

HRS

HEALTH AND
RETIREMENT
STUDY

PHYSICAL MEASURES
AND BIOMARKERS
2010

IWER: Text in ***bold and italics*** is to be read to the respondent. Normal text is interviewer instructions or questions that are to be answered by you.

IWER: Mark an 'X' by each measurement for which R is eligible.

_____ Blood Pressure

_____ Breathing

_____ Hand Strength

_____ Balance Tests (with **30/60** second full-tandem): **Record this on the top of pages 11 & 12**

_____ Walking Test: **Record eligibility at the top of pages 13 & 14**

_____ Height

_____ Weight: **Record eligibility at the top of pages 17 & 18**

_____ Waist

_____ Saliva Collection: **Record eligibility at the top of pages 21**

_____ Blood Spot Assays

IWER: Before beginning the physical measurements, you must have a signed consent form from the Respondent.

ELIGIBILITY CRITERIA:

Balance stand: 30 seconds for Rs age 70+; 60 seconds for Rs age < 70

Walking speed: Administered to Rs age 65+

Weight: Administered to Rs who weigh < 300 pounds

HEALTH AND RETIREMENT STUDY 2010
PHYSICAL MEASURES CONSENT FORM

I have already agreed to participate in the Health and Retirement Study funded by the National Institute on Aging and conducted by the University of Michigan. The study will help provide a very complete picture of how people 50 years of age and older living in the United States are faring as they head into retirement and enjoy their retirement years.

In addition to completing the questionnaire, I am now being asked to complete some physical measurements. The physical measures conducted will allow researchers to better understand the connections between health status and other indicators of interest such as economic and employment status.

I understand that if I agree to participate it means the following:

- a) I understand that I may be asked to complete up to 8 different physical measurements which involve standing, walking, exhaling, gripping an object with my hands and having my blood pressure, height, weight, and waist measurements taken.
- b) I understand that I will complete these measurements only if I agree to do so. My participation in this research is completely voluntary. I am NOT required to do this, and I can stop my participation at any time.
- c) There is no additional incentive for completing these measures, nor is there a penalty if I choose not to complete this component.
- d) The results of the physical measurements will be kept strictly confidential in the same way as the rest of the interview data. I will not be identified in any reports on this study. Records will be kept confidential to the extent provided by federal, state, and local law. However, the Institutional Review Board, the sponsor of the study (i.e. NIH, FDA, etc.), or university and government officials responsible for monitoring this study may inspect these records.
- e) A Certificate of Confidentiality has been obtained from the Department of Health and Human Services for this study. With this Certificate, the investigators cannot be forced (for example by court subpoena) to disclose information that may identify me in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings. Disclosure will be necessary, however, upon request of DHHS for audit or program evaluation purposes.

TURN OVER

- f) I will be sent a copy of my blood pressure results as well as an indication if it is above the normal range. I will be instructed to share this information with my doctor.
- g) It will take approximately thirty (30) minutes to complete these physical measures.
- h) There are no known risks associated with doing this interview or with participation in this study. In the unlikely event of any injury resulting from the research, no reimbursement, compensation, or free medical treatment is offered by any of the co-sponsors of this research project.
- i) I understand that although I may not receive direct benefit from my participation, others may ultimately benefit from the knowledge obtained in this study.
- j) I may ask questions about this procedure at any time and can expect truthful answers. I can ask the interviewer or contact the Survey Director, Heidi Guyer, at the University of Michigan: **1-866-611-6476**.
- k) I will receive a copy of this form.

Please print name: _____

Please sign here and date: _____ **Date:** _____

Interviewer's signature: _____ **Date:** _____

Should you have questions regarding your rights as a research participant, please contact the Health Sciences Institutional Review Board, 540 East Liberty Street, Suite 202, Ann Arbor, MI, 48104-2210, 734-936-0933, email: irbhsbs@umich.edu.

(MI802)

IWER: If R signed the physical measures consent form, continue to Blood Pressure Measurement (page 1).

If R did not sign the physical measures consent form, do not complete these measures. Put an "X" on the consent form and skip to saliva consent instructions on page 21.

BLOOD PRESSURE

Equipment needed: Omron HEM-780N Monitor, Batteries, Stopwatch

“Now let’s talk about the first activity. I’d like to measure your blood pressure using this monitor and cuff which I will secure around your left arm. I would like to take three blood pressure measures. I will ask you to relax and remain seated and quiet during the measurements. First, I will place the cuff on your left arm. Once the cuff is placed appropriately on your arm and we are ready to begin, I’ll ask you to lay your arm on a flat surface palm facing up so that the center of your upper arm is at the same height as your heart. I will then press the Start button. The cuff will inflate and deflate automatically. After we have completed all three measures, I will give you your results.”

IWER: Demonstrate the measurement.

- Insert arm cuff plug into jack on the side of the monitor, place the cuff on your left arm approximately ½” above the elbow. Position the blue marker over the brachial artery on the inside of the arm. Press the START/STOP button to show how the cuff will inflate automatically. Do not need to let the cuff fully inflate for demonstration.

“Do you have a rash, a cast, edema (swelling) in the arm, open sores or wounds, or a significant bruise where the blood pressure cuff will be in contact?” (IWER: Circle one)

- 1..... YES → do not complete this measure and answer question in box below
5..... NO → continue

“Do you understand the directions for this measurement?” (IWER: Circle one)

- 1..... YES → continue
5..... NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

- 1..... YES → continue
5..... NO → do not complete this measure and answer question in box below

(MI854) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI855) IWER: Why didn’t R complete the blood pressure measurement? (Circle all that apply)

- 1..... R felt it would not be safe
2..... IWER felt it would not be safe
3..... R refused or was not willing to complete the test
4..... R tried but was unable to complete test
5..... R did not understand the instructions
6..... R had a rash, a cast, edema, etc. on arm; other health reason
7..... No suitable space
8..... Problem with equipment or supplies
97..... Other (Specify): _____

→ Go To Next Measurement

INSTRUCTIONS FOR ADMINISTERING BLOOD PRESSURE MEASUREMENT:

- 1) Instruct R to remove bulky clothing from upper left arm.
- 2) Instruct R to sit in a chair with his/her feet flat on the floor and place his/her upper arm on a table.
- 3) Place the cuff on the R's left arm approximately ½" above the elbow. Position the blue marker over the brachial artery on the inside of the arm.
- 4) Press the sewn hook material firmly against the side of the cuff. [The cuff should make direct contact with the R's skin if possible]. The Iwer should easily be able to fit his/her index finger between the cuff and the arm.
- 5) Instruct the R to rest his/her arm comfortably on a support (like a table) with palm facing upward so the cuff is at the same level as the heart.
- 6) Press the START/STOP button and instruct the R to remain still. The cuff will begin to inflate automatically. Numbers will appear on the display.
- 7) The cuff will then automatically deflate. The monitor will first display the SYSTOLIC and DIASTOLIC readings. RECORD time of reading and both SYSTOLIC and DIASTOLIC readings in chart below. Record the pulse identified by the letter P.
- 8) Press the START/STOP button to repeat the measure. The cuff does not need to be removed or loosened in between readings. If you receive an error message, remove cuff, reposition and try again.
- 9) Allow approximately 45 seconds to 1 minute between readings and repeat steps 6-9 two more times.

IWER: Record measurements in chart: (Enter 993 in first systolic reading if R tried but was unable to do it. Enter 999 if R chose not to do it.) If the lowest reading obtained is greater than 160 systolic or greater than 110 diastolic, fill out the High-Blood Pressure Card and leave it with the respondent.

Measurement #	Time of Reading	Systolic Reading	Diastolic Reading	Pulse
1	(MI857) __ __: __ __ am/pm	(MI859) mmHg	(MI860) mmHg	(MI861) P
2	(MI862) __ __: __ __ am/pm	(MI864) mmHg	(MI865) mmHg	(MI866) P
3	(MI867) __ __: __ __ am/pm	(MI869) mmHg	(MI870) mmHg	(MI871) P

(MI872) IWER: Which arm was used to conduct the measurements? (Circle one)

- 1.....Left arm
- 2.....Right arm

(MI873) IWER: How compliant was R during this measurement? (Circle one)

- 1.....R was fully compliant
- 2.....R was prevented from fully complying due to illness, pain, or other symptoms or discomforts
- 3.....R was not fully compliant, but no obvious reason for this

(MI874) IWER: What was R's position for this test? (Circle one)

- 1.....Standing
- 2.....Sitting
- 3.....Lying down

(MI875) (Circle one)

- 1.....Yes
- 5.....No
- 8.....Don't Know

BREATHING MEASUREMENT

Equipment needed: Peak flow meter, Disposable mouthpiece(s) packaged in plastic bag, Stopwatch

“Next I’m going to ask you to perform a simple measurement that will measure how fast you can expel air from your lungs. It is important that you blow as hard and as fast as you can. I would like you to perform the measurement three times. When we are ready to begin, I’ll ask you to stand up. Take as deep a breath as possible. Open your mouth and close your lips firmly around the outside of the mouthpiece, and then blow as hard and as fast as you can into the mouthpiece. Like this...”

IWER: Demonstrate the measurement.

- Stand up, take a deep breath and then place lips around the outside of the plastic mouthpiece. Blow as hard and as fast as you can.

“Do you understand the directions for this measurement?” (IWER: Circle one)

1 YES → continue

5 NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

1 YES → continue

5 NO → do not complete this measure and answer question in box below

(MI804) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI805) IWER: Why didn’t R complete the breathing test? (Circle all that apply)

1 R felt it would not be safe

2 IWER felt it would not be safe

3 R refused or was not willing to complete the test

4 R tried but was unable to complete test

5 R did not understand the instructions

6 R could not participate due to health reasons

7 No suitable space

8 Problem with equipment or supplies

97 Other (Specify): _____

→ Go To Next Measurement

INSTRUCTIONS FOR ADMINISTERING THE BREATHING MEASUREMENT:

- 1) Hand the R the instrument and a disposable mouthpiece and have the R firmly place the cardboard mouthpiece on the instrument.
- 2) R should hold the instrument lightly with the slot facing away from the R's hand so that the R's fingers do not obstruct the slot.
- 3) Ask R to stand up and take a deep breath and then place lips around the outside of the mouthpiece.
- 4) Ask the R to blow as hard and as fast as he or she can.
- 5) Record the value indicated by the marker in the chart below.
- 6) Reset the marker and repeat for a total of three tries.
- 7) Allow 30 seconds between tries.

IWER: Record measurements in chart: (Record 30 if less than 60; Record 890 if past last tick mark; Record 993 if R tried but was unable; or Record 999 if R chose not to do it.)

Measurement #	Measurement Reading
1	(M1807) L/Min
2	(MI808) L/Min
3	(MI809) L/Min

(MI810) IWER: How much effort did R give to this test? (Circle one)

- 1R gave full effort
- 2R was prevented from giving full effort by illness, pain, or other symptoms or discomforts
- 3R did not appear to give full effort, but no obvious reason for this

(MI811) IWER: What was R's position for this test? (Circle one)

- 1Standing
- 2Sitting
- 3Lying down

HAND STRENGTH

Equipment needed: Dynamometer, Stopwatch

“Now I would like to assess the strength of your hand in a gripping action. I will ask you to squeeze this handle as hard as you can, just for a couple of seconds and then let go. I will take alternately two measurements from your right and your left hands.”

IWER: Demonstrate the measurement.

- Stand, hold the dynamometer at a right angle and squeeze the handle for a few seconds.

