Convene.
Strategize.
Activate.

TRANSFORMATION
TODAY & TOMORROW

Assessment-driven decision-making to reduce reliance on residential care

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CENTER *for* INTEGRATIVE HEALTH
insight to innovation

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Objectives

- Participants will be able to list at least two benefits of measurement-based care in behavioral health.
- Participants will be able to describe the four key dimensions of Level of Care.
- Participants will be able to name three characteristics of the Child Focused Assertiveness Community Treatment Team (Child ACTT) model.

CHA's Mission and Vision

The mission of Children's Hope Alliance is to provide Hope, Health, and Healing for Generations.

We are committed to a safe, nurturing family life for every child.

children's hope
ALLIANCE

ORI's Mission and Vision

We exist because everyone with a behavioral health issue deserves exceptional care.

We aspire to be the trusted source of how to personalize care by building applications based on the best science, outcomes, artificial intelligence, and machine learning.

outcome referrals

Our Collaboration

- Two years ago CHA implemented the use of the Treatment Outcome Package (TOP) to identify gaps in services and evaluate progress over time.

- CHA has also begun piloting a new Level of Need (LON) tool that uses TOP data to recommend customized care for clients across the care continuum.

- To reduce dependence on residential care, CHA recently initiated the recently MCO-approved Child Assertive Community Treatment Team (ACTT) program which will be evaluated using TOP in a randomized control study.

Measurement-based Care

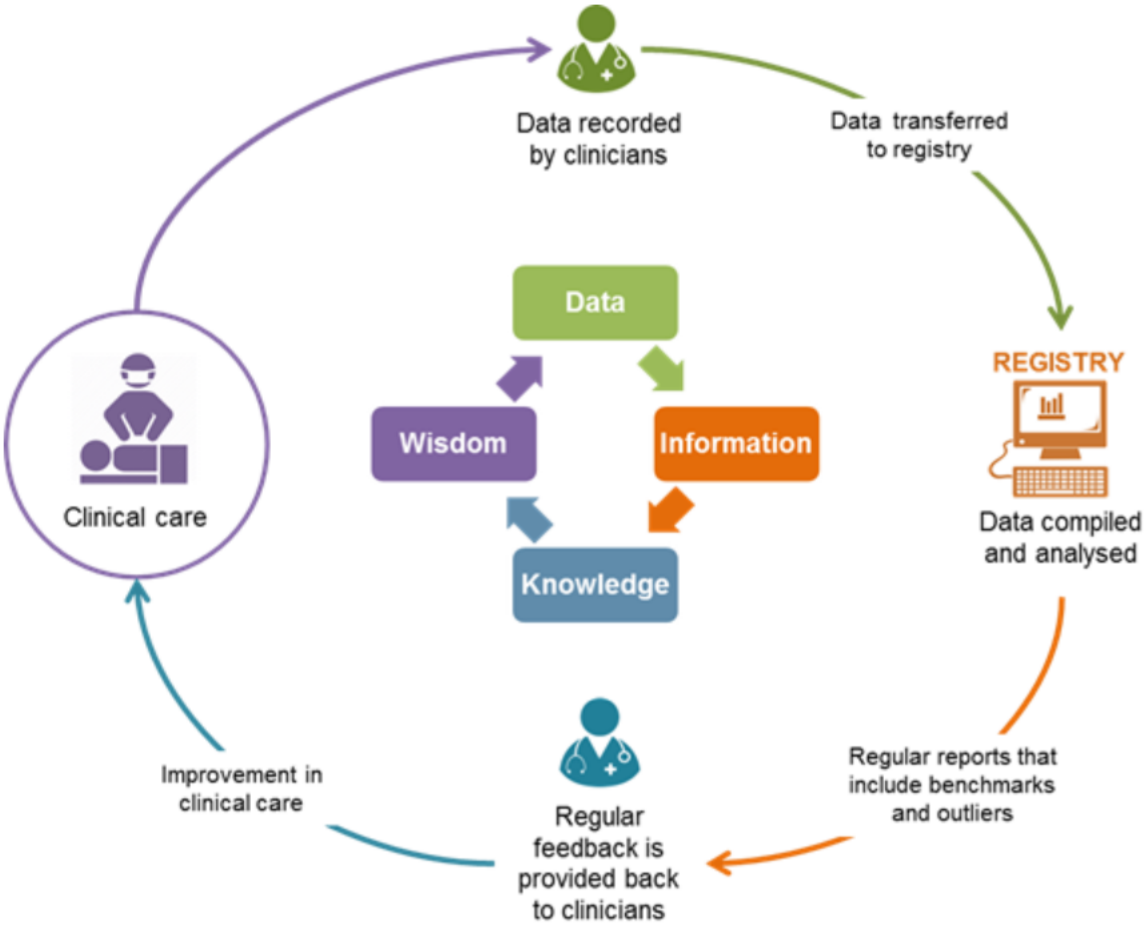


Image above excerpted from: https://www.safetyandquality.gov.au/our-work/national-arrangements-clinical-quality-registries

