

The Use of a Level of Care Measure in a Child Welfare Population

Andres J. Pumariega, M.D.

Professor and Director, C & A Psychiatry, East TN State University
Director, ETSU Center of Excellence for Children in State Custody
Pat Wade, M.A.

Director, Children's Outcome Program Review
Tennessee Commission on Children and Youth

Michele Moser, Ph.D.

Assistant Professor of Psychiatry, East TN State University
Assistant Director, ETSU Center of Excellence for Children in State Custody

CASII: Rationale

- Objective, quantifiable criteria for level of care placement, continued stay, and outcomes for children and adolescents with SED
- Response to managed care protocols (no evidence-base, closed)
- Revision of the adult LOCUS, but with developmental, family, and community systems of care principles integrated into the instrument.
- **Designed for clinicians and case managers with training and experience with children and adolescents.**
- Applies to children ages 6-18 years; developmental status determines age cut-off

CASII : Origins and Development

- Demand for open level of care criteria by field
- Developed by WG on Systems of Care of the AACAP and AACP C & A Committee
- LOCUS developed for adults out of ASAM criteria by AACP
- CALOCUS incorporated child modifications
- CASII developed from CALOCUS with training requirements for reliability
- ECSII (infant and toddler instrument) currently in development (0 to 5 years)

CASII: Values and Resources

- **CASSP Guiding Principles for the System of Care** (Stroul & Friedman, 1986): Community-based, child-centered, family-driven treatment in the least restrictive, clinically appropriate environment.
- **Developmental theory:** Trajectory of normative physical, emotional, cognitive, and social changes of childhood and adolescence.
- **Family empowerment:** Family is lead agent in assessment, treatment, and case management; and primary agent for fostering development and growth.
- **Cultural competence:** Respect for all ethnic/racial/ SES origins; culturally appropriate assessment and treatment, language interpretation; services by culturally competent professionals and diverse staff.
- **Wraparound services model:** Integration of professional and support services using natural community supports, inter-agency structures, and blended funding streams (VanDenBerg and Grealish, 1996), using **strengths-based, individualized treatment plan (ITP)** for each child and family served.
- Level of intensity of care rather than placement: **Bricks and mortar independent**

CASII: Scoring Dimensions

- **RISK OF HARM:** Child or adolescent's risk of harm to self or other, assessment of potential for victimization, and accidental harm.
- **FUNCTIONAL STATUS:** Assessment of the child's ability to function in all age-appropriate roles, as well as basic daily activities of daily living.
- **CO-MORBIDITY:** Co-existence of disorders across four domains: Medical, Substance Abuse, Development Disability or Delay and Psychiatric.
- **RECOVERY ENVIRONMENT:** Two subscales: **Environmental Stress** and **Environmental Support**. Strengths/weaknesses of the family, neighborhood and community (including services).
- **RESILIENCY AND TREATMENT HISTORY:** Child's innate or constitutional emotional strength, capacity for successful adaptation, history of successful use of treatment.
- **ACCEPTANCE AND ENGAGEMENT (Scale A--Child/Adolescent, Scale B-- Parents/Primary Caretaker):** Child and family's acceptance and engagement in treatment. Only higher scale used.

CASII LEVEL OF CARE UTILIZATION CRITERIA: Overview

- Dimensions scored using **grid method** to arrive at total score and level of care recommendation
- Level of Care portion of CASII describes a **graded continuum** of treatment responses
- Represent **levels of treatment intensity** as well as levels of **restrictiveness**
- Examples provided of **broad range of programming options**, allows for variation in practice patterns and resources among communities.
- Continuum encompasses **traditional services, as well as community-based interventions**
- Each level of care subsumes services at levels below.
- Levels include **services provided by various agencies and flexible services** (MH, child welfare, JJ, health, educational, DD, SA, recreational, vocational, informal supports, etc.)

CASII: Level of Care Resource Components

- **The definition of each CASII level of care definition includes the following components:**
 - CLINICAL SERVICES
 - SUPPORT SERVICES
 - CRISIS STABILIZATION AND PREVENTION SERVICES
 - CARE ENVIRONMENT

CASII: Levels of Care

- **Level 0: Basic Services:** Package of prevention and health maintenance services assumed to be available to the community
- **Level 1: Recovery Maintenance and Health Management.** Maintenance services after more intensive services (e.g. medication services, brief crisis counseling).
- **Level 2: Outpatient Services.** Closest to traditional once/week visits.
- **Level 3: Intensive Outpatient Services.** From 2 visits/week up to few hours for 3 days per week; includes multiple services (e.g. big brother, church services, mental health services) necessitating coordination (case mgmt.)
- **Level 4: Intensive Integrated Service Without 24-Hour Medical Monitoring.** Wraparound plan required, increased formal supports (respite, homemaking services or paid mentors); can include day treatment or partial hospitalization; active case management essential.