“Before we begin, I’d like to make sure it is safe for you to do this measurement. Have you had surgery or experienced any swelling, inflammation, severe pain, or injury in one or both hands within the last 6 months?” (IWER: Circle one)

1..... YES → continue with the next question

5..... NO → skip the next question

“In which hand (have you had surgery or experienced any swelling, inflammation, severe pain, or injury in the last 6 months)?” (IWER: Circle one)

1..... BOTH HANDS → do not complete this measure and answer question in box below

2 LEFT HAND ONLY → continue but do not perform measurement on left hand

3 RIGHT HAND ONLY → continue but do not perform measurement on right hand

“Do you understand the directions for this measurement?” (IWER: Circle one)

1..... YES → continue

5..... NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

1..... YES → continue

5..... NO → do not complete this measure and answer question in box below

(MI812) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI813) IWER: Why didn’t R complete the hand strength test? (Circle all that apply)

1 R felt it would not be safe

2 IWER felt it would not be safe

3 R refused or was not willing to complete the test

4 R tried but was unable to complete test

5 R did not understand the instructions

6 R could not participate due to surgery, swelling, etc.; other health reason

7 No suitable space

8 Problem with equipment or supplies

97 Other (Specify): _____

→ Go To Next Measurement

INSTRUCTIONS FOR ADMINISTERING THE HAND STRENGTH MEASUREMENT:

(MI815) 1) *“Which is your dominant hand?”* (IWER: Circle one)

- 1.....Right hand
- 2.....Left hand
- 3.....Both hands equally dominant

- 2) Suggest R removes rings or other hand jewelry.
- 3) Using the R’s dominant hand, adjust dynamometer to hand size by turning the lever.
- 4) Position the respondent correctly, standing with arm at side at a 90 degree angle.
- 5) Reset arrow at zero.
- 6) Explain the procedure once again.
- 7) Let respondent have one practice with their dominant hand. If R can’t use dominant hand, practice on other hand and wait for 30 seconds between each try.
- 8) Reset the marker and repeat for a total of two tries on each hand beginning with the left hand if the R is able.
- 9) Record measurements to **the nearest 0.5 kilogram** in the table below. (e.g., 10.5kg)

IWER: Record measurements in chart.

Measurement #	Left Hand	Right Hand
1	(MI816) _____.__kg	(MI851) _____.__kg
2	(MI852) _____.__kg	(MI853) _____.__kg

IWER: Record 993 if R tried but was unable. Record 999 if R chose not to do it → Go to next measurement.

(MI817) IWER: How much effort did R give to this test? (Circle one)

- 1.....R gave full effort
- 2.....R was prevented from giving full effort by illness, pain, or other symptoms or discomforts
- 3.....R did not appear to give full effort, but no obvious reason for this

(MI818) IWER: What was R’s position for this test? (Circle one)

- 1.....Standing
- 2.....Sitting
- 3.....Lying down

(MI819) IWER: Did the R rest their arm on a support while performing the test? (Circle one)

- 1.....Yes
- 5.....No

SEMI-TANDEM – ALL RESPONDENTS

Equipment needed: Stopwatch, Show Card

“I would now like you to try to stand in different positions. I will first describe and show each position to you. Then I’d like you to try to do it. If you cannot do a particular position, or if you feel it would be unsafe to try to do it, tell me and we’ll move on to the next one. Let me emphasize that I do not want you to try to do any activity that you feel might be unsafe.”

“For the first one, I want you to try to stand with the side of the heel of one foot touching the big toe of the other foot for about 10 seconds. You may use your arms, bend your knees, or move your body to maintain your balance, but try not to move your feet. You may put either foot in front, whichever is more comfortable for you. Like this...”

IWER: Demonstrate the measurement.

- Stand and place the heel of one foot touching the big toe of the other foot. May show Balance Test Card as an example.

“Before we begin, do you have any problems from recent surgery, injury or other health conditions that might prevent you from standing up from a chair and balancing?” (IWER: Circle one)

- 1..... YES → discuss with him/her whether s/he should attempt each measurement given his/her physical problems after describing each measurement. Do not assume a respondent is too physically limited to attempt a measurement without discussing it with him/her.
- 5..... NO → continue

“Do you understand the directions for this measurement?” (IWER: Circle one)

- 1..... YES → continue
- 5..... NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

- 1..... YES → continue
- 5..... NO → do not complete this measure and answer question in box below

(MI876) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI877) IWER: Why didn’t R complete the semi-tandem stand? (Circle all that apply)

- 1 R felt it would not be safe
- 2 IWER felt it would not be safe
- 3 R refused or was not willing to complete the test
- 4 R tried but was unable to complete test
- 5 R did not understand the instructions
- 6 R had surgery, injury or other health condition that prevented R from standing
- 7 No suitable space
- 8 Problem with equipment or supplies
- 97 Other (Specify): _____

→ Go To Side-by-Side on page 9

INSTRUCTIONS FOR SEMI-TANDEM:

- 1) Ensure R is wearing appropriate footwear (shoes with very low or no heel).
- 2) Ensure floor is level, preferably has no carpet or low-pile carpet.
- 3) Ask the R to stand up.
- 4) Stand to the side of the respondent.
- 5) Instruct the R to try to stand with the side of the heel of one foot touching the big toe of the other foot for about 10 seconds.
- 6) Instruct the R that he/she may put either foot in front, whichever is more comfortable for him/her.
- 7) Instruct the R that he/she may use his/her arms, bend his/her knees or move the body to maintain balance, but try not to move his/her feet.
- 8) If necessary, provide gentle support to the respondent's arm to help him/her get into the semi-tandem position.
- 9) Instruct the R to try to hold this position until you tell the R to stop.
- 10) Let go of R's arm. Say "**Ready, begin.**" and start the stopwatch immediately.
- 11) Stop the stopwatch and say "**Stop**" after 10 seconds or when the participant steps out of position or grabs your arm.
- 12) Answer the questions in the box below. If the participant is unable to hold the position for 10 seconds, record the time in seconds to two decimal places in the box below.



(MI879) IWER: Did R hold semi-tandem stand for a full 10 seconds without stepping out of place or grabbing hold of anything? (Circle one)

1 Yes

5 No → Enter amount of time R held stand in seconds to two decimal places (MI880) __. __

993 R tried but was unable

999 R chose not to do it

(MI881) IWER: Did R use any compensatory movements of his/her trunk, arms or legs to steady him/herself during semi-tandem stand? (Circle one)

1 Yes

5 No

8 Don't Know

IWER:

- If R **was able** to complete the semi-tandem for the full 10 seconds without stepping out of place or grabbing a hold of anything → Go To Full-Tandem on page 11.