Validated

TYPE OF VALIDITY	DETAILS	REFERENCE
Predictive	- Predicts future disruptions - Predicts best provider match - Identifies rapid responders - Predicts future hospitalizations	- Alexander et al (2016) - Kraus et al (2016) - Nordberg et al (2014) - Blue Cross (2008)
Construct	World-class fit statistics: Kids / Adult TLI .97 .94 CFI .97 .95 RMSEA .03 .03	Kraus, Jordan & Seligman (2006) Kraus et al (2010)
Content	Blind focus group tests on face validity	Other tools can be easily manipulated by providers to make their outcomes look better
Concurrent	Compared to CBCL, BASC, CAFAS, SDQ, BDI, MMPI, BSI, SF-36	Kraus, Jordan & Seligman (2006) Baxter et al (2016) (example r=.84 between CBCL Attention problems and TOP ADHD; r=.92 between TOP Depression and the Beck Depression Inventory)

Multi-dimensional

Child TOP

Lack of Assertiveness (ASRTV)
This factor taps into potential problems with assertiveness (e.g. had trouble standing up for himself/herself, seemed scared around people, been too shy.)
Strength: Assertiveness

Incontinence (BOWEL)
This factor taps a construct related to a child's bowel and bladder functioning.
Strength: Continence

Lack of Resiliency (STRNG)
This factor taps a construct related to a child's strengths, or what the child is doing well. Often overlooked in therapy settings, knowing a client's strengths (particularly a child's) can be especially important in providing appropriate care.
Strength: Resiliency

Separation Anxiety (SEPAX)
This factor taps a construct related to a child's discomfort in being away from his/her caretaker.
Strength: Secure Attachments

Eating Issues (UNEAT)
This factor taps into a construct related to a child's reluctance to eat.
Strength: Good Eating Habits

Both

Attention Problems (ADHDC)
This factor relates to a child or adolescent's pattern of paying attention. Many of the items from this factor directly ask about attention and impulsivity.
Strength: Ability to Focus

Conduct Problems (CNDCT)
This factor relates to a child or adolescent's conduct or behavior problems.
Strength: Follows Rules

Depression (DEPRS)
This factor taps a construct that relates to many of the symptoms of clinical depression. The items from this factor on the Child TOP are child-specific; Adolescent TOP uses items from the Adult clinical scale.
Strength: Contented

Psychosis (PSYCS)
This factor taps a construct related to psychotic symptoms.
Strength: Good Reality Testing

Sleep Problems (SLEEP)
This factor relates to difficulty sleeping.
Strength: Sleeps Well

Suicidality (SUICD)
This factor relates to suicidal ideation.
Strength: Safe

Violence (VIOLN)
This factor relates to physical violence or anger.
Strength: Controls Anger

Worrisome Sexual Behavior (SEXWR)
This factor relates to worrisome sexualized behavior.
Strength: Appropriate Boundaries

