[STUDY DESCRIPTIONS: HEALTH AND RETIREMENT STUDIES AROUND THE WORLD]

Principal investigators of the family of Health and Retirement Studies provide study descriptions and updates, including the information about sample, data availability, future plans, biomarkers, and wellbeing measures.
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CHARLS Study Description

1. Sample: National Baseline
   a. Sampling frame: At national level we use stratified multi-stage (county-village-dwelling) PPS sampling. At village (or neighborhood) level we create our own frame from maps that we make using google earth and on the ground observations
   b. Sample size: 10,257 households and 17,708 individuals (including spouses) covering 150 county level units (28 provinces are covered)

   Pilot has 1570 households and 2,685 individuals from 2 provinces
   c. Who is interviewed: 1 randomly selected person 45 or over and their spouse (if exists)
   d. Interview mode: in person
   e. Proxy interview (allowed?): yes but restricted
   f. Exit interview: Yes, when we start wave 2
   g. Refresher sample: Refreshed every wave for the first 3 follow-up waves using reserved refresher sample

2. Data availability: Public
   b. Public use data availability (What’s available and what’s restricted?): County identifiers restricted. Made up code for primary sampling unit so that PSU fixed effects can be estimated.

   a. Next data collection round(s) scheduled: 2013 wave 2 ongoing
   b. Funding status: NIA, World Bank, Chinese National Natural Science Foundation, Peking University.
   c. When content decisions need to be finalized: First follow-up in field now. Life history questionnaire needs to be designed

4. Biomarker collection:
   a. Physical measures collected
      Pilot in 2008: height (lower leg length and arm length if could not take height), weight, waste circumference, blood pressure (measured 3 times)

      National baseline, 2012 follow-up of pilot sample, 2013 follow-up of national sample: height, lower leg length, arm length, waist circumference, blood pressure (measured 3 times)
b. **Performance measures conducted**
   Pilot: peak flow meter, 5 times sit to stand, grip strength, TICS (Telephone interview of cognition status) and word recall
   
   National Baseline, 2012 follow-up of pilot sample, 2013 follow-up of national sample: peak flow meter, 5 times sit to stand, grip strength, TICS, word recall, timed walk, balance tests
   
   Number series to be added in wave 3.

c. **Blood-based measures collected and assays done**
   Pilot: total and HDL cholesterol from Cardiochek
   PA meter, dried blood spots for hsCRP and hemoglobin
   
   National baseline, 2012 follow-up of pilot sample, 2013 follow-up of national sample: Whole blood being taken, not dried blood spots. First doing complete blood count on whole blood (with fasting requested)- hemoglobin, WBC and differentials, hematocrit, platelet counts and mean corpuscular volume; then from one 4ml tube plasma and buffycoat will be separated and from plasma a central lab will test for hsCRP, complete lipids, HbA1c, glucose, BUN and creatinine

d. **Who administers the physical measures & biomarkers**
   - Pilot: trained medical students
   

e. **Completion rates for different biomarkers**-Pilot: 73% for biomarkers, about the same or slightly less for blood

5. **Wellbeing and time use: please specify scales used and when collected:**

a. **Emotional distress**: CESD, CIDI-SF, Euro-D Pilot and National Baseline: CES-D 10

b. **Life satisfaction**: Diener's 5-item, single item (Campbell), domain-specific satisfaction (job, financial, health care, etc.)
   Pilot: none
   National Baseline, 2012 follow-up of pilot sample, 2013 national follow-up: single item life satisfaction

c. **Quality of life scale**: CASP-19- Pilot and National Baseline: No

d. **Positive and negative affect**: Pilot and National Baseline: No
   2013 follow-up: Yes plans to add from Gallup World Poll for Wave 2

e. **Ryff well-being scale**: Pilot and national baseline: No

f. **Time use**: Pilot and National Baseline: No
Overview

CHARLS is a biennial nationally representative longitudinal survey of the middle-aged and elderly population (45+) in China run by Peking University. A two province pilot sample was collected in 2008 and followed up in 2012. The national baseline survey took place in 2011-12 and followed up in 2013. A special life history survey was conducted in 2014. The survey is harmonized with the HRS family of surveys and collects basic information on all household members, the structure of the family and detailed transfers with family members, individual health status and functioning, health care and insurance, work, retirement and pension, as well as income, consumption and wealth.

Sampling

The baseline national wave of CHARLS, fielded from May 2011 to March 2012, covered 17,705 individuals in 10,029 households, 450 village level units and 150 county level units. It followed stratified random sampling procedures with multi-stage (counties-villages-households) PPS sampling. All counties in China excluding those in Tibet were included in the sampling frame to choose counties. To construct household sampling frame in village-level units, mapping/listing operations were conducted using CHARLS-GIS software operated on google-earth maps. One age eligible member of the household is randomly selected to be the main respondent. All spouses are included. Refresher samples are identified in the national baseline and will be maintained and drawn into the survey when they become age eligible in the next five years. All refresher respondents are included in the 2014 life history survey.

<table>
<thead>
<tr>
<th>Response Rates</th>
<th>2008</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cross</td>
<td>Panel</td>
<td>Cross</td>
<td>Panel</td>
<td></td>
</tr>
<tr>
<td>Response rate (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>84.82</td>
<td>80.51</td>
<td>94.02</td>
<td>82.63</td>
<td>88.30</td>
</tr>
<tr>
<td>Rural</td>
<td>89.69</td>
<td>94.15</td>
<td>97.18</td>
<td>91.74</td>
<td>92.18</td>
</tr>
<tr>
<td>Urban</td>
<td>79.33</td>
<td>68.63</td>
<td>90.04</td>
<td>72.20</td>
<td>82.61</td>
</tr>
<tr>
<td>No. of households</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,570</td>
<td>10,257</td>
<td>1,494</td>
<td>10,629</td>
<td>9,022</td>
</tr>
<tr>
<td>Rural</td>
<td>879</td>
<td>6,033</td>
<td>861</td>
<td>6,340</td>
<td>5,547</td>
</tr>
<tr>
<td>Urban</td>
<td>691</td>
<td>4,224</td>
<td>633</td>
<td>4,289</td>
<td>3,475</td>
</tr>
<tr>
<td>No. of respondents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2,683</td>
<td>17,708</td>
<td>2,381</td>
<td>18,264</td>
<td>15,196</td>
</tr>
<tr>
<td>Rural</td>
<td>1,501</td>
<td>10,537</td>
<td>1,370</td>
<td>10,950</td>
<td>9,439</td>
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<tr>
<td>Urban</td>
<td>1,182</td>
<td>7,171</td>
<td>1,011</td>
<td>7,314</td>
<td>5,757</td>
</tr>
</tbody>
</table>

Blood based biomarkers: Dried blood spots were collected in 2008 in the two province study. Whole blood samples were collected in national baseline survey in 2011-12. Another round of whole blood collection is planned for the third national wave of 2015.

Genetics: Not planned but blood samples are reserved for genetics analysis.
Subjective wellbeing

<table>
<thead>
<tr>
<th>Question</th>
<th>2011-12</th>
<th>2013</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please think about your life-as-a-whole. How satisfied are you with it? Are you completely satisfied, very satisfied, somewhat satisfied, not very satisfied, or not at all satisfied?</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td><strong>Domain life satisfaction</strong>: Relationship with spouse/relationship with children/health/health care/work</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Yesterday, did you feel</strong> Frustrated/ Sad/ Enthusiastic/Lonely/Content/Worried/Bored/Happy/Angry/Tired/Stressed/Pain?</td>
<td>V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Risk and time preference:** No

**Cognition and Dementia**

Every wave: Several measures from Telephone Interview of Cognition Status form (self-rated memory, today’s date, day of the week, and current season); recall and delayed recall test of memory of 10 words; test of serial subtractions of 7 from 100; ability to reproduce a picture of two overlapped pentagons.

Number series in 2015.

Doctor assessment of dementia is planned for 2017 pending NIA grant approval.

**Users statistics**

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>7,845</td>
<td>85.6</td>
<td>85.6</td>
</tr>
<tr>
<td>USA</td>
<td>754</td>
<td>8.23</td>
<td>93.82</td>
</tr>
<tr>
<td>UK</td>
<td>150</td>
<td>1.64</td>
<td>95.46</td>
</tr>
<tr>
<td>Australia</td>
<td>58</td>
<td>0.63</td>
<td>96.09</td>
</tr>
<tr>
<td>Canada</td>
<td>40</td>
<td>0.44</td>
<td>96.53</td>
</tr>
<tr>
<td>Singapore</td>
<td>40</td>
<td>0.44</td>
<td>96.97</td>
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<tr>
<td>France</td>
<td>24</td>
<td>0.26</td>
<td>97.23</td>
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<tr>
<td>Japan</td>
<td>44</td>
<td>0.48</td>
<td>97.71</td>
</tr>
<tr>
<td>Netherlands</td>
<td>34</td>
<td>0.37</td>
<td>98.08</td>
</tr>
<tr>
<td>Germany</td>
<td>33</td>
<td>0.36</td>
<td>98.44</td>
</tr>
<tr>
<td>Korea</td>
<td>27</td>
<td>0.29</td>
<td>98.73</td>
</tr>
<tr>
<td>Sweden</td>
<td>15</td>
<td>0.16</td>
<td>98.9</td>
</tr>
<tr>
<td>Others</td>
<td>101</td>
<td>1.1</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>9,165</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
ELSA Study Description

1. Sample:

   a. **Sampling frame:** Panel study using a nationally representative sample of the community-dwelling population aged 50 years and older in England. The sample was recruited in 2002/03 from consenting households that had participated in the Health Survey for England (HSE) in 1998, 1999, and 2001.

   b. **Sample size:** In 2002/03, the sample included 11,391 eligible participants (hereafter core members) and 708 partners of core members. In 2006/07, 1,276 core members aged 50 to 54 years and 457 partners were added in the sample; they were recruited from consenting households that had participated in HSE 2001, 2002, 2003, and 2004. In 2008/09, 2,291 core members aged 50 to 75 years and 299 partners were added in the sample; they were recruited from consenting households that had participated in HSE 2006. In 2012/13, 2,244 core members aged 50 to 56 years were added in the study along with their partners; they were recruited from consenting households that had participated in HSE 2009, 2010, and 2011.

   c. **Who is interviewed:** All people aged 50 years or older in the eligible households along with their partners (partners can be younger than 50 years).

   d. **Frequency of interview:** Personal interview every two years; health examination every four years.

   e. **Interview mode:** Face-to-face computerized personal interview and health examination. The personal interview includes also a pen-and-paper (self-completion) questionnaire. Exit interviews can be either face-to-face or over the telephone.

   f. **Proxy interviews:** Proxy interviews account for about 2% of all interviews.

   g. **Exit interview:** Exit interviews are sought with proxies for all deceased respondents for the first three waves and for Wave 5, but not available for wave 4.

   h. **Refresher sample:** refresher sample added in Wave 3, 4, and 6 – for the sample sizes see above point b.

2. **Data availability** ELSA data and documentation are available online at [http://discover.ukdataservice.ac.uk/catalogue/?sn=5050&type=Data%20catalogue](http://discover.ukdataservice.ac.uk/catalogue/?sn=5050&type=Data%20catalogue)

   a. **Years of data collection:** 2002/03, 2004/5, 2006/7, 2008/-09, 2010/11, 2012/13

   b. **Public use data availability:** All data collections except for sensitive data (including linked administrative records, geographical variables that are disclosive in nature, and data on genetic material) are publicly available through the Economic and Social Data Service archive: [http://ukdataservice.ac.uk/](http://ukdataservice.ac.uk/)
c. **Other files:** RAND prepares derived ELSA datasets, including the longitudinal “Harmonized ELSA” file.

3. **Future planning**

a. **Next data collection round(s) scheduled:** Fieldwork for wave 6 of the data collection has just been completed. Planning for the next two waves of the data collection is currently underway. A pilot study for wave 7 of the data collection will take place in July 2013 and a final test (dress rehearsal) in November 2013.

b. **Funding status:** ELSA is funded by the National Institute on Aging (NIA/NIH) in the USA and a consortium of UK government departments: Department of Health; Department for Work and Pensions; Department for Transport; Communities and Local Government; Office for National Statistics; and HM Revenue and Customs. Final funding decisions on Waves 7 and 8 are still pending.

c. **When content decisions need to be finalized:** Decisions for the wave 7 of the data collection need to be finalised by July 2013.

4. **Biomarker collection**

a. **Physical measures collected:** Height, weight, waist and hip circumferences, and blood pressure.

b. **Performance measures conducted:** Spirometry to measure lung function, grip strength, 8-foot timed walks to measure gait speed, chair rises, and balance tests.

c. **Blood-based measures collected and assays done:** Whole blood samples taken by phlebotomy from consenting respondents. All blood samples are assayed for haemoglobin and ferritin, total and HDL-cholesterol, C-reactive protein, fibrinogen, Factor VII, triglycerides, fasting blood glucose, and HbA1c. Samples from the last two health examinations (in 2008/09 and 2012/13) were also assayed for: white blood cell count, IGF-1, DHEAS, Interleukin 6, IgE/DHM, cortisol (from saliva or Hair. Samples from the latest health examination (2012/13) will also be assayed for Vitamin D.

d. **Administration of the physical measures & biomarkers:** A nurse administers all these measures, except for the timed walk, which is a feature of the personal interview and thus is administered by an interviewer.

e. **DNA samples:** Few candidate genes had been genotyped. Whole blood samples from all consenting participants will soon be genotyped via a GWAS study (funded by ESRC).

