New Colorado Assessment Reliability Analyses

Report 2 for the Colorado Assessment and Support Plan Pilot Prepared for the Colorado Department of Health Policy and Financing

Contents

Executive Summary

The Colorado Department of Health Care Policy and Financing (the Department) contracted with HCBS Strategies to pilot its new process for eligibility determinations, needs assessment and support planning for Medicaid-funded long-term services and supports (LTSS). The Department undertook this effort because of concerns about the reliability and validity of the items in the current tool used for eligibility determinations, the Uniform Long-Term Care (ULTC) 100.2.

The first two phases of the pilot effort collected data necessary to replicate current level of care (LOC) criteria used for establishing eligibility for Medicaid home and community-based services (HCBS) waivers and create objective criteria where none exist. To assess inter-rater reliability (IRR), 107 of the 413 pilot participants were assessed by two case managers who scored the assessment independently.

IRR measures the extent to which two assessors assessing the same participant assign the same score. This effort uses two measures of IRR: Kappa (also known as Cohen's kappa) is the primary measure, however, the percentage of time the assessors assign the same score (percent agreement) is used in cases where the kappa statistic may not be an appropriate measure.

Assessments were done by case managers at the Single Entry Points (SEPs), Community Centered Boards (CCBs), and the Department of Human Services (DHS). Participants were selected from ULTC 100.2 initial assessments or reassessments that were scheduled during the pilots. A target of 30 paired assessments[1] was set for each of the following categories: Individuals with intellectual and developmental disabilities (IDD); older adults and adults with physical disabilities (APD); individuals with mental health conditions; and children.

Among all assessment items in the overall (combined) population, **the vast majority (88%) met the threshold for reliability** (kappa ≥ 0.6). This number increased to 91% when looking at items for which there were 20 or more paired observations.

The reliability numbers for the individual populations were somewhat lower than for the total population because these kappa statistics are based on far fewer observations. The IDD and children populations had the highest percentage of reliable items (89% for both populations), followed by the mental health population (83%). The number of items found to be reliable for the APD population was lower than for the other populations (69%). Much of this difference is attributable to lower levels of reliability for the functioning, memory and cognition, and psychosocial items.

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[1] The target of 30 paired assessments was based on the benchmark used under the CMS funded FASI reliability effort.

More than 90% of the items were found to be reliable for the overall pilot population in seven of the eleven assessment modules that were examined for reliability. The sections with lower levels of reliability were housing and environment, sensory and communication, safety and self-preservation, and hospital level of care.

The report includes tables that summarize information about each of the items with a kappa below 0.6. They present the relevant statistics, the items language and a discussion about potential issues and remedies. The Department and stakeholders will use this information to help determine which items to remove. HCBS Strategies will make recommendations for improving the item and/or training language for each item with low reliability that will remain in the assessment.

Background

This report summarizes findings from the reliability analyses of the new assessment process that will be used to determine eligibility for Medicaid funded long-term services and supports (LTSS). The findings were used to guide decisions about whether to remove or alter items and identify areas for additional clarification in training.

BACKGROUND ON THE NEW ASSESSMENT PROCESS PILOT

The Department contracted with HCBS Strategies to pilot the new assessment and support planning process because of concerns about the reliability and validity of the items in the current tool used for eligibility determinations; the lack of consistent collection of all necessary data; and the ability of the current tool to support a person-centered process, including the development of a person-centered Support Plan. Senate Bill 16-192, which was enacted after the Department began developing a new assessment and support planning process, added a legislative mandate to create a new LTSS assessment tool.

The data for the reliability analyses were collected from the first two phases of this pilot:

- The level of care (LOC) pilot only collected data using the LOC Screen, which includes both current assessment tool items from the ULTC 100.2 and the items designed to replace them. The purpose of this pilot was to compare the items across the current and new tools and comply with Center for Medicare & Medicaid Services' (CMS) Testing Experience Functional Tools (TEFT) grant.

- The Nursing Facility (NF)/Hospital (H)-LOC and Reliability pilot collected data necessary to fulfill the following functions:

  - Replicating the NF-LOC for adults

  - Establishing a more objective NF-LOC criteria for children

  - Establishing objective and prospective H-LOC for all of Colorado's relevant HCBS waivers

  - Testing the reliability, including the inter-rater reliability, of select items in the new assessment that may be used for NF-LOC, H-LOC, and resource allocation and that have not previously been tested for reliability.

BACKGROUND ON INTER-RATER RELIABILITY

Inter-rater reliability (IRR) measures the extent to which two assessors assessing the same participant assign the same score. This effort uses two measures of IRR: Kappa (also known as Cohen's kappa) is the primary measure, however, the percentage of time the assessors assign the same score (percent agreement) is used in cases where the kappa statistic may not be an appropriate measure.

The kappa statistic is the primary measure of reliability used in this report because in addition to considering whether the responses agree, it accounts for both agreement by chance alone and the degree by which the disagreement is different. This is especially important for items with more than two response categories in which the items are linear (e.g., 1-5 or strongly agree to strongly disagree) because the kappa statistic will give a higher score where responses do not match, but are similar (e.g., one assessor gives a score of 2 while another gives a score of 3) than when they are more dissimilar (e.g., a score of 1 versus a score of 5).

The kappa statistic can be misleading in the following circumstances:

- If the sample size is too low, the kappa statistic can be sensitive to even a small amount of disagreement. This also impacts percent agreement but can have an even larger impact on kappa.
- The kappa statistic is less meaningful when the ratings are unevenly distributed across response options. For example, the kappa statistic will be less meaningful for an item on which 98 out of 100 assessor pairs score an item as 1 in a scale of 1 to 5 but the remaining two pairs disagree. This is exacerbated when the disagreements are substantial (scoring 1 vs. 5) rather than minor (scoring 1 vs. 2). When ratings are unevenly distributed, even a small number of disagreements can cause the kappa statistic to be extremely low (below .4, 0, or even negative)[2] (Yarnold, 2016).

To compensate for these weaknesses, the report also presents the percent agreement, which is simply the percentage of assessments that two assessors had the same answer on a given item (e.g. if 9 out of 10 of assessor pairs had the same answer on an assessment item, the percent agreement on that item would be 90%). Items for which the kappa was low, but the percentage agreement was high were still given heightened scrutiny, including trying to understand why assessors assigned different scores.

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[2] Yarnold, Paul. (2016). ODA vs. π and κ: Paradoxes of Kappa. *Optimal Data Analysis*. 5. 158-159.

Methodology

CASE MANAGERS

Case managers were drawn from the existing pool of case managers at the Single-Entry Points (SEPs), Community Centered Boards (CCBs), and the Department of Human Services (DHS). An invitation that emphasized the importance of this effort and the compensation available went out to all case managers. One hundred and twenty-three case managers expressed a desire to participate. Information on the number of assessments these case managers conducted in the past year and the populations they assessed was obtained, and this information was utilized to select a pool of 68 case managers based on the following criteria:

- The total number of assessments they had conducted in the past year.
- The populations they had assessed.
- The geographic area they served, to have a range of agencies and representation in urban, rural, and frontier settings.

This pool of 68 case managers also included four additional case managers who, after not being selected, indicated that the number of assessments they would be conducting would be substantially higher than the information from the past year predicted.

For both the LOC and NF/H-LOC & Reliability pilots case managers participated in day-long trainings held in-person at five sites across the state. Several case managers withdrew from the pilot because they left their agencies or had other family or work pressures they did not originally anticipate. At the end of the LOC pilot there were 62 case managers, 52 of whom continued to the NF/H-LOC & Reliability pilot.

PARTICIPANTS

Participants were selected from scheduled ULTC 100.2 initial assessments or reassessments. A target of 30 paired assessments[3] was set for each of the following categories: Individuals with intellectual and developmental disabilities (IDD); older adults and adults with physical disabilities (APD); individuals with mental health conditions; and children.

Case managers were instructed to offer all participants with scheduled ULTC 100.2 assessments during the pilot timeframes the opportunity to participate in the pilot to prevent them from introducing a selection bias (e.g., only selecting cases that would take less time to assess).

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[3] The target of 30 paired assessments was based on the benchmark used under the CMS funded FASI reliability effort.

All assessments were conducted between March 12 and August 30, 2019. Targets were met for all populations except for children. While extensive efforts were made to involve more children in the pilot, there were far fewer children pilot case managers based on the number of children enrolled in waivers versus adults.

Table 1: Number of Pilot Participant Assessments by population and Assessor Method

Population	Participants Being Scored Twice
Children	17
APD	30
IDD	30
Mental Health	30
Total	**107**

Findings

GUIDANCE FOR INTERPRETATION

The tables presented in the Findings section have two color legends. The first legend assists with interpreting the kappa statistics. The generally accepted rules of thumb[4] for interpreting the kappa statistics used in this report are:

kappa	Interpretation
<0.4	= poor agreement
0.4-0.6	= moderate agreement
0.6-0.8	= good agreement
0.8-1.0	= near perfect agreement

All tables containing item-level reliability findings use this color coding.

The assessment includes skip patterns that eliminate the need to ask items that do not apply to a particular participant. For example, an item on whether an assistive device meets the participants needs was only asked if the assessment identified that the participant uses an assistive device. These skip patterns resulted in fewer observations for items that were skipped based on the embedded skip logic.

Items with low sample sizes (n) because of these skip patterns are also color coded in the tables because the strength of the measure of reliability depends on the sample size. If the sample size is low, the kappa statistic can be sensitive to even a small amount of disagreement. Sample sizes are color-coded using the following legend:

Sample Size (n) Coloring Legend	
n = <10	Sample size is likely problematic
n = <20	Sample size may be problematic
n = ≥20	Sample size is sufficient

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[4] J. Richard Landis and Gary G. Koch, *Biometrics*. 33, No. 1 (Mar., 1977), pp. 159-174.

FINDINGS

As discussed in the background section, there are situations for which the kappa measure may be problematic. When given a kappa that is highlighted in purple, the percent agreement is the more meaningful measure of reliability.

If kappa is purple	Percent agreement is more informative
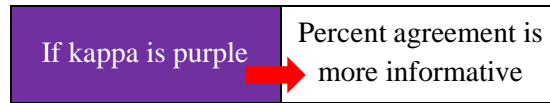
OVERVIEW OF THE FINDINGS

The following tables provide the results of the analysis of 242 assessment items.

Overview of Items Meeting the Reliability Threshold

Table 2 contains both the number and percentage of items that the kappa statistic was greater than or equal to 0.6, stratified by:

- Section of the assessment
- Population (MH, APD, IDD, and children)
- Sample size (greater than or equal to 20 or below 20)

The table presents the number of items scoring at .6 or higher over the total number of items in each area.

