

*Harmonization of Cross-National Studies of
Aging to the Health and Retirement Study*

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Paper No: 2022-001

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Harmonization of Cross-National Studies of Aging to the Health
and Retirement Study

User Guide

Physical Functional Health

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December 2021

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EXECUTIVE SUMMARY AND OVERVIEW

This User Guide provides basic information about the broad topic of physical functional health questions from the Harmonized Health and Retirement Study (HRS) and its sister harmonized surveys. These include: the US Health and Retirement Study (HRS), the Mexican Health & Aging Study (MHAS), the English Longitudinal Study of Ageing (ELSA), the Survey of Health, Ageing, and Retirement in Europe (SHARE), the Costa Rican Longevity and Health Aging Study (CRELES), the Korean Longitudinal Study of Aging (KLoSA), the Japanese Study on Aging and Retirement (JSTAR), the Irish Longitudinal Study on Ageing (TILDA), the Chinese Health and Retirement Longitudinal Study (CHARLS), and the Longitudinal Aging Study in India (LASI). All of the surveys collected information on physical functional health, but varied in the spectrum and details of questions asked.

We group the harmonized functional health measures into three categories: activities of daily living (ADLs), instrumental activities of daily living (IADLs), and other functional activities that are not in the purview of either ADLs or IADLs.

1. Inventory of Harmonized Measures

This section summarizes coverage of the three broad categories of physical functional limitations that have been included in the harmonized HRS-family of surveys. All surveys include any difficulty with ADLs, IADLs, and functional ability, but KLoSA does not include any functional ability measures.

1.1. Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADLs), and Functional Abilities

1.1.1. United States – Health and Retirement Study (HRS)

(Harmonized HRS, Version B, October 2018; RAND HRS Longitudinal File 2018 V1)

Activities of Daily Living (ADL)

Activities of Daily Living (ADL) harmonized variables are derived from whether the respondent has difficulties with bathing, dressing, eating, getting in/out of bed, using toilet, and walking across a room. These variables are measured from Waves 1 to 14.

In the HRS Wave 1, respondents were asked whether the activity is “not difficult at all,” “a little difficult,” “somewhat difficult,” or “very difficult/can’t do”. The harmonized ADL variables for Wave 1 are recoded into a binary variable based on the Wallace and Herzog definition. A score of 1 is assigned for “any difficulty” if the respondent answered “a little difficult,” “somewhat difficult,” or “very difficult/can’t do” and a score of 0 is assigned if the respondent answered “not difficult at all.” Please note that Wave 1 does not include the question about using a toilet.

In the HRS Wave 2, respondents were given several options to report the level of difficulty with ADLs. These levels included “not difficult,” “occasionally difficult,” “difficult some of the time,” and “difficult most of the time” for some questions and “not difficult,” “a little difficult,” “difficult,” and “a lot difficult” for other questions. These levels are recoded to either “No” for not difficult and “Yes” for difficult.

From Wave 3 forward, respondents were asked to answer the difficulty questions with “yes,” “no,” “can’t do,” or “don’t do.” Responses are assigned a score of 1 to indicate some difficulty if respondents answered with “yes” or “can’t do.”

Instrumental Activities of Daily Living (IADL)

In HRS, Instrumental Activities of Daily Living (IADLs) variables included whether the respondent has difficulties with managing money, taking medications, shopping for groceries, preparing hot meals, using the phone, reading a map, using a calculator, using a computer, and using a microwave. However, the HRS data does not include the same activities in each wave.

In the HRS, Wave 1 only measures difficulty with reading a map, using a calculator, using a computer, and using a microwave. The variables using a computer and using a microwave are available for Wave 1 only. The harmonized Wave 1 variables are derived based on the Wallace and Herzog definition. A score of 1 is assigned for “any difficulty” if the respondent answered “a little difficult,” “somewhat difficult,” or “very difficult/can’t do.” A response of “not difficult at all” is assigned a score of 0.

From Wave 2 forward, whether the respondent has difficulties with using a map, managing money, taking medications, shopping for groceries, preparing hot meals, and using the phone are derived. The variable using a calculator is not asked starting in Wave 3. Responses are assigned a score of 1 to indicate “some difficulty or can’t do” and a score of 0 to indicate “no difficulty.”

Functional Ability

Functional ability in HRS are derived from whether the respondent has difficulties with walking one block; sitting for about 2 hours; getting up from a chair after sitting for long periods; climbing one flight of stairs without resting; climbing several flights of stairs without resting; stooping, kneeling, or crouching; lifting or carrying weights over 10 pounds, like a heavy bag of groceries; picking up a dime from a table; walking several blocks; reaching or extending your arms above shoulder level; running or jogging about a mile; and pushing or pulling large objects. These variables are available from Wave 2 to 14. Responses are assigned a score of 1 to indicate “some difficulty” and a score of 0 to indicate “no difficulty.”

In Wave 1, the HRS measures walking several blocks; jogging one mile; walking one block; getting up from a chair after sitting for long periods; climbing several flights of stairs; climbing one flight of stairs; stooping, kneeling, or crouching; lifting or carrying weights over 10 pounds; picking up a dime from a table; reaching or extending arms above shoulder level; and pushing or pulling large objects. The harmonized Wave 1 variables are derived based on the Wallace and Herzog definition. A score of 1 is

assigned for “any difficulty” if the respondent answered “a little difficult,” “somewhat difficult,” or “very difficult/can’t do.” Responses are assigned a score of 0 if respondents answered “not difficult at all.”

1.1.2. Mexico – Mexican Health and Aging Study (MHAS)

(Harmonized MHAS, Version B.3, Sept 2021)

Activities of Daily Living (ADL)

Harmonized ADL variables in the MHAS are derived from whether the respondent has difficulties with bathing, dressing, eating, getting in/out of bed, using toilet, and walk across room. These harmonized variables are available in Waves 1 to 4.

Unlike the HRS, respondents in MHAS are only asked if they have “some difficulty” with the ADLS for all waves.

Instrumental Activities of Daily Living (IADL)

The harmonized IADL variables in the MHAS include whether the respondent has difficulties with managing money, taking medications, shopping for groceries, and preparing hot meals. These harmonized variables are available for Waves 1 to 4.

Unlike the HRS, the MHAS does not include the IADLs regarding using the phone and using a map.

Functional Ability

The harmonized functional limitations in MHAS include walking several blocks; running and jogging one kilometer; walking one block; sitting for about 2 hours; getting up from a chair after sitting for long periods; climbing several flights of stairs without resting; climbing one flight of stairs without resting; stooping, kneeling, or crouching; reaching arms above shoulder level; pushing or pulling large objects; lifting or carrying weights over 5 kilograms; and picking up a small coin (one peso) from the table. These harmonized variables are available for Waves 1 to 4.

In the HRS introductory questions, respondents are asked whether they have difficulty jogging one mile. However, in the MHAS, they ask if the respondent has any difficulty running or jogging one kilometer.

1.1.3. England – English Longitudinal Study of Ageing (ELSA)

(Harmonized ELSA, Version G.2, July 2021)

Activities of Daily Living (ADL)

ELSA includes harmonized ADL variables for whether the respondent has difficulties with bathing, dressing, eating, getting in/out of bed, walking across a room, and using the toilet. These harmonized variables are available for Waves 1 to 9. However, ADL questions were asked to proxy respondents starting from Wave 2 onward.

Unlike the HRS, ELSA has respondents identify difficulty with ADLs by selecting activities they have difficulty with from a card containing a list of activities. ELSA respondents do not have the option of identifying activities which they do not do.

Instrumental Activities of Daily Living (IADL)

In ELSA, harmonized IADL variables are derived from using the phone; managing money; taking medications; shopping for groceries; preparing hot meals; using a map; and doing housework. These variables are available from Waves 1 to 9. Starting from Wave 4, new IADL variables are added: difficulty with recognizing when in danger and difficulty with communication. These questions were asked to proxy respondents starting from Wave 2 forward.

The HRS does not ask about difficulty doing housework, recognizing when in physical danger, and with communication, resulting in different summary measures of IADLs. Additionally, unlike the HRS, ELSA has respondents identify difficulty with IADLs by selecting activities they have difficulty with from a card containing a list of activities. ELSA respondents do not have the option of identifying activities which they do not do.

Functional Ability

The functional limitations in Harmonized ELSA include walking 100 yards; sitting for about 2 hours; getting up from a chair after sitting for long periods; climbing several flights of stairs without resting; climbing one flight of stairs without resting; lifting or carrying weights over 10 pounds; stooping,

kneeling, or crouching; reaching arms above shoulder level; pushing or pulling large objects; and picking up a coin from the table. These harmonized variables are available from Waves 1 to 9. These questions were asked to proxy respondents starting from Wave 2 forward.

Unlike the HRS, ELSA has respondents identify difficulty with other activities by selecting activities they have difficulty with from a card containing a list of activities. ELSA respondents do not have the option of identifying activities which they do not do. Additionally, the HRS asks about respondents whether they have difficulty with walking one block or with walking several blocks. However, ELSA asks respondents whether they have difficulty with walking 100 yards.

1.1.4. Europe – Survey of Health, Ageing and Retirement in Europe (SHARE)

(Harmonized SHARE, Version E.3, April 2021)

Activities of Daily Living (ADL)

The ADL variables in Harmonized SHARE include whether the respondent has difficulties with walking across a room, dressing, bathing, eating, getting in/out of bed, and using the toilet. SHARE measures these variables from Waves 1 to 2 and Waves 4 to 7.

