



U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

PHYSICAL AND COGNITIVE IMPAIRMENT:

DO THEY REQUIRE DIFFERENT KINDS OF HELP?

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PHYSICAL AND COGNITIVE IMPAIRMENT: Do They Require Different Kinds of Help?

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I. INTRODUCTION

In survey research, difficulties with the Activities of Daily Living (ADL) are often viewed as reflecting an underlying physical condition, such as stroke, hip fracture or chronic obstructive pulmonary disease (COPD). Cognitive impairment, on the other hand, is usually identified by more diagnostically-oriented scales, such as the Short Portable Mental Status Questionnaire (SPMSQ) or the Folstein Mini-Mental Status Examination (MMSE).

From a policy perspective, such an approach to cognitive impairment does not pinpoint a person's level of functioning or need for assistance, any more than simply identifying someone as physically impaired does. Being cognitively impaired does not necessarily mean that one should be eligible for a public benefit or even that one needs services.

If ADLs can help assess the level of functioning and need for supportive services for the physically impaired, perhaps they can do the same for the cognitively impaired. That would be consistent with current policy thinking about disability, which is based more on functioning than diagnosis.

II. STATEMENT OF THE PROBLEM

In surveys, questions about ADL performance usually follow a two part sequence. The respondent is first asked if he or she has difficulty performing an activity. If the answer is yes, the respondent is then asked about the help received to overcome the difficulty.

Physical impairments are commonly believed to require relatively more active assistance with eating, bathing, dressing and other ADLs, while cognitive impairments require relatively more passive, supervisory or standby assistance.

If they exist, differences in the type of ADL help received (e.g. active or supervisory) by cognitive status should show up in survey data. Do these differences exist? If so, how can they be described? What in any such relationship is useful for research and policy purposes? The perceived relationship between the nature of the impairment and the type of ADL help received is the issue examined in this paper.

III. LITERATURE REVIEW AND LEGISLATION

Summary ADL scores can imply that functional disability is a single trait, whereas individuals may have "very heterogeneous characteristics and behavior" depending on whether the limitations are physical or cognitive (Manton and Stallard, 1991:S174). This

suggests the value of looking more closely at ADLs in relation to their underlying causes and the type of help received.

Stone and Murtaugh (1990) and, more recently, Jackson and Burwell (1990) have estimated the sizes of populations potentially eligible for benefits under various home care proposals. ADLs are used to estimate the number of physically impaired, while diagnostic criteria or evidence of behavior problems are used to estimate the number of cognitively impaired.

This is consistent with the way eligibility criteria under most home care proposals, e.g. the one developed by the Pepper Commission, have been formulated. They treat the cognitively impaired as a special category that "implies a special approach for a subset of the population" (Kane, et al., 1991:60).

Instead, "(e)ligibility for services should be based on impairment of function...rather than on diagnosis...Eligibility criteria based on ADLs...must...recognize the special dependencies [of] patients with needs for cuing and supervision" (Advisory Panel on Alzheimer's Disease, 1989:xv).

Recent legislation reflects this shift in thinking. In the 1990 Omnibus Budget Reconciliation Act (OBRA), under Section 4711, a new Home and Community-Based Care option is offered under Medicaid for the functionally disabled elderly. To identify the cognitively impaired, the eligibility criteria explicitly refer to a diagnosis of Alzheimer's Disease and the need for reminding, cuing, or supervision in performing two of five ADLs.

The federal Interagency Forum on Aging-Related Statistics has established a work group whose purpose is to recommend improvements in the way cognitive impairment is measured in national surveys. The work group's report is expected to support emphasis on functioning in assessing cognitive status.

Analyzing Oregon Medicaid data, Kane, Saslow and Brundage found reasonable tradeoffs between sensitivity and specificity in identifying the cognitively impaired, when the definition of ADL dependency was expanded "to include the need for supervision or cuing" (1991:64).

The data come from only one state and the analysis necessarily relies on information recorded for a different purpose. Nonetheless, the study provides empirical underpinning for the expansion of the ADL concept to the cognitively impaired in determining eligibility for long term care benefits and other purposes.