Table 2: Overview of the Number and Percentage of Items Meeting the Reliability Threshold (kappa ≥ 0.6) by Population and Section of the Module (n=sample size)

	Overall		MH		APD		IDD		Children	
	n	%	n	%	n	%	n	%	n	%
All Items										
All Items	211	88%	200	83%	166	69%	208	89%	204	89%
Sample ≥ 20	166	91%	130	82%	88	60%	153	92%	2	100%
Sample < 20	45	79%	70	86%	78	83%	55	82%	202	89%
Items Considered for Level of Care **(ADL, IADL, Memory & Cognition, Psychosocial)**										
All Items	131	96%	112	82%	89	65%	121	93%	118	94%
Sample ≥ 20	123	96%	98	83%	62	58%	111	94%	2	100%
Sample < 20	8	89%	14	74%	27	90%	10	83%	116	94%
ADL Items										
All Items	66	96%	50	72%	41	59%	63	95%	55	92%
Sample ≥ 20	62	95%	42	74%	26	50%	55	96%	0	N/A
Sample < 20	4	100%	8	67%	15	88%	8	89%	55	92%
IADL Items										

	Overall		MH		APD		IDD		Children	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
All Items	26	100%	26	100%	20	77%	24	92%	24	100%
Sample ≥ 20	24	100%	22	100%	16	73%	22	100%	2	100%
Sample < 20	2	100%	4	100%	4	100%	2	100%	22	100%
Memory & Cognition Items										
All Items	6	100%	6	100%	5	83%	6	100%	6	100%
Sample ≥ 20	6	100%	6	100%	1	100%	6	100%	0	N/A
Sample < 20	0	N/A	0	N/A	4	80%	0	N/A	6	100%
Psychosocial Items										
All Items	33	92%	30	83%	23	64%	28	85%	33	92%
Sample ≥ 20	31	94%	28	85%	19	59%	28	85%	0	N/A
Sample < 20	2	67%	2	67%	4	100%	0	0%	33	92%
Caregiver Items										
All Items	2	100%	2	100%	1	50%	2	100%	1	50%
Sample ≥ 20	2	100%	2	100%	0	N/A	2	100%	0	N/A
Sample < 20	0	N/A	0	N/A	1	50%	0	N/A	1	50%
Employment, Volunteer, and Training Items										
All Items	5	100%	5	100%	5	100%	5	100%	5	100%
Sample ≥ 20	3	100%	3	100%	2	100%	2	100%	0	N/A
Sample < 20	2	100%	2	100%	3	100%	3	100%	5	100%
Health Items										
All Items	13	93%	13	93%	11	79%	12	86%	14	100%
Sample ≥ 20	12	92%	7	88%	6	75%	7	78%	0	N/A
Sample < 20	1	100%	6	100%	5	83%	5	100%	14	100%
Housing and Environment Items										
All Items	8	67%	11	92%	6	50%	11	92%	10	83%
Sample ≥ 20	7	64%	9	90%	5	50%	10	100%	0	N/A
Sample < 20	1	100%	2	100%	1	50%	1	50%	10	83%
Participant Engagement Items										
All Items	6	100%	4	67%	6	100%	5	83%	6	100%
Sample ≥ 20	6	100%	4	67%	6	100%	5	83%	0	N/A
Sample < 20	0	N/A	0	N/A	0	N/A	0	N/A	6	100%
Sensory and Communication Items										
All Items	8	47%	13	76%	11	65%	12	71%	8	47%
Sample ≥ 20	6	67%	6	67%	6	67%	9	100%	0	N/A
Sample < 20	2	25%	7	88%	5	63%	3	38%	8	47%
Safety and Self-Preservation Items										
All Items	6	60%	6	60%	5	50%	6	60%	9	90%
Sample ≥ 20	6	60%	0	0%	1	33%	6	67%	0	N/A
Sample < 20	0	N/A	6	75%	4	57%	0	0%	9	90%

	Overall		MH		APD		IDD		Children	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Hospital Level of Care Items										
All Items	31	86%	33	92%	32	89%	33	92%	32	89%
Sample ≥ 20	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A
Sample < 20	31	86%	33	92%	32	89%	33	92%	32	89%

Among all module items in the overall (combined) population, **the vast majority (88%) of the items met the threshold for reliability** (kappa ≥ 0.6). This number increased to 91% when looking at items for which there were 20 or more paired observations.

The reliability numbers for the individual populations were somewhat lower than for the total population because these kappa statistics are based on far fewer observations. The IDD and children populations had the highest percentage of reliable items (89% for both populations), followed by the mental health population (83%). The number of items found to be reliable for the APD population was lower than for the other populations (69%). Much of this difference is attributable to lower levels of reliability for the functioning, memory and cognition, and psychosocial items.

More than 90% of the items were found to be reliable for all sections of the assessment except for housing and environment, sensory and communication, safety and self-preservation, and the items used for hospital level of care.

Reliability of All Module Items by Population

Table 3 provides the kappa and percentage agreement statistics for all the assessment items stratified by population and section of the assessment. The color coding in this table is described at the beginning of the Findings section.

Table 3: Reliability Statistics for All of the Items by Population and Section of the Module

		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
	Walk 10 Feet															
	Usual	92	0.70	91%	28	0.65	89%	24	0.07	79%	29	1	100%	11	1	100%
	Most Dependent	92	0.72	91%	28	0.65	89%	24	0.30	79%	29	1	100%	11	1	100%
	Walk 50 feet with two turns															
	Usual	89	0.75	91%	27	0.77	93%	23	0.52	74%	29	1	100%	10	NA	100%
	Most Dependent	89	0.71	89%	27	0.77	93%	23	0.48	74%	29	0.92	93%	10	NA	100%
	Walk 150 Feet															
	Usual	87	0.83	86%	27	0.85	93%	22	0.61	68%	28	0.97	93%	10	0	90%
	Most Dependent	87	0.78	84%	27	0.70	89%	22	0.58	64%	28	0.94	93%	10	0	90%
	Walk outside the home															
	Usual	89	0.47	89%	27	0.07	89%	23	0.36	74%	29	0.49	97%	10	1	100%
	Most Dependent	90	0.72	87%	28	0.21	86%	23	0.52	65%	29	1	100%	10	1	100%

Level of Care & Functioning

		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
		Walk 10 feet on uneven surfaces														
	Usual	90	0.76	82%	27	0.57	89%	24	0.56	58%	29	0.93	93%	10	0.86	90%
	Most Dependent	90	0.75	81%	27	0.53	85%	24	0.58	63%	29	0.92	90%	10	0.86	90%
		1 step (curb)														
	Usual	90	0.71	84%	28	0.71	82%	24	-0.04	67%	29	0.97	97%	9	1	100%
	Most Dependent	90	0.70	86%	28	0.71	82%	23	0.19	70%	29	0.98	97%	10	1	100%
		4 steps														
Level of Care & Functioning	*Usual*	88	0.60	82%	27	0.30	70%	23	0.40	65%	28	1	100%	10	1	100%
	Most Dependent	87	0.69	79%	27	0.30	70%	22	0.59	59%	28	0.88	96%	10	1	100%
		12 steps														
	Usual	84	0.83	81%	26	0.70	77%	20	0.82	60%	28	1	100%	10	0.78	80%
	Most Dependent	84	0.81	80%	26	0.66	77%	20	0.80	60%	28	0.88	96%	10	0.78	80%
		Carries something in both hands														
	Usual	79	0.86	90%	24	0.97	96%	19	0.75	68%	26	0.83	96%	10	1	100%
	Most Dependent	78	0.89	94%	24	0.97	96%	18	0.80	83%	26	0.94	96%	10	1	100%
		Picking up object														
	Usual	84	0.78	92%	26	0.70	88%	22	0.79	86%	26	0	96%	10	1	100%
	Most Dependent	84	0.71	87%	26	0.66	85%	22	0.69	73%	26	0.79	96%	10	1	100%
		Walks for 15 Minutes														
	Usual	82	0.60	82%	25	0.22	88%	20	0.39	60%	27	0.98	96%	10	0.59	70%
	Most Dependent	81	0.67	84%	25	0.22	88%	19	0.54	63%	27	1	100%	10	0.59	70%

Level of Care & Functioning		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Walks across a street																
	Usual	79	0.84	87%	26	0.76	88%	17	0.66	65%	29	0.99	97%	7	1	100%
	Most Dependent	79	0.81	87%	26	0.76	88%	17	0.55	65%	29	0.99	97%	7	1	100%
Wheel 50 Feet																
	Usual	22	0.93	86%	6	0.90	83%	7	0.83	71%	4	1	100%	5	NA	100%
	Most Dependent	22	0.96	86%	6	1	100%	7	0.81	57%	4	1	100%	5	NA	100%
Wheel 150 Feet																
	Usual	22	0.85	86%	6	0.00	67%	7	0.95	86%	4	1	100%	5	NA	100%
	Most Dependent	22	0.95	86%	6	0.57	83%	7	0.91	71%	4	1	100%	5	NA	100%
Wheels for 15 minutes																
	Usual	21	0.94	81%	6	0.57	83%	6	0.71	67%	4	0	75%	5	NA	100%
	Most Dependent	20	0.80	85%	5	0.17	80%	6	0.90	67%	4	NA	100%	5	NA	100%
Wheels across a street																
	Usual	18	0.79	83%	5	0.88	80%	4	0.75	75%	4	NA	100%	5	0	80%
	Most Dependent	18	0.96	94%	5	1	100%	4	0.75	75%	4	NA	100%	5	NA	100%
Roll left and right																
	Usual	100	0.65	92%	28	0.40	93%	28	0.38	82%	30	1	100%	14	0.88	93%
	Most Dependent	99	0.65	92%	28	0.26	93%	27	0.38	81%	30	1	100%	14	0.95	93%
Sit to lying																
	Usual	103	0.81	92%	29	-0.04	93%	30	0.54	87%	30	0.80	97%	14	0.95	93%
	Most Dependent	102	0.87	93%	29	0.65	97%	29	0.54	86%	30	0.80	97%	14	0.95	93%

		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Level of Care & Functioning		**Lying to sitting on side of bed**														
	Usual	103	0.75	90%	29	-0.04	86%	30	0.72	83%	30	1	100%	14	0.96	93%
	Most Dependent	102	0.77	90%	29	0.22	90%	29	0.67	79%	30	1	100%	14	0.96	93%
		Sit to stand														
	Usual	98	0.79	91%	28	0.31	96%	26	-0.06	73%	30	0.90	97%	14	1	100%
	Most Dependent	97	0.88	92%	29	0.82	97%	24	0.48	75%	30	0.97	97%	14	1	100%
		Chair/Bed to chair transfer														
	Usual	92	0.93	88%	27	0.80	85%	30	0.80	80%	21	0.98	95%	14	1	100%
	Most Dependent	90	0.85	88%	27	0.88	85%	28	0.69	79%	21	0.87	95%	14	1	100%
		Car transfer														
	Usual	103	0.86	82%	30	0.93	90%	29	0.60	55%	30	0.95	93%	14	0.92	93%
	Most Dependent	102	0.85	81%	30	0.93	90%	28	0.59	57%	30	0.93	90%	14	0.92	93%
		Shower/bathe self														
	Usual	101	0.96	84%	29	0.97	86%	28	0.81	68%	30	0.99	93%	14	0.98	93%
	Most Dependent	102	0.93	84%	30	0.92	87%	28	0.71	68%	30	0.98	93%	14	0.98	93%
		Wash upper body														
	Usual	89	0.95	88%	25	0.80	88%	29	0.91	76%	21	0.98	95%	14	1	100%
	Most Dependent	90	0.90	87%	26	0.78	92%	29	0.74	72%	21	0.95	90%	14	1	100%
		Upper body dressing														
	Usual	103	0.96	87%	30	0.96	93%	29	0.84	76%	30	0.98	93%	14	0.97	86%
	Most Dependent	104	0.89	86%	30	0.80	87%	30	0.65	73%	30	0.99	97%	14	0.97	86%

		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Level of Care & Functioning	**Lower body dressing**															
	Usual	104	0.89	80%	30	0.95	90%	30	0.72	60%	30	0.86	90%	14	0.95	79%
	Most Dependent	104	0.90	82%	30	0.87	93%	30	0.69	60%	30	0.99	93%	14	0.95	79%
	Footwear															
	Usual	101	0.95	88%	29	0.93	90%	29	0.87	76%	30	0.95	93%	13	1	100%
	Most Dependent	100	0.89	88%	29	0.94	93%	29	0.65	76%	30	0.95	90%	12	1	100%
	Toilet hygiene															
	Usual	100	0.95	88%	30	0.86	93%	27	0.81	74%	29	0.98	90%	14	1	100%
	Most Dependent	100	0.96	89%	30	0.96	93%	27	0.81	74%	29	0.99	93%	14	1	100%
	Keep toilet environment clean															
	Usual	104	0.92	92%	30	0.87	93%	30	0.80	90%	30	0.95	93%	14	0.96	93%
	Most Dependent	104	0.81	84%	30	0.71	77%	30	0.60	70%	30	1	100%	14	0.79	93%
	Toilet transfer															
	Usual	97	0.89	91%	30	0.84	90%	27	-0.09	81%	29	0.92	97%	11	1	100%
	Most Dependent	97	0.77	89%	30	0.73	87%	27	-0.08	81%	29	0.95	93%	11	1	100%
	Menses care															
	Usual	13	1	100%	4	1.00	100%	2	1	100%	5	1	100%	2	1	100%
	Most Dependent	13	1	100%	4	1.00	100%	2	1	100%	5	1	100%	2	1	100%
	Eating															
	Usual	100	0.87	91%	30	0.66	93%	29	0.55	86%	30	0.80	90%	11	1	100%
	Most Dependent	100	0.81	89%	30	0.38	90%	29	0.59	86%	30	0.75	87%	11	1	100%