Instrumental Activities of Daily Living (IADL)

The IADLs in SHARE include using the phone; taking medications; managing money; shopping for groceries; preparing meals; using a map; doing work around the house and garden; leaving the house alone and using transportation; and doing laundry. In SHARE, most of these harmonized variables, except leaving the house alone and using transportation and doing laundry, are available in Waves 1 to 2, and Waves 4 to 7. Starting in Wave 6, questions that ask about having difficulty leaving the house alone and using transportation, and doing laundry are asked.

The RAND HRS and Harmonized HRS do not include the following harmonized variables: any difficulty doing work around the house or garden, leaving the house alone and accessing transportation, and doing laundry.

Functional Ability

Functional limitations in the Harmonized SHARE include walking 100 meters; sitting for about 2 hours; getting up from a chair after sitting for long periods; climbing several flights of stairs without resting; climbing one flight of stairs without resting; lifting or carrying weights over 10 pounds/5 kilograms; stooping, kneeling, or crouching; reaching arms above shoulder level; pushing or pulling large objects; and picking up a small coin from the table. These variables are available Waves 1 to 2, and Waves 4 to 7.

The HRS elicits walking ability by asking respondents whether they have difficulty walking several blocks and whether they have difficulty walking one block. This latter measure is roughly equivalent to the 100 meters distance used by SHARE.

1.1.5. Costa Rica – Costa Rican Longevity and Health Aging Study (CRELES)

(Harmonized CRELES, Version A, August 2016)

Activities of Daily Living (ADL)

The Harmonized CRELES includes ADL variables on any difficulties performing walking across a room, bathing (including entering and exiting the bathtub), eating (including cutting food, filling glasses), getting in/out of bed, and using the restroom (including sitting and getting up from the toilet).

These variables are measured from Waves 1 to 5, but starting in wave 4, if the respondent has no difficulty in walking 20 blocks and can raise and stretch arms above shoulders completely, the respondent is not asked the questions of activities of daily life. If this is the case, walking across a room, bathing, eating, getting in/out of bed, and using the restroom are coded as 0, for having no difficulty with the activities.

Unlike the HRS, CRELES did not ask if the respondent has difficulty in dressing and did not allow respondents to respond that they “don’t do” a particular ADL. The HRS also does not have a similar skip pattern that is implemented starting in Wave 4 of CRELES.

Instrumental Activities of Daily Living (IADL)

Harmonized IADLs variables in CRELES are derived from whether the respondent has difficulties with preparing hot meals, shopping for groceries, taking medication, and managing money. These harmonized variables are available in Waves 1 to 5.

Unlike the HRS, the CRELES did not ask if the respondent has difficulty using a map, using a calculator, and using a telephone. In the HRS, respondents are able to respond that they "don't do" a particular instrumental activity of daily living, but CRELES does not allow this response.

Functional Ability

Functional limitations in CRELES include whether the respondent reported difficulties in performing the following functional activities: walking a few blocks, climbing stairs up a few floors without resting, pushing or pulling large objects, and lifting arms above shoulders. These harmonized variables are available in Waves 1 to 5.

In waves 1 to 3, respondents are first asked if they are able to walk, and if they report being unable to walk, the questions about difficulty walking a few blocks and climbing stairs up a few floors are skipped, and the harmonized variables for walking a few blocks and climbing stairs up a few floors without resting are coded as 1 for having difficulty with these activities. If the respondent reports being able to walk, they are asked the questions and their responses are coded in the harmonized variables for walking a few blocks and climbing stairs up a few floors without resting. Regardless whether the respondent is able to walk or not, all respondents are asked whether it is difficult to push or pull a large object and to lift their arms above their shoulders.

Starting in wave 4, respondents are first asked if they are able to walk, and if they report being unable to walk, it follows the same skip pattern in waves 1 to 3, with the harmonized variables for walking a few blocks and climbing stairs up a few floors without resting coded as 1 for having difficulty. However, if the respondent reports being able to walk, they are then asked if it is difficult to walk 20 blocks. If they report that it is difficult to walk 20 blocks, then they are asked if they have difficulty walking a few blocks and climbing stairs up a few floors, and their responses to these questions are coded in the harmonized variables for walking a few blocks and climbing stairs up a few floors without resting. If they report having no difficulty walking 20 blocks, then the questions about difficulty walking a few blocks and climbing stairs up a few floors are skipped, and the harmonized variables for walking a few blocks and

climbing stairs up a few floors without resting are coded as 0 for having no difficulty with these activities. Despite the respondent's answers to being able to walk at all or walk for 20 blocks, all respondents are asked whether it is difficult to push or pull a large object and to lift their arms above their shoulders.

The HRS variable for climbing stairs up a few floors without resting is based on a question about climbing one flight of stairs without resting. The wording in CRELES is climbing stairs up a few floors without resting. The HRS variable for lifting arms above shoulders is based on a question about reaching arms above shoulder level. In CRELES, it is based on actually performing the test of lifting and stretching arms above shoulders.

1.1.6. South Korea – South-Korean Longitudinal Study of Aging (KLoSA)

(Harmonized KLoSA, Version D.2, July 2021)

Activities of Daily Living (ADL)

ADL variables in the KLoSA are derived from whether the respondent has difficulties with dressing one's self; bathing one's self; eating; using a toilet, including getting up and down; getting out of bed and walking across a room; washing face, hair and brushing teeth; and controlling urination and defecation. These harmonized variables are available in Waves 1 to 7.

These ADL variables are derived from specific questions in KLoSA which ask the respondent if they don't need any help, need help to some extent, or need help in every respect with the tasks listed. A score of 0 is assigned if respondents indicated they do not need any help. A score of 1 is assigned to indicate some difficulty if respondents responded that they need help to some extent or need help in every respect.

In the HRS, getting out of bed and walking across a room are counted as two separate ADLs, but in KLoSA, they are asked in a single question. In addition to the ADL variables available in the RAND HRS, KLoSA includes two more activities of daily living: washing face, hair and brushing teeth; and controlling urination and defecation.

Instrumental Activities of Daily Living (IADL)

KLoSA has ten IADL variables that are derived from whether the respondent has difficulties with preparing hot meals; shopping (deciding what to buy and paying for it); taking medication; managing money and finances; using the telephone; using transportation; going out a short distance without using transportation; doing laundry; doing housework; and personal grooming. These harmonized variables are available in Waves 1 to 7.

The HRS specifies shopping for groceries, while the KLoSA specifies shopping to indicate deciding what to buy and paying for it. In addition to the IADL variables available in RAND HRS, the Harmonized KLoSA includes five more instrumental activities of daily living: using transportation, going out a short distance, doing laundry, doing housework, and personal grooming by one's self.

Functional Ability

KLoSA did not measure the functional limitations.

1.1.7. Japan – Japanese Study on Aging and Retirement (JSTAR)

(Harmonized JSTAR, Version B, May 2014)

Activities of Daily Living (ADL)

The ADLs in the Harmonized JSTAR include whether the respondent has difficulties with walking across a room, dressing, bathing and showering, eating, getting in and out of bed, and using the toilet.

Respondents are asked to exclude any difficulties they expect to last less than three months in Waves 1 to 3, and JSTAR always asks difficulty with ADL's as yes/no questions for all waves.

The HRS does not ask respondents to exclude any difficulties they expect to last less than three months.

Instrumental Activities of Daily Living (IADL)

The IADLs in JSTAR include whether the respondent has difficulties with using the phone, taking medications, paying bills, withdrawing money from a bank, preparing a document about their pension, shopping for groceries, and preparing meals. These harmonized variables are available in Waves 1 to 3.

Unlike the HRS, JSTAR does not ask respondents whether they have any difficulty with using a map. Additionally, JSTAR does not ask respondents whether they have any difficulty managing money in one question and instead asks this through three separate questions (difficulty paying bills, withdrawing money from the bank, and preparing a document about their pension).

Functional Ability

The functional limitations in JSTAR include whether the respondent has difficulties with walking 100 meters; sitting for about 2 hours; getting up from a chair after sitting for long periods; climbing several flights of stairs without resting; climbing one flight of stairs without resting; lifting or carrying weights over 5 kilograms; stooping, kneeling, or crouching; reaching arms above shoulder level; pushing or pulling large objects; and picking up a 1-yen coin from the table. These harmonized variables are available from Waves 1 to 3.

Some measurements used in JSTAR are slightly different from HRS. The HRS surveys the difficulty of walking one block. JSTAR uses 100m as a unit instead of one block as in HRS. HRS surveys the difficulties of lifting or carrying weights over 10 lbs. JSTAR uses 5kg as a unit instead of 10 lbs as in HRS. Unlike the HRS, JSTAR does not survey the difficulties of walking several blocks.

1.1.8. Ireland – The Irish Longitudinal Study on Aging (TILDA)

(Harmonized TILDA, Version C, forthcoming)

Activities of Daily Living (ADL)

The ADL variables in TILDA include whether the respondent has difficulties with bathing or showering; eating, such as cutting up your food; getting in and out of bed; using the toilet, including getting up or down; walking across a room; and dressing, including putting on shoes and socks. These harmonized variables are available in Waves 1, 3, and 4.