Adolescent TOP

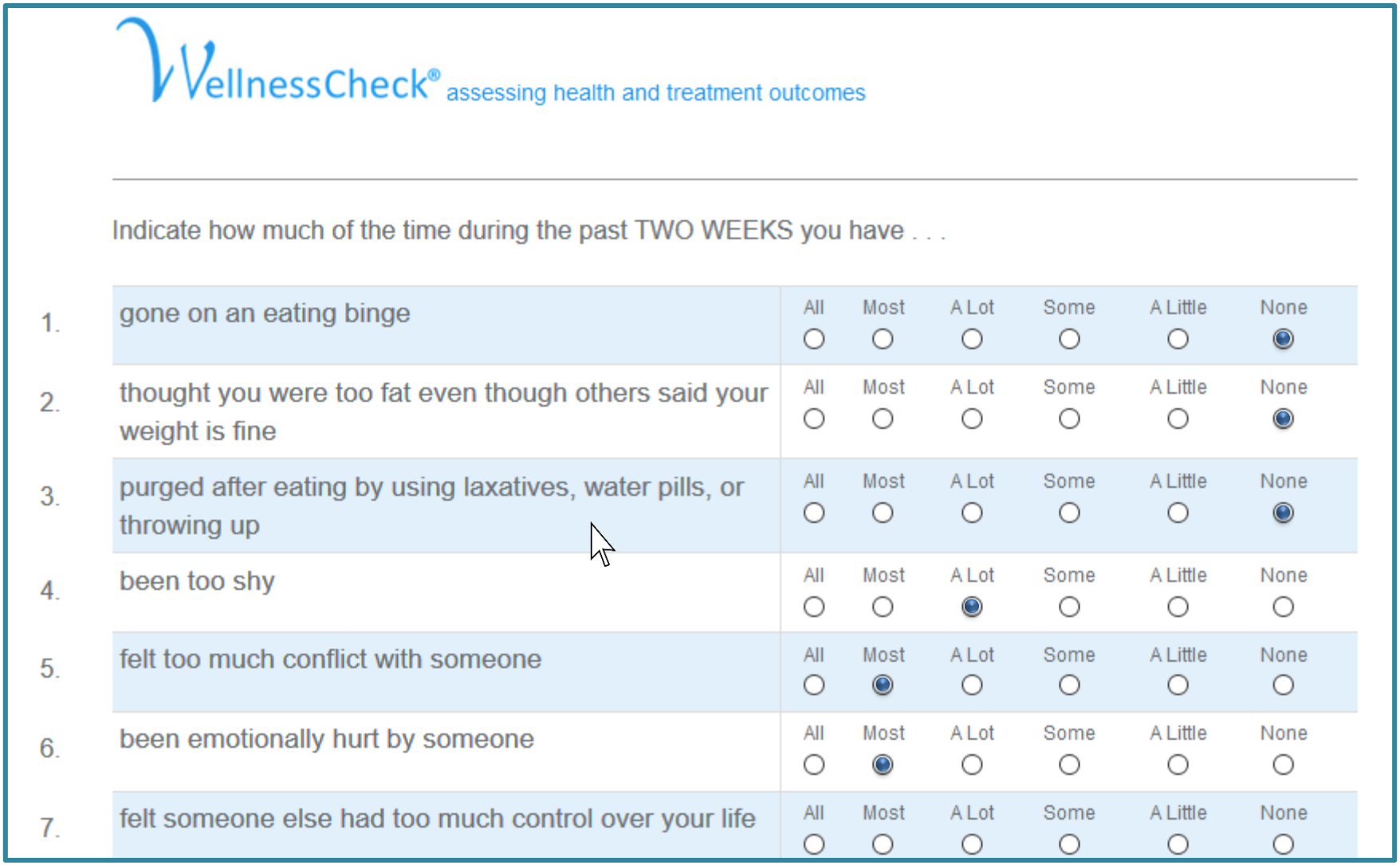
Mania (MANIC)
This factor taps a construct that may be related to manic or hypomanic symptoms. All of this factor's items relate to elevated mood or behaviors associated with elevated mood.
Strength: Balanced Emotions
(at a score of zero; negative scores indicate Depression)

Poor School Functioning (WORKF)
This factor relates to adolescent functioning at school. The items on this factor relate to missing school for any reason and several items about problems at school.
Strength: Good School Functioning

Social Conflict (SCONF)
This factor taps a construct that relates to how well an adolescent relates to others.
Strength: Positive Relationships

Substance Abuse (SA)
This factor uses the six items from Norm Hoffman's UNCOPE questionnaire and has excellent sensitivity and specificity for substance abuse and dependency issues.
Strength: No Substance Abuse

Electronic Administration



A Clinical Tool with Alerts…

Suicide or Violence Alert

- If a child scores greater than 3 standard deviations above average in either of these categories, you and a supervisor receive an email alert

Hospitalization Risk Alert

- Child has a 40% chance of being hospitalized in the next 6 months for a behavioral health issue