		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Level of Care & Functioning	**Cutting Food**															
	Usual	32	0.98	94%	6	1.00	100%	2	1	100%	19	0.97	89%	5	1	100%
	Most Dependent	32	0.99	94%	6	1.00	100%	2	1	100%	19	0.98	89%	5	1	100%
	Tube feeding															
	Usual	6	NA	100%	2	NA	100%	2	1	100%	2	NA	100%	4	NA	100%
	Most Dependent	6	NA	100%	2	NA	100%	2	1	100%	2	NA	100%	4	NA	100%
	Oral Hygiene															
	Usual	98	0.98	90%	27	0.97	96%	28	0.81	79%	29	0.97	93%	14	0.98	93%
	Most Dependent	98	0.96	87%	27	0.93	93%	28	0.82	75%	29	0.97	93%	14	0.98	86%
	Personal hygiene															
	Usual	102	0.93	79%	30	0.91	83%	28	0.84	75%	30	0.92	73%	14	0.98	93%
	Most Dependent	103	0.92	80%	30	0.96	83%	29	0.78	69%	30	0.94	80%	14	0.98	93%
	Medication Management - oral															
	Usual	80	0.88	75%	29	0.87	79%	22	0.76	64%	23	0.95	87%	6	0.79	50%
	Most Dependent	80	0.86	73%	29	0.86	72%	22	0.77	68%	23	0.93	83%	6	0.79	50%
	Medication management- inhalant/mist medications															
	Usual	27	0.97	89%	10	0.95	90%	8	0.93	75%	3	1	100%	6	1	100%
	Most Dependent	27	0.95	85%	10	0.90	80%	8	0.93	75%	3	1	100%	6	1	100%
	Medication management - injectable															
	Usual	9	0.95	78%	4	0.86	75%	3	0.73	67%	1	NA	100%	1	NA	100%
	Most Dependent	9	0.95	78%	4	0.86	75%	3	0.73	67%	1	NA	100%	1	NA	100%

		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Level of Care & Functioning	**Making a light cold meal**															
	Usual	88	0.96	94%	28	0.99	96%	22	0.58	91%	30	0.98	93%	8	1	100%
	Most Dependent	88	0.94	95%	28	0.95	96%	22	0.66	91%	30	0.99	97%	8	1	100%
	Making a light hot meal															
	Usual	87	0.89	85%	28	0.86	89%	21	0.68	71%	30	0.91	87%	8	1	100%
	Most Dependent	88	0.86	83%	28	0.80	82%	22	0.64	73%	30	0.92	87%	8	1	100%
	Light daily housework															
	Usual	87	0.80	82%	27	0.87	85%	21	0.42	62%	28	0.97	89%	11	0.98	91%
	Most Dependent	87	0.82	83%	27	0.89	89%	21	0.52	67%	28	0.96	86%	11	0.98	91%
	Heavier periodic housework															
	Usual	82	0.92	84%	24	0.94	88%	20	0.77	70%	29	0.96	86%	9	1	100%
	Most Dependent	82	0.91	79%	24	0.93	83%	20	0.79	70%	29	0.94	76%	9	1	100%
	Telephone answering															
	Usual	86	0.86	91%	27	0.97	96%	27	0.53	89%	24	0.82	83%	8	1	100%
	Most Dependent	86	0.88	88%	27	0.98	96%	27	0.62	85%	24	0.88	79%	8	1	100%
	Telephone - placing call															
	Usual	87	0.88	91%	27	0.77	93%	27	0.61	85%	26	0.97	92%	7	1	100%
	Most Dependent	87	0.88	89%	27	0.77	93%	27	0.63	85%	26	0.95	85%	7	1	100%
	Light shopping															
	Usual	91	0.90	81%	28	0.96	86%	25	0.59	64%	30	0.98	90%	8	0.92	88%
	Most Dependent	91	0.89	78%	28	0.96	86%	25	0.62	56%	30	0.97	83%	8	1	100%

FINDINGS

		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
LOC & Functioning		**Simple financial management**														
	Usual	90	0.86	79%	29	0.91	83%	24	0.60	58%	29	0.96	93%	8	0.83	75%
	Most Dependent	91	0.85	77%	29	0.91	83%	24	0.59	63%	29	0.90	83%	9	0.91	78%
		Complex financial management														
	Usual	79	0.91	85%	29	0.97	93%	22	0.74	68%	28	0.96	89%	0	N/A	N/A
	Most Dependent	80	0.90	86%	29	0.97	93%	22	0.74	68%	29	0.91	93%	0	N/A	N/A
		Managing and using technology														
	Usual	83	0.96	92%	20	0.96	95%	20	0.87	95%	29	0.99	97%	14	0.92	71%
	Most Dependent	83	0.94	89%	20	0.96	95%	20	0.89	90%	29	0.95	90%	14	0.91	79%

FINDINGS

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Psychosocial	**Injurious to self**														
	107	0.92	91%	30	0.82	83%	30	0.73	93%	30	0.98	93%	17	0.88	94%
	Physically aggressive or combative														
	107	0.92	93%	30	0.65	83%	30	0.42	93%	30	1	100%	17	1	100%
	Physically aggressive or combative														
	107	0.89	88%	30	0.63	70%	30	0.84	90%	30	0.99	97%	17	1	100%
	Property destruction														
	107	0.97	93%	30	0.93	87%	30	1	100%	30	0.96	93%	17	0.99	94%
	Injurious to animals														
	107	0.97	99%	30	1	100%	30	1	100%	30	0	97%	17	1	100%
	Socially unacceptable behavior														
	107	0.93	95%	30	0.94	93%	30	0.25	90%	30	1	100%	17	1	100%
	Verbal perseveration														
	107	0.75	93%	30	-0.05	90%	30	0.42	93%	30	0.77	90%	17	1	100%
	PICA														
	107	0.99	99%	30	0.95	97%	30	1	100%	30	1	100%	17	1	100%
	Bullying others														
	107	0.99	99%	30	1	100%	30	1	100%	30	0.88	97%	17	1	100%
	Fire setting or preoccupation														
	107	0.81	98%	30	0.96	97%	30	1	100%	30	0	97%	17	1	100%
	Refusing ADL/IADL/medical care														
	107	0.82	88%	30	0.55	73%	30	0.35	90%	30	0.79	93%	17	1	100%

FINDINGS

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Psychosocial	**Wandering/elopement**														
	107	0.88	93%	30	0.79	93%	30	0.44	90%	30	0.90	93%	17	1	100%
	Legal involvement														
	107	0.93	94%	30	0.89	87%	30	0.94	97%	30	0.96	97%	17	1	100%
	Difficulty regulating emotions														
	107	0.90	87%	30	0.90	77%	30	0.47	80%	30	0.99	97%	17	1	100%
	Susceptibility to victimization														
	107	0.94	90%	30	0.95	87%	30	0.74	83%	30	0.91	93%	17	1	100%
	Withdrawal														
	107	0.81	84%	30	0.81	77%	30	0.58	80%	30	0.75	87%	17	1	100%
	Agitation														
	107	0.80	83%	30	0.70	83%	30	0.77	80%	30	0.77	80%	17	0.88	94%
	Impulsivity														
	107	0.96	95%	30	0.95	93%	30	0.80	97%	30	0.98	93%	17	1	100%
	Intrusiveness														
	107	0.95	93%	30	0.98	93%	30	0	97%	30	0.89	83%	17	1	100%
	Anxiety														
	107	0.83	85%	30	0.82	83%	30	0.69	77%	30	0.76	87%	17	1	100%
	Psychotic Behaviors														
	107	0.90	95%	30	0.89	87%	30	1	100%	30	0.69	97%	17	1	100%
	Manic Behaviors														
	107	0.96	95%	30	0.90	87%	30	0.92	97%	30	1	100%	17	1	100%

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Psychosocial															
Confabulation															
	107	0.91	97%	30	0.80	97%	30	0	97%	30	1	100%	17	0.97	94%
Constant vocalization															
	107	0.63	97%	30	0.00	93%	30	1	100%	30	1	100%	17	0.77	94%
How likely is it behavior would occur/escalate if services withdrawn															
	70	0.75	70%	25	0.79	76%	7	0.91	71%	24	0.71	71%	14	0.51	57%
Substance abuse															
	106	0.89	93%	30	0.83	87%	29	0.89	93%	30	0	97%	17	1	100%
Participant is in danger of being admitted to an institution/out of home placement because of behavior issues															
	107	0.64	94%	30	0.63	87%	30	0	97%	30	1	100%	17	0.64	94%
Participant is in danger of being incarcerated because of behavior issues															
	107	0.50	93%	30	0.43	87%	30	0	97%	30	0.46	93%	17	1	100%
Participant expresses feelings of loneliness															
	107	0.64	85%	30	0.84	93%	30	0.71	87%	30	0.56	83%	17	0.11	71%
Able to spend time socializing, such as visiting with family/friends, or attending events															
	104	0.56	90%	28	0.66	89%	29	0.39	76%	30	1	100%	17	1	100%
Under age 18 AND requires intervention greater than verbal redirection AND on average once every three hours at night across all behavior and health issues OR have a constant vocalization occurring at least 15 minutes of each waking hour															
	18	0.61	83%	1	1	100%	0	N/A	N/A	0	N/A	N/A	17	0.55	82%
Were any Emergency Control Procedures used during the past year?															
	107	0.84	97%	30	1	100%	30	0.46	93%	30	1	100%	17	0.85	94%

		Overall			MH			APD			IDD			Children		
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Psychosocial	Emergency control frequency															
		9	1	100%	2	1	100%	1	1	100%	2	N/A	100%	4	1	100%
	Were any Safety Control Procedures used during the past year?															
		107	0.65	96%	30	0	93%	30	0.65	97%	30	1	100%	17	0.64	94%
	Safety control frequency															
		4	0.43	75%	2	0.33	50%	1	1	100%	2	0.33	50%	1	1	100%
	Has the participant received any behavioral health therapies, including mental health, in the past?															
		107	0.83	92%	30	0.89	97%	30	0.77	90%	30	0.74	87%	17	0.88	94%
Memory & Cognition	Memory															
		83	0.81	77%	24	0.80	71%	19	0.55	63%	30	0.85	83%	10	1	100%
	Attention															
		82	0.91	85%	24	0.95	92%	19	0.82	74%	29	0.92	83%	10	1	100%
	Problem Solving															
		86	0.86	83%	24	0.88	79%	19	0.68	68%	30	0.94	90%	13	0.83	92%
	Planning															
		84	0.86	79%	24	0.88	75%	19	0.61	58%	28	0.96	89%	13	0.97	92%
	Judgment															
		81	0.93	84%	24	0.95	92%	17	0.89	71%	28	0.88	79%	12	1	100%
	Ability to make appropriate decisions															
		101	0.82	80%	29	0.70	69%	30	0.61	80%	29	0.86	83%	13	1	100%

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Caregiver	**Paid**														
	87	0.90	84%	24	0.86	83%	17	0.78	88%	29	0.93	79%	17	0.94	88%
	Unpaid														
	87	0.76	77%	24	0.95	88%	17	0.46	65%	29	0.64	69%	17	0.59	88%
Employment, Volunteer & Training	**Participant's current employment situation**														
	93	0.77	85%	30	0.78	87%	28	0.72	82%	30	0.75	83%	5	1	100%
	Average hours per week														
	12	1	100%	2	1	100%	12	1	100%	10	1	100%	2	1	100%
	Wage rate														
	12	1	100%	2	1	100%	12	1	100%	10	1	100%	2	1	100%
	Interest in employment IF barriers can be addressed														
	67	0.81	91%	23	0.62	83%	20	0.78	90%	19	1	100%	5	1	100%
	Assistance needed to work														
	62	0.75	74%	20	0.70	65%	10	0.62	60%	27	0.81	81%	5	1	100%
Health	**Had two or more falls or any fall with injury**														
	106	0.92	97%	30	0.92	97%	29	0.92	97%	30	1	100%	17	0.64	94%
	Fear of falling keeps him/her from doing things														
	107	0.88	96%	30	0.83	93%	30	0.84	93%	30	1	100%	17	1	100%
	Has the participant missed over 25 percent of work or classes because of a disability related issue?														
	52	1	100%	8	1	100%	2	1	100%	28	1	100%	14	1	100%
	Has the participant been diagnosed with a life limiting illness by a medical professional?														
	107	0.76	96%	30	1	100%	30	0.65	97%	30	0	97%	17	0.76	88%

