UPDATED

KINGSTON SCALES

Kingston Standardized Behavioural Assessment

COMMUNITY Form

$KSBA_{comm}$

MANUAL (Administration & Interpretation)

The Kingston Scales and Manuals can be freely downloaded from:
www.kingstonscales.org

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PURPOSE

The Kingston Standardized Behavioural Assessment (**KSBA**) **provides a powerful behavioural analysis that is normally only available from behaviourally trained clinicians** (e.g. psychologists, psychometrists, etc.). Since both the introduction of home support services, and the decision to place someone in long term care, as well as caregiver stress, are almost always triggered by behavioural, rather than cognitive issues, a behavioural analysis of the individual is of great importance and not something that can be gained easily from other sources.

Since progressive major neurocognitive disorders (dementias) such as Alzheimer's disease are characterized by behavioural as well as cognitive disturbances, the **Kingston Standardized Behavioural Assessment** (**KSBA**) was designed to complement cognitive assessment tools such as the **Kingston Standardized Cognitive Assessment - Revised *+DRIVE* Scale (KSCAr^{+Drive})** or the **mini-Kingston Standardized Cognitive Assessment - Revised (mini-KSCAr**) by providing a measure of the behavioural impairment affecting such individuals. (See page 27 of this manual for references.)

There are two versions of the KSBA, the KSBA$_{comm}$ for use with community dwelling individuals, and the KSBA$_{(LTC)}$ (long term care form) for use in nursing homes, chronic hospitals, or other long term care facilities. **If you are using the long term care form, see the KSBA Long Term Care Manual** (available at our website www.kingstonscales.org). The examples and data in this manual refer to the KSBA$_{(comm)}$ community form. The KSBA$_{comm}$ and KSBA$_{(LTC)}$ are also available in French, thanks to translations by Dr. Veronique Parent. The authors also greatly appreciate the work of Dr. Jeremia Heinik of Tel Aviv, Israel, who has translated the KSBA$_{comm}$, and other Kingston Scales, into Hebrew. (Translations into some other languages are available for the KSBA and other Kingston scales at our website www.kingstonscales.org.)

While the KSBA$_{comm}$ was originally designed to measure behaviours related to Major Neurocognitive Disorders such as Alzheimer's Disease, we have found the KSBA$_{comm}$ effective in detecting behaviour change in depression (see Hopkins, RW, David, MM, Kilik, LA. (2014)). From our clinical experience with other disorders, we suspect that the **KSBA(comm) would be effective in detecting behaviour change in a wide variety of neurological conditions**.

UPDATE

It should be noted that the Analysis page which is page 3 of the 4 page KSBA$_{comm}$ form, has been redesigned, providing an **expanded analysis of the "neuropsychiatric" and "neuropsychological**" behaviours (see below, page 4). **The original scale was not in anyway altered**. This was first introduced in Feb of 2022; earlier forms have the original format. The version date may be found at the very bottom right-hand corner of the KSBA$_{comm}$ form (page 4). Latest versions can be downloaded free of charge from www.kingstonscales.org (or www.kingstonscales.ca).

CAREGIVERS

The $KSBA_{comm}$ provides validation for caregivers struggling with the issue of moving their relative into a long term care setting. (Anecdotally, we have observed that when the $KSBA_{comm}$ score approaches or exceeds 30, even the most determined caregiver is ready to place their relative in long term care.) This, in our experience, is often a difficult and stressful decision for many families, and one that they usually leave too late; compromising the health of family members, as well as that of their relative. By being able to provide an objective score that reflects behavioural care load, a decision about long term care can often be made more easily. This can help to alleviate the distress and sense of guilt caregivers often experience. The information can also be used to facilitate the introduction of home support services.

NEUROPSYCHIATRIC VS. NEUROPSYCHOLOGICAL BEHAVIOURS

Traditional behaviour scales used for Major Neurocognitive Disorders have practically all concentrated on what has become known as the "behavioural and psychological symptoms of dementia" (or BPSD), or often referred to as "neuropsychiatric" behaviours. These behaviours are ones that typically encompass behaviours related to emotions, aggression, and psychotic disorders (such as paranoia), problems with judgement, or delusions and hallucinations/misperceptions.

Factor analysis of the $KSBA_{comm}$ has shown that its behavioural domains fall into two groups, or factors. The first factor included the domains of Emotional, Aggressive, and Paranoid behaviour, Misperceptions, Judgement, Perseveration, and Motor Restlessness. These represent the traditional BPSD or neuropsychiatric behaviours. The second factor included Daily Activities, Attention/ Concentration/Memory, Sleep, Motor/Spatial and Language difficulties. We have termed this constellation of nontraditional, more functionally and environmentally based behaviours as the "neuropsychological" factor. Therefore, **the $KSBA_{comm}$ provides a broader and more realistic portrait of dementia than would be obtained from other scales,** by providing a measure of both "neuropsychiatric" (NPT) and "neuropsychological" (NPL) behaviours.

It should be noted, that behaviours in this "neuropsychological" factor often occur earlier on in major neurocognitive disorders than those of the "neuropsychiatric" factor, and substantially add to the load that caregivers have to bear. It should also be noted, that while **NPT (neuropsychiatric) symptoms can often be treated by pharmacologic** means, **NPL (neuropsychological) behaviours** are usually resistant to traditional psychiatric medications and need to be treated with **behavioural or environmental interventions**.

RATER SECTION

The informant (i.e. rater) is an individual, who knows the person on a day-to-day basis, usually a spouse or other relative. The scale may be completed by the informant, or one can read the items to the informant and ask for a yes/no answer. In some cases, assessment may have to be a collaborative effort among several friends, or family members.

The $KSBA_{comm}$ form consists of two parts, the informant section (first 2 pages), which is a list of 68 commonly observed dementia related behaviours. **The behaviours are described in plain English with an attempt to avoid jargon that would be unfamiliar to or confuse a lay informant**. Beside each behaviour is a checkoff box for the informant to place a checkmark, if the behaviour represents a change in what was usual behaviour for the individual in the past. The behaviours are broken into groups that consist of related behaviours. These groups are referred to as "domains". It should noted, that the neuropsychiatric domains are slightly shaded, both in the informant section and analysis pages to visually distinguish them from the Neuropsychological domains.

The last 2 pages are for behaviour analysis. **Page 3, the Analysis page, allows a clinician to analyze and summarize the reported behaviours**. Page 4 is the **Behaviour Analysis Procedures Guide** page, which is a brief set of instructions on how to complete the Analysis page. The Analysis page (see Examples, starting on page 16) is used by the health care professional, and is not given to the informant to fill out, but may be shown to the family in consultation with the clinician.