CASII: Levels of Care (cont.)

- **Level 5: Non-Secure, 24-Hour, Medically Monitored Services.** Group home, foster care or a residential facility, can also be provided by tightly knit wraparound services.
- **Level 6: Secure, 24-Hours, Medically Managed Services.** Inpatient psychiatric settings or highly-programmed residential facilities; could also be provided in a community setting with wraparound. Case management essential. Time at this level of care held to minimum for optimal care and smooth transition to lower levels of care.

Previous Evaluations of CASII

- **CMHS funded National Multi-Site Field Study**
 - N = 614, four sites nationally (Hawaii, North Carolina, Philadelphia, Portland)
 - Reliability ranging from 0.95 to 0.71; overall reliability about 0.90, equivalent for BA/MA level to child psychiatrists
 - External Validity: Overall correlation to C-GAS 0.33, overall correlation to CAFAS 0.62; dimensions relating to child function significant.
 - Clinical validity: Discriminant analysis demonstrates correlation to Hawaii levels of care (N = 155; CASII Composite, Canonical correlation to CASII Total Score = 0.370, Chi square = 22.43, $p < .001$).

Previous Evaluations of CASII

- **Hawaii C & A Mental Health Div. (CAMHD)**
 - N = 3,305 youth, mean age 12.7, 69% male, highly multi-ethnic, of these 2,825 had CAFAS ratings.
 - Ratings over 11 fiscal quarters, 7/00-6/03, 1+ valid ratings.
 - All raters trained per AACAP protocol, with senior internal trainers re-training for staff turnover and on-going supervision
 - CASII has high level of one-quarter stability (total score $r = .71$, $p < .001$; sub-scales: $r = .64$ to $.53$, $p < .001$); better than CAFAS.
 - High level of concurrent validity to CASII Total Score and all CASII scales (total score $r = .66$, level of care $r = .64$, sub-scale $r = .57$ to $.22$) except for Parent Acceptance sub-scale ($r = .18$).
 - CASII Total predicted Proportion Out of Home ($r = .24$), Service Restrictiveness ($r = .24$), and Total Cost ($r = .28$), not Total Service Hours ($r = .03$, all average one-quarter correlations).
 - CASII Total predicted Proportion Out of Home ($r = .22$), Service Restrictiveness ($r = .26$), and Total Service Hours ($r = .25$), but not Total Cost ($r = .18$).

Level of Care Placement: Child Welfare Needs

- Level of care placement critical decisions frequently made by child welfare case managers
- Increasing number of children in child welfare with complex needs (MH, health, SA, JJ, abuse/neglect/trauma, special education, etc.)
- Increasing pressure for resource management and objectivity in placement decisions
- Premium on safety determinations and permanency planning (in home, community, or foster/adoptive home)

CASII in CPORT

- Evaluation of CASII to determine level of care amongst children in the child welfare system.
- Children's Placement and Outcome Review Team (C-PORT): Annual review of statistical sample of children in state custody.
- Annual sample of approximately 500 children; 95 % representative statewide, 85% region.
- Previous instruments: CAFAS, CBCL, extensive demographics, service history/ utilization, and outcome evaluation (Child & Family Indicators and System Indicators).

CASII in CPORT

- C-PORT core rater team trained by AJP in January 2003 as trainers over two days (experienced BA and MA level staff).
- C-PORT trainers trained approximately 58 regional raters; training is annual, with re-training on CAFAS and overall protocol.
- Final stratified sample for 2003 included 437 children in custody and adolescents 6 to 19 years of age who had requisite data collected.