- If R **was not able** to complete the semi-tandem for the full 10 seconds without stepping out of place or grabbing a hold of anything → Go To Side-By-Side on page 9.

SIDE-BY-SIDE

Equipment needed: Stopwatch, Show Card

"Now I will show you the next movement. I want you to try to stand with your feet together, side-by-side for about 10 seconds. You may use your arms, bend your knees, or move your body to maintain your balance, but try not to move your feet. Try to hold this position until I tell you to stop. Like this..."

IWER: Demonstrate the measurement.

- Stand with feet together.

"Do you understand the directions for this measurement?" (IWER: Circle one)

1..... YES → continue

5..... NO → do not complete this measure and answer question in box below

"Do you feel it would be safe for you to do this measurement?" (IWER: Circle one)

1..... YES → continue

5..... NO → do not complete this measure and answer question in box below

(MI883) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI884) IWER: Why didn't R complete the Side-by-Side stand? (Circle all that apply)

1 R felt it would not be safe

2 IWER felt it would not be safe

3 R refused or was not willing to complete the test

4 R tried but was unable to complete test

5 R did not understand the instructions

6 R had surgery, injury or other health condition that prevented R from standing

7 No suitable space

8 Problem with equipment or supplies

97 Other (Specify): _____

→ Go To Walking Speed on page 13

INSTRUCTIONS FOR SIDE-BY-SIDE:

- 1) Ensure R is wearing appropriate footwear (shoes with very low or no heel).
- 2) Ensure floor is level, preferably has no carpet or low-pile carpet.
- 3) Ask the R to stand up.
- 4) Stand to the side of the respondent.
- 5) Instruct the R to try to stand with feet together, side-by-side for about 10 seconds.
- 6) Instruct the R that he/she may use his/her arms, bend his/her knees or move the body to maintain balance, but try not to move his/her feet.
- 7) If necessary, provide gentle support to the respondent's arm to help him/her get into the side-by-side position.
- 8) Instruct the R to try to hold this position until you tell the R to stop.
- 9) Let go of R's arm. Say **"Ready, begin."** and start the stopwatch immediately.
- 10) Stop the stopwatch and say **"Stop"** after 10 seconds or when the participant steps out of position or grabs your arm.
- 11) Answer the questions in the box below. If the participant is unable to hold the position for 10 seconds, record the time in seconds to two decimal places in the box below.



(MI886) IWER: Did R hold side-by-side stand for a full 10 seconds without stepping out of place or grabbing hold of anything? (Circle one)

1 Yes

5 No → Enter amount of time R held stand in seconds to two decimal places: **(MI887)**

993 R tried but was unable

999 R chose not to do it

(MI888) IWER: Did R use any compensatory movements of his/her trunk, arms or legs to steady him/herself during side-by-side stand? (Circle one)

1 Yes

5 No

8 Don't Know

(MI889) IWER: Record the type of floor surface that the balance measures were conducted on. (Circle one)

1 Linoleum/tile/wood

2 Low-pile carpet

3 High-pile carpet

4 Concrete

5 Not sure

97 Other (Specify): _____

(MI891) IWER: How compliant was R during the balance measurements? (Circle one)

1 R was fully compliant

2 R was prevented from fully complying due to illness, pain, or other symptoms or discomforts

3 R was not fully compliant, but no obvious reason for this

→ Go to Walking Speed on page 13

FULL-TANDEM

Record eligible time from cover

Tandem Time: ____30 sec ____60 sec

Equipment needed: Stopwatch, Show Card

IWER: Refer to inside the front cover of this booklet to locate the full-tandem time for which R is eligible.

1.....30 seconds full-tandem balance measurement

5.....60 seconds full-tandem balance measurement

“Now I want you to try to stand with the heel of one foot in front of and touching the toes of the other foot for about [30/60] seconds. You may put either foot in front, whichever is more comfortable for you. You may use your arms, bend your knees, or move your body to maintain your balance, but try not to move your feet. Try to hold this position until I tell you to stop. Like this...”

IWER: Demonstrate the measurement.

- Stand and place the heel of one foot touching the toes of the other foot.

“Do you understand the directions for this measurement?” (IWER: Circle one)

1.....YES → continue

5.....NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

1.....YES → continue

5.....NO → do not complete this measure and answer question in box below

(MI893) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI894) IWER: Why didn't R complete the full-tandem stand? (Circle all that apply)

1R felt it would not be safe

2IWER felt it would not be safe

3R refused or was not willing to complete the test

4R tried but was unable to complete test

5R did not understand the instructions

6R had surgery, injury or other health condition that prevented R from standing

7No suitable space

8Problem with equipment or supplies

97Other (Specify): _____

→ Go To Next Measurement

Record eligible time from cover
Tandem Time: ___30 sec___60 sec

INSTRUCTIONS FOR FULL-TANDEM:

- 1) Ensure R is wearing appropriate footwear (shoes with very low or no heel).
- 2) Ensure floor is level, preferably has no carpet or low-pile carpet.
- 3) Ask the R to stand up.
- 4) Stand to the side of the respondent.
- 5) Instruct the R to try to stand with the heel of one foot in front of and touching the toes of the other foot for about [30/60] seconds.
- 6) Instruct the R that he/she may use his/her arms, bend his/her knees or move the body to maintain balance, but try not to move his/her feet.
- 7) If necessary, provide gentle support to the respondent's arm to help him/her get into the full-tandem position.
- 8) Instruct the R to try to hold this position until you tell the R to stop.
- 9) Let go of R's arm. Say "**Ready, begin.**" and start the stopwatch immediately.
- 10) Stop the stopwatch and say "**Stop**" after [30/60] seconds or when the participant steps out of position or grabs your arm.
- 11) Answer the questions in the box below. If the participant is unable to hold the position for [30/60] seconds, record the time in seconds to two decimal places in the box below.