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Health															
Is the participant at risk of developing pressure ulcers?															
	88	1	100%	30	0.52	90%	30	0.63	93%	30	1	100%	17	0.74	88%
Does the participant have any wounds or skin conditions?															
	106	0.68	87%	30	0.70	87%	29	0.53	83%	30	0.58	87%	17	0.88	94%
Participant has had surgery(ies) that affects current functioning or quality of life															
	103	0.78	91%	29	0.62	86%	27	0.74	89%	30	0.87	97%	17	0.88	94%
Is the participant under age 18 AND requires medical and/or behavioral intervention for health and safety at least every two hours on average throughout a 24 hour period?															
	18	0.68	89%	1	1	100%	1	1	100%	1	1	100%	17	0.61	88%
Pain presence															
	101	0.98	99%	30	1	100%	26	0.91	96%	30	1	100%	15	1	100%
Pain frequency															
	48	0.90	88%	17	0.90	94%	18	0.88	89%	11	0.84	73%	2	1	100%
Pain intensity scale															
	45	0.86	84%	16	0.79	81%	18	0.92	78%	8	1	100%	3	1	100%
Pain effect on sleep															
	47	0.83	91%	17	0.64	82%	18	0.88	94%	10	1	100%	2	1	100%
Pain effect on activities															
	48	0.44	77%	17	0.67	88%	18	-0.24	61%	11	0.65	82%	2	1	100%
Is there a concern that pain is affecting the participant's behaviors?															
	102	0.83	93%	29	0.93	97%	28	0.52	82%	29	1	100%	16	0.86	94%

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Clothing															
	107	0.87	98%	30	0.76	93%	30	1	100%	30	1	100%	17	1	100%
Essential transportation															
	107	0.56	97%	30	0.63	93%	30	0	97%	30	1	100%	17	1	100%
Food															
	107	0.88	98%	30	0.76	93%	30	1	100%	30	1	100%	17	1	100%
Home heating/cooling															
	107	1	100%	30	1	100%	30	1	100%	30	1	100%	17	1	100%
Go Without Medications															
	107	0.26	95%	30	0.35	90%	30	0	97%	30	1	100%	17	0	94%
Other utilities															
	107	0.66	98%	30	0.63	93%	30	1	100%	30	1	100%	17	1	100%
Telephone															
	107	0.66	99%	30	0.65	97%	30	1	100%	30	1	100%	17	1	100%
Will the participant be transitioning from where he/she is residing currently to a residence in the community?															
	107	0.39	93%	30	0.65	97%	30	0.17	80%	30	0.65	97%	17	1	100%
Is the participant transitioning from a facility?															
	3	1	100%	1	1	100%	1	1	100%	1	1	100%	1	1	100%
The participant has a roommate(s)															
	107	0.61	80%	30	0.70	87%	30	0.32	73%	30	0.60	80%	17	0.61	82%
Participant would like to change roommate(s)															
	44	0.62	91%	18	0.77	94%	4	0	75%	12	0.43	83%	10	1	100%

(Row group label: Housing & Environment)

		Overall			MH			APD			IDD			Children	
		sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
H&E	**Are there other concerns that may impact the ability of the participant to live safely in the community?**															
		107	0.54	94%	30	0.78	97%	30	0.43	87%	30	1	100%	17	0	94%
Participant Engagement	**Participant is able to self-advocate**															
		94	0.78	90%	30	0.83	93%	30	0.90	97%	30	0.59	80%	4	1	100%
	Ability to help others understand needs and preferences for how supports/services get delivered															
		107	0.79	77%	30	0.73	73%	30	0.73	67%	30	0.76	80%	17	0.98	94%
	Navigating long term services and supports (LTSS) system issues															
		106	0.83	83%	30	0.65	77%	30	0.82	80%	30	0.85	87%	16	0.98	94%
	Knowing and understanding rights and responsibilities															
		107	0.80	82%	30	0.64	77%	30	0.72	77%	30	0.84	87%	17	0.95	94%
	Participant/parent/guardian needs materials in alternative formats, such as large type or braille versions of written information															
		107	0.85	99%	30	0.00	97%	30	1	100%	30	1	100%	17	1	100%
	Speaking up for self/participant about what he/she needs:															
		107	0.78	77%	30	0.45	67%	30	0.76	77%	30	0.92	83%	17	0.92	82%
Sensory & Communication	**Vision - Participant uses assistive devices as prescribed/recommended**															
		10	0.55	80%	2	1	100%	1	1	100%	4	0.50	75%	3	0	67%
	Participant needs help using assistive devices															
		10	0.74	90%	2	1	100%	1	1	100%	4	1.00	100%	3	0.4	67%
	Assistive devices meet the participant's vision needs															
		10	0.17	60%	2	1	100%	1	0	0%	4	0.20	50%	3	0.4	67%

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Sensory & Communication															
Participant can find his/her way in unfamiliar environments independently, including with assistive device(s):															
	10	0.49	70%	2	1	100%	1	1	100%	4	0.56	75%	3	-0.5	33%
Has your/your child's vision become worse in the last 3 months, or since the last assessment?															
	107	0.79	95%	30	0.87	97%	30	0.65	97%	30	1	100%	17	0.66	82%
Hearing - Participant uses assistive devices as prescribed/recommended															
	8	1	100%	3	1	100%	3	1	100%	1	1	100%	1	1	100%
Participant needs help using assistive devices(s):															
	8	0.53	75%	3	1	100%	3	0	33%	1	1	100%	1	1	100%
Assistive device(s) meet the participant's hearing needs															
	8	-0.14	75%	3	1	100%	3	1	100%	1	0	0%	1	0	0%
Has your/your child's hearing become worse in the last 3 months, or since the last assessment?															
	107	0.38	94%	30	0.63	93%	30	0	90%	30	1	100%	17	0	94%
Assistive device(s) meet the participant's communication needs															
	4	0	50%	2	0	50%	4	0	50%	2	0	50%	2	0	50%
Has it become harder for you/your child to understand others or be understood in the last 3 months, or since the last assessment?															
	107	0.38	94%	30	0.28	87%	30	1	100%	30	1	100%	17	-0	88%
Ability to see in adequate light (with glasses or other visual devices and aids):															
	101	0.59	88%	29	0.14	79%	28	0.34	89%	28	0.63	93%	16	0.77	94%
Ability to hear (with hearing aid or hearing appliance, if normally used):															
	104	0.64	97%	30	0.49	93%	29	0.78	97%	30	1	100%	15	1	100%

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Sensory & Communication															
Participant uses any type of augmentative communication device:															
	91	1	100%	27	1	100%	27	1	100%	30	1	100%	7	1	100%
Understanding verbal content															
	95	0.834	87%	30	0.735	90%	28	0.596	79%	30	0.937	93%	7	0.881	86%
Participants ability to express ideas and/or wants with individuals he/she is familiar with															
	104	0.875	84%	30	0.911	97%	29	0.627	69%	29	0.883	83%	16	0.933	88%
Express ideas- unfamiliar															
	104	0.854	81%	30	0.789	87%	29	0.714	72%	29	0.96	90%	16	0.533	69%
Safety & Self-Preservation															
Is this participant at risk of self-neglect?															
	107	0.70	87%	30	0.53	77%	30	0.52	83%	30	0.86	93%	17	1	100%
Is this participant at risk of neglect, abuse, or exploitation by another person?															
	107	0.58	85%	30	0.60	87%	30	0.46	93%	30	0.64	83%	17	0.38	71%
Identify the average number of hours spent awake each day															
	62	0.56	71%	12	0.60	67%	9	0.42	33%	24	0.62	79%	17	0.79	82%
Identify the average number of hours spent asleep each day															
	58	0.90	84%	11	0.86	82%	7	0.63	57%	23	0.91	87%	17	0.99	94%
Is the level of supervision needed likely to change prior to the next scheduled assessment?															
	58	0	98%	11	1	100%	7	1	100%	23	0	96%	17	1	100%
Change in Supervision Level? (At Residence, Awake)															
	37	1	100%	11	0	91%	7	0.30	71%	23	0.33	87%	17	0.85	94%
Change in Supervision Level? (Employment Site)															
	37	1	100%	2	1	100%	12	0	92%	10	0	90%	2	1	100%

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
	Change in Supervision Level?														
	37	1	100%	6	1	100%	37	1	100%	20	1	100%	11	1	100%
	Change in Supervision Level?														
	42	1	100%	5	1	100%	1	1	100%	22	1	100%	14	1	100%
	Change in Supervision Level? (At Residence, Asleep)														
	62	0	98%	12	1	100%	9	1	100%	24	0	96%	17	1	100%
Hospital Level of Care	**Sleep study has occurred**														
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
	Lowest O2 saturation														
	2	1	100%	1	1	100%	2	1	100%	1	1	100%	1	1	100%
	Highest O2 saturation														
	2	1	100%	1	1	100%	2	1	100%	1	1	100%	1	1	100%
	Average O2 saturation														
	2	1	50%	1	1	100%	2	0.67	50%	1	1	100%	1	0	0%
	Participant requires medical intervention, such as changes or monitoring of equipment, changes of position, suctioning, or feeding, at least once per night														
	11	0.92	91%	1	1	100%	3	1	100%	1	1	100%	7	0.89	86%
	Participant needs medical interventions that require a licensed nurse at least 2 hours per week														
	11	0.97	91%	1	0	0%	3	1	100%	1	0	0%	7	1	100%
	Medically ordered vital-sign assessments, including taking of pulse, respiration, blood pressure, the assessment of orientation, level of consciousness, size of pupils and auscultation of lungs, are required at least once daily														
	11	0.82	82%	1	0	0%	3	0.73	67%	1	0	0%	7	1	100%

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Participant has one or more stoma(s) that require care, dressing, or cleaning at least weekly															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Currently or in the past 12 months, the participant has had a Stage 3 or greater skin breakdown diagnosed by a medical professional, or has a physician order of high risk for such skin breakdown															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Participant has a physician-diagnosed seizure disorder, seizures occur at least once per week, require intervention															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Participant requires a transfusion or IV medication in the home at least once per month															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Participant requires physician-ordered deep pharyngeal or tracheal suctioning once per day															
	8	1	100%	1	1	100%	3	1	100%	1	1	100%	4	1	100%
Participant has a tracheal diversion															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Participant needs support to maintain his/her airway:															
	11	0.79	82%	1	1	100%	3	0.73	67%	1	1	100%	7	0.82	86%
Participant has a physician's order for a ventilator, CPAP, or BIPAP to be present in the residence															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Participant has effective respiratory effort and without active ventilation would survive at least one hour															
	4	1	100%	2	1	100%	2	1	100%	2	1	100%	2	1	100%
Participant requires changes in ventilation that are not planned at least daily because of levels of oxygenation															
	4	0.20	50%	2	0	50%	2	0	50%	2	0	50%	2	0	50%

Row header (vertical): **Hospital Level of Care**

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
Participant has both 1) written documentation of Central Hypoventilation syndrome as currently diagnosed by a pulmonologist or neurologist; and 2) written notes documenting assisted ventilation and interventions by another person in the past month															
	4	1	100%	2	1	100%	2	1	100%	2	1	100%	2	1	100%
Physician ordered isolation to ensure his/her medical stability															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Peritoneal dialysis at least once per month															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Hemo-dialysis in the home															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Feeding at least daily via nasogastric tube															
	11	0.00	82%	1	1	100%	3	0	33%	1	1	100%	7	1	100%
Feeding at least daily via jejunostomy tube															
	11	0.62	91%	1	1	100%	3	0	67%	1	1	100%	7	1	100%
A licensed professional to evaluate feedings at least weekly because of a moderate to severe problem with a J, G or NG tube															
	11	0.00	91%	1	1	100%	3	0	67%	1	1	100%	7	1	100%
Care for his/her tracheostomy															
	3	1	100%	2	1	100%	2	1	100%	2	1	100%	1	1	100%
Prescribed medication more often than every two hours during the day															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
Intramuscular (IM) or subcutaneous (SQ) medications for pain control at least 4 times per week, on average															
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%

(Left vertical label: Hospital Level of Care)

	Overall			MH			APD			IDD			Children		
	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement	sample size	kappa	Agreement
	Intravenous (IV) medications for pain control at least 4 times per week on average														
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
	A non-diabetic metabolic disorder that if untreated could cause death or disability AND requires daily laboratory monitoring or weighing and recording of caloric and/or fluid intake														
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
	Gastro-esophageal reflux diagnosed by a physician AND has required suctioning in the past 6 months or has had an episode of aspiration pneumonia within the past 6 months														
	11	0.79	91%	1	1	100%	3	1	100%	1	1	100%	7	0.70	86%
	Central lines- Vascular access to a major vein near the heart or to an artery on an ongoing basis														
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
	Central Line with TPN- A central line and receives total parental nutrition through that access														
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
	Cyanosis, defined as oxygen saturation of less than 88%, three or more times in the last 6 months, that requires a pulse oximeter														
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
	Physician-diagnosed bradycardia														
	11	0	91%	1	1	100%	3	1	100%	1	1	100%	7	0	86%
	Physician-diagnosed sleep apnea														
	11	1	100%	1	1	100%	3	1	100%	1	1	100%	7	1	100%
	Required resuscitation (CPR must include chest compressions or drug resuscitation) for inadequate ventilation or cardiac output within the past year AND the need for resuscitation is likely to recur														
	11	0	91%	1	1	100%	3	1	100%	1	1	100%	7	0	86%

Row group labels (left side): The first three conditions are not grouped with a label; the remaining conditions are grouped under **Hospital Level of Care**.