Spector has estimated the numbers of persons potentially eligible for proposed home care benefits depending on variations in: (a) the number of ADL limitations (1+, 2+, 3+); (b) type of assistance: active only versus active or standby; and (c) cognitive status: impaired or intact (1991:55). Kasper found that "use of ADL-based criteria alone would not extend coverage to all of the severely cognitively impaired" (1990:96).

Surprisingly few studies assess the cognitive status of nursing home patients. Rabins et al. recommend including "measures of cognition in a wide range of nursing home studies" (1987:434).

IV. ANALYTIC APPROACH

This paper is a more modest effort analytically than those of Kane et al., Spector or Kasper to examine the relationship between types of ADL help and cognitive impairment. While using national survey data, it focuses on individual ADLs and a wide range of assistance combinations.

The 1984 National Long Term Care Survey (NLTCS) is a nationally representative sample of the functionally disabled elderly aged 65 and over. It is a list sample drawn from Medicare enrollment files (Manton, 1987). Among its components is a sample of functionally disabled elderly living in the community, which is used for the analysis in this paper.

The detailed survey data excludes persons who were cognitively impaired but did not report ADL or IADL limitations at the time of screening. It is assumed that the number of such persons is small.

There is considerable variation across national surveys in the coverage of specific ADLs covered and the measurement of ADL limitations (Wiener et al., 1990). Furthermore, most surveys do not permit separate identification of standby assistance, supervision and cuing.

Besides having a high degree of precision in its estimates, the NLTCS asks questions in greater detail than other surveys on the kind of ADL assistance received by respondents. Along with some other surveys, it asks about assistive devices as well as human assistance.

Most valuable for our present purpose, the NLTCS alone among major national surveys asks about supervisory or standby assistance (Wiener et al., 1990:S231). Standby help in the NLTCS probably includes supervision but the degree to which it also includes cuing and prompting is unknown (Spector, 1991:56).

For purposes of this analysis, we looked in detail at six ADLs, viz., eating, getting in/out of bed, getting around inside, dressing, bathing and toileting. We also selected three Instrumental Activities of Daily Living (IADL), viz., money management, telephoning, and taking medicine.

For each ADL, we determined the total number of persons receiving assistance. That number was disaggregated according to various types of assistance. The skip patterns in the NLTCS precluded all potential combinations, but did permit us to look at

the following types of assistance: (1) no help; (2) active help only; (3) active help plus assistive devices; (4) assistive device plus standby help; (5) standby help only; and (6) assistive device only.

For the three IADLs, there was not as much detailed information. In these case, we looked at whether help was needed and, if so, whether it was received.

We cross-tabulated the type of help received with cognitive status, i.e., whether the survey respondents were cognitively impaired or cognitively intact.

The NLTCS provides three ways of "getting a handle" on the cognitive status of respondents. The survey included a modified Short Portable Mental Status Questionnaire (SPMSQ). Proxies were asked about the cognitive status of SPMSQ non-respondents.

Dementia and mental retardation were also listed as conditions identifiable by proxies or respondents as causes of the respondent's functional limitations (Spector, 1991). There were also questions on behavior that provide insight into the respondent's cognitive status.

For this analysis, we limited ourselves to just those cases where the respondent completed the SPMSQ. While this reduces our sample size, it has the merit of being a single consistent measure. We divided the respondents into two groups, those with no or mild cognitive impairment (i.e., cognitively intact) and those with moderate or severe cognitive impairment (i.e., cognitively impaired).

The SPMSQ is a series of ten questions aimed at probing memory, computational ability and present orientation. Following Spector (1991) we established three incorrect answers as the cutoff point. Four or more incorrect answers were taken to indicate moderate or severe cognitive impairment.

V. FINDINGS

We now present a series of tables in a standard format. In each table the percentages of the respondent population receiving various types of help with an ADL or IADL are cross-tabulated with the cognitive status of respondents. A Z-score is calculated to determine whether or not the proportion of cognitively impaired persons receiving a particular type of help is significantly different from that of the cognitively intact.

The following points apply to all the tables.

1. Only cases from the survey were selected for which there were responses on all ten questions of the SPMSQ. The unweighted totals were 527 for the moderately or

severely cognitively impaired and 3808 for the not or mildly impaired, for an overall total of 4335.