Instrumental Activities of Daily Living (IADL)

In TILDA, IADL variables are derived from whether the respondent has difficulties with using the phone; managing money; taking medications; shopping for groceries; preparing hot meals doing work around

house; and going outside the home alone to shop or to visit a doctor's surgery. These harmonized variables, except going outside the home alone, are available in Waves 1, 3, and 4. Starting in Wave 3, an additional question about difficulty going outside the home alone to shop or to visit a doctor's surgery was added.

The TILDA inquiries about difficulty doing house work and going outside the home alone, while the HRS does not.

Functional Ability

In TILDA, functional limitations include whether the respondent has difficulties with walking 100 meters; jogging 1.5 km or 1 mile; sitting for about 2 hours; getting up from a chair after sitting for long periods; climbing several flights of stairs without resting; climbing one flight of stairs without resting; stooping, kneeling, or crouching; lifting or carrying weights over 10 pounds/5 kilos; picking up a small coin from the table; reaching arms above shoulder level; and pushing or pulling large objects. These harmonized variables are available in Waves 1 to 4. Starting in Wave 3, respondents can report not knowing if the activities are difficult for them.

The HRS elicits walking ability asking respondents whether they have difficulty walking several blocks and whether they have difficulty walking one block. This latter measure is roughly equivalent to the 100 meters distance used by TILDA. The HRS asks respondents whether they have difficulty jogging 1 mile, while TILDA asks respondent whether they have difficulty jogging "1.5 kilometers (1 mile)". Thus, the wording is slightly different, but the distances used for assessing jogging ability are equivalent in the HRS and the TILDA.

1.1.9. China – Chinese Health and Retirement Longitudinal Study (CHARLS)

(Harmonized CHARLS, Version D, June 2021)

Activities of Daily Living (ADL)

ADL variables in CHARLS include whether the respondent has difficulties with bathing, eating, getting in and out of bed, using the toilet, dressing, and controlling urination and defecation. These harmonized variables are available in Waves 1 to 4. In CHARLS, respondents are provided with the following four

possible answer choices: “no, I don’t have any difficulty;” “I have difficulty but can still do it;” “yes, I have difficulty and need help;” and “I cannot do it”. A score of 1 is assigned to indicate some difficulty if the respondent answered with “I have difficulty but can still do it,” “yes, I have difficulty and need help”, or “I cannot do it” and a score of 0 to indicate no difficulty is assigned if the respondent answered with “no, I don’t have any difficulty.”

Unlike the HRS, CHARLS does not include walking across a room in their ADL questions and excludes any difficulty that lasts less than three months. CHARLS also includes an additional ADL question that asks whether there is difficulty controlling urination and defecation, which the HRS does not have.

Instrumental Activities of Daily Living (IADL)

IADL variables are derived from whether the respondent has difficulties with using the phone, managing money, taking medications, shopping for groceries, preparing hot meals, and cleaning the house. These harmonized variables are available in Waves 1 to 4. The question on difficulty with making telephone calls was added to CHARLS starting in Wave 2. In CHARLS, respondents are provided with the following four possible answer choices: “no, I don’t have any difficulty;” “I have difficulty but can still do it;” “yes, I have difficulty and need help;” and “I cannot do it”. A score of 1 is assigned to indicate some difficulty if the respondent answered with “I have difficulty but can still do it,” “yes, I have difficulty and need help”, or “I cannot do it” and a score of 0 to indicate no difficulty is assigned if the respondent answered with “no, I don’t have any difficulty.”

Functional Ability

The functional limitations in CHARLS include whether the respondent has difficulties with running or jogging 1 kilometer; walking 1 kilometer; walking 100 meters; getting up from a chair after sitting for long periods; climbing several flights of stairs without resting; stooping, kneeling, or crouching; lifting or carrying weights over 10 jins; picking up a coin from the table; and reaching arms above shoulder level. These variables are available in Waves 1 to 4. In CHARLS, respondents are provided with the following four possible answer choices: “no, I don’t have any difficulty;” “I have difficulty but can still do it;” “yes, I have difficulty and need help;” and “I cannot do it”. A score of 1 is assigned to indicate some difficulty if the respondent answered with “I have difficulty but can still do it,” “yes, I have difficulty and need help”,

or “I cannot do it” and a score of 0 to indicate no difficulty is assigned if the respondent answered with “no, I don’t have any difficulty.”

There are a large number of respondents who were not asked whether they have difficulty walking 100m at Wave 1, who reported that they were not able to run 1km or walk 1km. Based on the skip pattern displayed in the questionnaire, it appears these people should have been asked whether they have difficulty walking 100m. This issue only exists at Wave 1 and starting at Wave 2, respondents who reported that they were not able to run 1km or walk 1km were asked whether they have difficulty walking 100m.

The unit in CHARLS for lifting or carrying weights is in jin, which is a traditional Chinese unit of mass that is used across East and Southeast Asia. The conversion between jin to pounds is 1 to 1.1 and the conversion between jin to gram is 1 to 500.

Unlike the HRS, CHARLS asked respondent to exclude any difficulty that lasts less than 3 months.

1.1.10. India – Longitudinal Aging Study in India (LASI)

(Harmonized LASI, Version A.2, October 2021)

Activities of Daily Living (ADL)

ADL variables in LASI are derived from whether the respondent has difficulties with bathing, eating, getting in/out of bed, using toilet, walking across room, and dressing. Currently, these variables are available in Wave 1 only.

In the HRS, ADL questions may be skipped depending on the respondent’s answers to previous difficulty questions, though it varies across waves, whereas the LASI asks ADL questions to all respondents.

Additionally, respondents in the HRS have the option of responding “can’t do” or “don’t do” in certain waves, which is not available in the LASI.

Instrumental Activities of Daily Living (IADL)

In LASI, IADL summaries are derived from whether the respondent has difficulties with managing money, taking medications, shopping for groceries, preparing hot meals, making telephone calls, doing

work around the house or garden, and getting around or finding an address in an unfamiliar place. Currently, these variables are available in Wave 1.

Respondents in the HRS have the option of responding with “can’t do” or “don’t do” in certain waves, which is not possible in LASI. Additionally, LASI specifies whether the respondent has difficulty with preparing a hot meal (cooking and serving), while the HRS specifies whether the respondent has difficulty with preparing a hot meal. The HRS does not ask questions about difficulty with getting around or finding an address in an unfamiliar place and doing work around the house or garden.

Functional Ability

The other functional limitations in LASI include whether the respondent has difficulties with walking 100 yards; sitting for 2 hours or more; getting up from a chair after sitting for a long period; climbing one flight of stairs without resting; stooping, kneeling, or crouching; lifting or carrying weights over 5 kilograms, like a heavy bag of groceries; picking up a coin from a table; reaching or extending arms above shoulder level; and pulling or pushing large objects. Respondents are asked to exclude any difficulties they expect to last less than three months.

Unlike the LASI, respondents in the HRS have the option of answering "can't do" or "don't do". The HRS asks whether the respondent has difficulty walking several blocks or walking one block, but the LASI asks whether the respondent has difficulty walking 100 yards. The HRS also asks whether the respondent had difficulty jogging one mile and climbing several flights of stairs, which LASI does not ask.

1.2. Summary

Each study includes items that ask about any difficulty with ADLs, IADLs, and functional ability, with the exception of KLoSA, which does not include any measures on functional ability. Because some studies use a different response scale, the harmonized measures mentioned in this section utilize a binary scale (Yes/No) to maximize comparability across all surveys, with some exceptions across the studies.

For example, in Wave 2 of the HRS, respondents were given several options to report the level of difficulty with ADLs. These levels included “not difficult,” “occasionally difficult,” “difficult some of the time,” and “difficult most of the time” for some questions and “not difficult,” “a little difficult,”

“difficult,” and “a lot difficult” for other questions. These levels are recoded to either “No” for not difficult and “Yes” for difficult. Please note that the harmonized variables in HRS Wave 1 are not comparable due to significant differences in the question wording.

KLoSA uses a different scale, as they ask the respondent whether they don’t need any help, need help to some extent, or need help in every respect with the ADL and IADL tasks listed. A score of 0 is assigned if respondents indicated they do not need any help. A score of 1 is assigned to indicate some difficulty if respondents responded that they need help to some extent or need help in every respect.

In CHARLS, respondents are provided with four possible answer choices when asked about ADL, IADL, and functional limitation tasks: “no, I don’t have any difficulty;” “I have difficulty but can still do it;” “yes, I have difficulty and need help;” and “I cannot do it.” A score of 1 is assigned to indicate some difficulty if respondents answered with “I have difficulty but can still do it,” “yes, I have difficulty and need help”, or “I cannot do it” and a score of 0 to indicate no difficulty is assigned if the respondent answered with “no, I don’t have any difficulty.”

For a summary of the available ADLs, IADLs, and functional abilities across the surveys, please see Tables 1 – 3.