(MI896) IWER: Did R hold full-tandem stand for a full [30/60] seconds without stepping out of place or grabbing hold of anything? (Circle one)

1 Yes

5 No

Enter amount of time R held stand in seconds to two decimal places (MI897) __ __.

993 R tried but was unable

999 R chose not to do it

(MI898) IWER: Did R use any compensatory movements of his/her trunk, arms or legs to steady him/herself during full- tandem stand? (Circle one)

1 Yes

5 No

8 Don't Know

(MI899) (Circle one)

1 Linoleum/tile/wood

2 Low-pile carpet

3 High-pile carpet

4 Concrete

5 Not sure

97 Other (Specify): _____

(MI902) (Circle one)

1 R was fully compliant

2 R was prevented from fully complying due to illness, pain, or other symptoms or discomforts

3 R did not appear to be fully compliant, but no obvious reason for this

WALKING SPEED

Is R eligible for Walking Speed Test?
_____ YES _____ NO

Equipment needed: Tape measure, Stopwatch, Masking Tape

“Next, I would like to assess whether you can walk a very short distance comfortably (using a walking stick or other aid if necessary). First, I want to make sure it is safe to carry out the measurement. Do you have any problems from recent surgery, injury, or other health conditions that might prevent you from walking?”

(IWER: Circle one)

- 1.....No apparent restriction → continue
- 2.....Yes, recent surgery → do not complete this measure and answer question in box below
- 3.....Yes, injury → do not complete this measure and answer question in box below
- 4.....Yes, other health condition → do not complete this measure and answer question in box below

“Now let’s find a place where we can conduct the measurement. We will need a clear space about 12 feet long in a non-carpeted area, if possible. I’m going to place the measuring tape alongside the space where the walk will take place.”

IWER: Set up the course (98.5 Inches)

“This is our walking course. I am going to time you as you walk the course. I will be asking you to walk the course two times. I’ll walk along side you the whole time during the measurement. Now I’d like to demonstrate how to do the measurement. You will start by lining your feet up at the starting point.”

IWER: Demonstrate the measurement.

“Do you understand the directions for this measurement?” (IWER: Circle one)

- 1.....YES → continue
- 5.....NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

- 1.....YES → continue
- 5.....NO → do not complete this measure and answer question in box below

(MI820) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI821) IWER: Why didn’t R complete the walking speed test? (Circle all that apply)

- 1R felt it would not be safe
- 2IWER felt it would not be safe
- 3R refused or was not willing to complete the test
- 4R tried but was unable to complete test
- 5R did not understand the instructions
- 6R had surgery, injury, or other health condition that prevented R from walking
- 7No suitable space available
- 8Problem with equipment or supplies
- 97Other (Specify): _____

→ Go To Next Measurement

INSTRUCTIONS FOR THE WALKING SPEED TEST:

Is R eligible for Walking Speed Test?
 _____ YES _____ NO

- 1) Ensure that the respondent is wearing appropriate footwear at this point. If not, ask R to change shoes or to put shoes on.
- 2) Instruct R to stand with his/her feet lined up to the front of the tape.
- 3) Say the following to the R ***“I am going to time you as you walk the course at your normal pace. I will be asking you to walk the course at your usual pace a total of two times. I’ll walk along side you the whole time during the measurement. I’d like you to stand here with your feet lined up. Start walking when I say ‘Begin’. Walk all the way past the other end of the tape before you stop. Are you ready to go now? Begin.”***
- 4) Start stopwatch when either foot is placed down on the floor across the start line.
- 5) Walk behind and slightly to the side of the R.
- 6) Stop the stopwatch when R’s foot crosses the tape and touches the floor. Record the time in chart below.
- 7) Repeat the measurement: ***“Now I want you to repeat the walk. Remember to walk at your usual pace and go all the way past the other end of the course. I’d like you to stand here with your feet lined up. Start walking when I say ‘Begin’. Are you ready to go now? Begin.”***

IWER: Record measurements in chart. (Record 993 if R tried but was unable. Record 999 if R chose not to do it)

Measurement #	Walking Speed Time
1	(MI823) ____ __.____ (seconds)
2	(MI824) ____ __.____ (seconds)

EX: 1 0.1 5 (seconds)

(MI825) IWER: Record type of floor surface. (Circle one)

- 1Linoleum/tile/wood
- 2Low-pile carpet
- 3High-pile carpet
- 4Concrete
- 5Not sure
- 97Other (Specify): _____

(MI828) IWER: Record type of aid used. (Circle one)

- 1None
- 2Walking stick or cane
- 3Elbow crutches
- 4Walking frame
- 97Other (Specify): _____

(MI830) IWER: How compliant was R during this measurement? (Circle one)

- 1R was fully compliant
- 2R was prevented from fully complying due to illness, pain, or other symptoms or discomforts
- 3R was not fully compliant, but no obvious reason for this

HEIGHT

Equipment needed: Tape measure, Rafter's square, Self-adhesive Note, Pencil

"Next, I would like to measure your height. To complete this measurement, I'll be asking you to take off your shoes and stand up against a wall. I will then place this rafter's square on top of your head and mark your height on this post-it note."

"Do you understand the directions for this measurement?" (IWER: Circle one)

1 YES → continue

5 NO → do not complete this measure and answer question in box below

"Do you feel it would be safe for you to do this measurement?" (IWER: Circle one)

1 YES → continue

5 NO → do not complete this measure and answer question in box below

(MI831) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI832) IWER: Why weren't you able to measure R's height? (Circle all that apply)

1 R felt it would not be safe

2 IWER felt it would not be safe

3 R refused or was not willing to complete the measurement

4 R tried but was unable to complete measurement

5 R did not understand the instructions

6 R is not able to stand; other health reason

7 There was no suitable space available

8 Problem with equipment or supplies

9 Respondent too tall, interviewer could not reach

97 Other (Specify): _____

→ Go To Next Measurement

INSTRUCTIONS FOR MEASURING HEIGHT:

- 1) Ask R for location to conduct measurement and for permission to place the self-adhesive note on the wall.
- 2) Make sure R is standing up as straight as comfortable with his/her heels and shoulders as close to the wall as comfortable.
- 3) Place a self-adhesive note on the wall near the top of the R's head.
- 4) Position your rafter's square against the wall directly over the R's head. It should be parallel to the floor, resting on the R's head but not pressing on it.
- 5) Make a mark on the self-adhesive note at the bottom of the rafter's square.
- 6) Ask the R to move away from the wall.
- 7) Position the tape measure under a door jam, floor molding or your foot and measure from the floor to the mark on the self-adhesive note.
- 8) Record R's height in **inches** (rounded to the **nearest quarter inch**) on self-adhesive note on the wall and remove it from the wall.