5. **Wellbeing, time use, and personality:** please specify scales used and when collected

a. **Depression/Emotional distress:** The 8-item CESD (dichotomous response format: yes/no) is the main depression scale. The General Health Questionnaire (GHQ-12) has also been used in 2002/03 and 2006/07.

b. **Life satisfaction:** Diener’s satisfaction with life scale (SWLS); satisfaction with job; satisfaction with volunteering and caring; and quality of life (CASP-19)
d. **Positive and negative affect:** PANAS-X was introduced in Wave 5. Negative affect is measured by CES-D – see point a. above.

e. **Ryff well-being scale:** Used only in the 2004/05 interview. An extensive assessment of experienced well-being was added in the 2012/13 interview. CASP-19 is also a well-being measure.

f. **Time use:** Summary indicators of time-use on the day prior to the interview were administered as part of the Affect and Time Use Module that was administered in wave 6. Time-use elements were derived from Kahnemann’s Day Reconstruction Method. Wellbeing measures included the ONS wellbeing questions and other more detailed wellbeing items broadly modally on the 2009 HRS Health and Wellbeing Study (Jacqui Smith)

g. **Personality:** The Personality Traits measure is taken from MIDUS II, which measures the big five personality traits.
The English Longitudinal Study of Ageing (ELSA)

**Background:** ELSA was established in 2002 as a representative sample of the independently living English population aged at least 50 years. It is based on participants in the Health Surveys for England (1998, 1999, 2001). We have since collected data relating to health and disability, genetics, biological markers of disease, economic circumstances, social participation, networks and well-being.

<table>
<thead>
<tr>
<th>Wave (year)</th>
<th>Data collection modality</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1 (2002)</td>
<td>main interview</td>
<td>12,100 main interviews</td>
</tr>
<tr>
<td>Wave 2 (2004)</td>
<td>main interview &amp; nurse visit</td>
<td>9,432 main interviews</td>
</tr>
<tr>
<td>Wave 4 (2008)</td>
<td>main interview &amp; nurse visit</td>
<td>11,050 main interviews (HSE 2006 refreshment sample)</td>
</tr>
<tr>
<td>Wave 5 (2010)</td>
<td>main interview [risk module]</td>
<td>10,274 main interviews</td>
</tr>
<tr>
<td>Wave 6 (2012)</td>
<td>main interview &amp; nurse visit</td>
<td>10,437 main interviews (HSE 2009-11 refreshment sample)</td>
</tr>
<tr>
<td>Wave 7 (ongoing)</td>
<td>main interview</td>
<td>(HSE 2011-2 refreshment sample)</td>
</tr>
</tbody>
</table>

**Update of recent activities:**
- Refunding from NIA and UK Government Departments for waves 7-9 with some shortfalls
- Completion of wave 6 data collection and archiving. New data includes:
  - Time-use, affect and wellbeing
  - Social care: receipt, funding and expectations
  - Adaptive number series cognitive tests
  - Neuroendocrine panel from hair comprising cortisol, DHEA, testosterone, progesterone, melatonin (N=2,696)
- Completion and archiving of GWAS (N=7,500). Data now available through the European Genome-phenome Archive (https://www.ebi.ac.uk/ega/studies/EGAS00001001036)
- Field work on Wave 7 on-going. New data includes:
  - Objective assessment of hearing plus enhanced enquiries (inc. background noise)
  - Enhanced dental health enquiries
  - Additional cognitive measures [‘Counting backwards’, ‘serial 7s’, ‘naming objects’]
  - Feelings about sexual attitudes and behaviour questionnaire administered at wave 6
  - Social care funding expectations (need, self-payment)
  - Electronic cigarette use
  - Link to routinely collected primary care records

**Specific to Jim and Jinkook’s enquiries:**
1. **Blood-based biomarkers:** Does your study collect venous blood or dried blood specimen (DBS)?
   
   *Venous blood draw during the nurse visit (alternate waves).*
2. **Genetics:** Has your study done or are you planning to do some genetic work? If so, what kind of approach are you taking, and what’s your timeline? *See above details.*
3. **Subjective well-being:** What types of measures does your study include? *Using the previous day as the time frame, an ONS enquiry was used to ascertain happiness, anxiety, satisfaction, and overall feelings on a 0-10 scale*
4. **Risk and time preference:** What types of measures does your study include? *Assessed in a sub-group of ~N=1063 (experimental module) with three elements: Incentivised time preference tasks; self-assessed assessment of risk tolerance (from Understanding Society); and Incentivised risk preference tasks (10 “Eckel-Grossman” tasks).*
5. **Dementia:** Does your study plan to do dementia assessment? If so, what’s the protocol? *We have self-reported physician diagnosis which will perhaps capture around half of cases. A funding application for an ADAMS-like in-depth cognitive evaluation in a subgroup of study members has been submitted.*
ELSI-BRASIL Study Description

1. **Sample:** Nationally representative
   
a. **Sampling frame:** Stratified sample as follows: stratum 1 (4420 municipalities with ≤ 26,700 inhabitants); stratum 2 (951 municipalities with 26,701-135,000 inhabitants); stratum 3 (171 municipalities with 135,000 – 750,000 inhabitants); stratum 4 (123 municipalities with < 750,000 inhabitants). 70 municipalities were selected.

   b. **Sample size:** 10,000 interviewed aged 50 years and over (7,500 households)

2. **Interview:**
   
a. **Who is interviewed:** One age-eligible family unit is chosen per address. Interviews are sought with both members of couples in age-eligible units.

   b. **Frequency of interview:** Biennial; nurse visit every four years

   c. **Interview mode:** Face-to-face for core and nurse visit, face-to-face or telephone interview for exit interview per informant’s preference

   d. **Proxy interviews:** Yes.

   e. **Exit interview:** Exit interviews are sought with proxies for all deceased respondents for the second and following interviews.

   f. **Refresher sample:** refresher sample will be added in Wave 3

3. **Biomarker collection**
   
a. **Physical measures:** height, weight, waist and hip circumferences, pulse, and blood pressure.

   b. **Performance measures:** grip strength, timed walks, chair rise, and balance tests.

   c. **Blood-based measures collected and assays done:** blood samples will be taken by phlebotomy (total and HDL-cholesterol, C-reactive protein, Haemoglobin and ferritin, White blood cell count, glycated haemoglobin, and – possibly - Vitamin D)

   d. **Administration of the physical measures:** Trained technician

   e. **Administration of biomarkers:** laboratory of clinical pathology.

   f. **DNA samples:** DNA samples will be stored.

4. **Future planning**
   
a. **Pre-test of questionnaire** (August-September 2013).
b. **International review of the questionnaire** *(November 2013)*

c. **National Ethical Board** *(planned to be submitted in January 2014)*

d. **Next data collection round(s) scheduled:** Baseline is in planning

e. **When content decisions need to be finalized:** baseline initial decisions have been made, depending on the results of pre-test and international review of the questionnaire.

5. **Data availability:** With the exception of sensitive data (including linked administrative records, geographical variables that are exclusive in nature and data on genetic material), the data and associated documentation will be available

6. **Funding:** Ministry of Health and Ministry of Science and Technology *(Brazil)*
ELSII-BRAZIL: ESTUDO LONGITUDINAL DA SAÚDE DOS IDOSOS
BRASILEIROS (The Brazilian Longitudinal Study of Ageing)

María Fernanda Lima-Costa
Fundação Oswaldo Cruz (Oswaldo Cruz Foundation)
Brazil

RAND HRS Around-the-World Harmonization meeting
Date: 1-3 April 2015
Bethesda, USA

The Brazilian Ministry of Health, together with the Ministry of Science and Technology, has funded ELSI-Brazil. The study is coordinated by the Rene Rachou Research Centre of the Oswaldo Cruz Foundation (FIOCRUZ), Minas Gerais State, Brazil.

The development of the ELSI research instruments considered both the demands of the Ministry of Health and the harmonisation with other studies of the HRS family. Like all the other HRS studies, ELSI-Brazil will be a longitudinal household and nationally representative ageing survey. The baseline will collect both interview and nurse visit data/information. The subsequent waves will be biannual (interview) and every four years (interview + nurse visit). The sample will be refreshed every 6 years.

The sample consists of 10,000 individuals aged 50 and over residing in 70 municipalities located in all 5 of the large political geographical regions of Brazil. This sample size allows an estimated prevalence of 1% (sample error = 0.25%), or a prevalence of 5% (sample error = 0.55%), at a level of significance of 95% and an effect sample design of 1.5.

The baseline questionnaire has 2 parts (household and individual) and will be administered electronically. The first part will collect information about the household characteristics and all its residents. The second part will be answered by each resident aged 50 and over and will focus on individual characteristics. The household questionnaire will include the following modules: list of all household residents, physical characteristics of the household, household expenses, residents’ income and assets. The individual questionnaire will collect the following information: demographic characteristics, neighbourhood characteristics, the Brazilian statute of the elderly and discrimination, mini-childhood (life history short version), employment history, work and pensions, intergenerational transfers, physical health (general and selected chronic diseases), health behaviours, woman’s health, physical functioning (mobility, ADLs, IADLs, social care - formal and informal caregiving), oral health, use of medication, cognitive function (including a proxy module), depressive symptoms (CES-D), psychosocial aspects (quality of life, social support, social network, etc.) and use and expenses of health services.

The ELSI-Brazil questionnaire was peer reviewed in Brazil. Furthermore, the economic module was revised by researchers from ELSA, HRS, Rand and SHARE-Portugal.
The baseline **nurse visit** will include the following measures: blood pressure, grip strength, balance test, height, weight and waist circumference.

The chair rises test will not be performed due to operational difficulties (great variation in chair sizes and sometimes the lack of one and difficulty to transport standardized chairs across Brazil).

ELSI-Brasil is planning to have a blood collection in **wave 2** which will be done through venepuncture.

The following blood tests will be performed: total and HDL cholesterol, glycated haemoglobin, serum creatinine, vitamin D, white cell count, haemoglobin and ferritin.

Three blood samples per participants are planned to be stored for future analyses.

**Progress:**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical approval</td>
<td>Concluded (October 2014)</td>
</tr>
<tr>
<td>Questionnaire electronic formatting</td>
<td>Concluded (March 2015)</td>
</tr>
<tr>
<td>Field work training</td>
<td>April 27 to May 8</td>
</tr>
<tr>
<td><strong>Baseline data collection</strong></td>
<td>Starts in May 18, 2015</td>
</tr>
</tbody>
</table>
HAALSI Study Description

HAALSI: Health and Aging in Africa:
Longitudinal Studies of INDEPTH Communities

PI: Lisa Berkman, Director, Harvard Center for Population and Development Studies,
Harvard T.H. Chan School of Public Health

Overview of Program:
Sub-Saharan Africa is expected to see cardiovascular and metabolic disease burdens more than double over the next 20 years. Little is understood about the nature of aging in this context, where many adults are now surviving with chronic diseases whether they are communicable or non-communicable. A February 2013 paper in Science by Bor et al. documented an increase in adult life expectancy of more than 10 years over the course of 8 calendar years due to the scale-up of antiretroviral therapy (ART) in a rural South African community with high HIV prevalence. However, there is little data on the effects of such dramatic ART-driven increases in population aging on the rates and composition of non-communicable diseases, functional status, and disabilities. Even less is known about the family and societal dynamics that will change as a result of growing numbers of older men and women surviving with chronic diseases.

The program project integrates the study of non-communicable diseases (including cardiovascular disease, diabetes, and cognitive impairments), HIV and their interactions with population aging in order to understand the determinants of health and functional status in the elderly in Africa, and the impact of ill health and functional limitations on their economic circumstances and well-being. The program is comprised of four projects: 1) Cardiometabolic Risk, 2) HIV, 3) Physical and Cognitive Functioning, 4) Productivity and Economic Wellbeing.

We are enrolling a cohort of 5,000 men and women aged 40+ in Agincourt, South Africa, who will be interviewed via a computer-assisted personal interview (CAPI), and will undergo point of care measurements and dried blood spot (DBS) collection. Survey questions, biomarker testing, cognitive assessments and performance measures will assess biological, behavioral and structural risk factors for HIV and cardiovascular disease; survey questions cover economic assets, income and expenditure; subjective well-being; cognition and social network structure and social supports. A sub-study of 400 respondents will be enrolled in a follow-up clinic visit for more extensive HIV and cardiometabolic-related assessments. P01-collected data will be integrated with mortality data from the well-established INDEPTH Health and Demographic Surveillance System (HDSS) data at the Agincourt site, and also with longitudinal data (2006 and 2010) on functioning and quality of life from the WHO Study on
Global Ageing and Adult Health (SAGE). To prepare for future longitudinal analysis in which accurate tracking of out-migrants is essential, all baseline participants will be tracked, and verbal autopsies will ascertain cause of death among those who die during the study period.

We are also carrying out pilot studies in Tanzania and Ghana with supplemental funding to test the feasibility of the HAALSI study instruments in demographic surveillance sites located in urban and rural areas. These pilots will be fielded in the summer of 2015.

Program Collaborators:
We have assembled a diverse team of investigators who specialties span the many areas of our project. Program Director Lisa Berkman, also leading the Harvard site, is a social epidemiologist, focusing on the social and economic predictors of physical and cognitive function. Steven Tollman leads the research team at the University of Witwatersrand, and directly oversees all data collection in the field, as well as leading the research on cardiometabolic disease and risk factors. Till Baernighausen, leads the research on aging with HIV and ART treatment. David Canning heads up the section on economic well-being and productivity. Josh Salomon focuses on measures and methods across the project, as well as leading the topics on pain and aging. Our pilot project in Navrongo, Ghana, in collaboration with Navrongo Health Research Center is led by Cornelius Debpur, while our project in the Dar Urban Cohort Study in Dar es Salaam, Tanzania is in collaboration with the African Association for Public Health. In addition to these investigators, we have a team of professors, postdocs, field workers, and staff assistants dedicated to the project.