Table 1. Items for ADLs Concordance Across Surveys

	HRS ⁺	MHAS	ELSA	SHARE	CRELES	KLoSA	JSTAR	TILDA	CHARLS	LASI
Difficulty-bathing	w1-14	w1-4	w1-9	w1-2, w4-7	w1-5	w1-7	w1-3	w1, w3-4	w1-4	w1
Difficulty-eating	w1-14	w1-4	w1-9	w1-2, w4-7	w1-5	w1-7	w1-3	w1, w3-4	w1-4	w1
Difficulty-get in/out of bed	w1-14	w1-4	w1-9	w1-2, w4-7	w1-5	w1-7	w1-3	w1, w3-4	w1-4	w1
Difficulty-using toilet	w1-14	w1-4	w1-9	w1-2, w4-7	w1-5	w1-7	w1-3	w1, w3-4	w1-4	w1
Difficulty-walk across room	w1-14	w1-4	w1-9	w1-2, w4-7	w1-5	-	w1-3	w1, w3-4	-	w1
Difficulty-dressing	w1-14	w1-4	w1-9	w1-2, w4-7	-	w1-7	w1-3	w1, w3-4	w1-4	w1
Difficulty-controlling urination/defecation	-	-	-	-	-	w1-7	-	-	w1-4	-
Difficulty-brushing teeth, washing face/hair	-	-	-	-	-	w1-7	-	-	-	-

*Please note that Wave 1 harmonized variables in the HRS are not appropriate for comparison to the other waves.

Table 2. Items for IADLs Concordance Across Surveys

	HRS ⁺	MHAS	ELSA	SHARE	CRELES	KLoSA	JSTAR	TILDA	CHARLS	LASI
Difficulty-managing money	w2-14	w1-4	w1-9	w1-2, w4-7	w1-5	w1-7	w1-3*	w1, w3-4	w1-4	w1
Difficulty-take medications	w2-14	w1-4	w1-9	w1-2, w4-7	w1-5	w1-7	w1-3	w1, w3-4	w1-4	w1
Difficulty-shop for groceries	w2-14	w1-4	w1-9	w1-2, w4-7	w1-5	w1-7	w1-3	w1, w3-4	w1-4	w1
Difficulty-preparing hot meals	w2-14	w1-4	w1-9	w1-2, w4-7	w1-5	w1-7	w1-3	w1, w3-4	w1-4	w1
Difficulty-use telephone	w2-14	-	w1-9	w1-2, w4-7	-	w1-7	w1-3	w1, w3-4	w2-4	w1
Difficulty-doing work around house	-	-	w1-9	w1-2, w4-7	-	w1-7	-	w1, w3-4	w1-4	w1
Difficulty-use a map	w1-14	-	w1-9	w1-2, w4-7	-	-	-	-	-	-
Difficulty-use a calculator	w1-2	-	-	-	-	-	-	-	-	-
Difficulty-use a computer	w1	-	-	-	-	-	-	-	-	-
Difficulty-use a microwave	w1	-	-	-	-	-	-	-	-	-
Difficulty-recognizing physical danger	-	-	w4-9	-	-	-	-	-	-	-
Difficulty-communication	-	-	w4-9	-	-	-	-	-	-	-
Difficulty-leave house alone/use trans	-	-	-	w6-7	-	-	-	-	-	-
Difficulty-doing laundry	-	-	-	w6-7	-	w1-7	-	-	-	-
Difficulty-using transportation	-	-	-	-	-	w1-7	-	-	-	-

Difficulty-going out short distance	-	-	-	-	-	w1-7	-	-	-	-
Difficulty-grooming	-	-	-	-	-	w1-7	-	-	-	-
Difficulty-going outside home alone	-	-	-	-	-	-	-	w3-4	-	-
Difficulty-getting around or finding address	-	-	-	-	-	-	-	-	-	w1

*Please note that JSTAR asks three separate questions about managing money.

*Please note that Wave 1 harmonized variables in the HRS are not appropriate for comparison to the other waves.

Table 3. Items for Functional Ability Concordance Across Surveys

Question	HRS ⁺	MHAS	ELSA	SHARE	CRELES	KLoSA	JSTAR	TILDA	CHARLS	LASI
Difficulty-walk one block	w1-14	w1-4	-	w1-2, w4-7*	-	-	w1-3*	w1-4*	w1-4*	-
Difficulty-sit for 2 hours	w1-14	w1-4	w1-9	w1-2, w4-7	-	-	w1-3	w1-4	-	w1
Difficulty-get up from chair	w1-14	w1-4	w1-9	w1-2, w4-7	-	-	w1-3	w1-4	w1-4	w1
Difficulty-climb several flights stairs	w1-14	w1-4	w1-9	w1-2, w4-7	w1-5	-	w1-3	w1-4	w1-4	-
Difficulty-climb 1 flight stairs	w1-14	w1-4	w1-9	w1-2, w4-7	-	-	w1-3	w1-4	-	w1
Difficulty-stoop/kneel/crouch	w1-14	w1-4	w1-9	w1-2, w4-7	-	-	w1-3	w1-4	w1-4	w1
Difficulty-lift/carry 10lbs/5kg	w1-14	w1-4	w1-9	w1-2, w4-7	-	-	w1-3	w1-4	w1-4	w1
Difficulty-pick up a coin	w1-14	w1-4	w1-9	w1-2, w4-7	-	-	w1-3	w1-4	w1-4	w1
Difficulty-reach/extend arms up	w1-14	w1-4	w1-9	w1-2, w4-7	w1-5	-	w1-3	w1-4	w1-4	w1
Difficulty-push/pull large object	w1-14	w1-4	w1-9	w1-2, w4-7	w1-5	-	w1-3	w1-4	-	w1
Difficulty-walk several blocks	w1-14	w1-4	-	-	w1-5	-	-	-	-	-
Difficulty-jog 1 mile / 1 kilometer	w1-14	w1-4	-	-	-	-	-	w1-2	w1-4	-
Difficulty-walk 100 yards	-	-	w1-9	-	-	-	-	-	-	w1
Difficulty-walk 1 kilometer	-	-	-	-	-	-	-	-	w1-4	-

*Please note that SHARE, JSTAR, TILDA, and CHARLS specifically ask about “walking 100 meters”, which is roughly the same as “walking one block”

*Please note that Wave 1 harmonized variables in the HRS are not appropriate for comparison to the other waves.

2. Using Measures for Cross-Study Analysis

In addition to the individual harmonized measures mentioned in Section 1, the harmonized studies also derive ADL, IADL, and other functional limitations summary measures to facilitate cross-study analysis.

2.1 Activities of Daily Living (ADLs)

A 3-item summary of any difficulty with ADLs measure (RwADLWA) is available for all studies except CRELES. The 3-item summary measures are derived from summing together bathing, dressing, and eating for all studies and are comparable across studies.

A 4-item summary of any difficulty with ADLs measure is available for a few studies, specifically MHAS, KLoSA, and CHARLS. In MHAS, the summary total (RwADLA_M) is derived from summing any difficulty with bathing, eating, getting in/out of bed, and walking across a room. Because any difficulty with dressing was skipped for proxy interviews, the summary measure in MHAS does not incorporate this variable. In KLoSA and CHARLS, RwADLA_K and RwADLA_C, respectively, are derived from summing any difficulty with bathing, eating, getting in/out of bed, and dressing.

All harmonized studies include a 5-item summary measure, with some considerable differences across studies. The HRS, MHAS, ELSA, SHARE, JSTAR, TILDA, and LASI all derive RwADLA, which sums any difficulty with bathing, dressing, eating, getting in/out of bed, and walking across a room. CRELES derives RwADLA_CR, which sums any difficulty with bathing, eating, getting in/out of bed, walking across the room, and using the toilet. Another 5-item summary measure, RwADLFIVE, is derived in the HRS, MHAS, ELSA, SHARE, KLoSA, TILDA, CHARLS, and LASI; it sums any difficulty with bathing, dressing, eating, getting in/out of bed, and using the toilet. Please note that in deriving RwADLFIVE, CHARLS also includes an additional item, any difficulty controlling urination, in this 5-item summary measure. TILDA includes a third 5-item summary measure, RwADLA_T, which is a grouped ADL summary measure that is used in Wave 2 for anonymity purposes.

The HRS, MHAS, ELSA, SHARE, TILDA, CHARLS, and LASI also derive a 6-item summary measure, though some studies differ in the ADL items used to construct it. RwADLTOT_X, where X denotes the study-specific letter, in the HRS, MHAS, ELSA, SHARE, TILDA, and LASI is derived by summing any difficulty with bathing, dressing, eating, getting in/out of bed, using the toilet, and walking across the room. In CHARLS,

the 5-item summary measure, RwADLAB_C, is derived by summing any difficulty with bathing, dressing, eating, getting in/out of bed, using the toilet, and controlling urination.

A 7-item summary measure, RwADLTOT_K, is included in the KLoSA. It is derived by summing together any difficulty with bathing, dressing, eating, getting in/out of bed, using the toilet, controlling urination, and washing face, hair, and brushing teeth.

Below, the ADL summary measures are summarized in Table 4. An x denotes that the variables listed in the “Measure” column are available in that study.