IWER: Record measurement in chart.

Measurement #	Measurement
1	(MI834) _____.____ inches

EXAMPLE:
Record 6 7 . 2 5 inches
Do NOT Record 5 ft 7 ¹/₄ inches

(MI835) IWER: Record the type of floor surface (Circle one)

1Linoleum/tile/wood

2Low-pile carpet

3High-pile carpet

4Concrete

5Not sure

97Other (Specify): _____

(MI837) IWER: Was R wearing shoes during the measurement? (Circle one)

1Yes

5No

(MI903) IWER: How compliant was R during this measurement? (Circle one)

1R was fully compliant

2R was prevented from fully complying due to illness, pain, or other symptoms or discomforts

3R was not fully compliant, but no obvious reason for this

WEIGHT

Is R eligible for Weight Measurement?

_____ YES _____ NO

Equipment needed: Scale

“Now, I’d like to measure your weight. To measure your weight, I will ask you to stand on this scale, with your shoes off, while I read the display.”

“Do you understand the directions for this measurement?” (IWER: Circle one)

1 YES → continue

5 NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

1 YES → continue

5 NO → do not complete this measure and answer question in box below

(MI838) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI839) IWER: Why weren’t you able to measure R’s weight? (Circle all that apply)

1 R felt it would not be safe

2 IWER felt it would not be safe

3 R refused or was not willing to complete the measurement

4 R tried but was unable to complete measurement

5 R did not understand the instructions

6 R is not able to stand or balance on scale; other health reason

7 No suitable space available

8 Scale did not work; other problem with equipment or supplies

97 Other (Specify): _____

→ Go To Next Measurement

INSTRUCTIONS FOR MEASURING WEIGHT:

Is R eligible for Weight Measurement?
 _____ YES _____ NO

- 1) Ask R for location to conduct measurement – a hard-surface floor or thin pile carpet.
- 2) Make sure R’s shoes are off or ask him/her to remove shoes.
- 3) Ask R to remove heavy objects from pockets and/or heavy sweaters as needed.
- 4) Position scale so you can see display while R is standing on it.
- 5) Turn scale on, tap middle of scale with foot, and wait for 0.0 to appear static.
- 6) Ask R to stand on scale.
- 7) Record R’s weight (to the nearest 1/2 pound).
- 8) R can sit down and put shoes back on.

IWER: Record measurement in chart: (Enter 993 if R tried but received an error message.)

Measurement #	Weight Measurement
1	(MI841) __ __ __. __ pounds

(MI842) IWER: Record the type of floor surface (Circle one)

1 Linoleum/tile/wood

2 Low-pile carpet

3 High-pile carpet

4 Concrete

5 Not sure

97 Other (Specify): _____

(MI844) IWER: Was R wearing shoes during the measurement? (Circle one)

1 Yes

5 No

(MI847) IWER: How compliant was R during this measurement? (Circle one)

1 R was fully compliant

2 R was prevented from fully complying due to illness, pain, or other symptoms or discomforts

3 R was not fully compliant, but no obvious reason for this

WAIST

Equipment needed: Soft Tape Measure

“Next I’m going to ask you to perform a simple measurement of your waist circumference. For this measurement it is important for you to be standing. I will ask you to identify where on your body your navel (belly button) is located. I will then ask you to place this soft measuring tape around your waist, over your clothing, holding it securely at the level of your navel. Once the tape measure is placed appropriately around your waist then we are ready to begin. I will ask you to take a normal breath and exhale, holding your breath at the end of the exhale. I will then record the measurement.”

IWER: Demonstrate the measurement.

- Stand and locate navel. Place measuring tape over the clothing around the waist at the level of the navel. Take a normal breath and exhale, holding breath at end of exhale and letting the tape out slightly.

IWER: Ask if necessary: (***“Before we begin, do you feel you are able to stand while we do this measurement?”***) (IWER: Circle one)

1.....YES → continue

5.....NO → do not complete this measure and answer question in box below

“Do you understand the directions for this measurement?” (IWER: Circle one)

1.....YES → continue

5.....NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

1.....YES → continue

5.....NO → do not complete this measure and answer question in box below

(MI904) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI905) IWER: Why weren’t you able to measure R’s waist? (Circle all that apply)

1R felt it would not be safe

2IWER felt it would not be safe

3R refused or was not willing to complete the measurement

4R tried but was unable to complete measurement

5R did not understand the instructions

6R is not able to stand; other health reason

7No suitable space

8Problem with equipment or supplies

97Other (Specify): _____

→ Go To Next Measurement

INSTRUCTIONS FOR MEASURING WAIST CIRCUMFERENCE:

- 1) Instruct R to remove bulky clothing.
- 2) R should be in the standing position and measuring tape should be applied over the clothing around the waist at the level of the navel.
- 3) Ask Respondent to point to his/her navel.
- 4) Instruct R to place the tape around his/her waist at the level of the navel. The R should hold tape in place at the navel. The tape should be snug but not tight. If the R is not able to put the tape around his/her waist, you may have them hold one end of the tape measure at their navel, and walk around the R with the other end.
- 5) Check that the tape is horizontal all away around the R.
- 6) Instruct R to take a normal breath and exhale, holding breath at end of exhale.
- 7) Read the measurement on the tape after the R exhales. Record measurement to nearest **quarter inch** in the chart below (e.g. 42.25 inches).

IWER: Record measurements in chart. (Enter 993 if R tried but was unable to do it. Enter 999 if R chose not to do it.)