Progress Report:
In the past two years, we have made much progress on this project. The first year we devoted to developing and translating the individual and household questionnaires, and creating the CAPI instrument. We also developed a clinical questionnaire, as well as a series of protocols for the clinical sub-study. The sample for the main survey includes a total of 6,266 adults aged 40+, half women and half men, were selected for interview, with an expected ~5000 completed interviews. Of those, 500 men and women were selected to participate in a clinical sub-study where a detailed clinical exam, cognition screening and additional biomarker collection will be conducted. The HAALSI sample includes all individuals who participated in the SAGE Long Survey in 2006, and in the NCD/HIV Study in 2011, to allow for linkages to earlier physical, behavioral and biological measurements.

We recruited fieldworkers in August 2014 and began main survey training. The pilot survey was conducted in October 2014, and we successfully interviewed 90 participants. After revising and updating the CAPI questionnaire, main fieldwork began in November 2014. Since that time, we have completed over 2,000 interviews, and expect to finish field data collection by June 2015. We have a research team devoted to data management and review; the team provides regular feedback to the field teams in Agincourt and to the research team. Regular site visits are conducted by the Harvard team. The clinical team has been trained, and the follow-up visits will begin in April. The clinical study has been expanded from the original plan in collaboration with the NIH-funded AWI-Gen survey in Agincourt (under the Human Hereditary and Health in Africa Consortium). This will expand our clinical sample to approximately 2,500 participants, and will include physical measures such as abdominal visceral fat measurements, echocardiograms, carotid artery scans, and EKGS. The partnership with the AWI-Gen study will lead to an enriched phenotype dataset and biobank resource for the assessment of environmental and genetic determinants of cardiometabolic disorders in a joint cohort of 15,000 mid-age and older women and men in South, East and West Africa.

In addition to our work in South Africa, we are planning for pilot data collection at our sites in Tanzania and Ghana. We have adapted and translated the questionnaires for these sites, and drawn the samples. We have received local IRB approvals in both sites. We are currently recruiting field staff, and pilot fieldwork is expected to be completed by fall 2015.
HAGIS Study Description
CONTEXT - SCOTLAND

Total Population = 5.4m, 
Population aged over 50 = 2.1m 
Life expectancy closer to USA than any OECD member country 
Health worse than England, though socio-economic characteristics very similar. 
High levels of income and health inequality 
Different health/social care policies from England and most OECD countries. 
Current policy initiative to integrate health and long-term care systems 
Excellent data - particularly in health and social care.
EXAMPLE OF COMBINED HEALTH/SOCIAL CARE DATA
HEALTH AND SOCIAL CARE COSTS 2012-13

Total Health & Social Care = £11,403,180,636

- Non Elective - Inpatients, 22.3%
- Elective - Inpatients, 6.7%
- Day case, 3.8%
- Other Hospital, 13.8%
- Community-based NHS, 13.0%
- GP Prescribing, 8.1%
- Other Family Health Service excl. GP Prescribing, 6.6%
- Care Homes, 7.6%
- Other Accommodation-based Social Care, 2.1%
- Home Care, 5.5%
- Other-Community-based Social Care, 10.4%
KEY FEATURES OF HAGIS

Sampling Frame: Health Register

Innovation: financial literacy, cognition

Data linkage: health, social care, education

No immediate plans for biomarker/genetics data. Would be part of full survey.
Pilot Study - Current Position

Tendering for contract with survey companies to pilot around 1000 respondents aged over 50

Designing questionnaire

Going through application for ethical approval
**Sampling Frame**

The pilot will establish the feasibility of using the NHSCR as the sampling frame. This is a list of all patients who are registered with a General Practitioner.

However, the use of this register for the sampling frame provides significant benefits beyond data linkage. These include:

- Improved follow-up for repeat interviews, and improved understanding of non-response and attrition;

- Potential to both recruit sample members in institutional care, and to better follow existing sample members into institutional care.

- Lower cost sample recruitment, as individuals meeting the criteria (e.g. aged over 50 years) can be randomly sampled directly from the register;
## Cognition in HAGIS

<table>
<thead>
<tr>
<th>Test name</th>
<th>Cognitive domain</th>
<th>Timing (mins)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal fluency</td>
<td>Executive function</td>
<td>1.5</td>
</tr>
<tr>
<td>Word-list learning (HRS)*</td>
<td>Verbal declarative memory</td>
<td>4</td>
</tr>
<tr>
<td>Letter digit substitution test</td>
<td>Processing speed</td>
<td>1.5</td>
</tr>
<tr>
<td>Vocabulary - COGNITO</td>
<td>Crystallised ability</td>
<td>5</td>
</tr>
<tr>
<td>Matrices – COGNITO</td>
<td>Fluid ability</td>
<td>5</td>
</tr>
<tr>
<td>Prospective memory *</td>
<td>Prospective memory</td>
<td>1</td>
</tr>
<tr>
<td>Orientation in time</td>
<td>Global cognitive</td>
<td>1</td>
</tr>
<tr>
<td>Self-rated memory</td>
<td>Subjective memory</td>
<td>1</td>
</tr>
</tbody>
</table>
FINANCIAL LITERACY IN HAGIS

As in HRS, questions on:
- Interest rates
- Inflation
- Portfolio selection

More specific questions relating to radical reform of UK pension regulation announced in 2014 and 2015 budgets
OTHER ISSUES

Well-being
   Evaluative
      Life satisfaction
      Positive and negative affect
      Domain Satisfaction
   Eudaimonic
      Self-acceptance
      Quality of life

Attitudes to risk
   Simple scale rating across health, finance and social domains.
DEMENTIA FLAGS IN LINKED DATASET

Individual has at least one SMR01 record with a dementia diagnosis in any condition field from 1981 up to and including 31/03/2011

Individual has at least one SMR04 record with a dementia diagnosis in any condition field from 1981 up to and including 31/03/2011

Individual has a client group of Dementia recorded on the Homecare dataset in either census year

Individual has a client group of Dementia recorded on the SDS dataset in either census year

Individual has a dementia drug dispensed between 01/04/2010 and 31/03/2011 inclusive. (Rivastigmine, Donepezil, Gelantamine, or Memantine)
OTHER ISSUES (CONTINUED)

Time preference

Convex Time Budget (variation in linear budget constraints over earlier and later income)

Dementia

Information from:

- Cognitive tests
- Health diagnosis
- Prescribing information
- Social care assessment
STRUCTURE OF ADMINISTRATIVE DATA

**Health Data:** Health episode data for 2010/11 from SMR01 and SMR04

**Social Care Data:** 4 separate datasets containing Home care and Direct Payments data for 2010 and 2011

**Prescribing Data:** Dataset containing counts of items dispensed in 2010/11

**Demographics Data:**
- Project ID
- allows data to be linked across all datasets

**Client Data**

**Flags Data:** Service contacts for all clients across all datasets
**INDIVIDUAL PRESCRIBING RECORD**

Record structure includes whether client has been prescribed .....  
Antihistamines  
Antimanic drugs  
Antipsychotic drugs and depot injections  
Atomoxetine  
Barbiturates  
Benzodiazepines  
Buspirone  
Chloral and derivatives  
etc. and also includes ...

Quarterly count of number of unique drugs dispensed (All drugs to be included - confirm how to calculate a unique prescription)
HRS Study Description

1. **Sample**: Health and Retirement Study
   a. **Sampling frame**: US population 51 and older. Oversamples of African-American and Hispanic populations.
   b. **Sample size**: 37,000 ever interviewed 1992 through 2012.
   c. **Who is interviewed**: One age-eligible family unit is chosen per address. Interviews are sought with both members of couples in age-eligible units.
   d. **Frequency of interview**: Biennial with supplementary mail and internet surveys
   e. **Interview mode**: Mixed. Baseline in-person, follow-ups mainly telephone until 2004. Beginning 2006, core interviews are done half in person and half primarily by telephone. Supplementary surveys done by mail and internet
   f. **Proxy interviews**: Proxy interviews account for about 7% of all interviews. Permission of the target respondent and HRS staff is required for a proxy to be used.
   g. **Exit interview**: Exit interviews are sought with proxies for all deceased respondents. Nearly 12,000 exit interviews have been completed, representing about 90% of deaths.
   h. **Refresher sample**: Beginning in 1998, a new six-year birth cohort is added every six years.

2. **Data availability**: HRS data and documentation are available online at [http://hrsonline.isr.umich.edu/](http://hrsonline.isr.umich.edu/)
   b. **Public use data availability**: Public data available directly from HRS website. Restricted data, including geography and administrative records from Social Security and Medicare, require special agreements.
   c. **Other files**: RAND prepares user-friendly versions of HRS data, including the longitudinal “RAN DHRS” file

3. **Future planning**
   a. **Next data collection round(s) scheduled**: The next wave of HRS will begin in February, 2014
   b. **Funding status**: NIA funding renewed through 12/31/17 following competitive renewal review. The Social Security Administration has committed to continue co-funding.
   c. **When content decisions need to be finalized**: Summer 2013.
4. Biomarker collection

a. **Physical measures collected**: height, weight, waist circumference, pulse, and blood pressure.

b. **Performance measures conducted**: peak flow meter to measure lung health, grip strength, timed walks, and balance tests.

c. **Blood-based measures collected and assays done**: Six dried blood spots are obtained from each consenting respondent. Assays have been performed for HbA1c, total and HDL cholesterol, C-reactive protein, and cystatin-C. For future waves we propose adding cytomegalovirus (CMV). A supplement proposal to collect venous blood by certified phlebotomists has been submitted in July, 2013.

d. **Administration of the physical measures & biomarkers**: A single trained interviewer administers the measures.

e. **DNA samples**: DNA is collected in saliva using the Oragene kit. Two separate ARRA-funded grant awards will conduct genotyping on 13,000 samples collected in 2006 and 2008 (already entered in dbGaP) and on 7,000 samples collected in 2010 and 2012 using the Illumina 2.5 million SNP chip.

5. **Wellbeing, time use, and personality**: please specify scales used and when collected

a. **Depression/Emotional distress**: In core: 8-item CESD in yes/no format; CIDI-SF with one-year recall for major depressive episodes; self-report of doctor diagnosis.

b. **Life satisfaction**: In core: single item life satisfaction. In leavebehind SAQ: Diener’s 5-item life satisfaction questionnaire

c. **Positive and negative affect**: In leavebehind SAQ: PANAS

d. **Ryff well-being scale**: Three domains in leavebehind SAQ: purpose in life, personal growth, self-acceptance.

e. **Time use**: In the Consumption and Activities Mail Survey every two years to 40% of sample.

f. **Personality**: In leavebehind SAQ: Big 5 scale from MIDUS; additional conscientiousness items from Brent Roberts.

g. **Hedonic well-being**: A mail survey in 2009 included general well-being items from the Gallup World Survey, as well as extensive hedonic well-being items linked to recall of daily activities designed for comparability with the PSID DUST survey. That 2009 design with slight modification is being used in 2012 core HRS and ELSA leave be hind s.
HRS update for international harmonization meeting
April 1, 2015

HRS 2014. Fieldwork began in March of 2014 and was completed the final week of March, 2015. Approximately 20,122 interviews have been completed, of which 1,386 were exit interviews. Of the 18,736 interviews with surviving respondents, 1,053 were taken with proxies. We continue on the 50/50 rotation with half the non-proxy community-dwelling sample interviewed in-person with dried blood spots and physical performance tests. A total of 8,304 biomarker interviews were completed. Cooperation with biomarker components remains at high levels.

Genetics. The number of cases in the dbGaP repository remains at 12,507. Another 3,100 cases from 2010 are completed and have been waiting at dbGap for 9 months. There are 105 authorized requests to use the data. The remaining cases (DNA collected in 2012) will complete genotyping in April, 2015 and should enter the repository in Summer of 2015, bringing the total to nearly 19,000.

Linkage activities.

<table>
<thead>
<tr>
<th>Medicare / CMS Research Files</th>
<th>Available years</th>
<th>Years in progress</th>
<th>Estimated Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts A and B Claims and Summary Files</td>
<td>1991-2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part D Drug Event Files</td>
<td>2006-2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDS and OASIS Assessment and Summary Files</td>
<td>1999-2010</td>
<td>2011-2012</td>
<td>2014 Q4</td>
</tr>
<tr>
<td>Medicaid Analytic Extracts and Summary Files (MAX)</td>
<td>1999-2010</td>
<td></td>
<td>2015</td>
</tr>
</tbody>
</table>

Social Security earnings and benefits data through 2012, including the new cohort and minority supplement cases added in 2010, were received in May of 2014. Data have been processed and are available for distribution. The HRS MOA with SSA has expired and it status is currently in doubt while IRS resolves its position on providing linked earnings data.

Employer pension plans have been obtained for HRS2010 respondents, and most have been coded. Updates are being made to the pension calculator. Wealth calculations and imputations should be complete in a few months.
Future plans.

Recruit new cohort of Late Baby Boomers (1960-65). A competitive revision, which received a perfect score in review, proposed an innovative design to utilize commercial data to stratify households in area-based samples to boost expected eligibility. This is also the start of a new stable steady-state design in which screening will be done on a smaller scale every six years instead of on a large scale every twelve. Funding is uncertain.

Obtain venous blood. A competitive revision, which received a perfect score in review, proposed to use a national phlebotomy service to draw blood in the home from consenting respondents. A total of six tubes and 48ml of blood are planned, including 3 SST (serum), 2 EDTA (plasma), and PaxGene (RNA). A limited number of assays will be performed, including those done by ELSA for harmonization plus additional immune and inflammation markers by flow cytometry. Remaining samples will be stored for future use. Funding is uncertain.