Table 4. Summary Cross-Survey Availability by Category of ADL

Measure	HRS	MHAS	ELSA	SHARE	CRELES	KLoSA	JSTAR	TILDA	CHARLS	LASI
3-item (RwADLWA)	x	x	x	x	NA	x	x	x	x	x
4-item	NA	ADLA_M: bath, eat, bed, walk	NA	NA	NA	ADLA_K: bath, eat, bed, dress	NA	NA	ADLA_C: bath, eat, bed, dress	NA
5-item (RwADLA; RwADLFIVE)	x	x	x	x	ADLA_CR: bath, eat, bed, walk, toilet	ADLFIVE	ADLA	x ADLA, ADLFIVE, ADLA_T	ADLFIVE ⁺	x
6-item (RwADLTOT_X)	x	x	x	x	NA	NA	NA	x	ADLAB_C	x
7-item	NA	NA	NA	NA	NA	ADLTOT_K	NA	NA	NA	NA

Note: x indicates that the harmonized variables listed in the “Measure” column are available in that study and that each study uses the same ADL items to derive those variables. If the variables are listed out in the study-specific column, this indicates that not all the variables in the “Measure” column are available in that study.

⁺ Please note that for RwADLFIVE in CHARLS, it also includes an additional item, any difficulty controlling urination.

2.2 Instrumental Activities of Daily Living (IADL)

A 3-item IADL summary measure, RwiADLA, is derived in the HRS, ELSA, SHARE, KLoSA, TILDA, CHARLS, and LASI. It is constructed by summing any difficulty with using the phone, managing money, and taking medications.

A 4-item summary of any difficulty with IADLs is available for all studies, with the exception of JSTAR and CHARLS. In the HRS, MHAS, ELSA, SHARE, KLoSA, TILDA, and LASI, RwiADLFour is derived by summing any difficulty with managing money, taking medications, shopping for groceries, and preparing hot meals. CRELES derives RwiADLA_CR, which also sums the same four IADLs as RwiADLFour.

A 5-item summary of any difficulty with IADLs measure is available in the HRS, ELSA, SHARE, KLoSA, JSTAR, TILDA, CHARLS, and LASI. It is not derived in the MHAS and CRELES. RwiADLZA in the HRS, ELSA, SHARE, KLoSA, TILDA, CHARLS, and LASI is derived by summing any difficulty with making telephone calls, managing money, taking medications, shopping for groceries, and preparing hot meals. JSTAR derives RwiADLA_J, which is the sum of any difficulty with making telephone calls, difficulty paying bills, withdrawing money from a bank, writing a document about their pension, and taking medications.

Total Item Summary Measure

Several of the harmonized studies also derive a measure that sums all available IADL items that are asked in their surveys. These are available for the following harmonized studies: HRS, ELSA, SHARE, KLoSA, TILDA, and LASI.

The HRS constructs a 6-item summary measure RwiADLTOT_H, which is the sum of any difficulty with managing money, taking medications, shopping for groceries, preparing meals, using a map, and using the phone.

ELSA derives two measures, a 7-item summary measure (RwiADLTOT1_E) and a 9-item summary measure (RwiADLTOT2_E). RwiADLTOT1_E is derived by summing any difficulty with using the phone, managing money, taking medications, shopping for groceries, preparing meals, using a map, and doing housework. RwiADLTOT2_E sums any difficulty with using the phone, managing money, taking medications, shopping for groceries, preparing meals, using a map, doing housework, recognizing when in danger, and communicating.

SHARE constructs two measures, a 7-item summary measure (RwiADLTOT1_S) and a 9-item summary measure (RwiADLTOT2_S). RwiADLTOT1_S sums any difficulty with using the phone, managing money, taking medications, shopping for groceries, preparing hot meals, doing housework, and using a map. RwiADLTOT2_S is derived by summing any difficulty with using the phone, managing money, taking medications, shopping for groceries, preparing hot meals, doing housework, using a map, leaving the

house alone and using transportation, and doing the laundry. Please note that RwiADLTOT2_S is available in the Harmonized SHARE starting in Wave 6.

KLoSA derives a 10-item summary measure, RwiADLTOT_K, which is derived by summing any difficulty with using the phone, managing money, taking medications, shopping, preparing hot meals, doing housework, personal grooming, doing laundry, going out, and using transportation.

TILDA derives two measures, a 6-item summary measure (RwiADLTOT1_T) and a 7-item summary measure (RwiADLTOT2_T). RwiADLTOT1_T is the sum of any difficulty with managing money, taking medications, shopping for groceries, preparing hot meals, using the phone, and doing housework. RwiADLTOT2_T is derived by summing any difficulty with managing money, taking medications, shopping for groceries, preparing hot meals, using the phone, doing housework, and going outside the home alone to shop or to visit a doctor's surgery.

LASI constructs a 7-item summary measure, RwiADLTOT_L. It is derived by summing any difficulty with making telephone calls, managing money, taking medications, shopping for groceries, preparing hot meals, getting around or finding an address in an unfamiliar place, and doing work around the house or garden.

Below, Table 5 summarizes the available IADL summary measures that are available in the harmonized studies. An x denotes that the variables listed in the "Measure" column are available in that study.

Table 5. Summary Cross-Survey Availability by Category of IADL

Measure	HRS	MHAS	ELSA	SHARE	CRELES	KLoSA	JSTAR	TILDA	CHARLS	LASI
3-item (IADLA)	x	NA	x	x	NA	x	NA	x	x	x
4-item (IADLF0UR)	x	x	x	x	IADLA_CR	x	NA	x	NA	x
5-item (IADLZA)	x	NA	x	x	NA	x	IADLA_J	x	x	x

6-item (IADLTOT_H)	x	NA	NA	NA	NA	NA	NA	NA	NA	NA
7-item (IADLTOT1_X)*	NA	NA	x	x	NA	x	NA	x ⁺ (6-item)	NA	x
9-item (IADLTOT2_X)*	NA	NA	x	x	NA	NA	NA	x	NA	NA
10-item (IADLTOT_K)	NA	NA	NA	NA	NA	x	NA	NA	NA	NA

Note: Please note that X at the end of the harmonized variable name denotes study-specific notation. The x in the columns indicates that the harmonized variables listed in the “Measure” column are available in that study and that each study uses the same IADL items to derive those variables. If the harmonized variables are listed out in the study-specific column, this indicates that the variables in the “Measure” column are not available in that study.

* For IADLTOT1_X and IADLTOT2_X, the IADL items used to derive these harmonized variables may not be the same across studies. Please see above for more details.

+ In TILDA, IADLTOT1_X is a 6-item summary measure.

2.3 Other Functional Limitations

Several harmonized summary measures for functional limitations are derived. These include measures for mobility and large muscle indices, gross and fine motor summaries, and lower and upper body summaries. These summary measures are derived in all studies except for CRELES and KLoSA.

Mobility index

The harmonized mobility index is derived in all studies except for CRELES, KLoSA, and CHARLS. Both the HRS and MHAS derive a 5-item mobility index. The mobility index used in the HRS, RwmOBILA, is the sum of walking one block, walking several blocks, walking across a room, climbing one flight of stairs, and climbing several flights of stairs activities. In MHAS, RwmOBILA is the sum of walking several blocks, walking one block, walking across a room, climbing several flights of stairs, and climbing one flight of stairs without resting activities. In ELSA, SHARE, JSTAR, and TILDA, the four-item mobility index, RwmOBILB, is derived, and is the sum of these activities: walking 100 yards/meters, walking across a room, climbing one flight of stairs, and climbing several flights of stairs. Please note that the unit used in ELSA is yards while SHARE, JSTAR, and TILDA use meters. In LASI, the three-item mobility index,

RwMOBILC, is derived, and they include walking 100 yards, walking across a room, and climbing one flight of stairs.

Large muscle index

The harmonized large muscle index, RwLGMUSA, is derived in all studies except for CRELES, KLoSA, and CHARLS, and is comparable across all studies it is derived for. The 4-item index sums the following activities: sitting for two hours; getting up from a chair; stooping, kneeling, or crouching; and pushing or pulling large objects.

Gross motor index

The harmonized gross motor index, RwGROSSA, is derived in all studies except for CRELES, KLoSA, and CHARLS. The 5-item index sums the activities of walking one block; walking across a room; climbing one flight of stairs; getting in or out of bed; and bathing activities. In MHAS, it uses walking several blocks; walking across a room; climbing one flight of stairs without resting; getting in or out of bed; and bathing activities. In ELSA, SHARE, JSTAR, and LASI, it uses walking 100 yards/meters; walking across a room; climbing one flight of stairs; getting in or out of bed; and bathing activities. . This measure is comparable across all studies that it is derived for.

Fine motor index

The harmonized 3-item fine motor index, RwFINEA, is derived by summing picking up a small coin, eating, and dressing activities. The harmonized measure is available in and comparable across the HRS, MHAS, ELSA, SHARE, JSTAR, TILDA, and LASI. The fine motor index is not available for CRELES, KLoSA, and CHARLS.

7-item mobility index

The 7-item mobility index, RwMOBILSEV, in the HRS, MHAS, ELSA, SHARE, TILDA, and CHARLS is derived by summing walking one block or 100 yards/meters; climbing several flights of stairs; getting up from a chair after sitting for long periods; stooping, kneeling, or crouching; reaching or extending arms above shoulder level; lifting or carrying objects weighting over 5 kg or 10 pounds; and picking up a small coin from the table activities. RwMOBILSEV in ELSA uses walking 100 yards and the SHARE, TILDA, and CHARLS use walking 100 meters instead of walking one block. RwMOBILSEV_L in LASI is derived by summing walking 100 yards; climbing one flight of stairs; getting up from a chair; stooping, kneeling, or

crouching; reaching or extending arms above shoulder level; lifting or carrying weights over 5 kg; and picking up a coin from a table activities. This measure is not available in CRELES, KLoSA, and JSTAR.