It should also be noted that unlike many other scales, **no information on severity or frequency** is required. This information is often handled poorly by family members, and consequently is often no more than a source of error. See Hopkins et al. 2006, for further data and discussion on this aspect of the scale.

DIAGNOSIS

Since the **first** administration of the $KSBA_{comm}$ is usually at the time of first diagnostic investigations, it should be stressed to the informant that the critical time period is **"since the onset of the problems"** being investigated, rather than some arbitrary period such as the last month or the last 20 years. The first administration is, therefore, an attempt to determine what behavioural changes have occurred since the onset of the disorder. This has proven to be an increasingly important means of diagnosing Major Neurocognitive Disorder, especially in the early stages of the disease.

MONITORING BEHAVIOUR CHANGE BY REPEATED ADMINISTRATIONS

The $KSBA_{comm}$ can be used as a powerful tool to monitor behaviour changes over time. Therefore, subsequent administrations can assess changes in the "last month" or other time period, e.g. 1 week, 2 days, 6 months, etc. The $KSBA_{comm}$ can be used to capture a current snapshot of an individual's behaviour. Typically, "current" has been taken to mean behaviours that have occurred in the last month. However, the $KSBA_{comm}$ can also be used to track behaviour change over time including change attributable to specific interventions. In such cases the $KSBA_{comm}$ may be administered repeatedly, and the interval may also be shorter than one month. When doing so, the reporting interval should match the repetition interval. For example, if you give it once a week to a patient, then only ask for behaviours that have been noted in that past week. The chosen interval should be clearly stated in any clinical reports.

GLOSSARY

To aid in the explanation of the behaviours to the rater, a **glossary** providing a more detailed description of the behaviours on the $KSBA_{comm}$ is found near the end of this manual (page 23).

ADMINISTRATION INSTRUCTIONS

The instructions are: "Please check all of the following behaviours that have occurred in the last month or are presently occurring, and that are a change from the person's earlier behaviour (prior to illness). Indicate those items that apply by marking the box beside the appropriate statement. The Total Score equals the number of boxes checked." Only items that apply should be checked.

It should be noted that while many behaviours are discrete acts (like biting or hitting people), that can be easily identified in both time and place, other behaviours like "unable to handle personal finances" or "unsafe in daily activities, if left unsupervised" are ongoing. Often, once an individual is deemed incompetent to perform a task or is shown to be a risk for some behaviour, he or she is not given another chance to demonstrate his or her incompetence, but rather is kept away from such activities or closely supervised while performing them. These ongoing behaviours **are checked,** as it is assumed that once one is unable to perform a task, the individual will continue to be unable. **This only pertains to progressive dementias** or disorders where no significant improvement is expected.

BEHAVIOUR ANALYSIS

TOTAL SCORE ANALYSIS

The **Total Score Analysis** refers to a group of 9 columns marked **"Total Score Analysis**" (on page 3 of the $KSBA_{comm}$ form, or see following figure). To assess a **total score**, take the total score from the bottom of page 2 of the KSBA form, and circle it in the **first** column on the far left. If it is a score above 30, it may not appear in the column. In that case just mark closest position to it. Then read the Cumulative Percent in next column over (i.e. the second column from the left). Then read the "**score description**" in next column over (i.e. the third column from the left). This procedure is repeated for the "neuropsychological" (**NPL**) and "neuropsychiatric" (**NPT**) behaviours. The middle 3 columns are for analysing the **NPL score**, and the next 3 columns (i.e. the 3 columns on the right) are for the **NPT score**.

The "**Cumulative Percent**" column indicates the percentage of scores at or below that score. The cumulative percentage indicates where a score falls in a distribution. They are used when the distribution is **not** mathematically normal or bell-shaped.

The "**Score Description**" column provides a "thermometer" style description for scores in that range. The scores are described as being "**LOW**", "**MEDIUM**", "**HIGH**", or "**VERY HIGH**". It should be noted that the $KSBA_{comm}$ also has a lower range marked **N (**for Normal) as total scores below 4 are considered "noise" as scores this low can sometimes be given to individuals who do not suffer from dementia or any other neurological disorder. Such scores are basically rater misinterpretations of a patient's behaviour.

It must be remembered that these descriptions are somewhat arbitrary; partly based on our obtained data, but also on our clinical expectations of what we would consider a "Low" or "High" score. Obviously, these expectations are going to vary according to clinical setting. The average score in individuals at the time of admission to a long term care facility is going to be higher than that of "first contact" at an ambulatory outpatient clinic. **It must also be remembered that these descriptive ranges are merely labels placed on a continuum, and that there are no true demarcation points,** as is the case for any behavioural measure.

What caregivers can handle will vary between individuals. For example, even if a patient scores only a few points, yet one of the behaviours is related to violent physical outbursts, there might be need for extra care and support. **Normally, we have found that when community dwelling patients have a total score at, or approaching 30 or higher, it becomes increasingly difficult for family caregivers to continue to be able to provide care at home**, or at least without considerable help. Even a total score in the 20's or lower, might indicate that additional services or supports are required by some caregivers. For example, if the caregiver is still employed outside of the home.

KSBA$_{comm}$ TOTAL SCORE ANALYSIS CHART

Total			NPL			NPT		
Total Score	Cumulative Percent	Score Description	NPL Score	Cumulative Percent	Score Description	NPT Score	Cumulative Percent	Score Description
68		VERY HIGH	**39**		VERY HIGH	**29**		VERY HIGH
66								
62			**38**					
58			**37**					
54			**36**					
50	99		**35**					
46	98		**34**					
42	96		**33**			**28**		
38	94		**32**			**27**		
34	90		**31**	99		**26**		
30	86		**30**	98		**25**		
29	84		**29**	97		**24**		
28	83	HIGH	**28**	96		**23**		
27	81		**27**	95		**22**		
26	80		**26**	93		**21**		
25	78		**25**	91		**20**		
24	76		**24**	90		**19**		
23	73		**23**	89		**18**	99	
22	71		**22**	88		**17**	98	
21	68		**21**	86	HIGH	**16**	97	
20	65		**20**	83		**15**		
19	61	MEDIUM	**19**	79		**14**	96	
18	57		**18**	77		**13**	95	
17	53		**17**	75		**12**	94	
16	50		**16**	69		**11**	92	
15	47		**15**	67				HIGH
14	43		**14**	63	MEDIUM	**10**	90	
13	38		**13**	58		**9**	87	
12	37		**12**	54		**8**	79	
11	34		**11**	48				MEDIUM
10	31		**10**	43		**7**	76	
9	25	LOW*	**9**	38		**6**	70	
8	23		**8**	31	LOW*			
7	20		**7**	29		**5**	62	
6	18		**6**	24		**4**	56	
5	16		**5**	19				LOW*
4	12		**4**	15		**3**	44	
3	9		**3**	12				
2	5	**N**	**2**	7		**2**	35	
1	1		**1**	2	**N**	**1**	28	**N**
0	0		**0**			**0**	17	

BEHAVIOUR ANALYSIS

BEHAVIOUR PROFILE

The large chart on the **right** side of the Behaviour Analysis page is for the **Behaviour Profile.** It provides a column for each of the 12 domains (see figure on page 10). For each column the number of possible behaviours in that domain is displayed, starting with 0 (zero) at the bottom and going up to the maximum number of behaviours in that domain, at the top. To fill out the profile, simply go to the informant pages and add up the number of ticked items for each domain, and put that value in the domain total box at the end of each behavioural grouping. Then transfer these values to the profile chart. If desired, these points can be joined up with a line to help create a visual profile. See Examples on pages 17 to 22. The profile is also useful in identifying specific behaviours to target for intervention.

