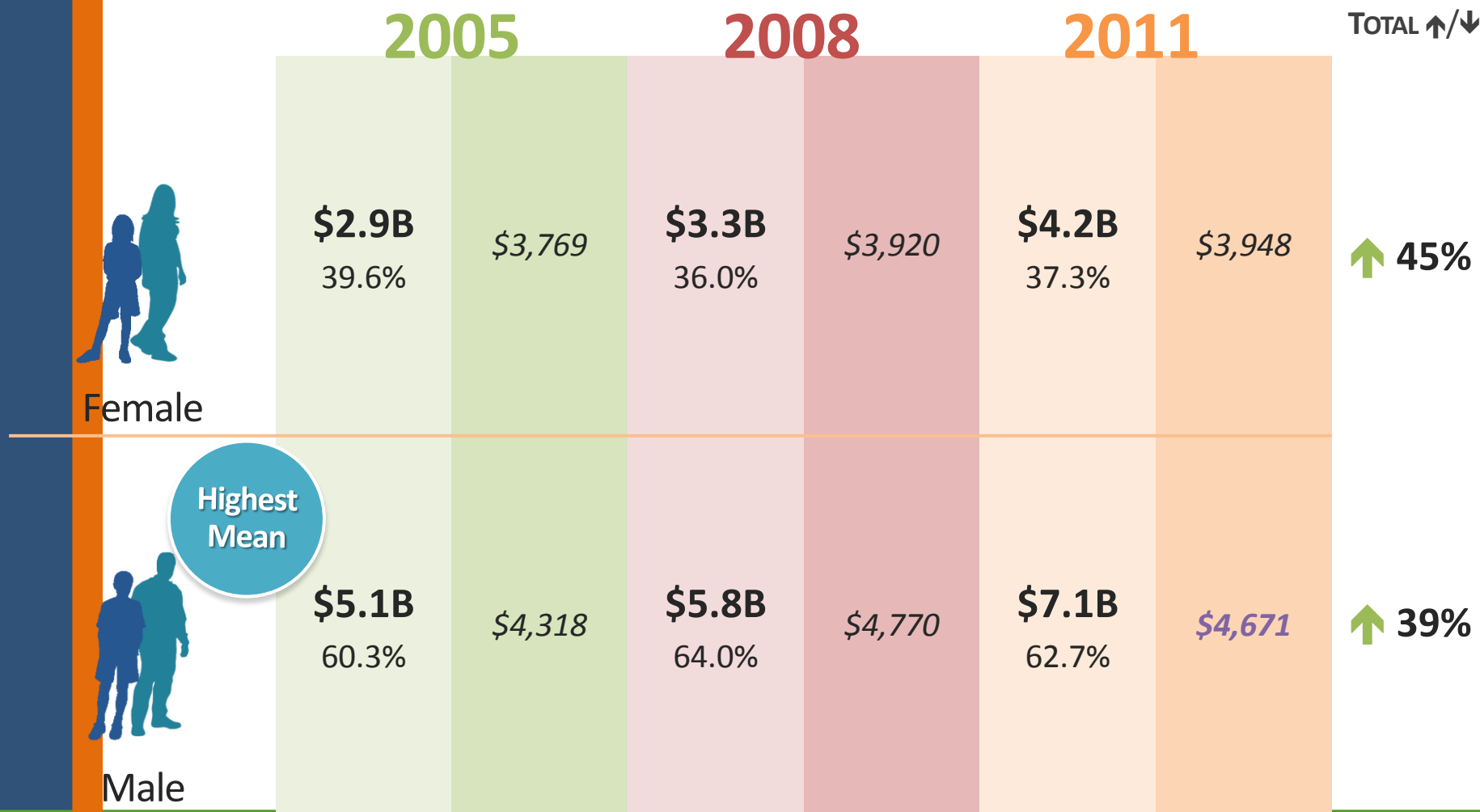
↑ 26%

Total/Mean Child Behavioral Health Expenditures by Age (*Behavioral health only*)





Total/Mean Child Behavioral Health Expenditures by Gender (*Behavioral health only*)





Total/Mean Child Behavioral Health Expenditures by Diagnosis (*Behavioral health only*)