Discussion of Items with kappa Scores below .60

For each of the items with low reliability, the Department will need to decide whether to keep the item and if so, how the item language or training for the item can be changed to improve reliability. This section is intended to support these decisions. In addition to considering reliability, the Department will be considering the following in determining whether to keep an item:

- Is the item necessary for determining LOC?
- Will the item likely be helpful in assigning budgets or services?
- Is the item helpful for support planning?

The Department will work with the stakeholders to make decisions about which items to remove. These decisions will be included in the final report.

Issues with the Pilot Structure that Likely Impacted Reliability

There is reason to believe that the reliability statistics for many items would be higher if it had been practicable to structure the pilot in a different way. Ideally, each participant in the pilot would have been assessed by two independent case managers who had the same level of familiarity with the participant. Because a participant only has one case manager, this would have required two assessors who did not have a relationship with a participant. This was not practicable because pilot assessments would have to have been conducted independently of scheduled ULTC 100.2 assessments. This would have had the following negative effects:

- It would have been much more burdensome for participants because they would have two different assessments. In addition, the pilot assessments would be given by two individuals with whom the participant did not have a relationship. This could make the participant uncomfortable and hinder her or his likelihood of providing complete information.
- It would have required a much greater time commitment by case managers because they could not combine pilot assessments with regular assessments. The Department and stakeholders had emphasized that many case managers already have heavy workloads and expressed the concern that the pilot could cause additional delays in regular assessments and other negative impacts to participants.
- It would have been even more challenging to recruit participants.
- It would have been necessary to reimburse both case managers for the cost for all their time (because the assessment could not be combined with the ULTC 100.2) and participants more to reflect the additional burden on them. Given that the Department had a limited budget for this effort, this would have required having a much smaller sample size.

Because the paired case managers had differing levels of familiarity with the participant they were assessing, one case manager could be scoring assessments based on previous knowledge that the second case manager would not be privy to, leading to disagreement on item scores and artificially

low reliability statistics. This is discussed as a potential factor for many of the items with low reliability.

Another factor that may be affecting reliability is a tendency for case managers in Colorado to use self-report or proxy report rather than observation (this was discussed in the LOC Comparative Analyses Report). Direct observation was generally found to be more valid than self-report (which tends to underestimate impairment) or proxy report (which tends to overestimate impairment).[5] For example, assessors in the pilot may have scored items differently if one chose to base the score on direct observation and self-report while another simply went with self-report.

Finally, differences in how the use of assistive devices was factored into scoring could have negatively impacted reliability. With the ULTC 100.2, case managers are instructed to score individuals on what their need for support would be if they were deprived of these devices. For example, someone who uses a walker would be scored on the mobility items on the level of support they would need walking without a walker or a cane. The FASI items, consistent with other functional assessment tools used in other states and countries, consider the amount of support the participant needs to perform an activity safely using any assistive devices they normally used. This is very different than current practices and likely impacted the reliability scores for the ADL and IADL items. The reliability of these items will likely improve once they no longer need to score the same constructs using very different frameworks.

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[5] Mlinac, M. E., & Feng, M. C. (2016). Assessment of Activities of Daily Living, Self-Care, and Independence. *Archives of Clinical Neuropsychology, 31*(6), 506-516. doi:10.1093/arclin/acw049

Potential Issues and Remedies for Individual Items with a kappa below 0.6

The following tables summarizes information about each of the items with a kappa below 0.6. They present the relevant statistics, the items language and a discussion about potential issues and remedies.

ADL Items

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Walk 10 feet on uneven surfaces															
Usual	90	0.76	82%	27	0.57	89%	24	0.56	58%	29	0.93	93%	10	0.86	90%
Most Dependent	90	0.75	81%	27	0.53	85%	24	0.58	63%	29	0.92	90%	10	0.86	90%
Item Language	The ability to walk 10 feet on uneven or sloping surfaces, such as grass or gravel.														
Potential Issues	Walking 10 feet on an uneven surface is not likely to be observed during assessment, so the case manager with an ongoing relationship may have more information to use to respond to the item. This is supported by low level of agreement between assessors for APD (58%). Additionally, case managers may be responding with not using assistive devices.														
Potential Remedies	Remove the item. If the item cannot be removed, provide additional examples in training (to address assistive device discrepancies).														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Walk Outside of Home															
Usual	89	0.47	89%	27	0.07	89%	23	0.36	74%	29	0.49	97%	10	1	100%
Most Dependent	90	0.72	87%	28	0.21	86%	23	0.52	65%	29	1	100%	10	1	100%
Item Language	Code the participant's level of independence for walking OUTSIDE OF THE HOME based on the furthest distance that the participant could walk "Independent" above. If no distance was selected as "Independent", code for walking 10 feet outside the home.														
Potential Issues	Item requires assessor to identify which distance they should be using to respond to the item.														
Potential Remedies	Work with automation team to have item clearly state which distance should be used for this item using the same logic. Update training to provide clear examples of how to interpret this item.														
Keep Toilet Environment Clean															
Usual	104	0.92	92%	30	0.87	93%	30	0.80	90%	30	0.95	93%	14	0.96	93%
Most Dependent	104	0.81	84%	30	0.71	77%	30	0.60	70%	30	1	100%	14	0.79	93%
Item Language	How often does the participant need assistance to keep toilet environment clean?														
Potential Issues	Included to mimic construct in the 100.2. Even with clear guidance, this can be a subjective measure. It is unlikely to be observed during an assessment unless an assessor observes the bathroom that only the participant uses.														
Potential Remedies	Remove if not needed for LOC.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
4 Steps															
Usual	88	0.60	82%	27	0.30	70%	23	0.40	65%	28	1	100%	10	1	100%
Most Dependent	87	0.69	79%	27	0.30	70%	22	0.59	59%	28	0.88	96%	10	1	100%

Item Language	The ability to go up and down four steps with or without a rail.
Potential Issues	4 steps may be relatively uncommon when compared to one step (curb) and 12 steps (flight of stairs) and may be challenging for participants to accurately respond to. Scoring difference may be related to whether case managers considered the use of a rail.
Potential Remedies	Remove item if not needed for LOC. If the item cannot be removed, provide additional examples in training for context for 4 steps.

	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Walks for 15 Minutes															
Usual	90	0.76	82%	27	0.57	89%	24	0.56	58%	29	0.93	93%	10	0.86	90%
Most Dependent	90	0.75	81%	27	0.53	85%	24	0.58	63%	29	0.92	90%	10	0.86	90%

Item Language	Without stopping or resting (e.g., department store, supermarket).
Potential Issues	Case managers were trained to use FASI guidance to score participants who could not walk for 15 min as "Dependent." This is not likely to be observed during assessment, so a case manager with an ongoing relationship may have more information to use to respond to item.
Potential Remedies	Remove the item. If the item cannot be removed, provide additional examples in training (to address assistive device discrepancies).

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Wheel 150 Feet															
Usual	22	0.85	86%	6	0.00	67%	7	0.95	86%	4	1	100%	5	NA	100%
Most Dependent	22	0.95	86%	6	0.57	83%	7	0.91	71%	4	1	100%	5	NA	100%
Item Language	Once seated in wheelchair/scooter, the ability to wheel at least 150 feet in a corridor or similar space.														
Potential Issues	Because this was potentially not observed, the observation may have been based on case manager's perception of the participant's stamina. May be related to whether the case manager considered wheeling on a hypothetical corridor (e.g., a tiled, straight one) or on one they observed in the house (e.g., carpeted with objects lying around).														
Potential Remedies	Remove if not necessary for LOC. Test theories with case managers and provide guidance to consider wheeling in a straight tiled corridor with no obstacles.														
Roll Left and Right															
Usual	100	0.65	92%	28	0.40	93%	28	0.38	82%	30	1	100%	14	0.88	93%
Most Dependent	99	0.65	92%	28	0.26	93%	27	0.38	81%	30	1	100%	14	0.95	93%
Item Language	The ability to roll from lying on back to left and right side and return to lying on back on the bed.														
Potential Issues	This is not likely to be observed during assessment, so a case manager with an ongoing relationship may have more information to use to respond to item.														
Potential Remedies	Remove the item. If the item cannot be removed, provide additional examples in training														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Car Transfer															
Usual	103	0.86	82%	30	0.93	90%	29	0.60	55%	30	0.95	93%	14	0.92	93%
Most Dependent	102	0.85	81%	30	0.93	90%	28	0.59	57%	30	0.93	90%	14	0.92	93%
Item Language	The ability to transfer in and out of a car or van on the passenger side. Does not include the ability to open/close door or fasten seat belt.														
Potential Issues	Case managers were instructed to only mark "N/A" if no information is available to inform the item. Case managers with an ongoing relationship may have more information to use to respond to the item.														
Potential Remedies	This item is strongly correlated with the sit to stand and chair/bed to chair transfer items indicating this item captures little new information. Propose removing the item. If the item cannot be removed, provide additional examples in training														
Eating															
Usual	100	0.87	91%	30	0.66	93%	29	0.55	86%	30	0.80	90%	11	1	100%
Most Dependent	100	0.81	89%	30	0.38	90%	29	0.59	86%	30	0.75	87%	11	1	100%
Item Language	The ability to use suitable utensils to bring food to the mouth and swallow food once the meal is presented on a table/tray. This includes modified food consistency.														
Potential Issues	Some case managers reported that they were trying to include the ability to cut food after it is presented on tray into this item, however this was not consistent across all case managers.														
Potential Remedies	After receiving the cutting feedback from case managers, we added an additional item on cutting during the pilot and clarified the intent of the eating item does not include cutting. The cutting item has high reliability, and clarity on the eating item improved.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Picking Up an Object															
Usual	84	0.78	92%	26	0.70	88%	22	0.79	86%	26	0	96%	10	1	100%
Most Dependent	84	0.71	87%	26	0.66	85%	22	0.69	73%	26	0.79	96%	10	1	100%
Item Language	The ability to bend/stoop from a standing position to pick up a small object, such as a spoon, from the floor.														
Potential Issues	Both case managers scored participants as independent on this variable every time except once, where scores differed substantially. Percent agreement should be a better measure here.														
Potential Remedies	No action needed.														
Wheels for 15 Minutes															
Usual	21	0.94	81%	6	0.57	83%	6	0.71	67%	4	0	75%	5	NA	100%
Most Dependent	20	0.80	85%	5	0.17	80%	6	0.90	67%	4	NA	100%	5	NA	100%
Item Language	Without stopping or resting (e.g., department store, supermarket).														
Potential Issues	Case managers were trained to use FASI guidance to score participants who could not wheel for 15 min as "Dependent". If these directions were not followed, it would result in substantial variability. This is not likely to be observed during assessment, so case managers with an ongoing relationship may have more information to use to respond to the item. Relatively small sample size across all populations.														
Potential Remedies	Remove the item. If kept, provide additional contextual examples in training.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Wheel Across a Street															
Usual	18	0.79	83%	5	0.88	80%	4	0.75	75%	4	NA	100%	5	0	80%
Most Dependent	18	0.96	94%	5	1	100%	4	0.75	75%	4	NA	100%	5	NA	100%
Item Language	Crosses street before light turns red.														
Potential Issues	With the extremely small sample size for children (5) it is hard to say anything meaningful about these results. There was just one disagreement (1, 6). All the other scores were 6's (dependent).														
Potential Remedies	Remove if not necessary for LOC.														
Sit to Lying															
Usual	103	0.81	92%	29	-0.04	93%	30	0.54	87%	30	0.80	97%	14	0.95	93%
Most Dependent	102	0.87	93%	29	0.65	97%	29	0.54	86%	30	0.80	97%	14	0.95	93%
Item Language	The ability to move from sitting on side of bed to lying flat on the bed.														
Potential Issues	This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to this item. The score may differ based on whether someone thinks it is safe to let someone lie back unassisted. A participant may be able to do it, but a case manager could have concerns about a strain or falling out of bed.														
Potential Remedies	May remove depending on Level of Care. There is relatively high agreement on this item (86% or greater) across all populations, suggesting this item should be kept. Additional suggestions for tasks to observe during an assessment (e.g., watching someone lean forward/back in a chair) that may inform this item will be added to training.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Sit to Stand															
Usual	98	0.79	91%	28	0.31	96%	26	-0.06	73%	30	0.90	97%	14	1	100%
Most Dependent	97	0.88	92%	29	0.82	97%	24	0.48	75%	30	0.97	97%	14	1	100%
Item Language	The ability to safely come to a standing position from sitting in a chair or on the side of the bed.														
Potential Issues	The key distinction for ADLs is observing and discussing the amount of support that is needed for a participant to complete this activity safely. This allows for a level of subjectivity, particularly when observing an unsteady individual standing from a sitting position.														
Potential Remedies	Considering removing if not needed for Level of Care. If kept, provide additional examples and scenarios for each scoring category. However, the additional information gained may not be worth the greater training requirements. Emphasize using observation to help score items.														
Toilet Transfer															
Usual	97	0.89	91%	30	0.84	90%	27	-0.09	81%	29	0.92	97%	11	1	100%
Most Dependent	97	0.77	89%	30	0.73	87%	27	-0.08	81%	29	0.95	93%	11	1	100%
Item Language	The ability to safely get on and off a toilet or commode.														
Potential Issues	The majority of people are scoring Independent on this item, but there are a few instances of minor disagreement (e.g., setup vs. supervision).														
Potential Remedies	Provide additional examples in training to clarify how response options should be used for this option.														