On the extreme left side of the Profile chart is a "Comparison Scale" column that is used to give each of the other column scores a relative standardized value, allowing all domains to be compared to each other. For example, if the score on Judgement/Insight equals 5 and on Misperceptions, the score equals 3, then both can be said to have a relative score of 7.5. Or if the score on Judgement/Insight equals 4 and on Paranoid Behaviour, the score equals 2, then the scores represent relative values of 6 and 4 respectively. In this way, relative comparisons (i.e. degree of impairment or sparing) across the 12 domains can be made.

The domains on the $KSBA_{comm}$ are arranged in an order that makes interpretation meaningful. The first 2 (Daily Activities and Attention/Concentration/Memory) and the last 3 (Sleep, Motor Spatial and Language) are located at the beginning and end of the scale respectively, to facilitate informant interviewing, and create distinct profiles to assist clinicians. These neuropsychological domains **(NPL)** are behaviours that are not always measured in more traditional BPSD scales, yet these five domains account for nearly 90% of the endorsed behaviours in the earliest stages of Major Neurocognitive Disorders in our normative sample*.* In contrast, rates of neuropsychological and neuropsychiatric behaviours approach parity late in the disorder.

For instance, in Example 1 (page 17), an early stage case of Alzheimer's disease, most of the scores appear in the neuropsychological behaviours (i.e. the outer groups) producing a U-shaped profile. Also, the ratio of NPL to NPT behaviours is 13 to 1 (i.e. 13.00). In Example 2 (page 20), a much more advanced case with a score of 49, the ratio is only 30 to 19 (i.e. 1.58:1).

KSBA$_{comm}$ BEHAVIOUR PROFILE CHART

COMPARISON SCALE	1	2	3	4	5	6	7	8	9	10	11	12
	Daily Activities	Attention/Concentration/Memory	Emotional Behaviour	Aggressive Behaviour	Misperceptions	Paranoid Behaviour	Judgement/Insight	Perseveration	Motor Restlessness	Sleep/Activity/Sundowning	Motor/Spatial Problems	Language Difficulties
10	17	5	4	3	4	5	7	3	3	4	5	8
9.5	16											
9	15						6					7
8.5	14											
8		4				4					4	
7.5	13		3		3		5			3		6
7	12											
6.5	11			2				2	2			
6		3				3	4				3	
5.5	9											
5	8		2		2					2		4
4.5	7						3					
4		2				2					2	
3.5	6			1				1	1			3
3	5						2					
2.5	4		1		1					1		2
2	3	1				1					1	
1.5	2						1					
1												1
0.5	1											
0	0	0	0	0	0	0	0	0	0	0	0	0

SCORE ANALYSIS

The “updated” $KSBA_{comm}$ Analysis page allows one to first compare the total score to a normative distribution, then examine the NPL and NPT scores in a similar manner. (The “normative distribution” consists of 311 individuals (Males = 143 Females = 168) who suffered from progressive neurocognitive disorders, and were referred to an outpatient assessment service, specializing in geriatric mental health.) While the total score gives a measure of overall impairment (advancement of the disorder), the NPL and NPT scores allow one to explore the total score in greater detail. The NPL and NPT scores provide an indication of the factor makeup of the total score. We have found that some disorders such as uncomplicated Alzheimer’s disease, early on in the progression, show almost only NPL behaviours, while other disorders such as Frontal Temporal Dementia, show many NPT behaviours as well. The domain profile can provide insight into the types of behaviours that confront caregivers. While having to deal with issues related to memory and concentration loss can be difficult, dealing with paranoia, for example, raises a host of new challenges.

After having assessed the total, NPL, and NPT scores, one can assess the results further by looking at the domain Profile. If the behaviours are almost all NPL, then they will appear roughly as an "U" shaped pattern on the Profile chart (see pages 19 & 21). If a number of NPT behaviours are present, then the 7 NPT columns will fill in the middle, resulting in profiles that look somewhat uneven like a "W", or a variant thereof (see pages 20 & 22). Therefore, profiles tend to reflect NPL/NPT behaviour distributions, which we refer to as "U" vs. "W" profiles.

An obvious question that arises is: is there any clinical significance to these profiles. Can useful information be predicted from them? We believe that the answer is yes; and we have found evidence to support differences in diagnoses, and associated caregiver stress. We have observed that patients with high NPT scores are more stressful to care for than those with primarily NPL scores. In Kilik LA, & Hopkins RW. (2019) it is reported that the correlation between the Kingston Caregiver Stress Scale (KCSS) and the $KSBA_{comm}$ (total score) is 0.80 (Spearman's rho), suggesting that stress levels track very closely with behaviour changes. We have also found that caregivers of patients, showing almost only NPL behaviours (U profiles), report significantly lower stress levels than those of patients with large numbers of NPT behaviours (W profiles) (KCSS M = 15.56 (U’s) vs. M = 22.09 (W’s) $p < 0.000$). This remains an area of active research.