Upper body mobility index

A harmonized 3-item summary of any difficulty with upper body mobility activities, *RwUPPERMOB*, is available for the HRS, MHAS, ELSA, SHARE, TILDA, CHARLS, and LASI. It is derived by summing the activities of reaching or extending arms above shoulder level; lifting or carrying weights over 5 kg or 10 pounds; and picking up a small coin from the table. This harmonized measure is not available in CRELES, KLoSA, and JSTAR.

Lower body mobility index

The harmonized 4-item summary of any difficulty with the lower body mobility index, *RwLOWERMOb*, in the HRS, MHAS, ELSA, SHARE, TILDA, and CHARLS is derived by summing walking one block or 100 meters/yards; climbing several flights of stairs; getting up from a chair after sitting for long periods; and stooping, kneeling, or crouching activities. *RwLOWERMOb* in ELSA uses walking 100 yards and SHARE, TILDA, and CHARLS use walking 100 meters instead of walking one block. *RwLOWERMOb_L* in LASI uses walking 100 yards; climbing one flight of stairs; getting up from a chair after sitting for a long period of time; and stooping, kneeling, or crouching activities. This harmonized measure is not available in CRELES, KLoSA, and JSTAR.

Below, Table 6 summarizes the available functional limitation summary measures that are available in the harmonized studies. An x denotes that the variables listed in the “Measure” column are available in that study.

Table 6. Summary Cross-Survey Availability by Category of Functional Limitations

Measure	HRS	MHAS	ELSA	SHARE	CRELES	KLoSA	JSTAR	TILDA	CHARLS	LASI
Mobility Index (MOBILA)	x	x	MOBILB	MOBILB	NA	NA	MOBILB	MOBILB	NA	x
Large Muscle Index (LGMUSA)	x	x	x	x	NA	NA	X	x	NA	x

Gross Motor Index (GROSSA)	x	X	x	x	NA	NA	x	x	NA	x
Fine Motor Index (FINEA)	x	x	x	x	NA	NA	x	x	NA	x
7-item Mobility Summary (MOBILSEV)	x	x	x	x	NA	NA	NA	x	x	MOBILSEV_L
Upper Body Mobility Index (UPPERMOB)	x	x	x	x	NA	NA	NA	x	x	x
Lower Body Mobility Index (LOWERMOB)	x	x	x	x	NA	NA	NA	x	x	LOWERMOB_L

Note: Please note that the x in columns indicates that the harmonized variables listed in the “Measure” column are available in that study. If the harmonized variables are listed out in the study-specific column, this indicates that the variables in the “Measure” column are not available in that study.

3. Question Concordance

To facilitate cross-country comparisons across the studies, this section lists out the physical functional limitation question numbers and texts asked in the latest wave of each survey. The harmonized measures described in Sections 1 and 2 are derived based on these questions.

3.1 HRS

HRS Wave 14 (2018-2019)

3.1.1 Activities of Daily Living (ADLs)

QG014: Because of a health or memory problem do you have any difficulty with dressing, including putting on shoes and socks?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG016: Because of a health or memory problem do you have any difficulty with walking across a room?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG021: (Because of a health or memory problem do you have any difficulty with) bathing or showering?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG023: (Because of a health or memory problem do you have any difficulty with) eating, such as cutting up your food?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG025: (Because of a health or memory problem do you have any difficulty with) getting in or out of bed?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG030: (Because of a health or memory problem do you have) any difficulty with using the toilet, including getting up and down?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

3.1.2 Instrumental Activities of Daily Living (IADL)

QG040: Because of a health or memory problem, do you have any difficulty using a map to figure out how to get around in a strange place?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG041: (Because of a health or memory problem do you have) any difficulty preparing a hot meal?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG044: (Because of a health or memory problem do you have) any difficulty with shopping for groceries?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG047: (Because of a health or memory problem do you have) any difficulty with making phone calls?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG050: (Because of a health or memory problem do you have) any difficulty taking medications?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG059: (Because of a health or memory problem) do you have any difficulty with managing your money -- such as paying your bills and keeping track of expenses?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

3.1.3 Functional Ability

QG001: Because of a health problem do you have any difficulty with walking several blocks?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG002: (Because of a health problem do you have any difficulty) with running or jogging about a mile?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG003: (Because of a health problem do you have any difficulty) with walking one block?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG004: (Because of a health problem do you have any difficulty) with sitting for about two hours?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG005: (Because of a health problem do you have any difficulty) with getting up from a chair after sitting for long periods?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG006: (Because of a health problem do you have any difficulty) with climbing several flights of stairs without resting?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG007: (Because of a health problem do you have any difficulty) with climbing one flight of stairs without resting?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG008: (Because of a health problem do you have any difficulty) with stooping, kneeling, or crouching?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG009: (Because of a health problem do you have any difficulty) with reaching or extending your arms above shoulder level?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG010: (Because of a health problem do you have any difficulty) with pulling or pushing large objects like a living room chair?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG011: (Because of a health problem do you have any difficulty) with lifting or carrying weights over 10 pounds, like a heavy bag of groceries?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

QG012: (Because of a health problem do you have any difficulty) with picking up a dime from a table?

Answers: 1 Yes; 5 No; 6 (If Vol) Can't do; 7 (If Vol) Don't do; 8 Don't know, Not Ascertained; 9 Refused

3.2 MHAS

MHAS Wave 5 (2018)

3.2.1 Activities of Daily Living (ADLs)

H13: Because of a health problem, do you have difficulty with dressing including putting on shoes and socks?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H15a_18: Because of a health problem, do you have any difficulty with walking across a room?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H16a_18: Because of a health problem, do you have any difficulty with bathing or showering?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H17a_18: Because of a health problem, do you have any difficulty with eating, such as cutting your food?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H18a_18: Because of a health problem, do you have any difficulty with getting in or out of bed?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H19a_18: Because of a health problem, do you have any difficulty with using the toilet, including getting on and off the toilet or squatting?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

3.2.2 Instrumental Activities of Daily Living (IADL)

H26a_18: Because of a health problem, do you have any difficulty with preparing a hot meal?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H27a_18: Because of a health problem, do you have any difficulty with shopping for groceries?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H28a_18: Because of a health problem, do you have any difficulty with taking medications (if you take any or needed to do so)?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H29a_18: Because of a health problem, do you have any difficulty managing your money?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

3.2.3 Functional Ability

H1_18: Because of a health problem, do you have difficulty walking several blocks?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H2_18: Because of a health problem, do you have difficulty running or jogging one kilometer?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H3_18: Because of a health problem, do you have difficulty with walking one block?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H4_18: Because of a health problem, do you have difficulty with sitting for about 2 hours?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H5_18: Because of a health problem, do you have difficulty with getting up from a chair after sitting for long periods?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H6_18: Because of a health problem, do you have difficulty with climbing several flights of stairs without resting?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H7_18: Because of a health problem, do you have difficulty climbing one flight of stairs without resting?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H8_18: Because of a health problem, do you have difficulty with stooping, kneeling, or crouching?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H9_18: Because of a health problem, do you have difficulty with reaching or extending your arms above shoulder level?

Answers: 1. YES; 5. NO; 6. [IF VOL] CAN'T DO; 7. [IF VOL] DON'T DO; 8. DK (Don't Know); NA (Not Ascertained); 9. RF (Refused); Blank. INAP (Inapplicable), Partial Interview, Missing

H10_18: Because of a health problem, do you have difficulty with pulling or pushing large objects like a living room chair?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H11_18: Because of a health problem, do you have difficulty with lifting or carrying objects weighing over 5 kg, like a heavy bag of groceries?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

H12_18: Because of a health problem, do you have difficulty with picking up a 1-peso coin from the table?

Answers: 1. Yes; 2. No; 6. Can't do; 7. Doesn't do; 8. RF (Refused); 9. DK (Don't Know)

3.3 ELSA

ELSA Wave 9 (2018-2019)

3.3.1 Activities of Daily Living (ADLs)

HEADLB: Difficulty doing activities due to health problem (continued)

Here are a few more everyday activities. Please tell me if you have any difficulty with these because of a physical, mental, emotional or memory problem. Again exclude any difficulties you expect to last less than three months.

Because of a health or memory problem, do you have difficulty doing any of the activities on this card? \

Answers: 1. Dressing, including putting on shoes and socks; 2. Walking across a room; 3. Bathing or showering; 4. Eating, such as cutting up your food; 5. Getting in or out of bed; 6. Using the toilet, including getting up or down; 7. Using a map to get around in a strange place; 8. Recognising when you are in physical danger; 9. Preparing a hot meal; 10. Shopping for groceries; 11. Making telephone calls; 12. Communication (speech, hearing or eyesight); 13. Taking medications; 14. Doing work around the house or garden; 15. Managing money, such as paying bills & keeping track of expenses; 16. None of these

3.3.2 Instrumental Activities of Daily Living (IADL)

HEADLB: Difficulty doing activities due to health problem (continued)

Here are a few more everyday activities. Please tell me if you have any difficulty with these because of a physical, mental, emotional or memory problem. Again exclude any difficulties you expect to last less than three months.