Table 1
CASII CPORT: Inter-rater Reliability

CALOCUS SUBSCALE	Absolute Agreement		Consistency		Number of Raters
	Single Measures	Average Measures	Single Measures	Average Measures	
Risk of Harm	0.844	0.997	0.835	0.997	58
Functional Status	0.658	0.991	0.657	0.991	58
CoMorbidity	0.619	0.989	0.615	0.989	57
Environmental Stress	0.034	0.668	0.032	0.654	58
Environmental Support	0.885	0.988	0.843	0.997	58
Resiliency	0.803	0.996	0.786	0.995	58
Child Acceptance	0.781	0.995	0.804	0.996	57
Family Acceptance	0.855	0.997	0.859	0.997	57
Total Scores	0.916	0.998	0.909	0.998	58
Level of Recommendation	0.918	0.998	0.910	0.998	58

Table 2
Correlations between CAFAS Total Score and CASII Scores

	Full 2003 Data Age 6 and older 437 Cases	
	Pearson	Significance
Risk of Harm	0.705	0.000**
Function	0.678	0.000**
Co-Morbidity	0.423	0.000**
Environmental Stress	0.501	0.000**
Environmental Support	0.424	0.000**
Resiliency	0.708	0.000**
Child Engagement	0.665	0.000**
Family Engagement	0.381	0.000**
CASII Total Score	0.773	0.000*
CASII LOC	0.779	0.000*

* Significant at the 5% level, two-tailed test
** Significant at the 1% level, two-tailed test

Table 3
Correlations of CASII Total Score to CBCL Dimensional Scores

	Full 2003 Data Age 6 and older 437 Cases	
	Pearson	Significance
CBCL Internal	0.385	0.000*
CBCL External	0.445	0.000*
CBCL Total Problems	0.454	0.000*
CBCL Withdrawn	0.261	0.000*
CBCL Somatic	0.225	0.000*
CBCL Anxious Depressed	0.359	0.000*
CBCL Social	0.260	0.000*
CBCL Thought	0.335	0.000*
CBCL Attention	0.319	0.000*
CBCL Delinquent	0.456	0.000*
CBCL Aggressive	0.391	0.000*

* Significant at the 5% level, two-tailed test

Table 4
Correlations of CASII Level Recommended to CBCL Dimensions

	Full 2003 Data Age 6 and older 437 Cases	
	Pearson	Significance
CBCL Internal	0.364	0.000*
CBCL External	0.405	0.000*
CBCL Total Problems	0.423	0.000*
CBCL Withdrawn	0.243	0.000*
CBCL Somatic	0.219	0.000*
CBCL Anxious Depressed	0.353	0.000*
CBCL Social	0.273	0.000*
CBCL Thought	0.346	0.000*
CBCL Attention	0.329	0.000*
CBCL Delinquent	0.419	0.000*
CBCL Aggressive	0.374	0.000*

* Significant at the 5% level, two-tailed test

Table 5
Correlations of CASII Total Scores
and Level of Care Recommendations to YSR Dimensions
N = 184 Cases, ages 6 and above

	CALOCUS Total Scores		CASII Level of Care Recommendation	
	Correlation	P-Value	Correlation	P-Value
YSR Withdrawn	0.180	0.014*	0.187	0.011*
YSR Aggressive	0.245	0.001**	0.248	0.001**
YSR Internal	0.336	0.000**	0.344	0.000**
YSR External	0.321	0.000**	0.320	0.000**
YSR Total Problems	0.374	0.000**	0.380	0.000**
YSR Somatic	0.117	0.113	0.139	0.058
YSR Delinquent	0.303	0.000**	0.287	0.000**
YSR Social	0.179	0.015*	0.221	0.003**
YSR Thought	0.128	0.083	0.148	0.044*
YSR Self Destructive	0.309	0.001**	0.348	0.000**
YSR Anxious Depressed	0.341	0.000**	0.361	0.000**
YSR Attention	0.341	0.000**	0.361	0.000**

* Significant at the 5% level, two-tailed test

** Significant at the 1% level, two-tailed test

Table 6
Correlations between TRF and the CASII Total Scores
and CASII Level of Care Recommendation
N = 94 Cases, ages 6 and above

	CALOCUS Total Scores		CASII Level of Care Recommendation	
	Correlation	P-Value	Correlation	P-Value
TRF Withdrawn	0.203	0.050	0.164	0.114
TRF Aggressive	0.296	0.004**	0.274	0.007**
TRF Internal	0.345	0.001**	0.342	0.001**
TRF External	0.326	0.001**	0.303	0.003**
TRF Total Problems	0.387	0.000**	0.365	0.000**
TRF Somatic	0.094	0.367	0.115	0.269
TRF Delinquent	0.319	0.002**	0.284	0.005**
TRF Social	0.432	0.000**	0.435	0.000**
TRF Thought	0.347	0.001**	0.363	0.000**
TRF Anxious Depressed	0.358	0.000**	0.360	0.000**
TRF Attention	0.276	0.007**	0.287	0.005**
Raw TRF Inattention	0.251	0.015*	0.251	0.015*
Raw TRF Hyper-Impulsive	0.357	0.000**	0.366	0.000**