$KSBA_{comm}$ STATISTICS AND PERCENTILES

$KSBA_{comm}$ STATISTICS

COMMUNITY FORM ($KSBA_{comm}$)				
N = 311	Males = 143		Females = 168	
	Mean	sd	Min	Max
Age	76.88	7.7	53	93
Education (Yrs)	12.33	3.18	4	21
MMSE	25.49	4.45	8	30
KSCAr	94.02	12.17	52	115
Daily Activities	5.37	3.78	0	16
Atten/Conc/Mem	2.77	1.58	0	5
Emotional	1.05	1.12	0	4
Aggressive	0.7	0.88	0	3
Misperceptions	0.33	0.78	0	4
Paranoid	0.75	1.15	0	5
Judgement	1.34	1.45	0	6
Perseveration	0.49	0.73	0	3
Motor Rest	0.29	0.56	0	3
Sleep	1.25	1.15	0	4
Motor Spatial	1.41	1.46	0	5
Language	2.09	1.82	0	7
NPL Total	12.9	7.73	1	32
NPT Total	4.95	4.49	0	21
TOTAL SCORE	17.85	11.29	1	53

Neuropsychological Behaviours (NPL) [blue]
Neuropsychiatric Behaviours (NPT) [red]

COMMUNITY FORM - KSBA$_{comm}$
CUMULATIVE PERCENT
(n = 310)

Total Score	%	Neuropsychiatric	%	Neuropsychological	%
1	1.3	0	17.4	0	0.0
2	5.2	1	28.4	1	2.3
3	8.7	2	35.2	2	7.4
4	11.9	3	44.2	3	11.9
5	16.1	4	55.5	4	14.5
6	18.4	5	62.3	5	19.4
7	20	6	70.0	6	23.5
8	22.6	7	75.5	7	29
9	24.8	8	79.4	8	31.3
10	30.6	9	86.8	9	37.7
11	33.5	10	89.7	10	42.9
12	36.5	11	91.9	11	48.4
13	38.4	12	93.9	12	53.9
14	43.2	13	94.5	13	58.4
15	47.4	14	95.5	14	63.2
16	49.7	15	95.8	15	67.4
17	52.9	16	97.4	16	69.4
18	57.1	17	98.0	17	74.5
19	61.3	18	99.0	18	76.5
20	65.2	19	99.6	19	78.7
21	68.1	20	99.6	20	82.9
22	71	21	100	21	85.8
23	72.9			22	88.1
24	75.8			23	89.4
25	78.1			24	90.6
26	80.6			25	91.0
27	81			26	92.6
28	82.6			27	94.5
29	83.9			28	95.8
30	85.5			29	96.5
31	86.5			30	98.1
32	87.7			31	99.1
33	90			32	100
34	90.6				
35	91.9				
36	92.6				
37	93.5				
38	94.2				
39	94.8				
40	95.5				
41	95.8				
42	96.1				
43	96.8				
44	96.8				
45	98.4				
46	98.7				
47	98.7				
48	99.0				
49	99.4				
50	99.7				
51	99.7				
52	100				

RESEARCH

Currently, there are a number of ongoing research projects with the KSBA (in a variety of settings). These projects explore the statistical properties of the scale, along with a number of clinical applications. The $KSBA_{(comm)}$ is being, and has been (see references), used to explore the behavioural dimensions of Alzheimer's disease, and other neurological conditions. Some of the studies are looking at the relationship between the $KSBA_{comm}$ and other Kingston Scales, such as the Kingston Caregiver Stress Scale (KCSS). A list of the Kingston scales is found on page 27. **If you are interested in participating in these, or other projects, or contributing data, please contact the authors at kscales@queensu.ca.**

$KSBA_{comm}$ QUICK REFERENCE GUIDE

Tracking the Behavioural Progression of Major Neurocognitive Disorder

The **Quick Reference Guide** (see following chart), showing the relative order of appearance of behaviours in Alzheimer's disease, comes from Kilik, Hopkins, Day, Prince, Prince, Rows, 2008, and like the other Kingston Scales can be downloaded free of charge from

http://www.kingstonscales.org (or http://www.kingstonscales.ca).

How to Use the Quick Reference Guide

This chart should be used as a guide to help patients and their families understand what may lie ahead in terms of behaviour changes as dementia progresses. Although a variety of behavioural changes may be encountered, certain behaviours are more commonly reported early in the disorder, while others tend to occur later. The behaviours indicated by the **Green** bars are those that are usually seen first, followed by those indicated by the **Yellow** bars. Those indicated by the **Orange** bars are usually seen next, and finally those indicated by the **Red** bars tend to be found in the later part of the disorder. While behaviour changes normally seen at later times may occur earlier, they tend not to be very common. The point at which a given behaviour becomes marked with a colour depends upon when it first achieved an endorsement rate of 30% or more (i.e. it is reported by at least 30% of surveyed patients in that group).

The data used in this chart were obtained using the $KSBA_{comm}$. Groups are based on the accumulation of behaviour changes from fewest (Green) to most (Red). A sample of 200 cases were ordered by total score and divided into four equal groups. The 4 groups used in this chart are based on total $KSBA_{comm}$ score only and not on any theoretical disease stages. Theoretic stages usually lack empirical support, and most research suggests dementia to be a continuum. Uncoloured (no coloured bars) items did not reach a 30% response level in any group.

Quick Reference Guide to the Progression of Behaviour Change in Dementia

BEHAVIOURAL IMPAIRMENT

Group at which behaviour first achieves a 30% reporting rate.

Low > > High		ITEMS	DOMAINS
	1	No longer takes part in favourite pastimes.	**Daily Activities**
	2	Reduced personal hygiene .	
	3	Doesn't eat properly if left to prepare food.	
	4	Careless about home (kitchen/workshop) safety.	
	5	No longer uses some common objects properly.	
	6	Unable to handle personal finances.	
	7	Is unable to effect minor household repairs, or meals.	
	8	Gets confused in places other than home.	
	9	Overly dependent, wants more guidance than usual.	
	10	Trouble appreciating subtleties in conversations	
	11	Difficulty judging the passing of time.	
	12	Wanders aimlessly.	
	13	Hides things.	
	14	Hoards objects.	
	15	Fails to recognize family or friends.	
	16	Incontinence of urine/feces in clothes in daytime.	
	17	Voids in non-toilet areas.	
	18	Can't concentrate, pay attention for long.	**Atten /Conc /Memory**
	19	Misplaces things than usual.	
	20	Has difficulty organizing his/her time or daily activities.	
	21	Forgets activities, conversations of only a short time before	
	22	Forgets important everyday information.	
	23	Shows little or no emotion.	**Emotional**
	24	Mood changes with no apparent reason.	
	25	Expresses inappropriate emotions, either type or intensity.	
	26	Makes pessimistic statements.	
	27	Verbally abusive at times.	**Aggressive**
	28	Excitable, easy to upset; reacts catastrophically.	
	29	Attempts to hit/strike out at others.	
	30	Claims an object looks similar to, but is not the real one.	**Misperceptions**
	31	Claims a family member looks similar but is not the true one.	
	32	Thinks present dwelling is not their place of living.	
	33	Thinks people are present who aren't.	
	34	Suspicious of family and friends.	**Paranoid**
	35	Suspicious about money issues.	
	36	Accuses others of stealing his or her things.	
	37	Accuses spouse of infidelity.	
	38	Expresses suspicion around taking medication.	
	39	Shows poor judgement in social situations.	**Judgement**
	40	Shows poor judgement about driving.	
	41	Shows uncharacteristic change in concern about money.	
	42	Poor choices in dressing.	
	43	Makes inappropriate sexual advances.	
	44	Shows less self control than usual.	
	45	Unconcerned about personal safety.	
	46	Repeats same actions over and over.	**Perseveration**
	47	Repeats same words or phrases.	
	48	Repeatedly shouts or calls out.	
	49	Desire to pace or walk almost constantly.	**Motor Rest**
	50	Can't sit still, restless, fidgety.	
	51	Tries doors, windows.	
	52	Falls asleep at uncharacteristic times.	**Sleep**
	53	Gets up and wanders or awakens frequently at night.	
	54	Sleeps more.	
	55	Behaviour more agitated or impaired in late afternoon.	
	56	Poor coordination seen in limb/finger movements.	**Motor Spatial**
	57	Slowness of movement	
	58	Unsteadiness when walking.	
	59	Has trouble dressing, especially with buttons or shoelaces.	
	60	Difficulty judging object sizes or how near an object is ...	
	61	Reads far less frequently than in past.	**Language**
	62	Substitutes some words for others.	
	63	Does not watch or follow television.	
	64	Does not speak unless spoken to.	
	65	Often cannot find the right word.	
	66	Trouble pronouncing words.	
	67	Does not understand simple commands, explanations.	
	68	Does not produce meaningful speech.	