Conduct a cognitive assessment. A competitive revision, which received a perfect score in review, proposed a new cognitive assessment designed to replace the ADAMS. Tentatively named the Harmonized Cognitive Assessment Protocol (HCAP), it will combine one hour of cognitive testing with fifteen minutes of informant report to be conducted in the home by a survey interviewer on about 3,000 HRS respondents 65 and older. It will be used to assign a diagnostic status of normal, demented, or cognitively impaired without dementia. The final form of HCAP, and subset variants of it, will be determined in expert meetings in 2015. The goal is to use HCAP to harmonize international sister studies in two ways: one, by creating similar subsamples with extensive harmonized cognitive testing in each country, and, two, by generating equations that can assign a diagnostic status to each core survey based on the more limited testing in the core. Funding is likely.

Introduce internet as an optional core mode. The HRS is currently developing an internet-based alternative to the interviewer-administered core survey. This is a massive programming effort for a study with over 5,000 questions and extensive skip language. It also requires extensive redesign of question wording, screen displays, help screens, and instructions to address respondents directly rather than interviewers. Currently, Blaise 5, which is intended to support multi-mode interviewing is in a primitive state requiring extensive programming work-arounds. A pilot will be conducted in May of 2015 with about 1200 HRS respondents to test several core sections, including health, income and wealth, and insurance.
IFLS Study Description

   
   a. **Sampling frame**: from 1993 SUSENAS, a large-scale national household survey done by BPS in Indonesia
   
   b. **Sample size**: IFLS1: 7,200 households and 33,000 individuals. Households increase over waves because we follow split off HHs, like PSID. In IFLS4 up to 13,500 households and 50,500 individuals
   
   c. **Who is interviewed** (e.g., everyone who is age-eligible? age-ineligible spouses?) No age restrictions. Everyone in original IFLS HHs are interviewed or by proxy (for small children). In split off HHs all original IFLS1 HH members, their spouses and children are interviewed
   
   d. **Interview mode**: in person, switching to CAPI IFLS5
   
   e. **Proxy interview (allowed?)**: yes
   
   f. **Exit interview**: some exit information collected, about when died or moved out of HH -additonal qxs being added IFLS5
   
   g. **Refresher sample**: No

2. **Data availability**: Public, all waves
   
   
   b. **Public use data availability** (What’s available and what’s restricted?): All available. Locations up to
   
   c. **sub-district available;** primary sampling unit GPS coordinates on a restricted basis
   
   d. **Future planning**
      
       i. Next data collection round(s) scheduled: IFLS5 in 2013/14, 20 years after IFLS1
       
       ii. Funding status: proposals granted by NIA and NICHD
       
       iii. When content decisions need to be finalized: final, CAPI programming underway-pretesting in fall 2013

3. **Biomarker collection:**

   a. **Physical measures collected**: heights and weights on all HH members since IFLS1. Blood pressure added for those 15 and over IFLS2, waist circumference added for adults IFLS3, lower leg length and upper arm length to be added for adults IFLS5
   
   b. **Performance measures conducted**: peak flow meter, 5 times sit to stand added IFLS2, grip strength added IFLS4. Cognition tests: word recall and TICS questions added IFLS4. Number series to be added
c. **IFLS5.** Also timed walk and balance tests to be added IFLS5

d. **Blood**-based measures collected and assays done: hemoglobin measured by Hemocue meter added IFLS2, total and HDL cholesterol measured by CardiochekPA meter added IFLS4, dried blood spots taken IFLS3 and 4 and analyzed in IFLS4 for hsCRP. Plans in IFLS5 to add HbA1c by DBS.
   i. Who administers the physical measures & biomarkers: trained nurses
   ii. Completion rates for different biomarkers: 80%

4. **Wellbeing and time use:**

   a. **Emotional distress:** CESD, CIDI-SF, Euro-D: 10 item CES-D added in IFLS4

   b. **Life satisfaction:** life satisfaction and domain satisfaction (income, health) added IFLS3 hedonic well-being using new Stone-Smith measure developed for HRS to be introduced in IFLS5

   c. **Quality of life scale:** CASP-19: no

   d. **Positive and negative affect:** Stone-Smith hedonic well-being qxs developed for HRS to be added IFLS5

   e. **Ryff well-being scale:** No

   f. **Time use:** No

   g. **personality-** 15 question BFI being added in IFLS5- covers big 5 domains
Indonesia Family Life Survey (IFLS)

The fifth wave of IFLS is in the field now, 21 years after the first wave. For the household part of the survey we are a bit over 70% complete. Several teams have completed their main fieldwork and have begun their tracking phase in which they search for households and respondents who were not found when first searched for in this wave, but for whom we have information on where they moved. The community/facility part of the survey began a few weeks ago.

As of March 31, the households teams have a household response rate (interview plus died since last wave) of 88.3% of target households (all IFLS 1 households that were still alive as of the last wave, 4, plus all splitoff households still alive last wave). This response rate is BEFORE much tracking has taken place, so we fully expect our response rate to be over 90% once again after tracking is complete. This is after 21 years!!! Of the IFLS 1 households and their splitoffs (together we call these dynasty households) that we have tried to contact this wave (again a bit over 70% so far), 84% of IFLS 1 dynastic households have at least part of them responding in all 5 waves! This number will also rise during tracking. The tracking is even more important than just reducing attrition, it also greatly mitigates selective attrition because we go after long-distance movers. They are very like those we never find in their baseline characteristics. Hence finding them greatly reduces selection.

IFLS surveys all people in a target household. Age is not restricted. However, the original cohort is aging. The number of respondents aged 50+ in wave 5 we expect now to increase by 1,500, to over 8,500. That number is after deaths.

We expect IFLS5 to be public at PAA 2016. The DBS data will come out later since the lab will still be working on assays at that time.

Answers to Jim and Jinkook’s questions.

1. We collect DBS and do a hand-held meter (Hemocue) assessment of blood hemoglobin using a finger prick. The hemoglobin we have collected since wave 2 in 1997. We analyzed DBS first in wave 4, for C-reactive protein for just over 10,000 respondents, randomly sampled from the total. All elderly were included plus a sample of younger respondents. In IFLS 5 we are collecting DBS from the same individuals. We will again assay for CRP and add HbA1c.
2. No genetics at this point.
3. We have collected life satisfaction and domain satisfaction questions since wave 3 in 2000. We have added a happiness question in wave 4, 2007 and in wave 5 we added questions on affect, both positive and negative. For this we used the 12 question battery on feelings yesterday developed by Arthur Stone and Jacqui Smith and used by HRS.
4. We added a battery on risk and time preferences in wave 4 and kept them in wave 5. We use survey questions, NOT experiments with actual money payouts. We used the same questions as used in the Mexican Family Life Survey. MxFLS used both survey and experiments with payouts and found that the survey questions did just as well (a
conclusion different from the older study of Binswanger with the Indian ICRISAT household data).

5. We have a very full set of questions on cognition, but not a full set of dementia questions. But we do have some that are relevant. For example, we don’t yet use MMSE, but we do have the TICS questions used by the HRS family, immediate and delayed word recall, serial subtraction of 7s. We added in wave 5 animal counting in 60 seconds and counting backwards from 20. We also added an adaptive number series test patterned after HRS, which Jack McArdle helped us devise. Since wave 3 in 2000 we have used an abridged version of the Ravens test. In the past we only administered this to younger respondents aged 15-24, but in wave 5 we extended this to all ages 15+.

6. We have also added in wave 5 a section on personality using the BFI 15 questions. This was suggested to us by Brent Roberts. While it is a different set of adjectives than the HRS questions, the concepts the questions are getting at are the same.

7. We also added a short series of 10 questions on sleep quality and effects of sleep deprivation, provided by Joan Broderick from the large series of Promis questions.
JSTAR Study Description

1. **Sample**: Japanese Study of Aging and Retirement (JSTAR) started in 2007
   
   a. **Sampling frame**: Two-step stratified sampling in selected municipalities. We chose 5 municipalities (Sendai, Kanazawa, Takikawa (Hokkaido), Shirakawa (Gifu) and Adachi (Tokyo)) in the 1st wave study (2007). Then 2 municipalities (Naha (Okinawa) and Tosu (Kyushu)) were added into our sample for the 2nd wave (2009) and 3 municipalities (Hiroshima, Chofu (Tokyo) and Tondabayashi (Osaka) to our sample for the 3rd wave (2011).
   
   b. **Sample size**: 8,000 individuals at baseline. The total number of subjects chosen from household registration is 15,500 for 10 municipalities and the response rate (excluding no contact) is about 60 percent.
   
   c. **Who is interviewed**: Only for correspondents who is over 50 years old at baseline. But proxy interviews and family members’ company are allowed.
   
   d. **Interview mode**: Self-completed questionnaire and in-person interview using CAPI as well as nutrition survey.
   
   e. **Proxy interviews**: Proxy interviews are allowed, the exception is for subjective health measures such as emotional health, well-being, cognitive tests, and all components of the biomarker module which must be completed by the subjects.
   
   f. **Exit interview**: Applicable from 2009.
   
   g. **Refresher sample**: Not yet determined

2. **Data availability**: All waves including 3rd have been public available through Research Institute of Economy, Trade and Industry, IAA (RIETI).

   
   b. **Public use data availability**: All available, but some identifiers (income, asset, number of children, etc.) are truncated from above and below (top-coded) and locational identity is available under stricter rule.

3. **Future planning**

   a. **Next data collection round(s) scheduled**: 4th wave of JSTAR will be implemented this year. Next wave study will go into the field in 2015.
   
   b. **Funding status**: Each municipality in the JSTAR is supported by different sources: research grants from RIETI, Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Health, Labour and Welfare.
c. **When content decisions need to be finalized:** by August for the 4th wave.

4. **Biomarker collection**

a. **Physical measures collected:** Blood pressure (2nd wave), Self-certificated Height, and self-certificated weight are collected. For National Health Insurance beneficiaries, we can also access the official test result of Health Check for Lifestyle-Related Diseases (height, weight, waist circumference, blood test, serological test, biochemical examination, functional examination, and pulse, (fundoscopy) under correspondent’s agreement.

b. **Performance measures conducted:** Grip strength. ADL, IADL. Cognition tests, including immediate and delayed word recall, date and address naming, discounting back calculation, risk aversion, time preference.

c. **Blood-based measures collected and assays done:** Not included in JSTAR itself. However JSTAR can collect the test result of Health Check for Lifestyle-Related Diseases.

d. **Administration of the physical measures & biomarkers:** Interviewer teams, composed of one or two. Most interviewers are female.

e. **Completion rates for different biomarkers:** The table below shows the completion rate for each task the respondent is asked to complete in the biomarker questionnaire.

### Biomarker Completion Rate by Task (1st wave)

<table>
<thead>
<tr>
<th>Task</th>
<th>Completed (N)</th>
<th>Asked (N)</th>
<th>Completion Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Pressure (2nd wave only)</td>
<td>1,566</td>
<td>3,019</td>
<td>72.14%</td>
</tr>
<tr>
<td>Grip Strength (1st wave)</td>
<td>5,383</td>
<td>5,542</td>
<td>97.13%</td>
</tr>
<tr>
<td>Grip Strength (2nd wave)</td>
<td>2411</td>
<td>2809</td>
<td>85.93%</td>
</tr>
<tr>
<td>Height (1st wave)</td>
<td>5,655</td>
<td>5,708</td>
<td>99.07%</td>
</tr>
<tr>
<td>Height (2nd wave)</td>
<td>2,968</td>
<td>3,017</td>
<td>96.77%</td>
</tr>
<tr>
<td>Weight (1st wave)</td>
<td>5,630</td>
<td>5,768</td>
<td>98.63%</td>
</tr>
<tr>
<td>Weight (2nd wave)</td>
<td>2,961</td>
<td>3,017</td>
<td>98.11%</td>
</tr>
<tr>
<td>Waist (2nd wave only)</td>
<td>1,848</td>
<td>2,208</td>
<td>83.69%</td>
</tr>
</tbody>
</table>
5. **Wellbeing, time use, and personality: please specify scales used and when collected**

   a. **Emotional distress:** 20-item CESD questionnaire.

   b. **Life satisfaction:** Domain-specific satisfaction (job, family relationship, friendship) questionnaire.

   c. **Quality of life scale** (e.g., CASP-19): 4-category question is included.

   d. **Positive and negative affect:** Not included.

   e. **Ryff well-being scale:** Not included.

   f. **Time use:** Include about commute, work, household, care for others, exercise, self-improvement, volunteering, hobby, rest separately for weekdays and weekends/holidays.

   g. **Personality:** Gender opinion questionnaire (gender role attitude etc.) is included.
Short Summary of Japanese Study of Ageing and Retirement (JSTAR)

For Around-the-World Harmonization Meeting

1st -3rd April 2015

update by Hidehiko Ichimura

Original version made by Hideki Hashimoto October 2014

1. JSTAR since 2007 (Pilot studies in 2 Tokyo districts in 2005)

   2007 wave group; 5 cities (Adachi, Sendai, Shirakawa, Takikawa, Kanazawa)
   2009 wave group; 2 cities (Naha, Tosu)
   2011 wave group; 3 cities (Chofu, Tondabayashi, and Hiroshima)
   2013/14 wave group; continued with 10 cities (cleaning)
   Stratified random sampling within cities
   Base line questionnaire is comparable to that of SHARE
   Baseline response rate is about 60%
   Publicly offering Wave1-3 data (http://www.rieti.go.jp/en/projects/jstar/)
   More than 80 applications as of October 2014, including World Bank, NBER, Stanford, etc.