Measurement #	Waist Measurement
1	(MI907) ____ . ____ inches

<p>EXAMPLE: <u> 4 </u> <u> 2 </u> . <u> 2 </u> <u> 5 </u> inches</p>
--

- (MI908) IWER: What difficulties occurred during this measurement? (Circle all that apply)**
- 1 None
 - 2 R had breathing difficulties
 - 3 R was unable to hold breath at the end of the exhale
 - 4 R was prevented from giving full effort by illness, pain, or other symptoms or discomforts
 - 5 R did not appear to give full effort, but no obvious reason for this
 - 6 Had difficulty or unable to locate navel
 - 97 Other (Specify): _____
- (MI910) IWER: How compliant was R during this measurement? (Circle one)**
- 1 R was fully compliant
 - 2 R was prevented from fully complying due to illness, pain, or other symptoms or discomforts
 - 3 R was not fully compliant, but no obvious reason for this
- (MI911) IWER: Who completed the measurement? (Circle one)**
- 1 R completed the measurement
 - 2 IWER completed the measurement
- (MI912) IWER: Was the R wearing bulky clothing during this measurement? (Circle one)**
- 1 Yes
 - 5 No

Is R eligible for Saliva Collection? _____ YES _____ NO

IWER: If the Respondent is not eligible for the saliva collection, do not complete this measure. Put an “X” through the consent form and skip to the blood spot collection on page 27.

IWER: If the Respondent is eligible for the saliva collection, you must have a signed consent form from the Respondent before beginning the measure.

“The next measure involves collecting a saliva sample. This simply involves depositing a small amount of saliva into a collection container. Before we begin, I would like to have you read and sign this consent form.”

HEALTH AND RETIREMENT STUDY 2010

SALIVA COLLECTION CONSENT FORM

I have already agreed to participate in the Health and Retirement Study funded by the National Institute on Aging and conducted by the University of Michigan. The study will help provide a very complete picture of how people 50 years of age and older living in the United States are faring as they head into retirement and enjoy their retirement years.

In addition to completing the questionnaire, I am now being asked to provide a saliva sample. DNA will be extracted from the saliva and stored in a repository for future analysis. Over the course of the study, all participants will be asked to provide salivary DNA. Such analyses will allow researchers to better understand the connections between genetics and other indicators of interest such as health, economic and employment status.

I understand and agree that participation means the following:

- a) I will be asked to provide a saliva sample collected by spitting into a small container that will then be sealed and packaged. This measurement will take approximately three (3) minutes to complete.
- b) The saliva sample will be sent to a repository wherein DNA will be extracted from the sample and stored for future research. Samples are stored without my name or other identifying information. My sample will be given a unique number.
- c) The results of the extraction, any future analyses and storage information will be kept strictly confidential in the same way as the rest of the interview data. I will not be identified in any reports on this study. Records will be kept confidential to the extent provided by federal, state, and local law. However, the Institutional Review Board, the sponsor of the study (i.e. NIH, FDA, etc.), or university and government officials responsible for monitoring this study may inspect these records.
- d) A portion of my DNA sample may be sent to an external laboratory for analysis, identified only by a number with no link to my identity or personal information. Summary statistical information about my sample may also be placed in a data repository such as that maintained by the National Institutes of Health known as dbGaP. No names or other identifiers are included anywhere in this repository. Researchers who receive approval from the NIH will be able to access the data from the repository.
- e) My participation in this research is completely voluntary. I will complete these measurements only if I agree to do so. I understand that I am NOT required to do this, and I can stop my participation at any time.
- f) If at any time I would like to have my DNA sample removed from storage, I may contact the Survey Director in writing and request that my sample be removed from storage and destroyed. I understand that any statistical information about my sample that may have been deposited in an external data repository, such as dbGaP, prior to my request for removal cannot be withdrawn but no new information will be created.
- g) There is no additional incentive for completing this measure, nor is there a penalty if I choose not to complete this component.
- h) A Certificate of Confidentiality has been obtained from the Department of Health and Human Services for the Health and Retirement Study. With this Certificate, the investigators cannot be forced (for example by court subpoena) to disclose information that may identify me in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings. Disclosure will be necessary, however, upon request of DHHS for audit or program evaluation purposes.

- i) There are no known risks associated with completing this interview or with participation in this study. However there are several perceived risks to providing a DNA sample for repository. These perceived risks are described next, as well as HRS efforts to minimize any potential risk. In the unlikely event of any injury resulting from the research, no reimbursement, compensation, or free medical treatment is offered by any of the co-sponsors of this research project.
- a. *Protection Against Identification or Disclosure of Individually Identifiable Information:* A common concern of participants in research studies is the protection of their identity. The HRS Certificate of Confidentiality protects against being compelled to disclose identifiable information. Samples provided to the laboratory, and statistical information from the analysis of those samples, are identified only by a numeric code – no individual identifiers are ever shared. Individually identifiable information will not be released to secondary users or the dbGaP. Researchers seeking to use dbGaP data will be required to obtain a Data Use Certification, in which the researcher must pledge data confidentiality and meet established data security standards.
 - b. *Protection Against Risks to Specific Populations, Groups, and Communities:* A concern some people have about genetic research is that it might lead to discrimination in employment or health insurance against some groups who are found to have a higher average risk of certain health conditions. The Genetic Information Nondiscrimination Act of 2008 (GINA) provides protections against discriminatory health coverage or employment practices that could arise from findings on populations, groups and communities represented in the dbGaP.
- j) I understand that although I will not receive direct benefit from my participation, others may ultimately benefit from the knowledge obtained in this study.
- k) I may ask questions about this procedure at any time and can expect truthful answers. I can ask the interviewer, or contact the Survey Director, Heidi Guyer, at the University of Michigan: (800) 759-7947.
- l) I will receive a copy of this form.

Please print name: _____

Please sign here and date: _____ **Date:** _____

Interviewer's Signature: _____ **Date:** _____

Should you have questions regarding your rights as a research participant, please contact the Health Sciences Institutional Review Board, 540 East Liberty Street, Suite 202, Ann Arbor, MI, 48104-2210, 734-936-0933, email: irbhsbs@umich.edu.