2005

2008

2011

MEAN ↑/↓

ADHD	\$3.5B 33.4%	\$5,298	\$4.3B 47.0%	\$6,038	\$5.5B 48.6%	\$5,838	↑ 10%
Conduct disorder	\$2.2B 13.9%	\$8,144	\$4.6B 50.0%	\$7,070	\$5.4B 48.0%	\$6,456	↓ 20%
Mood	\$3.1B 16.0%	\$9,831	\$4.7B 51.7%	\$7,639	\$6.0B 52.6%	\$7,204	↓ 27%
Anxiety	Lowest Mean \$1.8B 13.8%	\$6,816	\$1.9B 20.7%	\$5,222	\$2.8B 25.0%	\$5,115	↓ 25%
PTSD	N/A	N/A	\$1.2B 13.2%	\$11,673	\$1.7B 14.7%	\$10,863	↓ 7%
DD	\$528M 3.6%	\$7,590	\$870M 9.5%	\$8,804	\$1.1B 9.9%	\$8,146	↑ 7%
Psychosis	Highest Mean \$743M 2.6%	\$14,482	\$858M 9.4%	\$16,176	\$1.2B 10.9%	\$17,415	↑ 20%
SUD diagnosis	N/A	N/A	\$849M 9.3%	\$6,918	\$1.1B 9.7%	\$6,930	↑ 0.2%
No diagnosis	\$1.4B 39.1%	\$1,830	\$415M 4.6%	\$1,287	\$455M 4.0%	\$1,430	↓ 22%

Total/Mean Child Behavioral Health Expenditures by Race/Ethnicity (*Behavioral health only*)



% of 2011 Child BH Users		2008		2011		TOTAL ↑/↓
White	47.4%	\$4.6B 50.3%	\$4,519	\$5.5B 48.4%	\$4,472	↑ 12%
Black or African American	23.2%	\$2.6B 28.8%	\$4,845	\$2.8B 24.8%	\$4,667	↑ 8%
American Indian or Alaska Native	1.4%	\$260.4M 2.9%	\$7,556	\$239.3M 2.1%	\$6,564	↓ 8%
Asian	0.7%	\$39.7M 0.4%	\$3,038	\$71.03M 0.6%	\$3,950	↑ 79%
Hispanic or Latino	12.8%	\$527.7M 5.8%	\$2,270	\$1.02B 9.0%	\$3,070	↑ 193%
Native Hawaiian or Pacific Islander	0.2%	\$11.6M 0.1%	\$3,538	\$21.5M 0.2%	\$4,479	↑ 85%
Hispanic or Latino, plus one or more races	4.6%	\$249.6M 2.7%	\$3,933	\$410.2M 3.6%	\$3,446	↑ 64%
More than one race	1.0%	\$55.8M 0.6%	\$5,721	\$132.5M 1.2%	\$5,348	↑ 137%

Changes in Top Three Child Behavioral Health Expense Drivers



2005

- Res. treat./group homes: \$1.5B
- Outpatient: \$1.3B
- Psych meds: \$1B

2011

- Res. treat./group homes: \$2.5B
- Psychosocial rehab: \$2.1B
- Psych meds: \$1.9B

- 67% ↑ in residential treatment/group homes
- 90% ↑ in psychotropic medication
- 39% ↑ in psychosocial rehab

Changes in Mean Expense of Top Three Child Behavioral Health Expense Drivers



2005

- Res. treat./group homes: \$21,671
- Outpatient: \$1,275
- Psych meds: \$1,267
- (Psychosocial rehab: \$3,416)