2. Features/Topics:
   1) Sendai hit by the Tohoku Region Pacific Coast Earthquake in 2011.
   2) Okinawan paradox and nutrition survey (Sudden decline in life expectancy)
   3) Retirement behaviors and saving after Lehman shock
   4) Policy changes after 2013
      - Consumption tax rate increased,
pension payment reduced by macro indicator change
pension eligibility age raised by 5 years gradually starting in 2001 and ending in 2031.
increased copayment for medical and long-term care under national public insurance scheme.

3. Challenges and promises

1) Non-ignorable attrition and failed follow-up of mortality
- 80% of follow-up rate per wave (0.8X0.8X0.8=0.51! after 3 wave follow-up).
- Limited access to residential registry due to legal protection of “privacy”.
- Lack of national security number as unique ID. (will be introduced in 2016)
- Supplementary sampling is needed but budget insufficient

2) Limited use of biomarkers
- Blood pressure and waist circumferences in wave 2.
- Cognitive function using MMSE (partly, language comprehension parts not included) and ADAS-cog (word recall only)
- No specific plan to collect genetic information.
  We will be, of course, interested in collecting such information if linking our data is convincingly useful.
- Nutrition survey for every wave
- Link the administrative record of their health/nursing care usage for individuals who gave us permission (65+)
- Medical examination record for individuals who gave us permission to access public record. (height, weight, eyesight, hearing, blood pressure, urinalysis, stool test, X-ray, and various blood tests)

3) Other measures
- In terms of subjective well-being we measure: subjective health, CES-D
- In terms of risk and time preference we measure both including hyperbolic discounting.

4) Financial sustainability
- Currently supported by different 4-5 fund sources. (Just finished in 27 March, 2015 an interview for a NSF-like grant to cover wave 5-6 and to start a younger cohort)

5) “2025 problem”; baby boomers become >75!
- Estimated proportion of those>75 will reach 30%!
- Decrease in total population already since 2011
- Detailed simulation and timely evaluation of social policy needs panel data.
KLoSA Study Description

   a. **Sampling frame**: Enumerated District for the 2005 Population and Housing Census
   b. **Sample size**: 10,254 persons and 6,171 households at baseline
   c. **Yearly Retention Rates**

<table>
<thead>
<tr>
<th>Year</th>
<th>Survey Instrument</th>
<th>Original panels (A)</th>
<th>Responded Panels</th>
<th>Total Survey</th>
<th>Retention Ratio-Target (C/B)</th>
<th>Retention Ratio-Original (C/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006 (1 WAVE)</td>
<td>CAPI</td>
<td>10,254</td>
<td>10,254</td>
<td>10,254</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007 (1 Sub Survey)</td>
<td>CAPI</td>
<td>10,254</td>
<td>10,254</td>
<td>No survey</td>
<td>9,026</td>
<td>9,026</td>
</tr>
<tr>
<td>2008 (2 WAVE)</td>
<td>CAPI</td>
<td>10,254</td>
<td>10,254</td>
<td>187</td>
<td>8,688</td>
<td>8,875</td>
</tr>
<tr>
<td>2009 (2 Sub Survey)</td>
<td>CATI</td>
<td>10,254</td>
<td>10,067</td>
<td>No survey</td>
<td>8,087</td>
<td>8,087</td>
</tr>
<tr>
<td>2010 (3 WAVE)</td>
<td>CAPI</td>
<td>10,254</td>
<td>10,067</td>
<td>309</td>
<td>7,920</td>
<td>8,229</td>
</tr>
<tr>
<td>2011 (3 Sub Survey)</td>
<td>CATI</td>
<td>10,254</td>
<td>9,758</td>
<td>No survey</td>
<td>7,600</td>
<td>7,600</td>
</tr>
<tr>
<td>2012 (4 WAVE)</td>
<td>CAPI</td>
<td>10,254</td>
<td>9,758</td>
<td>327</td>
<td>7,486</td>
<td>7,813</td>
</tr>
</tbody>
</table>

   d. **Who is interviewed**: Individual interviews are restricted (with the exception of proxy interviews) to household panel members who was 45 years of age and older in 2006.

   e. **Interview mode**: in person using CAPI or CATI.

   f. **Proxy interviews**: Proxy interviews are allowed with the consent of both respondent and proxy, the exception is for subjective health measures such as emotional health, well-being, cognitive tests, and all components of the biomarker module which must be completed but the respondent, if not, subjective health measures and the biomarker module components should be omitted.
g. **Exit interview**: Applicable since the second baseline wave (2008).

h. **Refresher sample**: Not proceeded yet.

2. **Data availability**: KLoSA data are available in public through KEIS web page for the 1st, 2nd and 3rd baseline wave data and 4th baseline wave data will be available on October, 2013. 1st baseline data is also available through RAND Corporation.
   

b. **Public use data availability**: All available except national identification number.

3. **Future planning**
   
a. **Next data collection round(s) scheduled**: A nationally representative, baseline wave of KLoSA is planned to go into the field in the fall of 2014.

b. **Funding status**: Listed on the central government’s budget plans 2014 and will be submitted to the National Assembly for approval in the fall of this year.

c. **When content decisions need to be finalized**: December 2013.

d. **Refreshment sample**: The last generation of 1st Baby Boomer who was born in 1962 and 1963, will be added on 5th baseline wave. The size of refreshment will be about 1,000 people.

4. **Biomarker collection**
   
a. **Physical measures collected**: Height and weight measures are collected. No pulse, blood pressure, hip circumference, and waist circumference measures are collected.

b. **Performance measures conducted**: No peak flow meter to measure lung health, timed walks, and balance tests are measured. Grip strength, Cognition tests including serial 7s, immediate and delayed word recall, and other questions assessing global cognitive functioning (date naming, counting backwards, etc.) are conducted.

c. **Blood-based measures collected and assays done**: N.A.

5. **Wellbeing, time use, and personality**:
   
a. **Emotional distress**: 11 questionnaires with a Korean version of depression scale.

b. **Life satisfaction**: domain-specific satisfaction (health, financial, spouse, family relationship), 4 questionnaires with 100% scales.

c. **Quality of life scale (e.g., CASP-19)**: a question with a 100% scale. d. **Positive and negative affect**: N.A.

e. **Ryff well-being scale**: N.A.

f. **Time use**: Not included in the baseline.

g. **Personality**: Not included in the baseline.
KLorea update for RAND HRS Around-the-World Harmonization Meeting in Bethesda, MD, USA

   April 1, 2015

1. Update

   Recruited new cohort of 1,000 Baby Boomers not included in the 1st baseline survey (1962-63) last year.
   Completed the 5th baseline survey in 2014 and will be released in public this year.
   A plan to do the 5th special survey in this year is ongoing through consulting with the Ministry of Labor and Employment to decide on the subject and period.
   KLorea English version data, codebook, and user guides can be accessed through the web site “http://survey.keis.or.kr/ENCOMAM0000N.do.”

2. Blood-based biomarkers: Does your study collect venous blood or dried blood specimen (DBS)?

   Not yet.

3. Genetics: Has your study done or are you planning to do some genetic work? If so, what kind of approach are you taking, and what’s your timeline?

   Not yet.

4. Subjective well-being: What types of measures does your study include?

   a. Emotional distress: 11 questionnaires with a Korean version of depression scale
   b. Life satisfaction: domain-specific satisfaction (health, financial, spouse, family relationship), 4 questionnaires with 100% scales.
   c. Quality of life scale (e.g., CASP-19): a question with a 100% scale.
   d. Positive and negative affect: N.A.
   e. Ryff well-being scale: N.A.

5. Risk and time preference: What types of measures does your study include?

   Not included in the baseline yet, but in the near future after studying other harmonization surveys.
6. Dementia: Does your study plan to do dementia assessment? If so, what’s the protocol?

Yes, KLoSA includes a dementia assessment mechanism since the 1st baseline survey in 2006 using questions on cognition. Cognition is one of the often used methods to check dementia. As dementia has emerged as a very important ageing issue, a periodic check on cognition of adults aged 45 or over makes a valuable resource for researches on dementia among Korean population. This is the reason cognition check is included in KLoSA’s baseline survey. Training on interviewers assisted by experts is conducted before preliminary surveys and baseline surveys were carried out to promote accurate cognition check. In an effort to increase the accuracy of checking respondent’s cognition, CAPI survey program is programmed to eliminate interviewers’ interference in testing memory and calculation ability and let computers check time and accurate or inaccurate answers. Questionnaires’ for cognition abilities consist of 19 MMSE(Mini–Mental State Examination) questions ranging from awareness, short and long term memories through drawing abilities.

Procedures on Assessing Cognition Ability: Dementia Assessment Procedures
LASI Study Description

1. **Sample**: Longitudinal Aging Study in India (LASI) pilot waves from 2010
   a. **Sampling frame**: 2011 Indian National Census
   b. **Sample size**: 18,000 individual interviews
   c. **Who is interviewed**: Individual interviews are restricted (with the exception of proxy interviews) to household members 45 years of age and older and their spouses, regardless of their spouses’ age. Household informants of any age over 18 are allowed to complete the cover screen and household modules on household finance, assets, and expenditure and other household characteristics
   d. **Interview mode**: in person using CAPI
   e. **Proxy interviews**: Proxy interviews are allowed, the exception is for subjective health measures such as emotional health, well-being, cognitive tests, and all components of the biomarker module which must be completed but the respondent.
   f. **Exit interview**: Not applicable. An exit interview will be incorporated into subsequent waves of LASI.
   g. **Refresher sample**: Planned for every 4 years

2. **Data availability**: LASI pilot data are available from the RAND Survey Meta Data Repository.
   a. **Years of data collection**: pilot data in 2010
   b. **Public use data availability**: All available, except GPS coordinates which are obtained on a restricted basis. Biomarker data will be available as a restricted data file though separate application process.

3. **Future planning**
   a. **Next data collection round(s) scheduled**: A nationally representative, baseline wave of LASI is planned to go into the field in the fall of 2014.
   b. **Funding status**: R01 from NIH/NIA was granted; additional fund raising efforts inside of India
   c. **When content decisions need to be finalized**: Spring 2014.

4. **Biomarker collection**
   a. **Physical measures collected**: height, weight, hip circumference, waist circumference, pulse, and blood pressure.
   b. **Performance measures conducted**: peak flow meter to measure lung health, grip strength, timed walks, and balance tests. Cognition tests, including serial 7s, immediate and delayed word recall, other questions assessing global cognitive functioning (date naming, counting backwards, etc). LASI also includes a vision test.
c. **Blood-based measures collected and assays done:** Five dried blood spots are obtained from each consenting respondent, which allows researchers to analyze up to 32 different markers, including Hb, CRP, and EBV (or CBV). For baseline, cardiocheck and A1cNow are planned to be used.

d. **Administration of the physical measures & biomarkers:** interviewer teams, composed of two men and two women. Respondents are matched to two interviewers in the team by gender.

e. **Completion rates for different biomarkers:** Eighty-nine percent of all eligible respondents listed in the household roster began the biomarker module, which could be completed at anytime during the interview, although frequently was the last component of the survey. The table below shows the completion rate for each task the respondent is asked to complete in the biomarker module.

<table>
<thead>
<tr>
<th>Task</th>
<th>Completed (N)</th>
<th>Asked (N)</th>
<th>Completion Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Pressure</td>
<td>1566</td>
<td>1,657</td>
<td>94.51%</td>
</tr>
<tr>
<td>Pulse</td>
<td>1566</td>
<td>1,657</td>
<td>94.51%</td>
</tr>
<tr>
<td>Lung Function</td>
<td>757</td>
<td>1,657</td>
<td>45.68%</td>
</tr>
<tr>
<td>Grip Strength</td>
<td>1462</td>
<td>1,657</td>
<td>88.23%</td>
</tr>
<tr>
<td>Semi Tandem</td>
<td>1490</td>
<td>1,657</td>
<td>89.92%</td>
</tr>
<tr>
<td>Side by Side</td>
<td>799</td>
<td>824</td>
<td>96.97%</td>
</tr>
<tr>
<td>Full Tandem</td>
<td>651</td>
<td>655</td>
<td>99.39%</td>
</tr>
<tr>
<td>Timed Walks</td>
<td>526</td>
<td>622</td>
<td>84.57%</td>
</tr>
<tr>
<td>Vision</td>
<td>1465</td>
<td>1,657</td>
<td>88.41%</td>
</tr>
<tr>
<td>Height</td>
<td>1578</td>
<td>1,657</td>
<td>95.23%</td>
</tr>
<tr>
<td>Weight</td>
<td>1576</td>
<td>1,657</td>
<td>95.11%</td>
</tr>
<tr>
<td>Waist</td>
<td>1559</td>
<td>1,657</td>
<td>94.09%</td>
</tr>
<tr>
<td>Hip</td>
<td>1552</td>
<td>1,657</td>
<td>93.66%</td>
</tr>
<tr>
<td><strong>DBS</strong></td>
<td>1430</td>
<td>1,657</td>
<td>86.30%</td>
</tr>
</tbody>
</table>

5. **Wellbeing, time use, and personality:** the followings are scales used for the pilot; decisions are not made for baseline yet

a. **Emotional distress:** 20-item CESD questionnaire

b. **Life satisfaction:** Diener’s 5-item life satisfaction questionnaire and domain-specific satisfaction (job, financial, family relationship) questionnaire

C. **Quality of life scale** (e.g., CASP-19): not included in the pilot

d. **Positive and negative affect:** Not included in the pilot

e. **Ryff well-being scale:** Not included in the pilot

f. **Time use:** Not included in the pilot, but considered for the baseline

g. **Personality:** Not included in the pilot, but considered for the baseline
LASI Study Description

1. **Sample:** Longitudinal Aging Study in India (LASI) baseline 2015
   a. **Sampling frame:** 2011 Indian National Census
   b. **Sample size:** 50,000 individuals
   c. **Who is interviewed:** Individual interviews are restricted (with the exception of proxy interviews) to household members 45 years of age and older and their spouses, regardless of their spouses’ age. Household informants of any age over 18 are allowed to complete the coverscreen and household modules on household finance, assets, and expenditure and other neighborhood and household characteristics.
   d. **Interview mode:** in person using CAPI
   e. **Proxy interviews:** Proxy interviews are allowed, the exception is for subjective health measures such as emotional health, well-being, cognitive tests, and all components of the biomarker module which must be completed but the respondent.
   f. **Exit interview:** will be incorporated into subsequent waves of LASI.
   g. **Refresher sample:** undecided

2. **Data availability:** LASI pilot data will be public available through Harvard School of Public Health (HSPH) and International Institute for Population Sciences (IIPS) and University of Southern California (g2aging.org)
   a. **Years of data collection:** 2010 (pilot), 2015 (baseline)
   b. **Public use data collection:** All available, except GPS coordinates which are obtained on a restricted basis.