IADL Items

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Making Light Cold Meal															
Usual	88	0.96	94%	28	0.99	96%	22	0.58	91%	30	0.98	93%	8	1	100%
Most Dependent	88	0.94	95%	28	0.95	96%	22	0.66	91%	30	0.99	97%	8	1	100%
Light Daily Housework															
Usual	87	0.80	82%	27	0.87	85%	21	0.42	62%	28	0.97	89%	11	0.98	91%
Most Dependent	87	0.82	83%	27	0.89	89%	21	0.52	67%	28	0.96	86%	11	0.98	91%
Light Shopping															
Usual	91	0.90	81%	28	0.96	86%	25	0.59	64%	30	0.98	90%	8	0.92	88%
Most Dependent	91	0.89	78%	28	0.96	86%	25	0.62	56%	30	0.97	83%	8	1	100%
Item Language	**Light Cold Meal:** The ability to plan and prepare all aspects of a light cold meal such as a bowl of cereal and a sandwich and cold drink. **Light Housework**: The ability to complete light daily housework to maintain a safe home environment such that the participant is not at risk for harm within their home Examples include wiping counter tops or doing dishes. EXCLUDES doing laundry. **Light Shopping:** Once at store, can locate and select up to five needed goods, take to check out, and complete purchasing transaction.														
Potential Issues	Case managers were instructed to only mark "N/A" if no information is available to inform the item. A case manager with an ongoing relationship may have more information to use to respond to the item.														
Potential Remedies	During pilot meetings with case managers there was a request to provide clarification that "N/A" should only be used if participant never does activity. If others do these items on behalf of the participant because of social role or ease, case managers should score based on ability to complete task.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
	This update was incorporated into the training manual updates during the pilot because case managers identified that it was crucial to correctly scoring the items.														
Telephone Answering															
Usual	86	0.86	91%	27	0.97	96%	27	0.53	89%	24	0.82	83%	8	1	100%
Most Dependent	86	0.88	88%	27	0.98	96%	27	0.62	85%	24	0.88	79%	8	1	100%
Item Language	The ability to answer call in participant's customary manner and maintain for 1 minute or longer. Does not include getting to the phone.														
Potential Issues	Case managers were instructed to only mark "N/A" if no information is available to inform the item. A case manager with an ongoing relationship may have more information to use to respond to the item.														
Potential Remedies	Item has a high agreement percentage, indicating that most case managers were clear on how to score the item. In training, provide additional suggested prompts and scenarios for case managers to use when reviewing this item to avoid simply marking "N/A."														
Simple Financial Management															
Usual	90	0.86	79%	29	0.91	83%	24	0.60	58%	29	0.96	93%	8	0.83	75%
Most Dependent	91	0.85	77%	29	0.91	83%	24	0.59	63%	29	0.90	83%	9	0.91	78%
Item Language	The ability to complete financial transactions such as counting coins, verifying change for a single item transaction, writing a check, and/or using a debit or credit card.														
Potential Issues	Case managers reported that line between simple and complex and financial management was unclear because simple includes online/mobile bill pay and banking.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Potential Remedies	Updated assessment item to clarify simple financial management tasks and will implement in Comprehensive Assessment pilot round.														

Psychosocial Items

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
	Physically Aggressive or Combative														
	107	0.92	93%	30	0.65	83%	30	0.42	93%	30	1	100%	17	1	100%
Item Language	Participant displays physical behavior symptoms directed toward others (e.g., hits, kicks, pushes, or punches others, throws objects, spitting).														
Potential Issues	This is unlikely to be observed during the assessment, so unless a second case manager did a thorough record review, he or she would likely not know if this behavior is present.														
Potential Remedies	The item has very high agreement percentage, indicating that most case managers were clear on how to score the item. In training, provide additional clarification on item prompts and examples for variety of populations.														
	Refusing ADL/IADL/Medical Care														
	107	0.82	88%	30	0.55	73%	30	0.35	90%	30	0.79	93%	17	1	100%
Item Language	Participant resists required assistance (e.g., resists ADL assistance or medications).														

FINDINGS

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Potential Issues	This is unlikely to be observed during the assessment, so unless a second case manager did a thorough record review, he or she would likely not know if this behavior is present.														
Potential Remedies	Confirm theory with case managers with different scores; if confirmed—and if case managers indicate that the item is helpful for support planning—keep the item. In training, provide additional clarification on item prompts and examples for variety of populations. Provide clear instructions to review records and, when possible, speak to proxies and staff if they do not have previous knowledge of the participant.														
	Wandering or Elopement														
	107	0.88	93%	30	0.79	93%	30	0.44	90%	30	0.90	93%	17	1	100%
Item Language	Participant purposefully, or would without an intervention, leave an area or group without telling others or departs from the supervising staff, caregiver, parent or other guardian unexpectedly resulting in increased vulnerability.														
Potential Issues	This is unlikely to be observed during the assessment, so unless a second case manager did a thorough record review, he or she would likely not know if this behavior is present.														
Potential Remedies	Item has very high agreement (90%), indicating most case managers were clear on how to score the item. Clarify why the case managers that gave very different scores did so. In training, provide additional clarification on item prompts and examples for variety of populations.														
	Difficulty Regulating Emotions														
	107	0.90	87%	30	0.90	77%	30	0.47	80%	30	0.99	97%	17	1	100%
Item Language	Participant has instances, or would without an intervention, of emotional reactions that are atypical of others in similar situations.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Potential Issues	This is unlikely to be observed during the assessment, so unless a second case manager did a thorough record review, he or she would likely not know if this behavior is present.														
Potential Remedies	Test theories with case managers who gave different scores. In training, provide additional clarification on item prompts and examples for variety of populations.														
	Withdrawal														
	107	0.81	84%	30	0.81	77%	30	0.58	80%	30	0.75	87%	17	1	100%
Item Language	Participant has a tendency, or would without an intervention, to retreat into or seclude oneself or to avoid conversation, interaction or activity.														
Potential Issues	This is unlikely to be observed during the assessment, so unless a second case manager did a thorough record review, he or she would likely not know if this behavior is present.														
Potential Remedies	Test hypotheses with Case Managers who gave different scores.														
	Safety Control Procedure Frequency														
	4	0.43	75%	2	0.33	50%	1	1	100%	2	0.33	50%	1	1	100%
Item Language	If it was identified the participant used safety control procedures in the past year, identify frequency														
Potential Issues	Small sample sizes across all populations. Safety control procedures are a new concept to Single Entry Point Case Managers, however the item on safety control procedures had good reliability; only the item regarding frequency is impacted. Case Manager with ongoing relationship may have reviewed documentation that provides frequency.														
Potential Remedies	Review with case managers why only the frequency item was impacted in order to move forward with remedies (e.g., updates to training).														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Ability to Socialize															
	104	0.56	90%	28	0.66	89%	29	0.39	76%	30	1	100%	17	1	100%

Item Language	Have you been able to spend time socializing, such as visiting with family/friends or attending events in the community that interest you, as you want?
Potential Issues	This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to this item.
Potential Remedies	This is an important item for community integration and support planning. Work with case managers to update the training materials to improve item clarity.

	Overall			Mental Health			APD			IDD			Children		
Requires Greater than Verbal Redirection or Has Constant Vocalization															
	18	0.61	83%	1	1	100%	1	1	100%	1	N/A	100%	17	0.55	82%

Item Language	Is the participant under age 18 AND on average requires intervention greater than verbal redirection at least once every two hours during the day AND on average once every three hours at night across all behavior and health issues OR have a constant vocalization occurring at least 15 minutes of each waking hour?
Potential Issues	Most case managers agree on this item; there are a few disagreements that may have been informed by familiarity with participant.
Potential Remedies	This item is specific to the Children's Extensive Support Waiver (CES) criteria. Work will continue with the Department to refine the item, and proposed updates will be reviewed with stakeholders and case managers. Review the data to ensure this item was only answered for participants <18; work with automation to clarify the age constraints around this item.

	Overall			Mental Health			APD			IDD			Children		
Safety Control Procedures															
	107	0.65	96%	30	0	93%	30	0.65	97%	30	1	100%	17	0.64	94%