Because of a health or memory problem, do you have difficulty doing any of the activities on this card? \

Answers: 1. Dressing, including putting on shoes and socks; 2. Walking across a room; 3. Bathing or showering; 4. Eating, such as cutting up your food; 5. Getting in or out of bed; 6. Using the toilet, including getting up or down; 7. Using a map to get around in a strange place; 8. Recognizing when you are in physical danger; 9. Preparing a hot meal; 10. Shopping for groceries; 11. Making telephone calls; 12. Communication (speech, hearing or eyesight); 13. Taking medications; 14. Doing work around the house or garden; 15. Managing money, such as paying bills & keeping track of expenses; 96. None of these

3.3.3 Functional Ability

HEADLA: Difficulty doing activities due to health problem

Because of a health problem, do you have difficulty doing any of the activities on this card? Exclude any difficulties that you expect to last less than three months.

Answers: 1. Walking 100 yards; 2. Sitting for about two hours; 3. Getting up from a chair after sitting for long periods; 4. Climbing several flights of stairs without resting; 5. Climbing one flight of stairs without resting; 6. Stooping, kneeling, or crouching; 7. Reaching or extending arms above shoulder level; 8. Pulling or pushing large objects like a living room chair; 9. Lifting or carrying over 10 pounds, like a heavy bag of groceries; 10. Picking up a 5p coin from a table; 96. None of these

3.4 SHARE

SHARE Wave 7 (2016-2017)

3.4.1 Activities of Daily Living (ADLs)

PH049_HeADLb: Difficulty doing activities due to health problem

Please look at the card. Please tell me if you have any difficulty with these because of a physical, mental, emotional or memory problem. Again exclude any difficulties you expect to last less than three months.

Answers: 1. Dressing, including putting on shoes and socks; 2. Walking across a room; 3. Bathing or showering; 4. Eating, such as cutting up your food; 5. Getting in or out of bed; 6. Using the toilet, including getting up or down; 7. Using a map to figure out how to get around in a strange place; 8. Preparing a hot meal; 9. Shopping for groceries; 10. Making telephone calls; 11. Taking medications; 12. Doing work around the house or garden; 13. Managing money, such as paying bills and keeping track of expenses; 14. Leaving the house independently and accessing transportation services; 15. Doing personal laundry; 96. None of these

3.4.2 Instrumental Activities of Daily Living (IADL)

PH049_HeADLb: Difficulty doing activities due to health problem

Please look at the card. Please tell me if you have any difficulty with these because of a physical, mental, emotional or memory problem. Again exclude any difficulties you expect to last less than three months.

Answers: 1. Dressing, including putting on shoes and socks; 2. Walking across a room; 3. Bathing or showering; 4. Eating, such as cutting up your food, 5. Getting in or out of bed; 6. Using the toilet, including getting up or down; 7. Using a map to figure out how to get around in a strange place; 8. Preparing a hot meal; 9. Shopping for groceries; 10. Making telephone calls; 11. Taking medications; 12. Doing work around the house or garden; 13. Managing money, such as paying bills and keeping track of expenses; 14. Leaving the house independently and accessing transportation services; 15. Doing personal laundry; 96. None of these

3.4.3 Functional Ability

PH048_HeADLa: Please look at card. Please tell me whether you have any difficulty doing each of the everyday activities on this card. Exclude any difficulties that you expect to last less than three months.

Answers: 1. Walking 100 metres; 2. Sitting for about two hours; 3. Getting up from a chair after sitting for long periods; 4. Climbing several flights of stairs without resting; 5. Climbing one flight of stairs without resting; 6. Stooping, kneeling, or crouching; 7. Reaching or extending your arms above shoulder level; 8. Pulling or pushing large objects like a living room chair; 9. Lifting or carrying weights over 10 pounds/5 kilos, like a heavy bag of groceries; 10. Picking up a small coin from a table; 96. None of these

3.5 CRELES

CRELES Wave 5 (2012-2013)

3.5.1 Activities of Daily Living (ADLs)

D6: Do you have difficulty moving across a room walking?

Answers: 1. YES; 5. NO; 9. DK/NR

D8: Do you have difficulty in bathing, including entering and exiting the bathtub?

Answers: 1. YES; 5. NO; 9. DK/NR

D11: Do you have difficulty in eating, including cutting food, filling glasses, etc.?

Answers: 1. YES; 5. NO; 9. DK/NR

D13: Do you have difficulty in getting into bed or getting out of bed?

Answers: 1. YES; 5. NO; 9. DK/NR

D16: Do you have difficulty in using the restroom, including sitting and getting up from the toilet?

Answers: 1. YES; 5. NO; 9. DK/NR

3.5.2 Instrumental Activities of Daily Living (IADL)

D21: Do you have difficulty preparing hot meals?

Answers: 1. YES; 5. NO; 9. DK/NR

D23: Do you have difficulty in managing your own money?

Answers: 1. YES; 5. NO; 9. DK/NR

D25: Do you have difficulty in shopping (for example, groceries, clothes)?

Answers: 1. YES; 5. NO; 9. DK/NR

D27: Do you have difficulty in taking your medications?

Answers: 1. YES; 5. NO; 9. DK/NR

3.5.3 Functional Ability

D2: Is it difficult for you to walk a few blocks?

Answers: 1. Yes; 2. No; 3. Is not able; 4. Does not do it; 9. DK/NR

D3: Do you have difficulty climbing upstairs for a few floors without resting?

Answers: 1. Yes; 2. No; 3. Is not able; 4. Does not do it; 9. DK/NR

D4: Do you have difficulty in pushing or pulling a big object like a couch?

Answers: 1. Yes; 2. No; 3. Not able; 4. Does not do it

D5: Please raise and stretch your arms above your shoulders.

Answers: 1. Raised them totally; 2. Raised them partially; 3. Is not able to raise them; 4. Did not accept the test

3.6 KLoSA

KLoSA Wave 7 (2018-2019)

3.6.1 Activities of Daily Living (ADLs)

C201: Can you do dressing, including taking clothes out of a closet and buttoning or zipping up all by yourself? Or do you need someone to help you with that?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C202: Can you do washing your face and hair and brushing your teeth all by yourself? Or do you need someone to help you with that?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C203: Can you do bathing or showering (you may not be able to scrub your back) all by yourself? Or do you need someone to help you with that?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C204: Can you do eating (you may use forks or other tools) all by yourself? Or do you need someone to help you with that?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C205: Can you do getting in / out of bed and walking across the room (you may use equipment or devices) all by yourself? Or do you need someone to help you with that?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C206: Can you do using the toilet (including taking off clothes and cleaning oneself after defecating or urinating. You may use a portable toilet.) all by yourself? Or do you need someone to help you with that?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C207: Can you use the toilet with spilling out urine (you may use a catheter (conduit) or a pouch by yourself) all by yourself? Or do you need someone to help you with that?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

3.6.2 Instrumental Activities of Daily Living (IADL)

C208: Now I will ask questions about a bit more difficult activities. Please answer based on your activities over the past one week. If you are temporarily receiving help with doing such activities

for a certain reason but expect the situation to last less than three months, then answer that you don't need help. Can you do personal grooming including brushing hair, clipping nails/toenails, putting on make-up (female) and shaving (male) all by yourself? Or do you need someone to help you with that?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C209: Do you need someone to help you with household chores, such as cleaning or tidying up the house, making the bed, and washing dishes?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C210: Do you need someone to help you with preparing meals? Preparing meals means preparing ingredients, cooking, and setting the table.

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C211: Do you need someone to help you with laundry, such as using a washing machine or by hand and hanging out the wash to dry?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C212: Do you need someone to help you with going out a short distance without transportation?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C213: Do you need someone to help you with going out using transportation, such as buses, subways, taxies, and cars?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C214: Do you need someone to help you with shopping, which refers to make a decision on what to buy and to pay money and get the change?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C215: Do you need someone to help you with managing money, such as managing small sums of pocket money, savings accounts and other assets?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C216: Do you need someone to help you with making or taking phone calls?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

C217: Do you need someone to help you with taking medications, which refers to take right portion as well as right on time?

Answers: 1. No, I don't need any help. 3. Yes, I need help to some extent. 5. Yes, I need help in every respect.

3.6.3 Functional Ability

Not measured.

3.7 JSTAR

JSTAR Wave 3 (2010-2011)

3.7.1 Activities of Daily Living (ADLs)

D-013: I would like to ask whether you have any difficulty performing various everyday activities. If you have even a little difficulty performing a task, please answer "Yes," whether the difficulty is due to physical, mental, or emotional causes or any other disability. If you are temporarily unable to perform an activity due to an illness or injury that is not expected to continue for more than three months, please answer "No." [Interviewer reads activity]

Answers: 1. Putting on or removing socks and shoes; 2. Moving around the room; 3. Bathing on own; 4. Eating by self; 5. Getting into or out of bed; 6. Using western-style toilet. (If you normally use only a Japanese-style toilet, please imagine whether you could use a western-style toilet.)

3.7.2 Instrumental Activities of Daily Living (IADL)

SCQ2-2/SCQ6-2: Are you able to perform the following everyday activities without difficulty?

Shopping for daily necessities

Answers: 1. Yes; 2. No

SCQ2-3/SCQ6-3: Are you able to perform the following everyday activities without difficulty?