3. **Future planning**
   a. **Next data collection round(s) scheduled:** A nationally representative, baseline wave of LASI is planned to go into the field in the fall of 2015.
   b. **Funding status:** NIA and Government of India
   c. **When content decisions need to be finalized:** Spring 2015.

4. **Biomarker collection**
   a. **Physical measures collected:** height, weight, hip circumference, waist circumference, pulse, and blood pressure.
   b. **Performance measures conducted:** peak flow meter to measure lung health, grip strength, timed walks, and balance tests. Cognition tests, including serial 7s, immediate and delayed word recall, other questions assessing global cognitive functioning (date naming, counting backwards, etc). LASI also includes a vision test.
   c. **Dried Blood Specimen and assays:** Five dried blood spots are obtained from each consenting respondent, which allows researchers to analyze up to 32 different markers, including HbA1c, CRP, Hb, EBV (or CBV), Cystatin C, and Vitamin D.
   d. **Administration of the physical measures & biomarkers:** interviewer teams, composed of two men and two women. Respondents are matched to two interviewers in the team by gender.
   e. **Venous blood sample:** planned for 2,000 respondents who will visit regional geriatric hospitals

5. **Wellbeing, time use, and time and risk preference:** please specify scales used and when collected
   a. **Emotional distress:** 20-item CESD questionnaire, CIDI
   b. **Life satisfaction:** Diener’s 5-item life satisfaction questionnaire.
   c. **Time use:** To be administered to a random 25% for the baseline
   d. **Time and risk preference:** Not included

6. **Genetics:** planned, and currently being piloted
MHAS Study Description

1. Sample
   a. **Sampling frame**: Mexican National Employment and Occupation Survey 2000 (ENOE, previously named National Employment Survey, ENE); a national multi-stage probabilistic sample of approximately 120,300 households.
   b. **Sample size**: In 2001 (baseline) – 15,402 individuals; 11,000 households with persons born in 1951 or earlier (aged 50 and older at baseline) in Mexico. A sub-sample for anthropometric measures of 1,800 households (about 2,550 persons).
      - In 2003 (follow-up) – 14,386 individuals and 546 exit interviews.
      - In 2012 (follow-up and refresher sample) – 15,723 individuals and 2,742 exit interviews.
   c. **Who is interviewed**: At baseline (2001) and refresher sample (2012), every age-eligible person and their partner/spouse. At follow-up (2003 and 2012), every person who was part of the panel in the previous survey and their new spouse/partner.
   d. **Interview mode**: Person-to-person, paper-pencil interview in 2001 and 2003; CAPI starting in 2012
   e. **Proxy interview**: Proxy interviews were allowed when poor health or temporary absence precluded a direct interview.
   f. **Exit interview**: Next-of-kin interview completed with a knowledgeable respondent for those who were part of the panel but have died since the last interview.

2. Data availability
      - **Public use data availability**: Data files and documents all available in Spanish and English.
      - Two restricted-use files: 1) linked file with community-level data using the 2000 Population Census at the community level; and 2) linked file with the 2000 Health Sector census of health facilities at the municipio (county) level, including variables on the number of health facilities and resources within 10 kilometers of the household.

3. Future planning
   a. **Next data collection round(s) scheduled**: 2014.
   b. **Funding status**: NIH grant (2011-2015); additional funding sources currently under approval.
   c. **When content decisions need to be finalized**: February 2014.

4. **Biomarker collection** – Objective markers: anthropometric measures on a sub-sample
a. **Physical measures collected:** Anthropometric measures (weight, height; waist, hip, and calf circumference, and knee length).

b. **Performance measures conducted:** Timed one-leg stands. In 2012 also timed walk and hand grip.

c. **Blood-based measures collected and assays done:** not included in 2001 or 2003. Included in 2012 for a sub-sample (n=2089): finger prick and intravenous blood.

d. **Who administers the physical measures & biomarkers?:** trained full-time interviewers of the Instituto Nacional de Estadística, Geografía, e Informática (INEGI) for main interview. Personnel of the Instituto Nacional de Salud Publica (INSP) conduct health visits in the sub-sample for physical measures, performance tests, and biomarkers.

e. **Completion rates for different biomarkers:** 90% (for physical measures).

5. **Wellbeing and time use:**

a. **Emotional distress:** Assessed with a modified version of Center for Epidemiologic Studies Depression scale (CES-D) in 2001 and 2003.

b. **Life satisfaction (Diener’s scale):** not included in 2001 or 2003. A life satisfaction questionnaire was included in 2003 (see table below)

   **About your spouse…**
   - How much does your spouse understand your feelings about things? Would you say…a lot, little, or not at all
   - How much can you confide in him/her if you have a serious problem? Would you say…a lot, little, or not at all
   - How much does your spouse listen if you need to talk about your worries?
   - How often does he/she disappoint you when you are counting on them?

   **About your children…**
   - How much do they understand your feelings about things? Would you say…a lot, little, or not at all
   - How much can you confide in them if you have a serious problem? Would you say…a lot, little, or not at all
   - How much do they listen if you need to talk about your worries?
   - How often do they disappoint you when you are counting on them?

   **About your friends, acquaintances, or companions at work**
   - Do you have friends, acquaintances, or work colleagues?
   - How much do they understand your feelings about things? Would you say…a lot, little, or not at all
   - How much can you confide in them if you have a serious problem? Would you say…a lot, little, or not at all
   - How much do they listen if you need to talk about your worries?
   - How often do they disappoint you when you are counting on them?
c. **Quality of life scale (CASP):** not included in 2001 or 2003. A control ladder was included in 2003 (see table below).

<table>
<thead>
<tr>
<th>MHAS - Control Ladder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instructions</strong></td>
</tr>
<tr>
<td>&quot;Here is a ladder. There are 10 steps in total from bottom to top. Look at this ladder. At the very top you'll find people who have the most weight on decisions, or on how things are going to be done. At the very bottom are people with the least weight in decisions, or on how things are going to be done.&quot;</td>
</tr>
<tr>
<td><strong>Questions</strong></td>
</tr>
<tr>
<td>If you consider your present situation and compare it with that of all other members of your household, where would you place yourself? Please indicate it on the ladder for me.</td>
</tr>
<tr>
<td>If you consider your present situation and compare it with that of all other members of your neighborhood, where would you place yourself? Please indicate it on the ladder for me.</td>
</tr>
<tr>
<td>If you consider your present situation and compare it with that of all other people in Mexico, where would you place yourself? Please indicate it on the ladder for me.</td>
</tr>
</tbody>
</table>

d. **Positive and negative affect:** not included in 2001 or 2003.

e. **Ryff well-being scale:** not included in 2001 or 2003

f. **Time use:** not included in 2001 or 2003.
**Mexican Health and Aging Study (MHAS) - Update**

*Around the World Harmonization Meeting, Bethesda, Maryland*

**April 2015**

**BRIEF**: MHAS started in 2001, with a national sample of ages 50+ and spouses. MHAS has had two follow-ups, in 2003 and 2012. New additions in 2012: new cohort sample, and health visit to a sub-sample. All interviews are in-person at home; pencil-paper in 2001, 2003, and CAPI in 2012.

**MHAS 2012**: Relatively high follow-up and response rates.

Health visit in the household in a sub-sample was completed 2 weeks after regular interview (for anthropometric measures, blood pressure, performance tests, and finger-prick plus venous blood samples). Cooperation was quite high for the health visit (90%+ response rate).

**2012 Biomarkers**

- Sub-sample (n=2,089) for anthropometric measures, biomarkers, and performance measures.

- Biomarkers: two vials used to process biomarkers in the laboratory.
  - Intravenous Blood:
    - HbA1c (Hemoglobin A1c)
    - Total Cholesterol and TG (Total Cholesterol and Triglycerides)
    - HOMA (Homeostasis Model Assessment)
    - Vitamin D
  - Finger Prick:
    - HbA1c (Hemoglobin A1c)

- Genetics: a third vial stored for future use.

Genetics.
For the 2012 sub-sample, one 2-ml tube of venous blood was frozen for future use (consent was given for genetic analysis).

Linkage activities.

<table>
<thead>
<tr>
<th>Linkage Data</th>
<th>Available years</th>
<th>Years in progress</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Census – Community Level</td>
<td>2000</td>
<td>2010</td>
<td>100+ variables at county level</td>
</tr>
<tr>
<td>Health Services Census-Community Level</td>
<td>2000</td>
<td>-</td>
<td>Availability of services and personnel in health facilities</td>
</tr>
<tr>
<td>Mortality from vital registration at county level</td>
<td>1998-2011</td>
<td>COMPLETED</td>
<td>Total mortality and by cause</td>
</tr>
<tr>
<td>Seguro Popular affiliates at state level</td>
<td>2004 - 2012</td>
<td>COMPLETED</td>
<td>Total affiliates per year</td>
</tr>
<tr>
<td>Seguro Popular affiliates at county level</td>
<td>2005, 2010</td>
<td>-</td>
<td>Total affiliates per year</td>
</tr>
</tbody>
</table>

Subjective Well-being.
MHAS 2012 included content on satisfaction with support from spouse, children, rest of social network; internal and external locus of control; health care decision making power; life satisfaction items.

Future plans.
MHAS wave 4 is planned for fall 2015. Regular panel interviews will be conducted. No new cohort will be added, and no follow-up health visit is planned. New content: body shape over the life course; personality traits.

Uncertain: Conduct a cognitive assessment ancillary study in harmonization with HRS. A proposal was submitted to support a harmonized project with the HRS-HCAP. In short, there would be a one-hour of cognition tests with 15-minutes of informant report to be conducted in a home visit in 2016, after the main MHAS wave 4 interview, in a sub-sample of about 3,000 respondents aged 53 and older in 2015. It will be used to assign a diagnostic status of normal, demented, or cognitively impaired without dementia, in harmonization with a similar effort by HRS.
NICOLA Study Description

NICOLA (The Northern Ireland Cohort of Longitudinal Ageing)

http://nicola.qub.ac.uk/

https://www.facebook.com/pages/Nicola-QUB/743763442317720

NICOLA is a comprehensive, longitudinal study of ageing in Northern Ireland which was launched in January 2014. NICOLA is designed to be similar to the Irish (TILDA) and English (ELSA) longitudinal studies of ageing. 8500 participants aged over 50 will be recruited by random selection from the free living population.

In NICOLA Wave 1, participants are interviewed at home (CAPI) before completing self-completed questionnaires and attending a central clinical facility for a comprehensive health assessment and collection of biological samples which are incorporated in a NICOLA biobank.

The CAPI contains core elements shared by TILDA and ELSA to allow comparisons between the three studies. In addition, NICOLA has a particular scientific focus on nutrition/diet and vision, and is collecting an extensive diet history, nutritional biomarker data and performing a comprehensive battery of visual function tests.

Over 5000 subjects have completed home based interviews to date, and it is anticipated that the Wave 1 interview database will be locked for analysis in January 2016. Health assessments will continue until October 2016.

The WAVE 2 CAPI is currently being designed and will commence in early 2016. Contact:

NICOLA@qub.ac.uk
   a. Sampling frame: Original sampling frame from 2003/04 World Health Survey/SAGE Wave 0 in Ghana, India, Mexico and Russia. New sample for SAGE Wave 1 in China based on national NCD surveillance system. New sample in South Africa drawn from a master sample of the National Statistical Office.
   b. Sample size: 42,050 interviewed in Wave 1.
   c. Who is interviewed: One age-eligible family unit is chosen per address. Two household types targeted (18-49 year old interview or 50+ interview). Interviews in 50+ household are sought with all household members aged 50+ years.
   e. Interview mode: Face-to-face household interviews. Wave 1 used CAPI in China and Mexico. Waves 2 and 3 will use CAPI in all countries.
   f. Proxy interviews: Proxy interviews account for about a small percentage of all interviews - variation by country. Carried out in those situations where the primary selected respondent is cognitively impaired. IQCODE used to screen.
   g. Exit interview: Verbal autopsy interviews based on a standard WHO schedule are sought with family members for all deceased respondents in Wave 1, will continue for Waves 2 and 3.
   h. Refresher sample: refresher sample to be added in Waves 2 and 3.

2. Data availability: SAGE meta- and micro-data and documentation are available through:
   b. Public use data availability: Data in public domain, with the exception of sensitive data (including geographical variables), available after completing Users Agreement at www.who.int/healthinfo/systems/sage/en/index.html
   c. Other files: Data sets also included in University of Michigan's NACDA and through IHSN's National Data Archive application (NADA). Data also with the RAND megametadata project. All data archived using DDI and SDMX standards.