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Item Language	Were any Safety Control Procedures used during the past year? Note: A Safety Control Procedure is developed when it can be anticipated that there will be a need to use restrictive procedures or restraints to control a previously exhibited behavior which is likely to occur again.														
Potential Issues	Almost all case managers agreed, with a few disagreements that may have been informed by familiarity with the participant and document review. Safety control procedures are a new concept to Single Entry Point case managers, which is likely why this issue is limited to the APD population.														
Potential Remedies	Provide additional examples in training language, especially in Single Entry Point trainings. Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.														
Expresses Loneliness															
	107	0.64	85%	30	0.84	93%	30	0.71	87%	30	0.56	83%	17	0.11	71%
Item Language	Participant expresses feelings of loneliness.														
Potential Issues	This item needs to be asked directly to the participant or interpreted via conversation throughout the assessment. A case manager with greater familiarity with the participant may have more information to inform the response to this item.														
Potential Remedies	Continue to emphasize in training that the assessment responses should be informed by conversation throughout the assessment; it is intended to be more of a conversation versus a questionnaire.														
Emergency Control Procedures															
	107	0.84	97%	30	1	100%	30	0.46	93%	30	1	100%	17	0.85	94%
Item Language	Were any Emergency Control Procedures used during the past year? Note: An Emergency Control Procedure is an unanticipated use of a restrictive procedure or restraint in order to keep the participant receiving services and others safe														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Potential Issues	Almost all case managers agreed, with a few disagreements that may have been informed by familiarity with participant and document review. Emergency control procedures are a new concept to Single Entry Point case managers, which is likely why this issue is limited to the APD population.														
Potential Remedies	Provide additional examples in training language, especially in the pilot trainings with Single Entry Point case managers who may be less familiar with this concept. Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.														
	Injurious to Animals														
	107	0.97	99%	30	1	100%	30	1	100%	30	0	97%	17	1	100%
Item Language	Participant displays, or would without intervention, behaviors that would result in the injury of an animal.														
Potential Issues	All participants were scored as "No issue" except for one who was scored "Has history, no concern about reoccurrence". This suggests primary assessor had knowledge of history that the second assessor did not.														
Potential Remedies	Encourage case managers to use multiple sources of information including proxy interview, observation, and documentation reviews.														
	Socially Unacceptable Behavior														
	107	0.93	95%	30	0.94	93%	30	0.25	90%	30	1	100%	17	1	100%
Item Language	Participant expresses him/herself, or would without an intervention, in an inappropriate or unacceptable manner. Includes disruptive, infantile, or socially inappropriate behavior.														
Potential Issues	Almost all case managers agree, with a few disagreements that may have been informed by familiarity with the participant.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Potential Remedies	Encourage case managers to use multiple sources of information including proxy interview, observation, and documentation reviews.														
	Verbal Perseveration														
	107	0.75	93%	30	-0.05	90%	30	0.42	93%	30	0.77	90%	17	1	100%
Item Language	Participant engages, or would without intervention, in continuous verbal repetition (such as of a word or phrase).														
Potential Issues	Almost all case managers agree, with a few disagreements that may have been informed by familiarity with the participant.														
Potential Remedies	Encourage case managers to use multiple sources of information including proxy interview, observation, and documentation reviews.														
	Fire Setting or Preoccupation with Fire														
	107	0.81	98%	30	0.96	97%	30	1	100%	30	0	97%	17	1	100%
Item Language	Participant has, or would without intervention, set fires or has an excessive fascination with fire.														
Potential Issues	Almost all case managers agree, with a few disagreements that may have been informed by familiarity with the participant.														
Potential Remedies	Encourage case managers to use multiple sources of information including proxy interview, observation, and documentation reviews.														
	Intrusiveness														
	107	0.95	93%	30	0.98	93%	30	0	97%	30	0.89	83%	17	1	100%
Item Language	Participant has a tendency, or would without an intervention, for entering personal or private space without regard or permission.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Potential Issues	All participants were scored as "No issue" except for one who was scored "Has history, no concern about reoccurrence". This suggests that the primary assessor had knowledge of participant history that the second assessor did not have.														
Potential Remedies	Encourage case managers to use multiple sources of information including proxy interview, observation, and documentation reviews.														
Confabulation															
	107	0.91	97%	30	0.80	97%	30	0	97%	30	1	100%	17	0.97	94%
Item Language	The participant produces fabricated, distorted, or misinterpreted memories about his/herself or the world, without the conscious intention to deceive.														
Potential Issues	All participants were scored as "No issue" except for one who was scored "Has history, no concern about reoccurrence". This suggests that the primary assessor had knowledge of participant history that the second assessor did not have.														
Potential Remedies	Encourage case managers to use multiple sources of information including proxy interview, observation, and documentation reviews.														
Constant Vocalization															
	107	0.63	97%	30	0.00	93%	30	1	100%	30	1	100%	17	0.77	94%
Item Language	Participant exhibits constant vocalizations, such as screaming, crying, laughing, or verbal threats, which cause emotional distress to family caregivers. "Constant" is defined as an occurrence on average of fifteen minutes of each waking hour.														
Potential Issues	Almost all case managers agree, with a few disagreements that may have been informed by familiarity with the participant.														
Potential Remedies	Encourage case managers to use multiple sources of information including proxy interview, observation, and documentation reviews.														
Danger of being incarcerated															
	107	0.50	93%	30	0.43	87%	30	0	97%	30	0.46	93%	17	1	100%

FINDINGS

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Item Language	Participant is in danger of being incarcerated because of behavior issues.														
Potential Issues	Almost all case managers agree, with a few disagreements that may have been informed by familiarity with participant. There is subjectivity in responding to this item because it is challenging to universally operationalize danger of being incarcerated.														
Potential Remedies	Percent agreement shows that most case managers appear comfortable with how to score item. This item is not used for any measures beyond support planning, so discuss with case managers whether information is valuable for support plan.														

Caregiver Items

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Unpaid Caregiving															
	87	0.76	77%	24	0.95	88%	17	0.46	65%	29	0.64	69%	17	0.59	88%
Item Language	Code the level of assistance in the participant's home (both paid and unpaid) during the past month—Unpaid.														
Potential Issues	This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.														

	Potential Remedies	Propose removing; this is a FASI item that is redundant across the other caregiving, support need, and supervision items that are asked already.

Health Items

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Pain Effect on Activities															
	8	0.53	75%	3	1.00	100%	3	0	33%	1	1	100%	1	1	100%

Item Language	Pain effect on activities, code "No", Yes", or "Unable to answer or No Response."
Potential Issues	This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Remove item.

Assistive Devices Meet Communication Needs															
	4	0	50%	2	0	50%	4	0	50%	2	0	50%	2	0	50%

Item Language	Assistive device(s) meet the participant's communication needs.
Potential Issues	There is a very small sample sizes across all populations. This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Review the item with case managers to determine if issue is related to ongoing relationship or other factor(s) and work with case managers to update training guidance accordingly.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Pain Effect on Behavior															
	102	0.83	93%	29	0.93	97%	28	0.52	82%	29	1	100%	16	0.86	94%

Item Language	Is there a concern that pain is affecting the participant's behaviors?
Potential Issues	This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items. Review item with case managers to determine if issue is related to ongoing relationship or other factor(s) and work with case managers to update training guidance accordingly.

	Overall			Mental Health			APD			IDD			Children		
Help Using Hearing Devices															
	8	0.53	75%	3	1	100%	3	0	33%	1	1	100%	1	1	100%

Item Language	Participant needs help using hearing assistive devices(s).
Potential Issues	Small sample sizes across all populations. This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Review item with case managers to determine if issue is related to ongoing relationship or other factor(s) and work with case managers to update training guidance accordingly.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
	Assistive Devices Meet Communication Needs														
	4	0	50%	2	0	50%	4	0	50%	2	0	50%	2	0	50%

Item Language	Assistive device(s) meet the participant's communication needs.
Potential Issues	There is a very small sample sizes across all populations. This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Review item with case managers to determine if issue is related to ongoing relationship or other factor(s) and work with case managers to update training guidance accordingly.

	Diagnosed with a Life Limiting Illness														
	107	0.76	96%	30	1	100%	30	0.65	97%	30	0	97%	17	0.76	88%

Item Language	Has the participant been diagnosed with a life limiting illness by a medical professional? Note: Life Limiting Illness means a medical condition that, in the opinion of the medical specialist involved, has a prognosis of death that is highly probable before the client reaches adulthood.
Potential Issues	Almost all case managers agree, with few disagreements that may be informed by second case manager not reviewing the participant's medical records.
Potential Remedies	Because this issue was limited to 1-2 cases and only in the IDD population, follow-up with specific case managers to see if there was a data entry error.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Go Without Medication															
	107	0.26	95%	30	0.35	90%	30	0	97%	30	1	100%	17	0	94%

Item Language	Indicate if the participant had to go without any of the following because of lack of money in the past year—Medications.
Potential Issues	This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to this item.
Potential Remedies	Very high percent agreement shows that most case managers understood how to score this item. Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.

Housing and Environment Items

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Participant Has Roommate(s)															
	107	0.61	80%	30	0.70	87%	30	0.32	73%	30	0.60	80%	17	0.61	82%

Item Language	The participant has a roommate(s).

Potential Issues	Case managers struggled with identifying who qualified as a roommate. For example, case managers with participants living at a group home facility may not see other residents as a roommate.
Potential Remedies	Provided clarification during bi-weekly training after receiving this feedback. Updated training materials to reflect this clarification.

Would Like to Change Roommate														
44	0.62	91%	18	0.77	94%	4	0	75%	12	0.43	83%	10	1	100%

Item Language	Participant would like to change roommate(s).
Potential Issues	Small sample size means that, in one case, one case manager marked "Yes" and the other marked "No."
Potential Remedies	Update training with definition of roommate (discussed on previous slide). Ensure that whenever possible this question is directed directly to the participant.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
No Access to Essential Transportation															
	107	0.56	97%	30	0.63	93%	30	0	97%	30	1	100%	17	1	100%

Item Language	Indicate if the participant had to go without any of the following because of lack of money in the past year— Essential Transportation.
Potential Issues	This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Very high percent agreement shows most case managers understood how to score this item. Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.

FINDINGS

Transitioning to Community														
107	0.39	93%	30	0.65	97%	30	0.17	80%	30	0.65	97%	17	1	100%

Item Language	Will the participant be transitioning from where he/she is residing currently to a residence in the community?
Potential Issues	Case managers were unclear how to score this item if the participant is moving from one residence to another, not just from an institution (e.g., hospital, nursing facility) to a community residence.
Potential Remedies	During bi-weekly meetings, it was clarified that this item would include transition from one home in the community to another in addition to institution to community residence. Updated item language and training as a result of the feedback received from case managers during the pilot.

Concerns for Community Living														
107	0.56	97%	30	0.63	93%	30	0	97%	30	1	100%	17	1	100%

Item Language	Are there other concerns that may impact the ability of the participant to live safely in the community?
Potential Issues	Almost all case managers agree, with a few disagreements that may have been informed by familiarity with participant.
Potential Remedies	Include scenarios in training that describe situations that may impact the participant's ability to live safely in the community.

Participant Engagement Items

Overall			Mental Health			APD			IDD			Children		
n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Speaking Up for Needs														
107	0.78	77%	30	0.45	67%	30	0.76	77%	30	0.92	83%	17	0.92	82%

Item Language	Speaking up for self/participant about what he/she needs.
Potential Issues	The item allows for a level of subjectivity in which the person must understand what he/she needs, assistance available to meet these needs, and the level of support needed to obtain the assistance. There may be greater variation in this ability for individuals in the MH population, and a case manager with an ongoing relationship would likely have a better understanding of this ability.
Potential Remedies	Provide MH-specific scenarios for this item in training.

	Able to Self-Advocate												
	94	0.78	90%	30	0.83	93%	30	0.90	97%	30	0.59	80%	4	1	100%

Item Language	Participant is able to self-advocate.
Potential Issues	This item allows for a level of subjectivity in how he/she understands what self-advocacy is. There may be greater variation in this ability for individuals in the IDD population, and a case manager with an ongoing relationship would likely have a better understanding of this ability.
Potential Remedies	Work with case managers to update training to ensure that self-advocacy is clearly defined. Reiterate to case managers the importance of using multiple sources of information to inform item responses.

	Need for Alternative Written Materials												
	107	0.85	99%	30	0.00	97%	30	1	100%	30	1	100%	17	1	100%

Item Language	Participant/parent/guardian needs materials in alternative formats, such as large type or braille versions of written information.
Potential Issues	Percent agreement shows that there was only one case where there was disagreement.
Potential Remedies	In training, reiterate that this item should be asked of participant/ proxy to ensure an accurate response.

Sensory and Communication Items

Overall	Mental Health	APD	IDD	Children

n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Assistive Device Used for Vision														
10	0.55	80%	2	1	100%	1	1	100%	4	0.50	75%	3	0	67%

Item Language	Participant uses assistive devices for vision as prescribed/recommended.
Potential Issues	Small samples sizes across all populations. This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Review this item with case managers to determine if the issue is related to ongoing relationships or other factor(s), and work with case managers to update training guidance accordingly.

n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Assistive Devices Meet Vision Needs														
10	0.17	60%	2	1	100%	1	0	0%	4	0.20	50%	3	0.4	67%

Item Language	Assistive devices meet the participant's vision needs.
Potential Issues	Small sample sizes among all populations. This is not likely to be observed during an assessment, so s case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Review this item with case managers to determine if the issue is related to ongoing relationships or other factor(s), and work with case managers to update training guidance accordingly.

n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Understanding Verbal Content														
95	0.83	87%	30	0.74	90%	28	0.60	79%	30	0.94	93%	7	0.88	86%

Item Language	Understanding verbal content (excluding language barriers).

Potential Issues	Item was contained within Memory & Cognition section of the reliability assessment tool, which was the first section linearly. For case managers following the assessment linearly, this item may have occurred very early on, creating a significant disadvantage for case managers who were working with the participant for the first time.
Potential Remedies	This item has been moved to the Sensory & Communication module, which falls later in the linear assessment flow. Updated training language to have communication and memory/cognition conversations later in the assessment, particularly when working with new participants.