EXAMPLES

On pages 17 to 22 are some samples taken from actual cases. Example 1 is an example of a complete scale, while examples 2 to 4 show only the Analyses pages for those cases. Examples 1 and 2 were both community dwelling individuals but the individual in Example 1 has a relatively low to moderate number of responses (i.e.14) noted as “Medium” on the score description column, while Example 2 is an individual at a more advanced stage of dementia with a much larger number of responses (i.e. 49) noted as “Very High” on the score description column. In this latter case, placement was being actively pursued. Due to space limitations on the Analysis page, some numbers are skipped in the “Total Score” column. (See Example 2).

Examples 3 and 4 are individuals who both obtained the same total score (i.e. 19) but have distinctly different profiles. The “U shaped” profile found in Example 3 (also in 1) is typical of relatively early dementia, that is, one dominated by neuropsychological rather than neuropsychiatric behaviours. Whereas, Example 4 (also Example 2) has a more “W shaped” profile, consisting of nearly as many NPT as NPL behaviours.

Kingston Standardized Behavioural Assessment **Example 1**

Name: Example 1 Case #: 12345 **(Early Alzheimer's Disease)**

Sex: M ___ F X Age: 75 Education: 12 yrs Years of Illness: 1

Date: _____ Informant: Daughter

Lives in: Community X

Please check all of the following behaviours that have occurred in the last month or are presently occurring, and that are a change from your spouse/relative/client's earlier behaviour (prior to illness). Indicate whether they apply by marking the box beside the appropriate statement. The Total Score equals number of boxes checked.

1 Daily Activities

X	1	No longer takes part in favourite pastimes (or greatly reduced).
X	2	Reduced personal hygiene . (e.g. Would not take a bath unless told to do so, or wears the same clothes for days unless made to change).
	3	If left on his/her own, doesn't eat properly.
X	4	Unsafe in daily activities, if left unsupervised.
	5	No longer uses some common objects properly. (e.g. telephone)
X	6	Unable to handle personal finances.
X	7	Is unable to perform usual household tasks.
	8	Gets confused in places other than home.
	9	Overly dependent, wants more guidance than usual.
	10	Trouble appreciating subtleties in conversations (e.g. recognizing humor).
	11	Difficulty judging the passing of time.
	12	Wanders aimlessly.
X	13	Hides things.
	14	Hoards objects.
	15	Fails to recognize family or friends.
	16	Incontinence of urine/faeces in clothes in daytime.
	17	Voids in non-toilet areas.
6	<	***Total Daily Activities***

2 Attention/Concentration/

	18	Can't concentrate, pay attention for long.
	19	Misplaces things more than usual.
X	20	Has difficulty organizing his/her time or daily activities.
X	21	Forgets activities, conversations of only a short time before.
X	22	Forgets important everyday information.
3	<	***Total Attention/Concentration/Memory***

3 Emotional Behaviour

	23	Shows little or no emotion.
	24	Mood changes with no apparent reason.
	25	Expresses inappropriate emotions, either type or intensity.
	26	Makes uncharacteristically pessimistic statements.
0	<	***Total Emotional Behaviour***

4 Aggressive Behaviour

X	27	Verbally abusive at times.
	28	Uncharacteristically excitable, easy to upset; reacts catastrophically.
	29	Attempts to hit/strike out at others.
1	<	***Total Aggressive Behaviour***

5 Misperceptions/Misidentif

	30	Claims an object/possession looks similar to, but is not the real one.
	31	Claims a family member looks similar but is not the true one.
	32	Thinks present dwelling is not their place of living.
	33	Thinks people are present who aren't.
0	<	***Total Misperception Behaviour***

6 Paranoid Behaviour

	34	Suspicious of family and friends.
	35	Suspicious about money issues.
	36	Accuses others of stealing his or her things.
	37	Accuses spouse of infidelity.
	38	Expresses suspicion around taking medication.
0	<	***Total Paranoid Behaviour***

7 Judgement/Insight

	39	Shows poor judgement in social situations.
	40	Shows poor judgement about driving.
	41	Shows uncharacteristic change in his or her concern about money.
	42	Poor choices in dressing. (e.g. wears clothes that are inappropriate for season or temperature, wears the same clothes for days).
	43	Makes inappropriate sexual advances.
	44	Shows less self control than usual.
	45	Unable to identify personal safety risks.
0	<	***Total Judgement/Insight***

8 Perseveration

	46	Repeats same actions over and over.
	47	Repeats same words or phrases.
	48	Repeatedly shouts or calls out.
0	<	***Total Perseveration***

9 Motor Restlessness

	49	Desire to pace or walk almost constantly.
	50	Can't sit still, restless, fidgety.
	51	Tries doors, windows.
0	<	***Total Motor Restlessness***

10 Sleep/Activity/Sundowning

	52	Falls asleep at uncharacteristic times.
	53	Gets up and wanders or awakens frequently at night, more than usual.
X	54	Sleeps more.
	55	Behaviour more agitated or impaired in late afternoon.
1	<	***Total Sleep/Activity/Sundowning***

11 Motor/Spatial Problems

	56	Poor coordination seen in limb/finger movements.
X	57	Slowness of movement
X	58	Unsteadiness when walking.
	59	Has trouble dressing, especially with buttons or shoelaces.
	60	Difficulty judging object sizes or how near an object is from themselves.
2	<	***Total Motor Spatial Problems***