3. Future planning
   a. Next data collection round(s) scheduled: Wave implementation in 2013.
   b. Funding status: SAGE waves 2 and 3 are funded by the US National Institute on Aging (NIA/NIH) with co-funding from some governments in participating countries. Additional proposals have been submitted for adding measures of cognition, life histories and personality.
   c. When content decisions need to be finalized: Wave 2 initial decisions in December 2011, with submissions to Expert Advisory Group, in January/Feb 2012. March 2012 finalize. Wave 2 instrument and side projects finalized in discussion with the advisory group and Wave 3 instrument will be finalized in second half of 2014.
4. Biomarker collection
   a. Physical measures collected: height, weight, waist and hip circumferences, pulse and blood pressure.
   b. Performance measures conducted: spirometry, grip strength, timed walks, cognition tests, near and distant vision
   c. Blood-based measures collected and assays done: for most countries, dried blood spots obtained through finger prick by trained interviewers. In China, blood samples were taken by health professional. A substantial list of analytes has been measured from the blood samples: glycosylated haemoglobin, haemoglobin, C-reactive protein, Epstein-Barr Virus antibodies, HIV and non-fasting random blood glucose. Additional analyses planned: IL-6, non-fasting triglycerides, total and HDL-cholesterol. Additional assays for CMV and TREC standardized and planned for wave 2.
   d. Administration of the physical measures & biomarkers: Trained interviewers, or health professional.
   e. DNA samples: Planned for Wave 2.

5. Wellbeing, time use, and personality:
   a. Depression/Emotional distress: CIDI; stress questionnaire.
   b. Life satisfaction: WHO Quality of Life (WHOQOL) assessment tool – 8 item version.
   d. Ryff well-being scale: No
   e. Time use: Yes, as part of DRM.
   f. Personality: Proposal for funding to add personality scale in Wave 3 has been submitted.
WHO’s Study on Global Ageing and Adult Health (SAGE)

1. **Sample**: WHO Study on global AGEing and adult health (SAGE) Wave 1 (2007/10).

   a. **Sampling frame**: Original sampling frame from 2003/04 World Health Survey/SAGE Wave 0 in Ghana, India, Mexico and Russia. New sample for SAGE Wave 1 in China based on national NCD surveillance system. New sample in South Africa drawn from a master sample of the National Statistical Office. Wave 2, follow up of wave 1 and refreshed for loss to follow up and mortality.

   b. **Sample size**: 42,050 interviewed in Wave 1.

   c. **Who is interviewed**: One age-eligible family unit is chosen per address. Two household types targeted (18-49 year old interview or 50+ interview). Interviews in 50+ household are sought with all household members aged 50+ years.


   e. **Interview mode**: Face-to-face household interviews. Wave 1 used CAPI in China and Mexico. Waves 2 and 3 using CAPI in all countries.

   f. **Proxy interviews**: Proxy interviews account for about a small percentage of all interviews - variation by country. Carried out in those situations where the primary selected respondent is cognitively impaired. IQCODE used to screen.

   g. **Exit interview**: Verbal autopsy interviews based on a standard WHO schedule are sought with family members for all deceased respondents in Wave 1, will continue for Waves 2 and 3.

   g. **Refresher sample**: refresher sample to be added in Waves 2 and 3.


   b. **Public use data availability**: Data in public domain, with the exception of sensitive data (including geographical variables), available after completing Users Agreement at www.who.int/healthinfo/systems/sage/en/index.html

   c. **Other files**: Data sets also included in University of Michigan’s NACDA and through IHSN’s National Data Archive application (NADA). Data also with the Gateway to Global Aging Data (g2aging) portal. All data archived using DDI and SDMX standards.

3. **Future planning**

   a. **Next data collection round(s) scheduled**: Wave 3 implementation in 2016.

   b. **Funding status**: SAGE waves 2 and 3 are funded by the US National Institute on Aging (NIA/NIH)
with co-funding from some governments in participating countries. Additional proposals continue to be submitted for adding measures of cognition, dementia, stress, life histories and personality.

c. **When content decisions need to be finalized**: Wave 2 initial decisions in December 2011, with submissions to Expert Advisory Group, in January/Feb 2012. March 2012 finalize. Wave 2 instrument and side projects finalized in discussion with the advisory group. Wave 3 instrument will be finalized in second half of 2015.

4. **Biomarker collection**

a. **Physical measures collected**: height, weight, waist and hip circumferences, pulse and blood pressure.

b. **Performance measures conducted**: spirometry, grip strength, timed walks, cognition tests, near and distant vision.

c. **Blood-based measures collected and assays done**: for most countries, dried blood spots obtained through fingerprick by trained interviewers. In China, blood samples were taken by health professional. A substantial list of analytes has been measured from the blood samples: glycosylated haemoglobin, haemoglobin, C-reactive protein, Epstein-Barr Virus antibodies, HIV and non-fasting random blood glucose. Additional analyses planned: IL-6, non-fasting triglycerides, total and HDL-cholesterol. Additional assays for CMV and TREC standardized and planned for wave 2. Currently, plans being explored for venous blood samples on a subset.

d. **Administration of the physical measures & biomarkers**: Trained interviewers, or health professional.

e. **DNA samples**: Planned for Wave 3. Pilot collections carried out in wave 2.

5. **Wellbeing, time use, and personality**:

   a) **Depression/Emotional distress**: CIDI; stress questionnaire.

   b) **Life satisfaction**: WHO Quality of Life (WHOQOL) assessment tool – 8 item version. c)

      **Positive and negative affect**: Day Reconstruction Method (DRM) short version.

   d) **Time use**: Yes, as part of DRM.

   e) **Risk and Time Preference**: Not being collected.

   f) **Dementia**: Diagnostic information not being collected.
SHARE Study Description

1. **Sample:** Survey of Health, Ageing and Retirement in Europe (SHARE)

   a. **Sampling frame:** Population aged 50 and older plus spouses in participating countries.

   b. **Sample size:**

<table>
<thead>
<tr>
<th></th>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Wave 3 (SHARELIFE)</th>
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<th>Wave 5 currently in field</th>
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**Participating countries in SHARE**

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<thead>
<tr>
<th>Country</th>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Wave 3</th>
<th>Wave 4</th>
<th>Wave 5</th>
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<td>Yes</td>
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<tr>
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<td>Yes</td>
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<td>Hungary</td>
<td>-</td>
<td>-</td>
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<td>-**</td>
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<tr>
<td>Portugal</td>
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<td>Probably**</td>
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<tr>
<td>Slovenia</td>
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<tr>
<td>Luxembourg</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

* not yet released
** fieldwork not started yet
c. **Who is interviewed:** Household members 50 years of age and older and their spouses, regardless of their spouses’ age. The cover screen can also be filled out by non-eligible household members.

d. **Interview mode:** in person using CAPI, additional paper & pencil drop-off questionnaires.

e. **Proxy interviews:** Proxy interviews are allowed except for: Cognitive functions, mental health, activities, expectations and every part of the biomarker module.

f. **Exit interview:** In case of deceased respondents exit interviews are conducted.

g. **Refresher samples:** Wave 2: all countries except Austria and the Dutch-speaking part of Belgium. Wave 4: all countries. Wave 5: Germany, small refreshers elsewhere.

2. **Data availability:** SHARE webpage (www.share-project.org). Individual login information for data download.

   a. **Years of data collection:**

   b. **Public use data availability:** Scientific affiliation of potential data users must be verified before access is granted.

3. **Future planning**

   a. **Next data collection round(s) scheduled:** Wave 5 is currently taking place in 16 countries (additional countries are expected to start fieldwork soon). Design work on wave 6 has started.

   b. **Funding status:**
      The SHARE data collection has been primarily funded by the European Commission through the 5th framework programme (project QLK6-CT-2001- 00360 in the thematic programme Quality of Life), through the 6th framework programme (projects SHARE-I3, RII-CT- 2006-062193, COMPARE, CIT5-CT-2005-028857, and SHARELIFE, CIT4-CT-2006-028812) and through the 7th framework programme (SHARE-PREP, 211909 and SHARE-LEAP, 227822). Additional funding is received from the U.S. National Institute on Aging (U01 AG09740-1352, P01 AG005842, P01 AG08291, P30 AG12815, Y1-Ag-4553-01 and OGHA 04-064, IAG BSR06-11, R21 AG025169) as well as from various national sources (see www.share-project.org for a full list of funding institutions).

   c. **When content decisions need to be finalized:** October 2013

4. **Biomarker collection**

   a. **Physical measures collected:**
      - Height (self-reported in all countries, measured and self-reported in Germany)
      - Weight (self-reported in all countries)
      - Waist circumference (measured in wave 4 in Germany only)
- Blood pressure (measured in wave 4 in Germany and wave 5 in 8 countries, 3 measurements in the middle of the interview

b. **Performance measures conducted (in all countries):**
- Peak flow meter to measure lung strength (wave 2 & 4)
- Grip strength (all waves)
- Walking speed (waves 1 & 2)
- Chair stand (waves 1 & 2)
- Cognition tests, including serial 7s, immediate and delayed word recall, other questions assessing global cognitive functioning (date naming, animal names, simple mental arithmetics, etc).

c. **Blood-based measures collected and assays done:** (measured in wave 4 in Germany and wave 5 in 8 countries)
- Four dried blood spots are obtained from each consenting respondent, which allows researchers to analyze HbA1c, CRP, and total cholesterol.
- Eligibility: wave 4: whole panel sample, 50% of refresher sample. Wave 5: pretest sample

d. **Administration of the physical measures & biomarkers:** Trained lay interviewers

e. **Completion rates for different biomarkers**
- Completion rates for dried blood spots, waist circumference, measured height and blood pressure not yet available (interview data still being collected).
- see table below with completion rates from wave 1 (source: Ofstedal et al, 2009)

<table>
<thead>
<tr>
<th>Country</th>
<th>Grip Strengh</th>
<th>Peak-Flow</th>
<th>Walking Speed</th>
<th>Chair stand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>87.4</td>
<td>86.6</td>
<td>52.5</td>
<td>80.9</td>
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<tr>
<td>Germany</td>
<td>91.9</td>
<td>89.5</td>
<td><strong>41.1</strong></td>
<td>85.6</td>
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<td>94.3</td>
<td>94.5</td>
<td>69.5</td>
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<td>Netherlands</td>
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<td><strong>95.8</strong></td>
<td><strong>77.6</strong></td>
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<td>86.8</td>
<td>50.0</td>
<td>82.1</td>
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<td>Italy</td>
<td><strong>86.0</strong></td>
<td><strong>80.2</strong></td>
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<td>74.9</td>
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<td>France</td>
<td>88.4</td>
<td>80.5</td>
<td>58.6</td>
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<td>Denmark</td>
<td><strong>96.6</strong></td>
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<td>76.9</td>
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<td>Greece</td>
<td>90.8</td>
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<td>82.3</td>
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<td>Poland</td>
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<td>89.8</td>
<td>46.4</td>
<td><strong>73.3</strong></td>
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<tr>
<td>Total</td>
<td>92.1</td>
<td>89.6</td>
<td>59.2</td>
<td>84.5</td>
</tr>
</tbody>
</table>

5. **Wellbeing, time use, and personality:** please specify scales used and when collected

a. **Emotional distress:** CESD questionnaire and EURO-D depression scale

b. **Life satisfaction:** LOT-R (Life Orientation Test: pessimism/optimism)

c. **Quality of life:** CASP-12 scale (Control; Autonomy; Self-realization; Pleasure)

d. **Positive and negative affect:** - not included

e. **Ryff well-being scale:** - not included

f. **Time use:** considered but up to now just specific questions about activities in last year

g. **Personality:** - not included
TILDA Study Description

1. Sample:
   a. **Sampling frame** A nationally representative sample was selected using the RAMSAM system based on the Irish Geodirectory (a comprehensive listing and mapping of all residential addresses in the Republic of Ireland compiled by the Irish Postal Service and Ordnance Survey Ireland).

   All postal addresses in Ireland were assigned to one of 3155 geographic clusters, and a sample of 640 of these clusters was selected, stratified by socio-economic group and geography to maintain a population representative sample. Clusters were selected with a probability proportional to the number of individuals aged 50 and over in each cluster.

   b. **Sample size** 8,504 people resident in Ireland were recruited into the TILDA study. The household response rate was 62%. Of the recruited sample, 8,178 were aged 50 and over at Wave 1; the remaining were partners and/or spouses who were younger than 50 years of age.

   Wave 1: 2009-2011
   8,504 Computer-Aided Personal Interviews (CAPI) were conducted with 7,196 (85%) of participants returning a self-completion questionnaire. Subsequent to the CAPI participants were invited to attend for a comprehensive health assessment in one of two dedicated centres in either Dublin or Cork. Participants who were unable or unwilling to attend for a health centre assessment were offered a modified version of the health centre assessment in their own home. In total 6,150 participants (72%) had a health assessment including 5,275 (85%) centre assessments and 875 (15%) home assessments.

   Wave 2: 2012
   7,455 TILDA participants completed the second wave of data collection. This involved a 90 minute CAPI which additionally incorporating physical (grip strength and walking speed) and cognitive (MMSE) measures and a self-completion questionnaire. The response rate for Wave 2 was 89%.

   c. **Who is interviewed** (e.g., everyone who is age-eligible? age-ineligible spouses?)
   All persons aged 50 or over in the selected households and their spouses or partners of any age are invited to participate in TILDA.

   d. **Interview mode**
      1. Face-to-face computer-aided personal interview (CAPI)
      2. Self-completion questionnaire (SCQ)
      3. Centre or home based health assessment

   e. **Proxy interview** Proxy interviews were not used in Wave 1 but were introduced in Wave 2 and will be used in all subsequent waves of TILDA for people who, due to cognitive decline or other difficulties, are unable to participate. End of life interviews are attempted with relatives, carers and friends of deceased participants.

   f. **Exit interview**
   Exit interviews were incorporated in Wave 2 and will be used in subsequent waves.
g. **Refresher sample**
   To date no refresher sample has been introduced; however, plans are underway to investigate the possibility of introducing a refresher sample in wave 4 (2016).