Poor Outcomes Alert

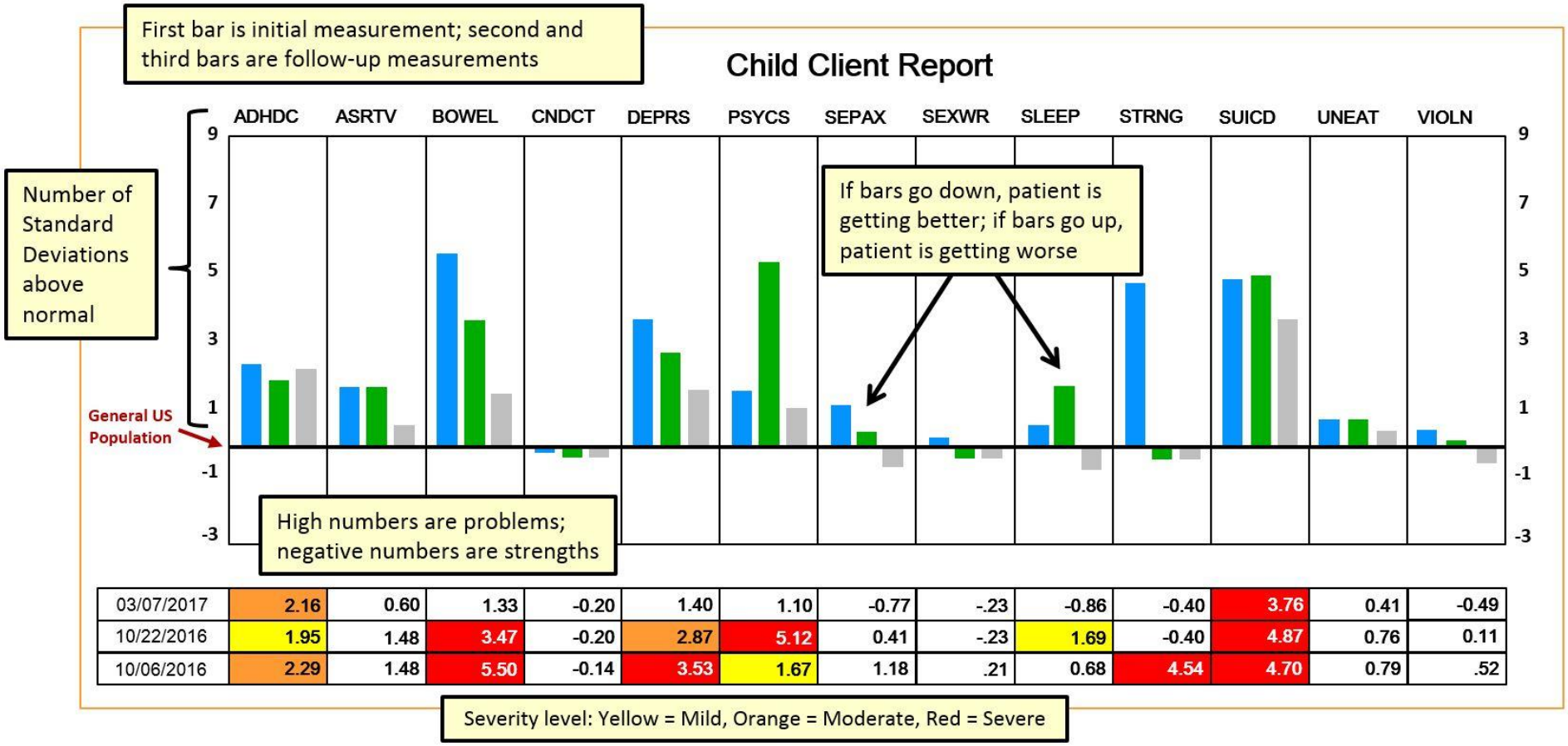
- Child may be getting worse in one or more well-being domains
- Following an attached checklist reduces poor outcomes by 90%

Critical Item Alerts

- Questions answered in the past 2 weeks that represent potential risk to the child are listed on individual client reports

had desires to seriously hurt someone.	A little of the time
had desires to hurt a person or animal.	A little of the time
hurt himself/herself.	A lot of the time
run away.	Some of the time
caused you to worry about his/her sexual activity.	A lot of the time

… And Individual Client Reports



03/07/2017	2.16	0.60	1.33	-0.20	1.40	1.10	-0.77	-.23	-0.86	-0.40	3.76	0.41	-0.49
10/22/2016	1.95	1.48	3.47	-0.20	2.87	5.12	0.41	-.23	1.69	-0.40	4.87	0.76	0.11
10/06/2016	2.29	1.48	5.50	-0.14	3.53	1.67	1.18	.21	0.68	4.54	4.70	0.79	.52