* Significant at the 5% level, two-tailed test

** Significant at the 1% level, two-tailed test

Table 7: Tennessee DCS to CASII Levels of Care Conversion

CASII LEVEL	DESCRIPTION	Tennessee DCS Levels of Care
Zero	Basic Services for Prevention and Maintenance	Biological home, adoptive home, relative/ friend, placement, independent living, kinship care (with no clinical services)
One	Recovery Maintenance and Health Management	Biological home, adoptive home, relative/ friend home, independent living, kinship (with maintenance clinical services)
Two	Outpatient Services	Biological home, adoptive home, relative/ friend placement, independent living, kinship (outpatient clinical services); foster home, residential level I
Three	Intensive Outpatient Services	Emergency shelter, diagnostic center, residential level II, group home
Four	Intensive Integrated Services w/o 24-Hour Psych Monitor	Therapeutic foster home, O & A center, youth development center, wilderness program
Five	Non Secure, 24-Hour with Psychiatric Monitoring	Residential level III, residential school
Six	Secure, 24-Hour Psychiatric Management	Residential level IV, DD development center, psychiatric hospital, medical hospital

Table 8
Correlations between CASII Recommended and Actual Levels of Care

	Full 2003 Data Age 6 and older 283 cases		Level 2 and up Age 6 and over 216 cases	
	Pearson	Significance	Pearson	Significance
CALOCUS Total Scores	0.152	0.011*	-0.145	0.087
CALOCUS Level of Care Recommended	0.150	0.011*	-0.119	0.164

* Significant at the 5% level, two-tailed test

Table 9
Correlations between CASII Recommended Levels of Care and CPORT Child and Family Outcome Indicators

	Correlation	P-Value
Safety	-0.513	0.000**
Emotional Well Being	-0.553	0.000**
Physical Well Being	-0.176	0.000**
Caregiver Functioning	-0.160	0.001**
Stability	-0.510	0.000**
Permanent Goal	-0.273	0.000**
Appropriateness of Placement	-0.288	0.000**
Educational/Vocational Progress	-0.398	0.000**
Family Unity Support	-0.113	0.018*
Independent Living (13+)	-0.359	0.000**
Child Satisfaction	-0.125	0.009**
Family Satisfaction	-0.163	0.001**
Overall Status of Child and Family	-0.460	0.000**

* Significant at the 5% level, two-tailed test

** Significant at the 1% level, two-tailed test

Table 10
Correlations between CASII Recommended Levels of Care and CPORT System Outcome Indicators

	Correlation	P-Value
Assessment of Needs	-0.078	0.103
Long Term View for Services	-0.182	0.000**
Child Participation	-0.160	0.001**
Family Participation	-0.045	0.347
Service Plan Design	-0.140	0.003**
Service Plan Implementation	-0.050	0.300
Service Plan Coordination	-0.094	0.051
Monitoring and Change	-0.093	0.052
Advocacy	-0.051	0.282
Early Child and Family Intervention	0.023	0.628
Home/Community Resources	0.002	0.971
Placement Resources	-0.191	0.000**
Supportive Intervention to Achieve Permanent Goal	-0.091	0.058
Urgency Response	-0.025	0.609
Progress Achieved Child	-0.510	0.000**
Progress Achieved Family	-0.055	0.247
Overall Adequacy of Services	-0.175	0.000**

** Significant at the 1% level, two-tailed test

CASII and CPORT: Conclusions

- The CASII is a reliable and valid tool for level of care determination/ assessment in the child welfare population.
- This validity extends to evidence-based instruments measuring function and symptoms by multiple observers (case manager, parent/ foster parent, child, and teacher).
- The CASII's validity also extends to the CPORT outcome indicators, suggesting that it may be a valid tool for evaluating and improving outcomes in child welfare (both least restrictive and most appropriate care).
- The CASII presents an opportunity to introduce evidence-based practices in child welfare and to "right-size" inter-agency systems of care