2011

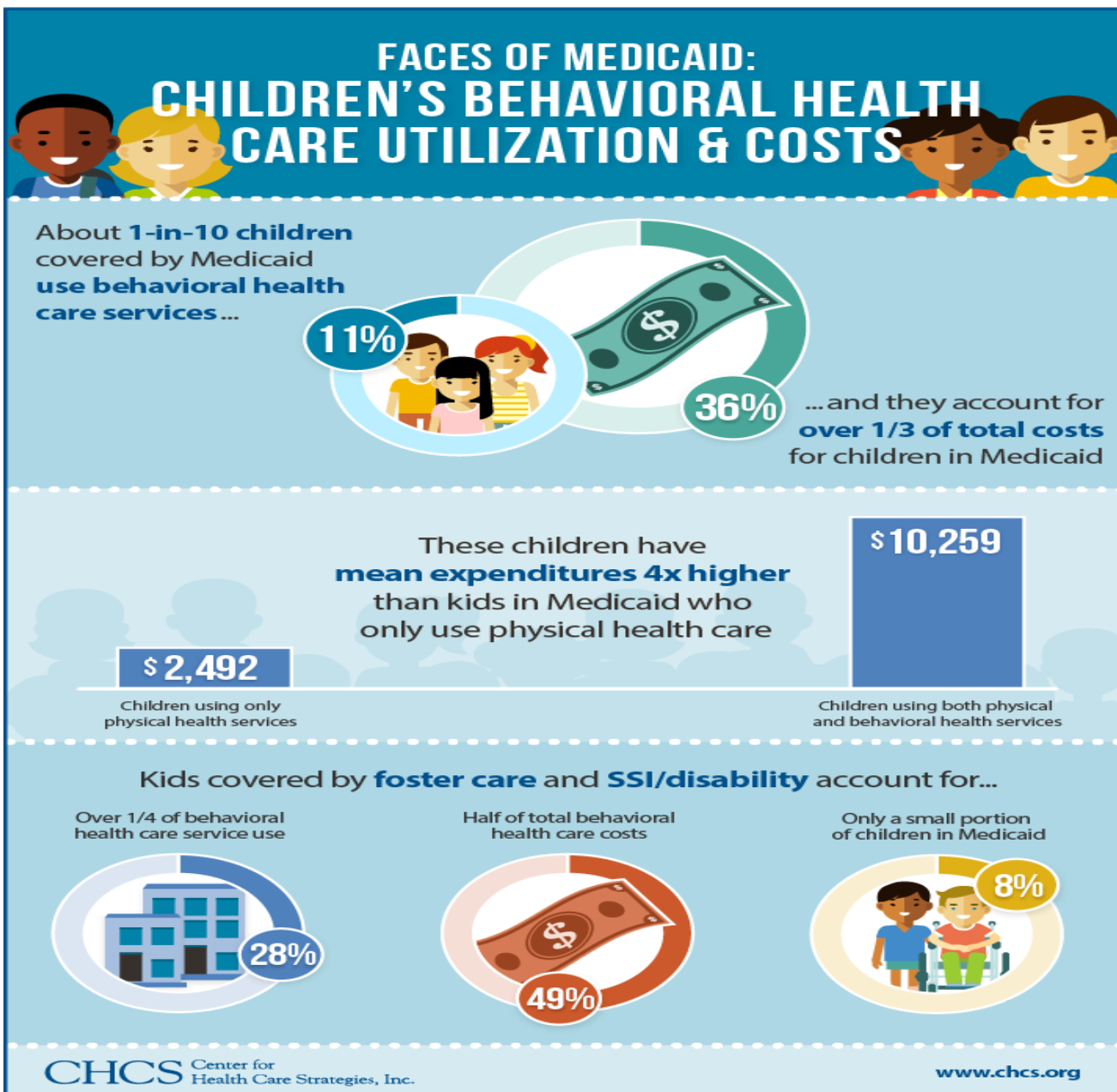
- Res. treat./group homes : \$22,711
- (Outpatient: \$827)
- Psych meds: \$1,640
- Psychosocial rehab: \$3,412

- 29% ↑ in psychotropic medication
- 5% ↑ in residential treatment/group homes
- Psychosocial rehab unchanged
- 35% ↓ in outpatient mean expense



How to Use Medicaid Data

- To draw attention of key officials – State Medicaid, Governor's Office, legislators – to high need, high cost populations and opportunities for reform
- To educate and engage stakeholders in reform discussions – families, youth, providers, child welfare and juvenile justice etc.
- To track and report progress over time




Made possible with support from the Annie E. Casey Foundation.

SOURCE: S. Pires, T. Shiner, K. Allen, and J. McLean. "Faces of Medicaid: Examining Children's Behavioral Health Service Utilization and Expenditures, 2005-2011." Forthcoming Fall 2017. Center for Health Care Strategies.

Faces of Medicaid: Examples of Promising Findings



- Penetration rates  overall
- Greater access by most racial/ethnic groups
- Greater access by girls
- Greater access by 0-5 population
- Use of broader range of home and community-based services



Faces of Medicaid: Examples of Concerning Findings



- 8% penetration rate for use of BH *services* (while up), remains well below prevalence estimates of need
- Disproportionately low rates of use for Hispanic/Latino, Asian, and Native Hawaiian/Pacific Islander children
- Disproportionately low utilization rates for girls
- Disproportionately low rates of use for 0-5 population
- Residential treatment ↑
- Inpatient psychiatric ↑
- High rates of residential treatment and inpatient psych use for foster care population
- Rate of psychotropic medication use ↑ , and close to half of children on meds did not receive accompanying behavioral health services
- Utilization rates of peer support, MST, Wraparound (while up) remain very low

Faces of Medicaid: Types of Questions/Issues Raised by Data



- Most frequent diagnosis for 0-5 population was Conduct Disorder – May mask learning problems? Trauma?
- Rate of PTSD diagnosis at 6% may be low?
- ADHD remains most frequent diagnosis – are children being over-diagnosed?
- Black/African American children most likely to receive ADHD diagnosis and least likely to receive diagnoses of Mood Disorder, Anxiety and PTSD – are these children being misdiagnosed?
- Children in Medicaid using BH care are 11% of the Medicaid child population and consume 36% of all Medicaid child expenditures, and their mean expense is over 4x that of children who do not use BH care – what are the best value-based strategies for improving the cost and quality of care for these children?



For more information

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