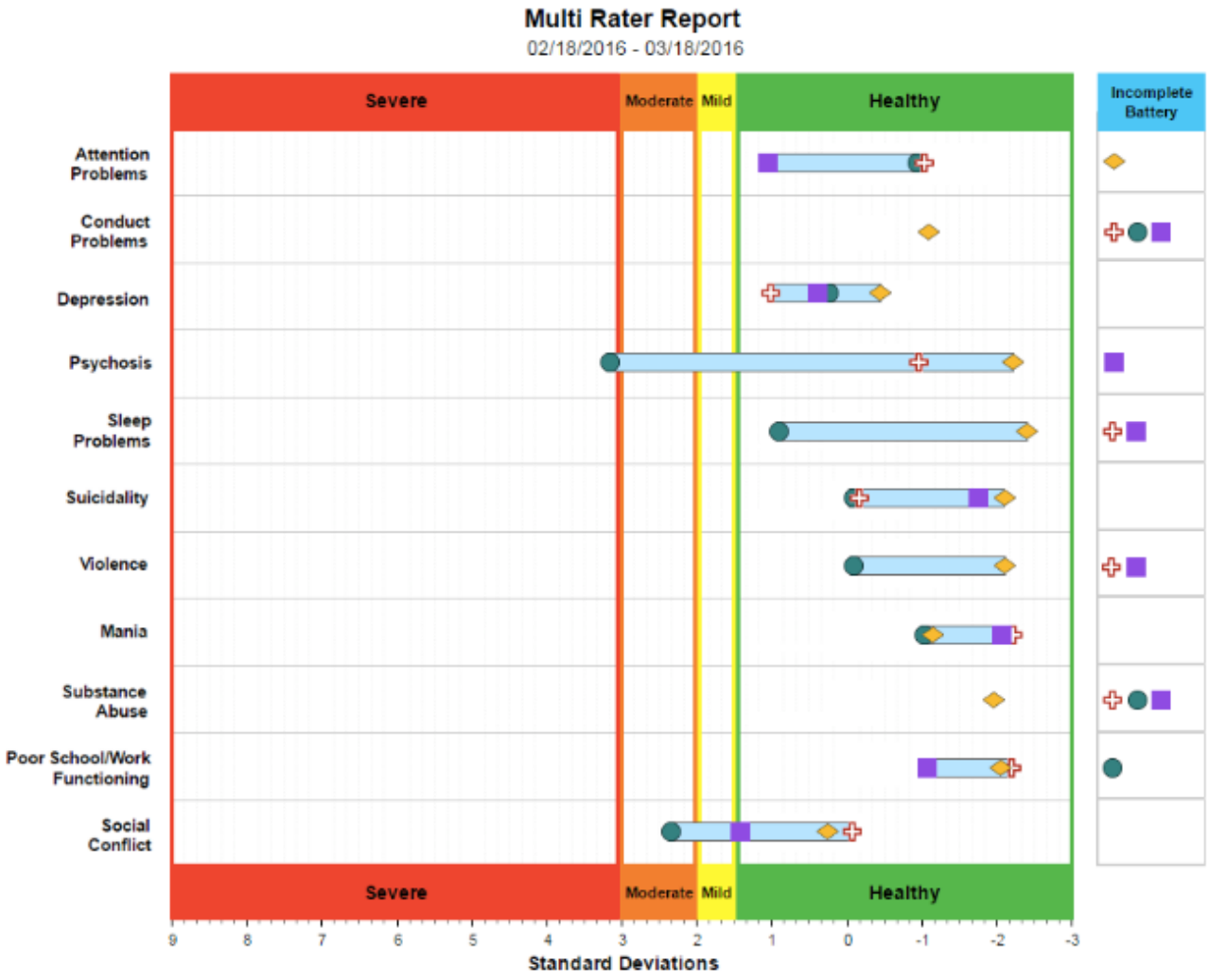
Severity level: Yellow = Mild, Orange = Moderate, Red = Severe

Multiple Perspectives

Multiple Rater Participation is Important

- Provides current well-being information on strengths and challenges; information that highlights progress over time
- Guides treatment and placement decisions and supports your recommendations to team members, courts, and other providers
- Gives youth a stronger voice and supports them in taking more control over their behaviors and decisions
- Prompts discussion amongst the team and enhances decision-making

Multiple Rater Report



Raters	Initials	Date
client	K.S.	12/14/15
comm. worker	E.A.P.	12/14/15
public worker	B.P.	12/14/15
foster parent	E.P.	12/14/15

TOP Aggregate Reports

Report Name	Description
Agency Dashboard	Includes the number of TOP CSs completed [Usage], average scores per domain [Domain Scores], change over time graphs [Outcomes], information about rater engagement [Rater Responsiveness], and a Glossary. Updated daily.
Staff Utilization Report	Includes the number of CR, CM, CS forms completed, raters invited, unique raters and latest update for each administrator/ supervisor/client relationship. Updated daily.
The Action List	Indicates domain-specific “flags” for ID numbers of clients whose follow-up domain scores have deteriorated over time and are currently low (< 1.5). Updated daily.
Intake Demographics Report	An aggregate report of data from the first Consumer Registration (demographics) and Case Mix (Medical History, Stressful Life Events) forms submitted for all registered clients. Updated monthly.