12 Language Difficulties

	61	Reads far less frequently than previously.
	62	Substitutes some words for others.
	63	Does not watch or follow television.
	64	Does not speak unless spoken to. (e.g. Does not participate in conversations.)
X	65	Often cannot find the right word.
	66	Trouble pronouncing words.
	67	Does not understand simple commands, explanations.
	68	Does not produce meaningful speech.
1	<	***Total Language Difficulties***

13	**Neuropsychological (NPL) Behaviours**
1	**Neuropsychiatric (NPT) Behaviours Total (3-9)** [2]

14	**Total Score (1-12)** [3]

Example 1 - Early Alzheimer's Disease

BEHAVIOURAL PROFILE

Total			NPL			NPT		
Total Score	Cumulative Percent	Score Description	NPL Score	Cumulative Percent	Score Description	NPT Score	Cumulative Percent	Score Description
68		VERY HIGH	39		VERY HIGH	29		VERY HIGH
66								
62			38					
58			37					
54			36					
50	99		35					
46	98		34					
42	96		33			28		
38	94		32			27		
34	90		31	99		26		
30	86		30	98		25		
29	84		29	97		24		
28	83		28	96		23		
27	81		27	95		22		
26	80		26	93		21		
25	78	HIGH	25	91		20		
24	76		24	90		19		
23	73		23	89		18	99	
22	71		22	88		17	98	
21	68		21	86		16	97	
20	65		20	83	HIGH	15		
19	61		19	79		14	96	
18	57		18	77		13	95	
17	53		17	75		12	94	
16	50		16	69		11	92	HIGH
15	47		15	67				
14	43	MEDIUM	14	63		10	90	
13	38		13	58	MEDIUM	9	87	
12	37		12	54		8	79	MEDIUM
11	34		11	48				
10	31		10	43		7	76	
9	25		9	38		6	70	
8	23	LOW*	8	31	LOW*	5	62	LOW*
7	20		7	29		4	56	
6	18		6	24				
5	16		5	19				
4	12		4	15		3	44	
3	9		3	12				
2	5	N	2	7	N	2	35	N
1	1		1	2		1	28	
0	0		0			0	17	

TOTAL SCORE ANALYSIS

COMPARISON SCALE	1 Daily Activities	2 Attention/Concentration/Memory	3 Emotional Behaviour	4 Aggressive Behaviour	5 Misperceptions	6 Paranoid Behaviour	7 Judgement/Insight	8 Perseveration	9 Motor Restlessness	10 Sleep/Activity/Sundowning	11 Motor/Spatial Problems	12 Language Difficulties
10	17	5	4	3	4	5	7	3	3	4	5	8
9.5	16											
9	15											
8.5							6					7
8	14	4				4					4	
7.5	13		3		3		5			3		6
7	12											
6.5	11			2				2	2			
6	10	6				3	4				3	5
5.5	9											
5	8		2		2					2		4
4.5	7						3					
4	6	2		0		2		1	1		7	3
3.5												
3	5						2					
2.5	4		1		1					1		2
2	3	1				1					1	
1.5	2						1					
1												1
0.5	1											
0	0	0	0	0	0	0	0	0	0	0	0	0

Example 2 - Later Alzheimer's Disease

BEHAVIOURAL PROFILE

Total			NPL			NPT		
Total Score	Cumulative Percent	Score Description	NPL Score	Cumulative Percent	Score Description	NPT Score	Cumulative Percent	Score Description
68		VERY HIGH	39		VERY HIGH	29		VERY HIGH
66								
62			38					
58			37					
54			36					
50	99		35					
46	98		34					
42	96		33			28		
38	94		32			27		
34	90		31	99		26		
30	86		30	98		25		
29	84		29	97		24		
28	83		28	96		23		
27	81		27	95		22		
26	80		26	93		21		
25	78	HIGH	25	91		20		
24	76		24	90		19		
23	73		23	89		18	99	
22	71		22	88		17	98	
21	68		21	86		16	97	
20	65		20	83	HIGH	15		
19	61		19	79		14	96	
18	57		18	77		13	95	
17	53		17	75		12	94	
16	50	MEDIUM	16	69	MEDIUM	11	92	HIGH
15	47		15	67				
14	43		14	63		10	90	
13	38		13	58		9	87	
12	37		12	54		8	79	MEDIUM
11	34		11	48				
10	31		10	43		7	76	
9	25		9	38		6	70	
8	23	LOW*	8	31	LOW*			LOW*
7	20		7	29		5	62	
6	18		6	24		4	56	
5	16		5	19				
4	12		4	15		3	44	
3	9	N	3	12	N			N
2	5		2	7		2	35	
1	1		1	2		1	28	
0	0		0			0	17	

TOTAL SCORE ANALYSIS

COMPARISON SCALE	1 Daily Activities	2 Attention/Concentration/Memory	3 Emotional Behaviour	4 Aggressive Behaviour	5 Misperceptions	6 Paranoid Behaviour	7 Judgement/Insight	8 Perseveration	9 Motor Restlessness	10 Sleep/Activity/Sundowning	11 Motor/Spatial Problems	12 Language Difficulties
10	17	5	4	6	4	5	7	3	3	4	6	8
9.5	16											
9	15						6					7
8.5												
8	14	4				4					4	
7.5	13		3		3		5			3		6
7	12											
6.5	11			2				2	2			
6	10	3				3	4				3	5
5.5	9											
5	8		2		2					2		4
4.5	7						3					
4	6	2				2					2	3
3.5				1				1	1			
3	5						2					
2.5	4		1		1					1		2
2	3	1				1					1	
1.5	2						1					
1	1											1
0.5												
0	0	0	0	0	0	0	0	0	0	0	0	0

Example 3 - U Shaped Profile (Score=19)

BEHAVIOURAL PROFILE

Total			NPL			NPT		
Total Score	Cumulative Percent	Score Description	NPL Score	Cumulative Percent	Score Description	NPT Score	Cumulative Percent	Score Description
68		VERY HIGH	39		VERY HIGH	29		VERY HIGH
66								
62			38					
58			37					
54			36					
50	99		35					
46	98		34					
42	96		33			28		
38	94		32			27		
34	90		31	99		26		
30	86		30	98		25		
29	84		29	97		24		
28	83		28	96		23		
27	81	HIGH	27	95		22		
26	80		26	93		21		
25	78		25	91		20		
24	76		24	90		19		
23	73		23	89		18	99	
22	71		22	88		17	98	
21	68		21	86		16	97	
20	65		20	83	HIGH	15		
19	61		19	79		14	96	
18	57		18	77		13	95	
17	53		17	75		12	94	
16	50		16	69		11	92	HIGH
15	47		15	67				
14	43	MEDIUM	14	63	MEDIUM	10	90	MEDIUM
13	38		13	58		9	87	
12	37		12	54		8	79	LOW*
11	34		11	48				
10	31		10	43		7	76	
9	25		9	38		6	70	
8	23		8	31				
7	20	LOW*	7	29	LOW*	5	62	
6	18		6	24		4	56	
5	16		5	19				
4	12		4	15		3	44	
3	9		3	12				
2	5	N	2	7	N	2	35	N
1	1		1	2		1	28	
0	0		0			0	17	