2. The weighted population totals were 517,251 for the moderately/severely impaired, 3,938,958 for the not/ mildly impaired and 4,456,209 overall.
3. In the column cells, the numbers in parentheses are the unweighted counts underlying the population percentages.
4. The "n.m." in the Z-statistic column signifies not meaningful and occurs when the percentages or proportions being compared both have numerators based on unweighted counts of 30 or fewer cases. A Z-score is not reported in these circumstances.
5. All reported Z-scores are significant at the 0.01 level under a one-tailed test.
6. Sum totals in certain cells do not equal 100% due to rounding errors.

The ADLs form a Guttman scale or hierarchy which can be discerned in the following tables. A smaller percentage of persons receiving help with an ADL indicates not only that difficulty with the ADL is rarer but that the underlying condition is more severe than ADLs with higher percentages.

Thus the percentage of all disabled elderly receiving help with eating is the lowest for eating but highest for getting around inside and bathing. Physical or cognitive conditions that cause difficulties with getting around and bathing are more common than those causing difficulty with eating. In the following tables, we proceed from the rarer (or more severe) ADL problems to the more common.

Of 4.5 million functionally disabled elderly whose cognitive status is known from the SPMSQ, 11.6% were cognitively impaired, 88.4% cognitively intact. As will be seen, the percentages of disabled elderly persons receiving help with particular ADLs who were cognitively impaired is invariably higher than this overall figure.

On to the specific ADLs...

VI. ACTIVITIES OF DAILY LIVING

1. Eating

The cognitively impaired made up nearly a quarter of all who receive any help with eating. They were 17.3% of all those receiving active help only, 18.3% of those using assistive devices only and 29.3% of those receiving standby help only.

Over 95% of the functionally disabled elderly did not receive help with eating. Receiving help with eating reflects a high degree of functional impairment. Hence, as expected, the percent of persons not receiving assistance is high. At the same time, the difference between the cognitively impaired who did not receive help (90.6%) and the cognitively intact who did not receive help (96.2%) is statistically significant.

From the reverse perspective, 9.1% of the cognitively impaired received help with eating compared to 3.9% of the cognitively intact. (See Table 1)

Z-scores are meaningful for active help only and standby help only. A significantly higher proportion of the cognitively impaired received active help only and standby help only with eating.

The standby help factor is more important since it accounts for a much higher proportion of all help with eating. For the cognitively impaired it accounts for 77% (i.e. 7.0/9.1) and for the cognitively intact 56% (i.e. 2.2/3.9).

Thus, standby help is the predominant type of help with eating for the functionally disabled elderly who receive help. A significantly higher proportion of the cognitively impaired receive such help compared to the cognitively intact.

2. Dressing

Four of five (80.1%) cognitively impaired elders received no help with dressing, significantly less than the 87.8% of the cognitively intact.

While 12.4% of all disabled elderly and 11.6% of the cognitively intact received help with dressing, 17.7% of the cognitively impaired did.

The proportion of those receiving standby help only who are cognitively impaired (22.4%) is nearly twice as high as the proportion of all disabled elderly who are cognitively impaired (11.6%).

Active help only and standby help only predominated. In both cases the cognitively impaired received significantly more of these types of help. In the case of standby help only, the percentage for the cognitively impaired was more than twice as high (7.0% vs 3.2%).

Thus, standby help played a major role in dressing, particularly for the cognitively impaired. (See Table 2)

3. Toileting

84.4% of the cognitively intact toileted without help, whereas only three quarters (75.5%) of the cognitively impaired did.

Conversely, nearly a quarter (23.8%) of the cognitively impaired received help with toileting, compared to about one in six (15.5%) of the cognitively intact. (See Table 3)

As observed several times already, the cognitively impaired were 11.6% of all disabled elderly, but made up a far higher proportion of the groups receiving any assistance and each type of assistance--18.7% for active help only, 27.8% of active-help-plus-assistive-devices, 17.2% of assistive-devices-plus-standby-help and 25.4% of standby help only. The one exception was assistive devices only (10.6%).

For both bathing and toileting, assistive devices were used less by the cognitively impaired relative to their proportion of the elderly disabled population.