Measurement-based Care at CHA

- Use TOP across service array including outpatient, in-home services, foster care, and residential.
- Administer TOP at admission, at least once a month, and at discharge.
- Client level reports based on TOP responses are used to inform treatment planning; assists in determining strengths, goals, and interventions.
- Brainstorm key performance indicators for program and executive dashboards.

Levels of Measurement-based Care

- Goal is use TOP data to inform decisions at individual, program, agency, and systems levels:
  - Inform client treatment planning, including services, interventions, and length of stay
  - Assess program strengths and opportunities
  - Guide quality improvement priorities at the agency level
    - Potentially influence initiatives for population health management
  - Impact policy and reimbursement at system level

Measurement-based Care and Placement Decisions

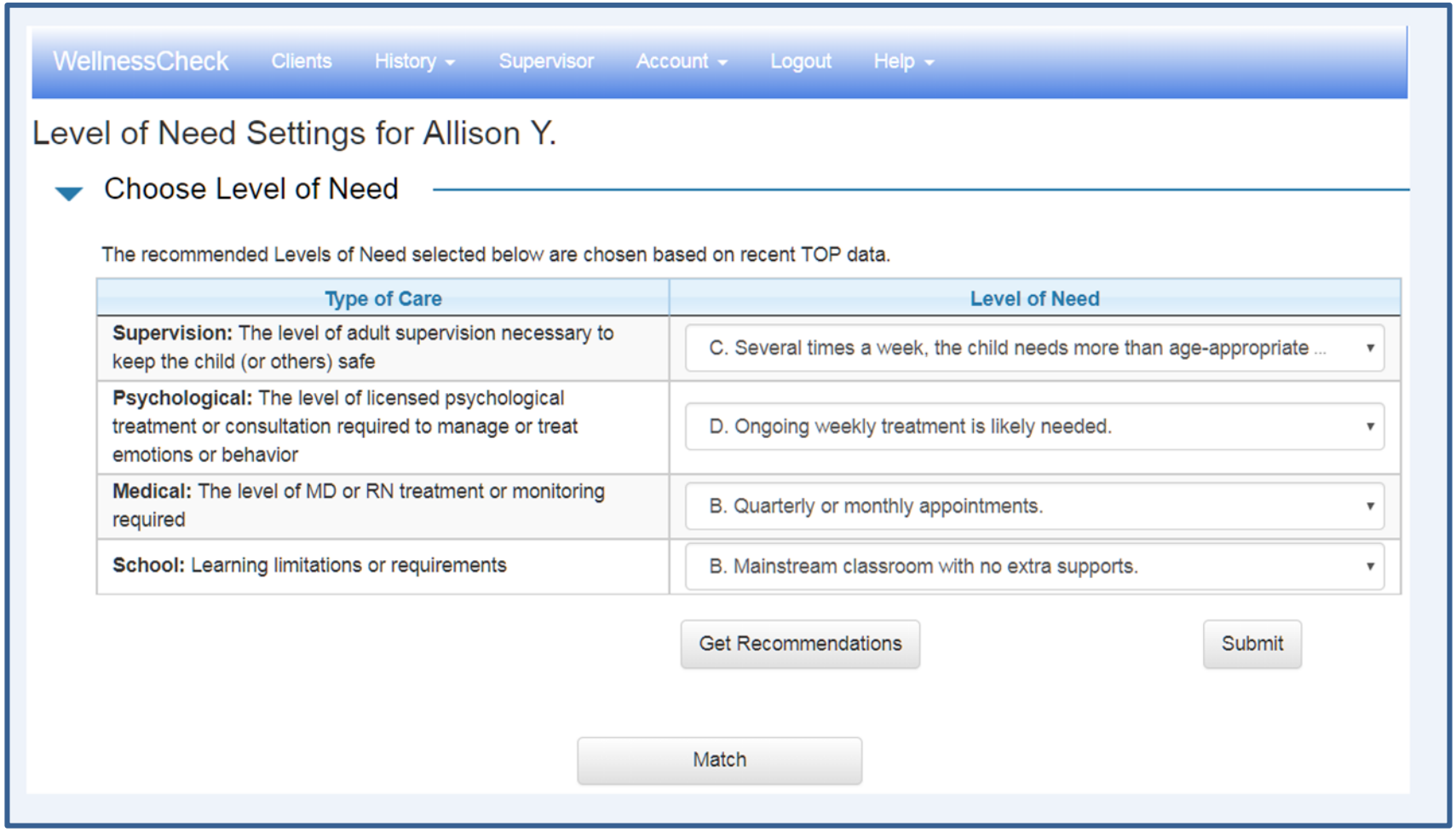
TOP Level of Need	Description
Supervision	Is the child a danger to himself/herself or others? How much supervision is required?
Psychological	How many challenging behaviors or mental health issues does the child have? What is the nature, type and severity of these behaviors or issues?
Medical	Is the child at risk of hospitalization within the next six months? Is medical monitoring or check-ins required?
School	Does the child have "educationally relevant" disabilities such as communication disorders or developmental delays?