Boiling water in a kettle

Answers: 1. Yes; 2. No

SCQ2-4/SCQ6-4: Are you able to perform the following everyday activities without difficulty?

Paying bills

Answers: 1. Yes; 2. No

SCQ2-5/SCQ6-5: Are you able to perform the following everyday activities without difficulty?
Making deposits in and withdrawals from your bank or postal account

Answers: 1. Yes; 2. No

SCQ2-6/SCQ6-6: Can you fill out documentation for your pension, etc.?

Answers: 1. Yes; 2. No

SCQ2-14/SCQ6-14: Are you able to perform the following everyday activities without difficulty?
Making phone calls without help

Answers: 1. Yes; 2. No

SCQ2-15/SCQ6-15: Are you able to perform the following everyday activities without difficulty?
Taking medicine without help

Answers: 1. Yes; 2. No

3.7.3 Functional Ability

D-014: I would now like to ask you about other daily activities. If you have even a little difficulty performing a task, please answer "Yes," whether the difficulty is due to physical, mental, or emotional causes or any other disability. If you are temporarily unable to perform an activity due to an illness or injury that is not expected to continue for more than three months, please answer "No."

Answers: 1. Walk 100 meters; 2. Sit in a chair for two hours continuously; 3. Get up from a chair after sitting continuously for a long time; 4. Climb up several flights of stairs without using the handrail; 5. Climb up one flight of stairs without using the handrail; 6. Squat or kneel; 7. Raise your hands above your shoulders; 8. Push or pull a large object such as a living-room chair or sofa; 9. Lift and carry an object weighing 5kg or more, such as a bag of rice; 10. Pick up a small object such as a one-yen coin from a desktop with your fingers

3.8 TILDA

TILDA Wave 4 (2016-2017)

3.8.1 Activities of Daily Living (ADLs)

FL002: Any difficulty doing any activities on this card

Please look at CARD FL2. Because of a health or memory problem, do you have difficulty doing any of the activities on this card? Again exclude any difficulties you expect to last less than three months.

Answers: 1. Dressing, including putting on shoes and socks; 2. Walking across a room; 3. Bathing or showering; 4. Eating, such as cutting up your food; 5. Getting in or out of bed; 6. Using the toilet, including getting up or down; 96. None of these; 98. Don't know; 99. Refused

3.8.2 Instrumental Activities of Daily Living (IADL)

FL025: Please look at card FL5. Because of a health or memory problem, do you have difficulty doing any of the activities on this card? Again exclude any difficulties you expect to last less than three months.

Answers: 1. Preparing a hot meal; 2. Doing household chores (laundry, cleaning); 3. Shopping for groceries; 4. Making telephone calls; 5. Taking medications; 6. Managing money, such as paying bills and keeping track of expenses; 7. Going outside the home alone to shop or to visit a doctor's surgery; 96. None of these; 98. Don't know; 99. Refused

3.8.3 Functional Ability

FL001: Please look at card FL1. Because of a physical or mental health problem, do you have difficulty doing any of the activities on this card? Exclude any difficulties that you expect to last less than three months.

Answers: 1. Walking 100 meters (100 yards); 2. Running or jogging about 1.5 kilometres (1 mile); 3. Sitting for about two hours; 4. Getting up from a chair after sitting for long periods; 5. Climbing several flights of stairs without resting; 6. Climbing one flight of stairs without resting; 7. Stooping, kneeling, or crouching; 8. Reaching or extending [your/his/her] arms above shoulder level; 9. Pulling or pushing large objects like a living room chair; 10. Lifting or carrying weights over 10 pounds/5 kilos, like a heavy bag of groceries; 11. Picking up a small coin from a table; 96. None of these; 98. Don't know; 99. Refused

3.9 CHARLS

CHARLS Wave 4 (2018-2019)

3.9.1 Activities of Daily Living (ADLs)

DB010: Because of health and memory problems, do you have any difficulty with dressing? Dressing includes taking clothes out from a closet, putting them on, buttoning up, and fastening the belt.

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB011: Because of health and memory problems, do you have any difficulty with bathing or showering?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB012: Because of health and memory problems, do you have any difficulty with eating, such as cutting up your food? [Definition: By eating, we mean eating food by oneself when it is ready]

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB013: Do you have any difficulty with getting into or out of bed?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB014: Because of health and memory problems, do you have any difficulties with using the toilet, including getting up and down?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB015: Because of health and memory problems, do you have any difficulties with controlling urination and defecation? If you use a catheter (conduit) or a pouch by yourself, then you are not considered to have difficulties.

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

3.9.2 Instrumental Activities of Daily Living (IADL)

DB016: Because of health and memory problems, do you have any difficulties with doing household chores? [Definition: By doing household chores, we mean house cleaning, doing dishes, making the bed, and arranging the house.]

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB017: Because of health and memory problems, do you have any difficulties with preparing hot meals? [Definition: By preparing hot meals, we mean preparing ingredients, cooking, and serving food.]

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB018: Because of health and memory problems, do you have any difficulties with shopping for groceries? By shopping, we mean deciding what to buy and paying for it.

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB019: Because of health and memory problems, do you have any difficulties with managing your money, such as paying your bills, keeping track of expenses, or managing assets?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB020: Because of health and memory problems, do you have any difficulties with taking medications? By taking medications, we mean taking the right portion of medication right on time.

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB035: Because of health and memory problems, do you have any difficulties with making phone calls?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

3.9.3 Functional Ability

Introduction: We need to understand difficulties people may have with various activities because of a health or physical problem. Please tell me whether you have difficulty performing any of the following tasks on a regular basis. Exclude any difficulties that you expect to last less than three months.

DB001: Do you have any difficulty with running or jogging about 1 Km?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB002: Do you have difficulty with walking 1 km?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB003: Do you have difficulty with walking 100 metres?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB004: Do you have difficulty with getting up from a chair after sitting for a long period?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB005: Do you have difficulty with climbing several flights of stairs without resting?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB006: Do you have difficulty with stooping, kneeling, or crouching?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB007: Do you have difficulty with reaching or extending your arms above shoulder level? (He/she is regarded as not having difficulty only if he/she can extend both of her/his arms, otherwise he/she is regarded as having difficulty.)

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB008: Do you have difficulty with lifting or carrying weights over 10 jin, like a heavy bag of groceries?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

DB009: Do you have difficulty with picking up a small coin from a table...?

Answers: 1. No, I don't have any difficulty; 2. Yes, I have difficulty but can still do it; 3. Yes, I have difficulty and need help; 4. I can not do it.

3.10 LASI

LASI Wave 1 (2017-2019)

3.10.1 Activities of Daily Living (ADLs)

HT401: Because of a health or memory problem, do you have any difficulty with dressing, including putting on chappals, shoes, etc?

Answers: 1. Yes; 2. No

HT402: Because of a health or memory problem, do you have any difficulty with walking across a room?

Answers: 1. Yes; 2. No

HT403: Because of a health or memory problem, do you have any difficulty with bathing?

Answers: 1. Yes; 2. No

HT404: Because of a health or memory problem, do you have any difficulty with eating?

Answers: 1. Yes; 2. No

HT405: Because of a health or memory problem, do you have any difficulty with getting in or out of bed?

Answers: 1. Yes; 2. No

HT406: Because of a health or memory problem, do you have any difficulty with using the toilet, including getting up and down?

Answers: 1. Yes; 2. No

3.10.2 Instrumental Activities of Daily Living (IADL)

HT407: Because of a health or memory problem, do you have any difficulty with preparing a hot meal (cooking and serving)?

Answers: 1. Yes; 2. No

HT408: Because of a health or memory problem, do you have any difficulty with shopping for groceries?

Answers: 1. Yes; 2. No

HT409: Because of a health or memory problem, do you have any difficulty with making telephone calls?

Answers: 1. Yes; 2. No

HT410: Because of a health or memory problem, do you have any difficulty with taking medications?

Answers: 1. Yes; 2. No

HT411: Because of a health or memory problem, do you have any difficulty with doing work around the house or garden?

Answers: 1. Yes; 2. No

HT412: Because of a health or memory problem, do you have any difficulty with managing money, such as paying bills and keeping track of expenses?

Answers: 1. Yes; 2. No

HT413: Because of a health or memory problem, do you have any difficulty with getting around or finding address in unfamiliar place?

Answers: 1. Yes; 2. No

3.10.3 Functional Ability

HT303: Do you have difficulty with walking 100 yards?

Answers: 1. Yes; 2. No

HT304: Do you have difficulty with sitting for 2 hours or more?

Answers: 1. Yes; 2. No

HT305: Do you have difficulty with getting up from a chair after sitting for long period?

Answers: 1. Yes; 2. No

HT306: Do you have difficulty with climbing one flight of stairs without resting?

Answers: 1. Yes; 2. No

HT307: Do you have difficulty with stooping, kneeling or crouching?

Answers: 1. Yes; 2. No

HT310: Do you have difficulty with lifting or carrying weights over 5 kilos, like a heavy bag of groceries?

Answers: 1. Yes; 2. No

HT311: Do you have difficulty with picking up a coin from a table?

Answers: 1. Yes; 2. No

HT308: Do you have difficulty with reaching or extending arms above shoulder level (either arm)?

Answers: 1. Yes; 2. No

HT309: Do you have difficulty with pulling or pushing large objects?

Answers: 1. Yes; 2. No