While the cognitively impaired were significantly more likely to receive each type of help (except for assistive devices), standby help only stood out once again. It was a large component of all help received--37.8% for the cognitively impaired (9.0/23.8) versus 22.6% for the cognitively intact (3.5/15.5). The proportion of the cognitively impaired receiving standby help only was over two and a half times greater (9.0% vs. 3.5%) for the cognitively impaired compared to the cognitively intact.

4. Getting In/Out of Bed

Overall, 80% of the functionally disabled elderly were able to get in or out of bed without assistance. Seven of ten (71%) of the cognitively impaired received no help with getting in or out of bed compared to eight of ten (81%) of the cognitively intact, a statistically significant difference.

These percentages are considerably smaller than those for eating. In other words, a higher proportion of functionally disabled elderly were able to eat without assistance than could get in or out of bed without assistance, regardless of cognitive status.

Again the proportion of all persons receiving any help with getting in/ out of bed who were cognitively impaired was higher (16.7%) than the proportion of all disabled elderly who were cognitively impaired (11.6%).

The same trend holds for specific help categories. The cognitively impaired comprised a quarter (25.1%) of those receiving active help only and were over-represented in the other help categories as well. One in five (19.9%) of the disabled elderly reported receiving some kind of assistance with getting in or out of bed. 28.7% of the cognitively impaired received assistance, compared to 18.7% of the cognitively intact. (See Table 4)

Assistive devices only were the most common type of help, accounting for about a third (9.9/28.7 or 34.4%) of the help received by the cognitively impaired and a half (9.2/18.7 or 49.7%) for the cognitively intact. The next most common type of help is

standby help only, accounting for 24.3% (7.0/28.7) of all help for the cognitively impaired and 19.3% (3.6/18.7) for the intact.

For all types of help--active only, active plus assistive device, standby only, etc.--the differences between the cognitively impaired and the cognitively intact are statistically significant. Higher proportions of the cognitively impaired use each type of help.

In summary, the cognitively impaired are more likely to need help with getting in or out of bed and they use each type of help available to a significantly greater degree than the cognitively intact.

5. Bathing

Reflecting the fact that problems in bathing are not uncommon among the disabled elderly, only 63.3% of the cognitively intact and a significantly smaller percentage of the cognitively impaired (55.5%) received no help with this ADL. The percentages of both groups who did not bathe were relatively high, especially for the cognitively impaired.

Nearly two of five (38.6%) of the cognitively impaired received help with bathing, compared to about a third of the cognitively intact (32.2%).

In all areas where help was received, the percentages for the cognitively impaired were significantly different from the cognitively intact. They were higher for the cognitively impaired in all but one case. The cognitively intact were significantly more likely to use assistive devices only.

Whereas standby help was more typical of other ADLs for the cognitively impaired, active help only played a slightly larger role in bathing. The percent of those receiving active help who were cognitively impaired was almost double that of all elderly disabled who were cognitively impaired (22.5% vs. 11.6%).

Also, as a percentage of their total group, the cognitively impaired were twice as likely to receive active help only as the cognitively intact (11.6% vs. 5.2%). The other differences were not as large but in the same direction. (See Table 5)

A similar pattern applied to standby help only, where 10.0% of the cognitively impaired received such help compared to 5.3% of the cognitively intact.

6. Getting Around Inside

Two-thirds (66.5%) of the disabled elderly did not receive help with getting around inside. While 67.7% of the cognitively intact managed without help, only 57.8% of the cognitively impaired did--a statistically significant difference. Again, these percentages are lower than those for eating and getting in/out of bed.

Conversely, a third of all disabled elderly received some assistance with getting around inside, whereas two fifths (41.7%) of the cognitively impaired received some assistance. (See Table 6)

While the cognitively impaired comprised about one-ninth (11.6%) of all functionally disabled elderly, they comprised 14.5% of those receiving any help with getting around inside.

The differences by type of help are more striking. The cognitively impaired were around one-fifth of the disabled elderly who combined active help and assistive devices (20.7%), who combined assistive devices and standby help (19.1%) or who received standby help only (18.1%). The corresponding figures for the cognitively intact are 2.9%, 3.8% and 3.7%.

For the cognitively impaired, assistive devices only accounted for over half (21.8/41.7 or 52.3%) of all help received, while for the cognitively intact they accounted for almost two-thirds (20.7/32.2 or 64.4%).