For more details see Kraus, D. R., Baxter, E. E., Alexander, P. C., & Bentley, J. H. (2015). The Treatment Outcome Package (TOP): A multi-dimensional level of care matrix for child welfare. *Children and Youth Services Review, 57*, 171-178.

Levels of Need (LoN)

Supervision	Psychological
Almost none – the child is ready or almost ready for emancipation	None or none known
Age-appropriate requirements	A few short-term sessions may be enough
Several times a week, the child needs more than age-appropriate supervision (when in a crisis or during a certain time of day e.g., after school)	Ongoing monthly treatment is likely needed
Intermittently, throughout the day, the child needs more than age-appropriate supervision	Ongoing weekly treatment is likely needed
Almost constantly, the child needs more than age-appropriate supervision during the day (but while asleep, the child does not need much, if any monitoring)	Ongoing, almost daily treatment is likely needed
Constant daytime and overnight supervision is required	Ongoing, almost hourly treatment is likely needed
School	**Medical**
No schooling needs (graduated or too young)	Only standard wellness and occasional sick visits
Mainstream classroom with no extra supports	Quarterly or monthly appointments
Mainstream classroom with additional in-class supports like a teacher's aid	Ongoing weekly
Mainstream classroom with special education teacher assistance	Ongoing daily
A specialized or special education classroom	Ongoing hourly
A specialized or special education school	

A Measurement-based Decision-Support Tool



Add Scientific Matching

- An advanced machine learning algorithm was used to model the typical treatment projection for youth with similar characteristics.
- These models predict an average of 68% of the variance in youth's follow-up scores.
- The typical treatment projection is compared against a client's actual outcome.
- Client outcomes for each domain are aggregated at the provider level to produce a summary evaluation score per provider.

Provider Scorecard

Agency	Minimum # of Clients	Maximum # of Clients	Attention Problems	Lack of Assertiveness	Incontinence	Conduct Problems	Depression	Mania	Psychosis	Substance Abuse
A	235	578	Below	Above	Expected	Above	Below	Below	Below	Above
B	160	190	Below			Expected	Below	Below	Below	Expected
C	107	326	Below	Above	Above	Above	Below	Below	Expected	Above
E	40	50	Expected			Above	Expected	Expected	Expected	Above
F	76	176	Expected	Expected	Expected	Above	Expected	Expected	Expected	Above
G	10	26	Above	Above	Below	Below	Expected	Expected	Expected	Above
H	169	394	Below	Above	Above	Above	Expected	Below	Expected	Above
I	57	153	Below	Expected	Below	Expected	Below	Below	Below	Above
J	28	76	Below	Above	Above	Expected	Expected	Expected	Below	Expected
K	53	119	Expected	Expected	Expected	Expected	Expected	Above	Expected	Above
L	22	115	Below	Expected	Expected	Expected	Expected	Expected	Expected	Above
M	10	31	Expected	Expected	Above	Above	Above	Above	Expected	Expected
N	15	18	Expected			Above	Expected	Expected	Below	Expected
O	15	56	Above	Above	Above	Above	Above	Expected	Expected	Below
P	62	154	Below	Below	Expected	Expected	Below	Below	Below	Expected
Q	20	26	Expected			Expected	Expected	Above	Above	Expected
R	11	12	Expected	Expected	Expected	Expected	Above		Expected	
S	10	56	Below	Below	Expected	Above	Expected	Above	Expected	Above

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LoN Results Table with Scientific Matching

Matched Providers for Home B. based on most recently submitted Level of Need. These providers have a proven track record of success treating children with these specific needs.