TOTAL SCORE ANALYSIS

COMPARISON SCALE	1 Daily Activities	2 Attention/Concentration/Memory	3 Emotional Behaviour	4 Aggressive Behaviour	5 Misperceptions	6 Paranoid Behaviour	7 Judgement/Insight	8 Perseveration	9 Motor Restlessness	10 Sleep/Activity/Sundowning	11 Motor/Spatial Problems	12 Language Difficulties
10	17	5	4	3	4	5	7	3	3	4	5	8
9.5	16											
9	15						6					7
8.5												
8	14	4				4					4	
7.5	13		3		3		5			3		6
7	12											
6.5	11			2				2	2			
6	10	5				3	4				3	5
5.5	9											
5	8		2		2					2		4
4.5	7						3					
4	6	2				2					2	3
3.5				1				1	1			
3	5						2					
2.5	4		1		1					4		2
2	3	1				1					1	
1.5	2						1					
1	1											1
0.5												
0	0	0	0	0	0	0	0	0	0	0	0	0

Example 4 - W Shaped Profile (Score=19)

BEHAVIOURAL PROFILE

Total			NPL			NPT		
Total Score	Cumulative Percent	Score Description	NPL Score	Cumulative Percent	Score Description	NPT Score	Cumulative Percent	Score Description
68		VERY HIGH	39		VERY HIGH	29		VERY HIGH
66								
62			38					
58			37					
54			36					
50	99		35					
46	98		34					
42	96		33			28		
38	94		32			27		
34	90		31	99		26		
30	86		30	98		25		
29	84		29	97		24		
28	83		28	96		23		
27	81		27	95		22		
26	80		26	93		21		
25	78	HIGH	25	91	HIGH	20		HIGH
24	76		24	90		19		
23	73		23	89		18	99	
22	71		22	88		17	98	
21	68		21	86		16	97	
20	65		20	83		15		
19	61		19	79		14	96	
18	57		18	77		13	95	
17	53		17	75		12	94	
16	50		16	69		11	92	
15	47		15	67				
14	43	MEDIUM	14	63	MEDIUM	10	90	MEDIUM
13	38		13	58		9	87	
12	37		12	54		8	79	
11	34		11	48				
10	31		10	43		7	76	
9	25		9	38		6	70	
8	23	LOW*	8	31	LOW*			LOW*
7	20		7	29		5	62	
6	18		6	24		4	56	
5	16		5	19				
4	12		4	15		3	44	
3	9		3	12				
2	5	N	2	7	N	2	35	N
1	1		1	2		1	28	
0	0		0			0	17	

TOTAL SCORE ANALYSIS

COMPARISON SCALE	1 Daily Activities	2 Attention/Concentration/Memory	3 Emotional Behaviour	4 Aggressive Behaviour	5 Misperceptions	6 Paranoid Behaviour	7 Judgement/Insight	8 Perseveration	9 Motor Restlessness	10 Sleep/Activity/Sundowning	11 Motor/Spatial Problems	12 Language Difficulties
10	17	5	4	3	4	5	7	3	3	4	5	8
9.5	16											
9	15						6					7
8.5												
8	14	4				4					4	
7.5	13		3		3		5			3		6
7	12											
6.5	11			2				2	2			
6	10	3				3	4				3	5
5.5	9											
5	8		2		2					2		4
4.5	7						3					
4	6	2		1		2		1	1		2	3
3.5												
3	5						2					
2.5	4		1		1					1		2
2	3	1				1					1	
1.5	2						1					1
1												
0.5	1											
0	0	0	0	0	0	0	0	0	0	0	0	0

GLOSSARY

Further Description of Behaviours

1 Daily Activities

1 - No longer takes part in favourite pastimes (or greatly reduced).
- *no longer participates in hobbies or previously preferred activities like playing the piano, or card games*
- *reduction in self-directed leisure activities*

2 - Reduced personal hygiene.
- *would not take a bath unless told to do so, or wears the same clothes for days unless prompted to change*
- *reduction in individual's normal self-directed hygiene*
- *care done by nursing staff*

3 - If left on his/her own, doesn't eat properly.
- *will not independently eat adequate meals or will miss meals, even if provided*
- *weight loss may be apparent*

4 - Unsafe in daily activities, if left unsupervised.
- *may leave stove on, water running, choking, unsafe with hot liquids, unsafe getting into bath, etc.*

5 - No longer uses some common objects properly.
- *now seems to have difficultly handling common household objects such as telephones, microwaves, etc.*
- *difficulty with kitchen utensils - knowing what to use*

6 - Unable to handle personal finances.
- *gets confused paying bills - may not pay at all, or pays twice*
- *now someone else has to handle finances*

7 - Is unable to perform usual household tasks
- *such as cleaning, minor repairs, or prepare meals.*
- *gets confused while trying to fix something,*
- *or unable to organize oneself to prepare meals*

8 - Gets confused in places other than home.
- *gets confused in other people's homes or other familiar places such as shopping centres, neighbourhood, etc.*
- *if taken off unit for activities/appointments could not find their way back to unit alone.*

9 - Overly dependent, wants more guidance than usual.
- *asks for more help, or approval from caregiver than in past; relies on caregiver to initiate activities*
- *often described as "shadowing"*

10 - Trouble appreciating subtleties in conversations
- *now has trouble recognizing humour - does not get jokes*

11 - Difficulty judging the passing of time.
- *may keep asking time of day, etc.*
- *may prepare for appointments etc., several hours before necessary*

12 - Wanders aimlessly.
- *walks around looking lost*
- *not rapid pacing as in Motor Restlessness*

13 - Hides things.
- *hides things away that do not need to be hidden, e.g. dentures*
- *stores things in inappropriate places such putting a purse or wallet in freezer*

14 - Hoards objects.
- *more extreme version of hiding; collecting excessive quantity of things*

15 - Fails to recognize family or friends.
- *does not know them or thinks they are someone else*

16 - Incontinence of urine/faeces in clothes in daytime.
- *clothes include "Depends" etc.*

17 - Voids in non-toilet areas.
- *plant pots, hall corners, etc.*
- *not the same as incontinence in clothes or incontinence briefs*

2 Attention/Concentration/Memory

18 - Can't concentrate, pay attention for as long as they used to.
- *attention span reduced, thinking is more muddled, often slower*

19 - Misplaces things more than usual.
- *like normal failures of memory/forgetfulness, only much more frequent*
- *forgets where they put something down e.g. book, glasses, etc.*

20 - Has difficulty organizing his/her time or daily activities.
- *seems to be busy but accomplishes very little*
- *activities are organized by someone else*

21 - Forgets activities, conversations of only a short time before.
- *within that day*

22 - Forgets important everyday information.
- *such as scheduled appointments and activities, phone numbers, addresses, etc*.