The proportions of the cognitively impaired who used each type of help were significantly higher than those for the cognitively intact. The Z-scores are highest for the categories of active-help-plus-assistive-devices, assistive-devices-plus-standby-help and standby help only.

VII. SELECTED IADLS

We look at selected IADLs for differences in help received by cognitive status. Money management, telephoning and taking medicine were selected because they entailed a significant degree of cognitive functioning. The questions on the NLTCS are not as extensive for IADLs as for ADLs, but do enable us to see certain help patterns.

1. Money Management

About a quarter (24.4%) of all disabled elderly received help with managing money. This broke down into about one in five (21.7%) of the cognitively intact and over two in five (44.5%) of the cognitively impaired.

Similarly, compared to being 11.6% of all disabled, the cognitively impaired made up one fifth (21.1%) of those significant help with money management. Furthermore, they were 37% of those not receiving but needing help in this area. (See Table 7)

2. Using the Telephone

Nine of ten (89.8%) cognitively intact elderly received no help with telephoning, whereas only seven in ten (68.1%) of the cognitively impaired.

The cognitively impaired were three times more likely than the cognitively intact (11.4% vs. 3.7%) to receive needed help with telephoning. The skip patterns in the NLTCs permit construction of an unusual category called Help Received But Not Needed. The cognitively impaired made up a large proportion of this group. (See Table 8)

3. Taking Medicine

A quarter (25.9%) of all those receiving help in taking medicine were cognitively impaired. Similarly a quarter (24.8%) of the cognitively impaired group itself received such help compared to one in ten (9.3%) of the cognitively intact--a statistically significant difference.

Somewhat surprisingly, while the cognitively impaired are 11.6% of the elderly disabled population, they made up 14.3% of those who did not take medicine. (See Table 9)

VIII. OVERALL FINDINGS

The cognitively impaired elderly do differ from the cognitively intact in the types and amounts of ADL help they receive. However, the patterns of help vary by ADL.

With few exceptions (e.g. use of assistive devices for toileting or bathing), the cognitively impaired use more of every type of help available with ADLs.

In the case of eating, the significantly greater use of standby help distinguishes the cognitively impaired from the cognitively intact. Standby help accounts for three-quarters (7.0/9.1 or 77%) of all help with eating for the cognitively impaired compared to somewhat more than half (2.2/3.9 or 56%) for the cognitively intact.

For dressing, active help is used most frequently and in similar amounts by both the cognitively impaired and the cognitively intact. Standby help comes next, with the cognitively impaired using it more than twice as frequently as the cognitively intact (7.0% versus 3.2%).

For toileting, standby help predominates. For the cognitively impaired almost two-fifths (9.0/23.8 or 38%) of the help is standby, versus a little less than a quarter (3.5/15.5 or 23%). For the cognitively intact, assistive devices play the greatest role in toileting. (See Table 10)

Similar to other ADLs, the cognitively impaired receive more help than the cognitively intact with getting in and out of bed. They also receive more of each type of help. Assistive devices are used with the highest (and most similar) frequency by both groups. Standby help comes next, with greater predominance found among the cognitively impaired (7.0% versus 3.6%).

For bathing, the cognitively impaired rely more on both active help and standby help--nearly twice as much as the cognitively intact. Assistive devices are found more than twice as frequently among the cognitively intact and account for more than two fifths (14.1/32.2 or 44%) of their help with bathing.

Assistive devices are the most predominant type of help and are used with almost the same frequency by both groups for getting around inside. The next most common types of help are combined assistive-devices-and-standby-help and standby help alone. In both cases, the cognitively impaired use these types of help far more than the cognitively intact (6.9% versus 3.8% and 6.3% versus 3.7% respectively).

IX. DISCUSSION

The indications as to whether the underlying condition is physical or cognitive depend not only on the type of help received but also the specific ADL for which the help is received. The percentage of cognitively impaired receiving standby help is generally about twice as high the cognitively intact regardless of ADL.

For other types of help, the disparity overall is not so great, though it is for specific ADLs. Thus, for all ADLs, active help is received by a higher percentage of the cognitively impaired compared to the cognitively intact. However, only for bathing is it twice as high. In other cases, the percentages are closer for the two groups.