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TYPE OF CARE			Supervision	Psychological	Medical	School
LEVEL OF NEED			D. Intermittently, throughout the day, the child needs more than age-appropriate supervision.	D. Ongoing weekly treatment is likely needed.	A. Only standard wellness and occasional sick visits.	E. A specialized or special education classroom.
MATCHED PROVIDERS	Rank ÷	Distance ÷				
Day Treatment	1	12 mi.	✔	✔	✔	✔
PRTF		17 mi.	✔	✔	✔	✔
Residential Level II	1	22 mi.	✔	✔	✔	
Residential Level III	5	25 mi.	✔	✔	✔	
Family Foster Care	3	32 mi.	✔		✔	
Intensive Family Preservation Services		22 mi.		✔	✔	
Intensive In home	3	15 mi.		✔	✔	
Outpatient	4	33 mi.		✔	✔	
Residential Level I	4	42.mi.	✔		✔	
Therapeutic Foster Care	2	23 mi.	✔		✔	

Child ACTT

In Lieu Of Service: Child Focused Assertive Community Treatment Team (Child ACTT)
Children with MD co-occurring SUD/IDD
Medicaid Billable
Effective 1-1-19
Revised 2-18-19

Code: H0040 HA U5
Encounters: H0040 HA U5 TS

Child Focused Assertive Community Treatment (Child ACTT) is a team-based multi-disciplinary approach to serve children in their homes, kinship placements, DSS foster homes, or may begin during transition from a more restrictive residential setting. Similar to the ACTT service for adults, this service uses a community-based team approach to meet the needs of youth with Serious Emotional Disturbance (SED). This service is used to meet the needs of youth that are high risk for out-of-home residential treatment due to a psychiatric disorder, have a history of multiple hospitalizations or long term hospitalization(s) at a state facility, have a history of multiple episodes of Residential treatment, who are unresponsive to conventional outpatient treatment (outpatient therapy, Intensive In-home services, etc.) after discharge from Residential

ACTT Service Requirements
Team Members

- Team Leader (FT)
- Psychiatric Care Provider (PT)
- Registered Nurse (FT)
- Licensed Clinician (FT)
- Specialists, e.g.,
  - Substance Abuse
  - Peer
  - Behavioral
  - Family Advocate
  - Case Coordinator

Service Setting = The Community
Timeline = 24/7 for 6 months

- Services shall be delivered in natural environments.
- Child ACTT includes telephone time with the member and the member's family or caregivers.
- The Child and Family Team will have daily meetings.
- The team will be available to respond 24/7 for crisis de-escalation and assessment.
- The psychiatric provider will be available minimally by phone 24/7 for consultation and treatment recommendations.

Expected Outcomes

- Reduced amount of time in residential settings
- Increased integration of youth within their own community
- Increased consumer satisfaction
- Increased adherence to treatment/service plan
- Vocational/educational gains
- Increased stay in their community residence with family or natural supports
- Increased natural supports
- Increased engagement in positive supportive activities

Technology Integration: Client-facing app

- Using mobile technology to increase access and efficiency while promoting client engagement and self-monitoring
- Daily check-ins
- Secure bidirectional text and video chat
- Real time alerts
- Appointment and medication reminders
- Routine assessments and surveys
- Curated library of educational resources
- App utilization tracking
- Plan to add use of wearable technology to integrate physical health

Research Study

- With generous funding from the Duke Endowment we will be conducting:
  - A randomized clinical trial of an alternative to residential care where clients will be randomized to:
    - Residential as usual; or
    - An eight-person community-based team with professional foster care options and TOP level of care matching system.

Lessons Learned

- Training is necessary
- Practitioner perception of value added is critical
- Include plan for compliance monitoring and use feedback loop to address barriers
- For large implementations, consider phased approach with quick successions
- Incorporate TOP into case reviews
- Innovation takes time

Next Phase of Innovation

- Using at individual level but expanding measurement-based care to include predictive analytics and RCT
- Provider Scorecard for service matching/clinician-matching
- Supporting expansion of continued delivery and enhancement of ACTT

Conclusions

- Measurement-based Care (MBC) provides vital information for client treatment and program evaluation
- A multi-dimensional tool provides insight on several potential problem areas and can alert team to relationships between domains
- Use of multiple raters in MBC enables team members to identify the differences in perspectives
- Outcome assessments should inform level of care decisions at intake and over time
- Rigorous evaluation of new innovations is necessary to improve future clinical care

Review of Session Objectives

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Thank you!

- Questions?
- Speakers' Contact Information:

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