3 Emotional Behaviour

23 - Shows little or no emotion.
- *reduction of normal emotional range*

24 - Mood changes for no apparent reason.

25 - Expresses inappropriate emotions, either type or intensity.
- *e.g. laughing at news of a death, or crying at mild disappointment*

26 - Makes uncharacteristically pessimistic statements.

4 Aggressive Behaviour

27 - Verbally abusive at times.
- *must be directed at someone or something*

28 - Uncharacteristically excitable, easy to upset; reacts catastrophically.
- *reactions to change are exaggerated*
- *intensity of emotional reaction is excessive for the situation*

29 - Physically aggressive.
- *hitting, biting, pinching, spitting, pushing, hair pulling, etc.*

5 Misperceptions/Misidentifications Behaviour

30 - Claims an object or possession looks similar to, but is not the real one.
- *e.g. the family car in driveway is not recognized as own car, or a piece of jewelry/glasses is identified as looking similar to but not their own*

31 - Claims a family member looks similar (to that person) but is not the true one.

32 - Thinks present dwelling is not their place of living.
- *e.g. the person in the nursing home does not recognize that they live in that facility*
- *or, the person who lives in their own home but states they want to, or is packing to, "go home"*

33 - Thinks people are present who aren't.
- *thinks people are present in the room or somewhere in the house when in fact they are not e.g. believes that people on TV are real and in the room, a deceased family member is living elsewhere in the house, misinterprets own image in mirror as another person*

6 Paranoid Behaviour

34 - Suspicious of family and friends.
- *accuses family or staff of putting poison in food or drinks*

35 - Suspicious about money issues.
- *suspects people around them are trying to steal their money*
- *suspects people around them are taking unusual interest in their financial affairs*

36 - Accuses others of stealing his or her things.

37 - Accuses spouse of infidelity.
- *refers to current behaviour not some incident from long past.*

38 - Expresses suspicion around taking medication.
- *suggests that the contents of the medicine bottle is not what it says on the label*
- *believes that the medicine is poison*
- *NOT questions re the value of the medication*

7 Judgement/Insight

39 - Shows poor judgement in social situations.
- *e.g. Making inappropriate comments*
- *off-coloured jokes*
- *no longer respects the social decorum required in a given situation e.g. unwanted comments on physical appearance*

40 - Shows poor judgement about driving.
- *wants to drive when he or she should not*
- *believes he or she could safely drive despite evidence to the contrary*

41 - Shows uncharacteristic change in his or her concern about money.
- *e.g. very reluctant to pay bills, or may give away money to strangers*

42 - Poor choices in dressing.
- *e.g. wears clothes that are inappropriate for season or temperature.*
- *nursing staff picks out clothing*

43 - Makes inappropriate sexual advances.
- *behaviour should be explicit and not vague references that could be interpreted in many ways*

44 - Shows less self control than usual.
- *problems controlling eating, drinking, etc. (not just memory problem)*
- *e.g. eating a whole pot of chili at one sitting*
- *difficulty denying impulses*

45 - Unable to identify personal safety risks.
- *unable to foresee obviously dangerous outcomes to certain actions*
- *unable to take personal safety into account in decision making*
- *will eat food even if clearly spoiled*

8 Perseveration

46 - Repeats same actions over and over.
- *such as tapping or rocking in a chair*

47 - Repeats same words or phrases.
- *includes repetition of syllables or sounds*

48 - Repeatedly shouts or calls out.

9 Motor Restlessness

49 - Desire to pace or walk almost constantly.
- *different from aimless wandering, i.e. faster*

50 - Can't sit still; restless; fidgety.
- *e.g. restlessly moving from chair to chair (or in wheelchair, etc.)*

51 - Tries doors, windows.
- *seems unable to inhibit the tendency to use handles and knobs on things*
- *exit seeking behaviour*

10 Sleep/Activity/Sundowning

52 - Falls asleep at uncharacteristic times.
- during conversations or during meals, or increased daytime sleep

53 - Gets up and wanders or awakens frequently at night more than usual.

54 - Sleeps more.
- more than usual

55 - Behaviour more agitated or impaired in late afternoon.
- ADL is more impaired in late afternoon or early evening; exacerbation of already problematic behaviours

11 Motor/Spatial Problems

Score even if due to physical problems e.g. arthritis, vision, etc.

56 - Poor coordination seen in limb/finger movements.
- e.g. difficulty using pens or pencils, or moving a cup to one's mouth
- includes tremor

57 - Slowness of movement.

58 - Unsteadiness when walking.

59 - Has trouble dressing, especially with buttons or shoelaces.
- struggles to put on clothes the right way - lefts and rights frequently mixed up or clothes sometimes on backwards

60 - Difficulty judging object sizes or how near an object is from themselves.
- may make exaggerated steps to step over something quite low, such as a crack in the floor, change in carpet colour

12 Language Difficulties

61 - Reads far less frequently than they used to.

62 - Substitutes some words for others.
- substitutes an incorrect term for an object or uses a nonsensical word
- makes substitutions usually without knowing it

63 - Does not watch or follow television.

64 - Does not speak unless spoken to. (e.g. Does not participate in conversations.)

65 - Often cannot find the right word.
- halted speech while struggling to find the right word

66 - Trouble pronouncing words.

67 - Does not understand simple commands, explanations.

68 - Does not produce meaningful speech.
- caregiver cannot reliably understand person's requests or responses.

THE KINGSTON SCALES

Cognition

Kingston Standardized Cognitive Assessment - Revised + Drive Score (KSCAr^{+Drive})
BriefKingston Standardized Cognitive Assessment - Revised (BKSCAr)
mini-Kingston Standardized Cognitive Assessment - Rev (mini-KSCAr)

Behaviour

Kingston Standardized Behavioural Assessment - Community Form ($KSBA_{comm}$)
Kingston Standardized Behavioural Assessment - Long Term Care Form ($KSBA_{LTC}$)

Caregiver Stress

Kingston Caregiver Stress Scale (KCSS)

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