A higher percentage of the cognitively impaired use assistive devices than do the cognitively intact for eating, dressing, getting in/out of bed and getting around inside. However, the percentages themselves are either low (eating, dressing) or the differences between the two groups very small (getting in/out of bed, getting around inside).

For the other two ADLs, a higher percentage of the cognitively intact use assistive devices than the cognitively impaired. For toileting, the difference is small, but for bathing, the percentage of the intact using assistive devices is more than twice as high (14.1% versus 6.3%).

The existence of standby help for any ADL means a higher likelihood that the individual is cognitively impaired.

Active help for bathing means a higher likelihood of cognitive impairment, as does the combined active-help-plus-assistive-device for bathing. Conversely, the use of assistive devices alone for bathing means a higher likelihood that the individual is cognitively intact.

Active-help-plus-assistive-device and assistive-device-plus-standby-help for getting in/out of bed and for getting around inside suggest a greater probability of cognitive impairment.

For the IADLs, it is not possible to separate out the types of assistance. Suffice it to say that, for the three IADLs examined, the cognitively impaired were far more likely to receive assistance than the cognitively intact.

X. CONCLUSION

The type and amount of help received for ADLs indicate not only the presence of functional impairment, but also provide clues to the nature of the underlying condition.

Unfortunately, most national surveys currently fail to cover all the types of assistance received with ADLs. That makes it necessary to rely on diagnostically-oriented scales specifically targeted at the cognitively impaired. To identify the functional levels of the cognitively impaired, national surveys covering ADLs should include questions on supervision, cuing, standby assistance and use of assistive devices.

At the same time, additional research is needed to determine what proportion of the cognitively impaired may not be captured by ADL and IADL limitations as distinct from other functioning-related criteria (e.g. behavioral problems).

Surveys (and program eligibility criteria) could thereby stay better focused on the critical factor--ability to function, regardless of the reason. Diagnosis has given way to impairment of function as a way of estimating the size of the physically disabled elderly population and its need for services. With more extensive treatment of the types of help received for specific functions, it seems possible to extend this approach to the cognitively impaired as well.

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TABLE 1: HELP WITH EATING							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	39.9	0.3 (1)	60.2	0.1 (3)	100.1	0.1 (4)	NM
No Help Received	11.0	90.6 (475)	89.0	96.2 (3654)	100.0	95.5 (4129)	-181.3
Any Help Received	24.0	9.1 (51)	76.0	3.9 (151)	100.0	4.4 (202)	171.6
Active Help Only	17.3	1.8 (11)	282.7	1.2 (46)	100.0	1.2 (57)	41.9
Active Help and Assistive Device	0.0	0.0 (0)	100.0	0.1 (5)	100.0	0.1 (5)	NM
Assistive Device and Standby Help	0.0	0.0 (0)	100.0	0.2 (4)	100.0	0.1 (4)	NM
Standby Help Only	29.3	7.0 (38)	70.7	2.2 (89)	100.0	2.8 (127)	196.0
Assistive Device Only	18.3	0.3 (2)	81.6	0.2 (7)	100.0	0.2 (9)	NM
Total	11.6	100.0	88.4	100.2	100.0	100.0	

TABLE 2: HELP WITH DRESSING							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	24.6	0.3 (2)	75.4	0.1 (7)	100.0	0.2 (9)	NM
Did Not Do	27.9	1.8 (10)	72.1	0.6 (24)	100.0	0.7 (34)	NM
No Help Received	10.7	80.1 (418)	89.3	87.8 (3318)	100.0	86.9 (3736)	-152.3
Any Help Received	16.8	17.7 (97)	83.2	11.6 (459)	100.0	12.4 (556)	128.8
Active Help Only	14.2	8.9 (50)	85.8	7.1 (285)	100.0	7.3 (335)	48.2
Active Help and Assistive Device	12.6	0.5 (3)	87.4	0.5 (21)	100.0	0.5 (24)	NM
Assistive Device and Standby Help	15.3	0.2 (1)	84.8	0.2 (4)	100.0	0.2 (5)	NM
Standby Help Only	22.4	7.0 (38)	77.7	3.2 (125)	100.1	3.7 (163)	137.9
Assistive Device Only	18.7	1.1 (5)	81.3	0.6 (24)	100.0	0.7 (29)	NM
Total	11.6	99.9	88.4	100.2	100.0	100.2	