2. **Data availability:**

   a. **Years of data collection:**
      Wave 1: 2009 – 2011. CAPI, SCQ, Health Assessment
      Wave 2: 2012. CAPI, SCQ and physical measures
      Wave 3: 2014. CAPI, SCQ, Health Assessment
      Wave 4: 2016. CAPI, SCQ and physical measures

   b. **Public use data availability** TILDA data is publically available from the Irish Social Science Data Archive (ISSDA) at University College Dublin and the Inter University Consortium for Political and Social Research archive in Michigan. Wave 1 data is currently available and Wave 2 data will be archived by the end of 2013.

      The publically available dataset is a shortened version of the full TILDA dataset. It has been shortened to satisfy conditions of data protection and anonymity, but it represents a concise and detailed view of the TILDA data.

3. **Future planning:**

   a. **Next data collection round(s) scheduled** Wave 3 data collection will commence in early 2014 and will involve a CAPI, an SCQ and health assessment.

   b. **Funding status** TILDA has three main funders with commitments to fund the study to completion of Wave 4 (2016).

      These three funders are the Irish government, through the Department of Health, The Atlantic Philanthropies, and Irish Life, which is a private company.

   c. **When content decisions need to be finalized** Content decisions for Wave 3 will be finalised by November 2013.

4. **Biomarker collection:**

   a. **Physical measures** All measures marked with an asterix * are only conducted in a Health Assessment Centre
      Anthropometric: Height, weight, WHR
      Muscle strength: Hand grip strength (dominant & non dominant)
      Bone: Heel ultrasound*
      Gait: TUG, GAITRite mat assessment * under single and dual task, Dynamic balance*
      Cognitive: MMSE, MOCA, Sustained attention, Choice reaction time, Executive function, visual memory, mood. CAPI contains orientation, immediate & delayed recall, prospective memory & verbal fluency.
Cardio: Seated and standing BP, phasic BP* (for assessment for orthostatic hypotension, BP variability etc)*, pulse wave velocity*, heart rate variability*

Vision: Visual acuity*, contrast sensitivity*, retinal photo*, assessment of macular pigment*

Bloods: 25mls venous blood

Centre based assessment lasts 2.5-3 hours, home assessment 1.5 hours approximately.

New measures to be introduced to the Wave 3 Health Assessment are as follows:

1. 6-item measure of state anxiety
2. Near-infrared diffuse optical spectroscopy (NIRS) - measure of cerebral perfusion
3. Calf and stomach ultrasound
4. Chair rises
5. iPhone ECG for home assessment of arrhythmia
6. Sound-induced flash illusion – measure of multisensory perception
7. Dental images

b. Performance measures conducted As above.

c. Blood-based measures collected and assays done 25 mls of venous blood are collected on all participants who consent (1 x LiHep tube, 2 x EDTA tubes). Blood is not taken from persons with HIV, Hep B/C. All other people (including those on warfarin, aspirin etc) are eligible to give blood.

Consent for blood analysis is tiered with the participant consented separately for (1) immediate analysis, (2) genetic analysis, (3) long term storage.

The only assay done immediately is a full (non fasting) lipid profile (Total cholesterol, LDL, HDL, TG). This is analysed in a central laboratory within 48 hours of the blood being taken and the results are sent back to the participant (+/- their GP) with 2-3 weeks.

The rest of the bloods are separated into 10 x 1mL aliquots and stored at -80 C until such time as funding is available to analyse. Proposed analyses include Vitamin B12, HbA1c, Cystatin C or creatinine, Vitamin D, inflammatory markers (CRP, IL’s), apolipoprotein as well as genetic analysis.

d. Who administers the physical measures & biomarkers Trained research nurses collect the physical data and the blood. Research nurses were used instead of lay interviewers for a number of reasons: (1) Complex equipment is used to capture data – wanted personnel familiar and comfortable with same, (2) Wanted to get venous blood (dried blood spot technology not available in Ireland) so needed the data collectors to have phlebotomy experience.

e. Completion rates for different biomarkers 96% (n=5904) of respondents who had a health assessment donated blood sample with over 98% agreeing to long term storage of their samples and genetic analysis.

There was no noticeable item non response with any of the physical measures.
5. Wellbeing and time use: please specify scales used and when collected
   a. Emotional distress:
      Wave 1
      1. Depression assessed in the CAPI using 20-item Centre of Epidemiological Studies Depression Scale (CES-D scale)
      2. Anxiety assessed in the SCQ using 7-item Hospital Anxiety and Depression Scale (HADS) scale
      3. Perceived Stress assessed in the SCQ using Perceived Stress Scale (PSS-4)
      4. Worry assessed in SCQ using Penn Worry Scale (PSWQ),
      Wave 2
      1. Depression assessed in the 20-item CAPI using Centre of Epidemiological Studies Depression Scale (CES-D scale)
      2. Composite International Diagnostic Interview – SF for Major Depressive Episode
      3. Anxiety assessed in the CAPI using 7-item Hospital Anxiety and Depression Scale (HADS) scale
      4. Composite International Diagnostic Interview – SF for Generalised Anxiety Disorder
      Wave 3
      1. Depression assessed in the CAPI using 8-item Centre of Epidemiological Studies Depression Scale (CES-D scale)
      2. Composite International Diagnostic Interview – SF for Major Depressive Episode
      3. Anxiety assessed in the CAPI using 7-item Hospital Anxiety and Depression Scale (HADS) scale
      4. Composite International Diagnostic Interview – SF for Generalised Anxiety Disorder
      5. Coping inventory
      6. Worry assessed using Penn Worry Scale (PSWQ), (SCQ).
   b. Life satisfaction: 1 Question on life satisfaction (CAPI). Responses on Likert scale.
   c. Quality of life scale: CASP-19
      CASP-19 used to assess QOL in Wave 1 and 2 (SCQ).
      CASP-12 will be used in wave 3
   d. Positive and negative affect: Apart from scales mentioned, no.
   e. Ryff well-being scale n/a
   f. Time use n/a
RAND HRS Around-the-World Harmonization Meeting, Bethesda, April 1-3, 2015

The Irish Longitudinal Study on Ageing (TILDA)

1. TILDA Operations

Figure 1 details TILDA timelines and mode of data collection.

Wave 1

TILDA began in late 2009, surveying 8,504 individuals aged 50+ years (including 329 spouses/partners who were aged less than 50 years of age). A household response rate of 62 per cent was achieved.

7,196 (85 per cent) also completed the SCQ, and 6,150 (72 per cent) completed the health assessment (875, or 14 per cent completed the assessment in the home).

Wave 2

For wave 2 (2012), 88 per cent of wave 1 participants were successfully followed-up (see Tables 1 and 2).

205 participants died between wave 1 and wave 2 (and end-of-life information is available on 160 of these participants).

Wave 3

TILDA wave 3 began in May 2014 (March 2014 for the pilot), and by end March 2015, 5,373 eligible participants have completed the CAPI (Table 3).

To date, 135 end-of-life interviews have been completed, and a further 89 have been scheduled.

Of those who have completed the CAPI, 3,141 have completed the health assessment to date. 17 per cent of those who have completed the health assessment have completed the modified home assessment. At wave 3, there is just one health assessment centre, at the TILDA offices at TCD (compared to two centres at wave 1, Cork and Dublin).

A number of new measures were introduced in waves 2 and 3, including the NEO-FFI personality inventory in the wave 2 SCQ, and various additional health indicators in the wave 3 health assessment (e.g., calf ultrasound, SHAMS, hair sample, dental check, MRI, accelerometers, etc.) (see Table 4).

Wave 4

Wave 4 (CAPI and SCQ only) will begin in Spring 2015 and the team are currently scoping out new questions (e.g., health literacy, birth weight, childhood health conditions, sexual orientation, additional subjective wellbeing items).

2. Research and Data Access

Over the period 2010-2015, the TILDA team has produced 74 peer-reviewed journal articles, 2 key findings reports, 10 topic reports (on specific topics of interest), and 6 research briefs (see Figure 2).
TILDA is now considered a key input into the implementation of the national strategies, Healthy Ireland and the National Positive Ageing Strategy.

TILDA wave 1 data are archived at (and wave 2 deposit is imminent):
- The Irish Social Science Data Archive at University College Dublin (UCD): http://www.ucd.ie/issda/data/tilda/
- The Interuniversity Consortium for Political and Social Research at the University of Michigan: http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/34315

TILDA participated in the RAND Data Harmonization Workshop at the University of Southern California in November, and a harmonised version of the TILDA wave 1 dataset is being prepared for the Gateway to Global Aging project.

3. TILDA Bloods and Genetics

- At wave 1, 25ml of venous whole blood was collected from 5,861 participants (95 per cent) (no fasting requirement).
- At wave 3, 25ml of venous whole blood has been collected from 2,852 participants (to date) (93 per cent) (no fasting requirement).
- Bloods are collected daily and transported to separate storage sites run by TCD.
- Biomarkers completed on wave 1 include lipid profile, lutein, zeaxantin, HbA1c, Vitamin B12, creatinine and cystatin C. Analyses are currently being carried out for Vitamin D, folate and carotenoids.
- For wave 3, TILDA has received additional funding to analyse RNAs (in a subset of 1,000 participants) and PBMCs (in a subset of 400 participants) and.
- In addition, some genetic biomarkers (e.g., APOE) are being extracted from the wave 1 samples. Atlantic Philanthropies have provided funding over the period 2015-2018 to support additional biomarker analysis of TILDA (waves 1, 3 and 5) and we are currently scoping out priorities for analysis.

4. TILDA Measures

- Subjective wellbeing in TILDA is captured by the CASP-19 (collected as part of the SCQ), a general life satisfaction scale ‘I am satisfied with my life...’ (CAPI) and the 17-item ageing perceptions questionnaire (SCQ). Depressive symptoms are measured by the CES-D (20 item) (collected in all waves in the CAPI), and from wave 2 onwards, the CIDI has been included (also in the CAPI). For wave 4, we propose to add the Purpose in Life questionnaire (7-item) from the Ryff Psychological Wellbeing Scale as well as the four additional Diener scale subjective wellbeing items.

- Currently, no measures of risk and time preference are included in TILDA.

- Currently, there is no dementia assessment in TILDA.
Additional Tables and Figures

Figure 1: TILDA Data Collection

Figure 2: TILDA Publications, 2010-2015

Table 1: Wave 2 Response Rate

<table>
<thead>
<tr>
<th></th>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPI participants</td>
<td>8,504</td>
<td>7,285</td>
<td></td>
</tr>
<tr>
<td>End-of-Life</td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>Total followed-up</td>
<td></td>
<td></td>
<td>7,445</td>
</tr>
<tr>
<td>New participants</td>
<td></td>
<td></td>
<td>87.5</td>
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<tr>
<td>Total CAPI participants</td>
<td></td>
<td></td>
<td>7,615</td>
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Table 2: Reasons for Non-Participation in Wave 2

<table>
<thead>
<tr>
<th>Reason</th>
<th>Count</th>
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</thead>
<tbody>
<tr>
<td>Death (no end-of-life)</td>
<td>45</td>
</tr>
<tr>
<td>Lost to follow-up</td>
<td>132</td>
</tr>
<tr>
<td>Moved outside RoI/NI</td>
<td>30</td>
</tr>
<tr>
<td>Refusal</td>
<td>733</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>119</td>
</tr>
<tr>
<td>Total</td>
<td>1,059</td>
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</table>

Table 3: Wave 3 Progress (by end March 2015)

<table>
<thead>
<tr>
<th>CAPI</th>
<th>SCQ</th>
<th>Health Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self/proxy CAPI</td>
<td>5,373</td>
<td></td>
</tr>
<tr>
<td>End-of-life</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Total completed</td>
<td>5,508</td>
<td>4,079 (of which 17.2 per cent are home assessments)</td>
</tr>
<tr>
<td>Unsuccessful</td>
<td>620 (536 refusal)</td>
<td></td>
</tr>
<tr>
<td>Pending</td>
<td>2,097</td>
<td></td>
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</table>

Table 4: New Measures in TILDA Waves 2 and 3

<table>
<thead>
<tr>
<th></th>
<th>Wave 2</th>
<th>Wave 3</th>
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<tbody>
<tr>
<td>CAPI</td>
<td>Composite Diagnostic Interview (CIDI)</td>
<td>Numeracy/financial literacy</td>
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<tr>
<td>SCQ</td>
<td>Second languages</td>
<td>Coping inventory for stressful situations</td>
</tr>
<tr>
<td></td>
<td>Personality NEO-FFI (60 item)</td>
<td>Food frequency questionnaire</td>
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<td></td>
<td>Sexual activity (frequency)</td>
<td>Previous addresses</td>
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<td>Falls efficacy scale (FES-I)</td>
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<td>Living conditions</td>
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<tr>
<td></td>
<td>Neighbourhood social capital</td>
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</tr>
<tr>
<td>Health assessment</td>
<td>n/a</td>
<td>State-trait anxiety</td>
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<tr>
<td></td>
<td></td>
<td>National Adult Reading Test (NART)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cerebral perfusion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Repeated chair stands</td>
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<td></td>
<td></td>
<td>Calf ultrasound</td>
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<td></td>
<td></td>
<td>Multi-sensory integration (SHAMS)</td>
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<td>Hair sample</td>
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<td>Oral examination</td>
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<td></td>
<td>Accelerometers</td>
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<td></td>
<td></td>
<td>MRI</td>
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