Express Self to Unfamiliar Individuals														
104	0.85	81%	30	0.79	87%	29	0.71	72%	29	0.96	90%	16	0.53	69%

Item Language	Participant's ability to express ideas and/or wants with individuals he/she is not familiar with.
Potential Issues	Item was contained within Memory & Cognition section of the reliability assessment tool, which was the first section linearly. For case managers following the assessment linearly, this item may have occurred very early on, creating a significant disadvantage for case managers who were working with the participant for the first time. There may be different interpretations of unfamiliar individuals. There was a small sample of Children.
Potential Remedies	This item has been moved to the Sensory & Communication module, which falls later in the linear assessment flow. Updated training language to have communication and memory/cognition conversations later in the assessment, particularly when working with new participants. Further define "unfamiliar" individuals.

Navigating Unfamiliar Environments														
10	0.49	70%	2	1	100%	1	1	100%	4	0.56	75%	3	-0.5	33%

Item Language	Participant can find his/her way in unfamiliar environments independently, including with assistive visual device(s).
Potential Issues	Small sample sizes among all populations. This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.

Potential Remedies	Propose removing item. If not removed, review the item with case managers to determine if the issue is related to ongoing relationships or other factor(s), and work with case managers to update training guidance accordingly.

Ability to Hear														
104	0.64	97%	30	0.49	93%	29	0.78	97%	30	1	100%	15	1	100%

Item Language	Ability to hear (with hearing aid or hearing appliance, if normally used).
Potential Issues	Almost all case managers agree, with a few disagreements that may have been informed by familiarity with the participant.
Potential Remedies	Provide additional examples in training and bring this item to case managers to see what—if anything—was confusing about the scoring.

Assistive Devices Meet Hearing Needs														
8	-0.14	75%	3	1	100%	3	1	100%	1	0	0%	1	0	0%

Item Language	Assistive device(s) meet the participant's hearing needs, code "Yes", "No, describe", or "Unknown."
Potential Issues	Small sample sizes across all impacted populations (IDD (n=1), Child (n=1)) do not allow us to draw any meaningful conclusions about these results.
Potential Remedies	Review training language to see if additional examples should be incorporated.

See in Adequate Light														
101	0.59	88%	29	0.14	79%	28	0.34	89%	28	0.63	93%	16	0.77	94%

Item Language	Ability to see in adequate light (with glasses or other visual devices and aids).
Potential Issues	Inconsistencies among case managers in how assistive devices factored into scoring. The majority of case managers agreed on this item. The few disagreements may have been caused by one case manager having more familiarity with the participant.
Potential Remedies	Update training examples to ensure that the item language and response options are clearly explained, and that examples are provided.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Hearing Becoming Worse															
	107	0.38	94%	30	0.63	93%	30	0	90%	30	1	100%	17	0	94%

Item Language	Has your/your child's hearing become worse in the last 3 months, or since the last assessment?
Potential Issues	The item allows for a level of subjectivity when assessing for changes in participant's hearing and largely depends on participant and proxy report. An assumption is being made that the assessor can distinguish between changes in assistive device functionality and changes in hearing.
Potential Remedies	The item allows for a level of subjectivity when assessing for changes in participant's hearing and largely depends on participant and proxy report. An assumption is being made that the assessor can distinguish between changes in assistive device functionality and changes in hearing.

	Overall			Mental Health			APD			IDD			Children		
Harder to Understand or Be Understood															
	107	0.38	94%	30	0.28	87%	30	1	100%	30	1	100%	17	0	88%

Item Language	Has it become harder for you/your child to understand others or be understood in the last 3 months, or since the last assessment?
Potential Issues	The item allows for a level of subjectivity when assessing for changes in the participant's comprehension or ability to be understood by others and largely depends on participant and proxy report.
Potential Remedies	Remove the item; review with case managers to determine if this information is adequately captured elsewhere.

Safety and Self-Preservation Items

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Hours Awake															
	62	0.56	71%	12	0.60	67%	9	0.42	33%	24	0.62	79%	17	0.79	82%

Item Language	Identify the average number of hours spent awake each day.
Potential Issues	This is not likely to be observed during an assessment, so a case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.

Change in Supervision Level (Other Community Settings)															
101	0.59	88%	29	0.14	79%	28	0.34	89%	28	0.63	93%	16	0.77	94%

Item Language	Other Community Settings: Is the level of supervision needed likely to change prior to the next scheduled assessment?
Potential Issues	Almost all case managers agreed on this item, with a few disagreements that may have been informed by familiarity with participant.
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
							Self-Neglect								
	107	0.70	87%	30	0.53	77%	30	0.52	83%	30	0.86	93%	17	1	100%
Item Language	Is this participant at risk of self-neglect?														
Potential Issues	The majority of case managers agreed, with a few disagreements that may have been informed by familiarity with participant.														
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items. Include in training that case managers may ask if proxies would like to respond to specific items on his/her own.														
				Change in Supervision Level (At Residence, Asleep)											
	62	0	98%	12	1	100%	9	1	100%	24	0	96%	17	1	100%
Item Language	At residence, asleep time: Is the level of supervision needed likely to change prior to the next scheduled assessment?														
Potential Issues	There was one instance of disagreement across all populations, indicating that most case managers were clear how to answer this item.														
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.														

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Change in Supervision Level (Employment Site)															
	37	1	100%	2	1	100%	12	0	92%	10	0	90%	2	1	100%

Item Language	Employment Site: Is the level of supervision needed likely to change prior to the next scheduled assessment?
Potential Issues	There were few instances of disagreement across all populations, indicating that most case managers were clear how to answer this item.
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.

	Neglect, Abuse, or Exploitation														
	101	0.59	88%	29	0.14	79%	28	0.34	89%	28	0.63	93%	16	0.77	94%

Item Language	Is this participant at risk of neglect, abuse, or exploitation by another person?
Potential Issues	The majority of case managers agreed, with a few disagreements that may have been informed by familiarity with participant.
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items. Include in training that case managers may ask if participant would like to respond to specific items on his/her own.

	Change in Supervision Level (At Residence, Awake)														
	37	1	100%	11	0	91%	7	0.30	71%	23	0.33	87%	17	0.85	94%

Item Language	At residence, awake time: Is the level of supervision needed likely to change prior to the next scheduled assessment?
Potential Issues	Almost all case managers agreed, with a few disagreements that may have been be informed by familiarity with participant.
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.

Hospital Level of Care Items

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Risk for Pressure Ulcers															
	8	0.53	75%	3	1.00	100%	3	0	33%	1	1	100%	1	1	100%

Item Language	Is the participant at risk of developing pressure ulcers?
Potential Issues	Almost all case managers agreed, with a few disagreements that may have been informed by familiarity with the participant.
Potential Remedies	Provide additional training examples of warning signs and situations in which pressure ulcers are more likely.

	Overall			Mental Health			APD			IDD			Children		
Requires Changes in Ventilation															
	4	0	50%	2	0	50%	4	0	50%	2	0	50%	2	0	50%

Item Language	Participant requires changes in ventilation that are not planned at least daily because of levels of oxygenation.
Potential Issues	Small sample sizes across all populations with 50% agreement indicates that there was one case within each population that did not agree. This is only asked for Hospital LOC, so it is a much more medically complex item.
Potential Remedies	Determine if this item is necessary to establish Hospital -LOC. If not, remove the item. Follow-up with individual case managers to see how training for this item could be updated to ensure clarity.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Requires Jejunostomy Tube															
	11	0.62	91%	1	1	100%	3	0	67%	1	1	100%	7	1	100%

Item Language	Participant requires: Feeding at least daily via jejunostomy tube.
Potential Issues	Small samples size indicates that in one instance on case manager responded "Yes" and the other "No." A second case manager may be unclear if feeding is needed daily vs PRN via J-tube.
Potential Remedies	Determine if this item is necessary to establish Hospital LOC. If not, remove the item. Because this was a very specific case, follow-up directly with case managers.

	Overall			Mental Health			APD			IDD			Children		
Requires Licensed Nurse Intervention															
	11	0.97	91%	1	0	0%	3	1	100%	1	0	0%	7	1	100%

Item Language	Participant needs medical interventions that require a licensed nurse at least 2 hours per week.
Potential Issues	Only one data point for each population impacted does not allow us to draw meaningful conclusions about this item. If a second case manager did not review records would likely not have this information.
Potential Remedies	Determine if this item is necessary to establish Hospital LOC. If not, remove the item. High reliability within APD and Children indicate that this may have been a case manager-specific issue.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Requires Vital-sign Assessments															
	11	0.82	82%	1	0	0%	3	0.73	67%	1	0	0%	7	1	100%

Item Language	Medically ordered vital-sign assessments, including taking of pulse, respiration, blood pressure, the assessment of orientation, level of consciousness, size of pupils and auscultation of lungs, are required at least once daily.
Potential Issues	Only one data point for each population impacted does not allow us to draw meaningful conclusions about this item. If second case manager did not review records would likely not have this information.
Potential Remedies	Determine if this item is necessary to establish Hospital LOC. If not, remove the item. High reliability within APD and Children indicate that this may have been a case manager-specific issue. Follow-up directly with case managers.

	Overall			Mental Health			APD			IDD			Children		
Wounds or Skin Conditions															
	106	0.68	87%	30	0.70	87%	29	0.53	83%	30	0.58	87%	17	0.88	94%

Item Language	Does the participant have any wounds or skin conditions?
Potential Issues	If not observed during assessment and/or participant is not able to report on this, A case manager with an ongoing relationship may have more information to use to respond to the item.
Potential Remedies	Reiterate in training that case managers should be using all sources of information, including participant report, proxies, and documentation review, to respond to assessment items.

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Requires Nasogastric Tube															
	11	0.00	82%	1	1	100%	3	0	33%	1	1	100%	7	1	100%

Item Language	Participant requires: Feeding at least daily via nasogastric tube.
Potential Issues	Small sample sizes across populations. For the overall population, the majority of case managers agree, with a few disagreements that may be informed by familiarity with participant.
Potential Remedies	Determine if this item is necessary to establish Hospital LOC. If not, remove the item. Provide additional clarifications in training about how an NG tube presents and what assessors should be looking and prompting for.

	Overall			Mental Health			APD			IDD			Children		
Requires Weekly Evaluations of Feedings															
	11	0.00	91%	1	1	100%	3	0	67%	1	1	100%	7	1	100%

Item Language	Participant requires: A licensed professional to evaluate feedings at least weekly because of a moderate to severe problem with a J, G or NG tube.
Potential Issues	Small sample sizes across populations; there was only one case of disagreement within APD population. For the overall population, the majority of case managers agree, with a few disagreements that may be informed by familiarity with participant
Potential Remedies	Determine if this item is necessary to establish Hospital LOC. If not, remove the item. Update the training language to include examples of licensed professionals and what he/she would do to evaluate tube feedings

	Overall			Mental Health			APD			IDD			Children		
	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement	n	kappa	Agreement
Has Physician-Diagnosed Bradycardia															
	11	0	91%	1	1	100%	3	1	100%	1	1	100%	7	0	86%
Item Language	Participant has: Physician-diagnosed bradycardia.														
Potential Issues	Small sample sizes across populations. For overall population, almost everyone agrees, with few disagreements that may be informed by familiarity with participant.														
Potential Remedies	Determine if this item is necessary to establish Hospital LOC. If not, remove the item.														
Has Required Resuscitation															
	11	0	91%	1	1	100%	3	1	100%	1	1	100%	7	0	86%
Item Language	Participant has: Required resuscitation (CPR must include chest compressions or drug resuscitation) for inadequate ventilation or cardiac output within the past year AND the need for resuscitation is likely to recur.														
Potential Issues	Small sample sizes across populations. For overall population, almost everyone agrees, with few disagreements that may be informed by familiarity with participant														
Potential Remedies	Determine if this item is necessary to establish Hospital LOC. If not, remove the item.														

Conclusion

The vast majority (88%) of assessment items in the new assessment process have good or near perfect reliability in the overall population even though limitations in the structure of the pilot likely caused the reliability scores to be lower than they actually are. The relatively low scores for some populations on some items, such as activities of daily living (ADL) items for the aging and physical disability (APD) population, will likely get stronger once the new process is implemented and the current process, the ULTC 100.2, is retired and case managers do not have to score the same constructs in very different ways.

Items can be ameliorated in several ways: item language can be clarified to correct for differential interpretation between case managers, training can be provided on items that demonstrate unreliability, and items that are deemed unnecessary for establishing Level of Care can be removed. Input from the Department will be needed to identify the most desirable solution for each item. HCBS Strategies will propose changes to the item language and/or training materials for items with low reliability that the Department plans to keep.