TABLE 3: HELP WITH TOILETING							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	0.0	0.0 (0)	100.0	0.1 (2)	100.0	0.1 (2)	NM
Did Not Do	17.7	0.7 (4)	82.3	0.4 (19)	100.0	0.4 (23)	NM
No Help Received	10.6	75.5 (393)	89.4	84.0 (3166)	100.0	83.0 (3559)	-152.8
Any Help Received	16.8	23.8 (130)	83.2	15.5 (621)	100.0	16.4 (751)	
Active Help Only	18.7	2.1 (10)	81.3	1.2 (48)	100.0	1.3 (58)	53.6
Active Help and Assistive Device	27.8	2.9 (15)	72.2	1.0 (43)	100.0	1.2 (58)	117.6
Assistive Device and Standby Help	17.2	2.2 (14)	82.8	1.4 (56)	100.0	1.5 (70)	45.5
Standby Help Only	25.4	9.0 (48)	74.6	3.5 (135)	100.0	4.1 (183)	187.8
Assistive Device Only	10.6	7.6 (43)	89.4	8.4 (339)	100.0	8.3 (382)	-20.3
Total	11.6	100.0	88.4	100.0	100.0	99.9	

TABLE 4: HELP WITH GETTING IN/OUT OF BED							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	35.2	0.3 (1)	64.8	0.1 (3)	100.1	0.1 (4)	NM
Did Not Do	41.3	0.1 (1)	58.7	0.0 (1)	100.0	0.0 (2)	NM
No Help Received	10.3	70.9 (365)	89.7	81.2 (3042)	100.0	80.0 (3407)	-173.6
Any Help Received	16.7	28.7 (160)	83.3	18.7 (762)	100.0	19.9 (922)	168.2
Active Help Only	25.1	2.6 (13)	74.9	1.0 (43)	100.0	1.2 (56)	97.3
Active Help and Assistive Device	21.9	4.9 (26)	78.1	2.3 (93)	100.0	2.6 (119)	110.7
Assistive Device and Standby Help	17.6	4.3 (26)	82.5	2.6 (111)	100.1	2.8 (137)	66.7
Standby Help Only	20.4	7.0 (40)	79.7	3.6 (141)	100.1	4.0 (181)	117.7
Assistive Device Only	12.4	9.9 (55)	87.6	9.2 (374)	100.0	9.3 (429)	16.7
Total	11.6	100.0	88.4	100.2	100.0	100.0	

TABLE 5: HELP WITH BATHING							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	36.3	0.5 (3)	63.7	0.1 (5)	100.0	0.2 (8)	NM
Did Not Do	14.4	5.6 (32)	85.6	4.3 (176)	100.0	4.5 (208)	40.4
No Help Received	10.3	55.5 (283)	89.7	63.3 (2358)	100.0	62.4 (2641)	-109.6
Any Help Received	13.6	38.6 (209)	86.4	32.2 (1269)	100.0	33.1 (1478)	89.8
Active Help Only	22.5	11.6 (58)	77.5	5.2 (212)	100.0	6.0 (270)	180.8
Active Help and Assistive Device	17.8	7.5 (42)	82.3	4.6 (189)	100.1	4.9 (231)	91.8
Assistive Device and Standby Help	12.0	3.2 (17)	88.0	3.0 (118)	100.0	3.1 (135)	4.3
Standby Help Only	19.7	10.0 (54)	80.3	5.3 (214)	100.0	5.9 (268)	133.1
Assistive Device Only	5.6	6.3 (38)	94.4	14.1 (536)	100.0	13.2 (574)	-155.1
Total	11.6	100.2	88.4	99.9	100.0	100.0	

TABLE 6: HELP WITH GETTING AROUND INSIDE							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	29.6	0.1 (1)	70.4	0.0 (2)	100.1	0.1 (3)	NM
Did Not Do	47.5	0.4 (3)	52.5	0.1 (3)	100.0	0.1 (6)	NM
No Help Received	10.1	57.8 (293)	89.9	67.7 (2527)	100.0	66.5 (2820)	-142.0
Any Help Received	14.5	41.7 (230)	85.5	32.2 (1276)	100.0	33.3 (1506)	135.4
Active Help Only	11.2	1.0 (5)	88.8	1.1 (39)	100.0	1.1 (44)	-2.9
Active Help and Assistive Device	20.7	5.7 (31)	79.3	2.9 (119)	100.0	3.2 (150)	108.4
Assistive Device and Standby Help	19.1	6.9 (38)	81.0	3.8 (162)	100.1	4.2 (200)	102.6
Standby Help Only	18.1	6.3 (36)	81.9	3.7 (144)	100.0	4.0 (180)	87.7
Assistive Device Only	12.1	21.8 (120)	87.9	20.7 (812)	100.0	20.8 (932)	17.8
Total	11.6	100.0	88.4	100.0	100.0	100.0	

TABLE 7: HELP WITH MONEY MANAGEMENT							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	8.5	55.0 (289)	91.5	77.8 (2952)	100.0	75.2 (3241)	-358.0
Help Received	21.1	44.4 (236)	78.97	21.7 (838)	100.0	24.4 (1074)	356.4
Help Not Received, But Needed	37.0	0.3 (1)	63.00	0.1 (3)	100.0	0.1 (4)	NM
No Help Received Or Needed	2.8	0.4 (1)	87.2	0.4 (15)	100.0	0.4 (16)	NM
Total	11.6	100.1	88.4	100.0	100.0	100.1	

TABLE 8: HELP WITH USING TELEPHONE							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	31.2	11.7 (61)	68.8	3.4 (127)	100.0	4.3 (188)	274.8
Help Received	28.8	11.4 (63)	71.27	3.7 (151)	100.0	4.6 (214)	248.9
Help Not Received, But Needed	27.3	8.8 (47)	72.80	3.1 (118)	100.1	3.8 (165)	203.7
No Help Received Or Needed	9.1	68.1 (356)	90.9	89.8 (3412)	100.0	87.3 (3758)	-441.1
Total	11.6	100.0	88.4	100.0	100.0	100.0	

TABLE 9: HELP WITH TAKING MEDICINE							
(A) = Type of Help	Cognitive Impairment (%)						(H) = Z-Score (C) vs. (E)
	Moderate/Severe		No/Mild		Total		
	(B) = Row	(C) = Column	(D) = Row	(E) = Column	(F) = Row	(G) = Column	
Missing	8.8	0.5 (4)	91.2	0.7 (26)	100.0	0.7 (30)	-16.0
Help Received	25.9	24.8 (131)	74.1	9.3 (364)	100.0	11.1 (495)	333.5
Help Not Received, But Needed	14.1	1.2 (7)	85.9	1.0 (37)	100.0	1.0 (44)	16.7
No Help Received Or Needed	9.6	69.6 (364)	90.4	85.9 (3262)	100.0	84.0 (3626)	-301.9
No Medicine Taken	14.3	3.9 (21)	85.7	3.1 (119)	100.0	3.2 (140)	31.6
Total	11.6	100.0	88.4	100.0	100.0	100.0	

TABLE 10: HELP WITH ADLS BY COGNITIVE STATUS						
ADL	Type of Help (%)					
	Any Help	Active Only	Active/ Assistive Device	Assistive Device/ Standby	Standby Only	Assistive Device Only
Eating						
Impaired	9.1	1.8	0.0	0.0	7.0	0.3
Intact	3.9	1.2	0.1	0.2	2.2	0.2
Dressing						
Impaired	17.7	8.9	0.5	0.2	7.0	1.1
Intact	11.6	7.1	0.5	0.2	3.2	0.6
Toileting						
Impaired	23.8	2.1	2.9	2.2	9.0	7.6
Intact	15.5	1.2	1.0	1.4	3.5	8.4
Getting In/Out of Bed						
Impaired	28.7	2.6	4.9	4.3	7.0	9.9
Intact	18.7	1.0	2.3	2.6	3.6	9.2
Bathing						
Impaired	38.6	11.6	7.5	3.2	10.0	6.3
Intact	32.2	5.2	4.6	3.0	5.3	14.1
Getting Around Inside						
Impaired	41.7	1.0	5.7	6.9	6.3	21.8
Intact	32.2	1.1	2.9	3.8	3.7	20.7