MI913)

IWER: If R signed the saliva consent form, continue to Saliva Sample (page 26).

If R did not sign the saliva consent form, do not complete this measure. Put an "X" through the consent form and skip to blood consent instructions on page 27.

SALIVA SAMPLE

Equipment needed: Saliva Collection Kit (laboratory authorization form, plastic bag with absorbent sheet, Oragene collection container), padded mailing envelope, stopwatch, small placemat, Sample collection kit

(MI914) IWER: Did the R eat, drink, smoke or brush his/her teeth after starting the physical measures?

(Circle one)

1 YES

5 NO

“As I mentioned, I would like you to deposit a small amount of saliva into a collection container.”

IWER: Show the Respondent the sample saliva kit to indicate how much saliva will be needed.

“Do you understand the directions for this measurement?” (IWER: Circle one)

1 YES → continue

5 NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

1 YES → continue

5 NO → do not complete this measure and answer question in box below

(MI915) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI941 or MI916) IWER: Why didn't R complete the saliva sample? (Circle all that apply)

1 R felt it would not be safe

2 IWER felt it would not be safe

3 R refused or was not willing to complete the measurement

4 R tried but was unable to complete measurement

5 R did not understand the instructions

6 R ate, drank, smoked, or brushed teeth in last 30 minutes

7 No suitable space

8 Problem with equipment or supplies

97 Other (Specify): _____

→ Go To Next Measurement

INSTRUCTIONS FOR SALIVA SAMPLE COLLECTION:

- 1) Place the small placemat on the surface where you will be collecting the saliva. Open the saliva collection kit.
- 2) Remove the Saliva Authorization Form, the Oragene collection container and the plastic bag with the absorbent sheet.
- 3) Confirm the saliva barcode ID on top of the consent form and the Saliva Authorization Form.
- 4) Put on a pair of vinyl gloves and open the Oragene collection case to confirm the saliva barcode ID on the collection container.
- 5) Remove the Oragene saliva collection container from the plastic case.
- 6) Hand the clear portion of the collection container to the Respondent. Instruct them to spit into the container until the bottom portion is full. Show the R the Saliva Collection Tip Card if necessary.

****IWER: Allow about 3 minutes for the R to fill the vial before continuing with the blood sample. If R needs more time to fill the vial, collect the vial and answer the questions below after you have completed the data entry for the physical measures and biomarkers (before beginning Section J). If you were not able to collect a saliva sample record the reason in the box on the previous page.**

- 7) When the Respondent has reached the level necessary, put the container on a flat surface.
- 8) Screw the cap onto the container. Make sure the cap is closed securely.
- 9) You will notice liquid from the cap filling the collection container. This is a preservative.
- 10) Once the cap is on tightly, gently mix for 10 seconds.
- 11) Place collection container in the plastic bag with the absorbent material.
- 12) Remove gloves.
- 13) Record the date and time the saliva collection was finished on the Saliva Authorization Form.
- 14) Place the plastic bag containing the collection container and the top copy of the Saliva Authorization Form in the padded envelope. Place the yellow copy of the form in the back of the booklet.
- 15) Mail the specimen as soon as possible to the Ann Arbor (if not the same day as the collection, store sample in a refrigerator).

(MI918) IWER: Did the R fill the vial to the desired level? (Circle one)

1 Yes

5 No

(MI919) IWER: What, if any, problems occurred? (Circle all that apply)

1 None

2 Solution in cover leaked before vial was sealed

3 Saliva spilled

4 R was unable to produce enough saliva

5 Collection container leaked; other problem with equipment or supplies

97 Other (Specify): _____

(MI921) IWER: How compliant was R during this measurement? (Circle one)

1 R was fully compliant

2 R was prevented from fully complying due to illness, pain, or other symptoms or discomforts

3 R was not fully compliant, but no obvious reason for this

IWER: Before beginning the blood spot collection you must have a signed consent form from the Respondent.

“I’d like to collect a small sample of your blood using just a finger prick. We would be very grateful if you would agree to provide us with a sample of blood. This is an important part of the study, as the analysis of blood samples will tell us a lot about the health of the population. Before we begin, I would like to have you read and sign this consent form.”

HEALTH AND RETIREMENT STUDY 2010 BLOOD SPOT COLLECTION CONSENT FORM

I have already agreed to participate in the Health and Retirement Study funded by the National Institute on Aging and conducted by the University of Michigan. The study will help provide a very complete picture of how people 50 years of age and older living in the United States are faring as they head into retirement and enjoy their retirement years.

In addition to completing the questionnaire, I am now being asked to provide a small quantity of blood obtained via a finger prick. The blood spots will be analyzed for indicators of cardiovascular risks including measures of cholesterol and blood sugar. Remaining samples will be stored in a repository for future analyses. Such analyses will allow researchers to better understand the connections between risk factors and other indicators of health, economic and employment status. Over the course of the study, all participants will be asked to provide blood spots.

I understand and agree that participation means the following:

- a) I will be asked to provide a small blood sample for this analysis. My finger will be pricked and my blood will be collected on a blood spot collection card. This measurement will take approximately five (5) minutes to complete.
- b) The blood spot collection card will be sent to a laboratory to be analyzed for cholesterol (total cholesterol and HDL), blood sugar (Hemoglobin A1C), C-Reactive protein, and Cystatin-C. Any remaining samples will be stored for future analysis.
- c) The blood sample is collected for research purposes only. Where State law allows, I will be sent a copy of my cholesterol and blood sugar results, as well as an indication if they are outside the normal range. I may be invited to share this information with my doctor. I will be informed if the quantity of the sample provided is insufficient for analyses.
- d) The results of the blood analyses will be kept strictly confidential in the same way as the rest of the interview data. I will not be identified in any reports on this study. Records will be kept confidential to the extent provided by federal, state, and local law. However, the Institutional Review Board, the sponsor of the study (i.e. NIH, FDA, etc.), or university and government officials responsible for monitoring this study may inspect these records.
- e) My participation in this research is completely voluntary. I will complete these measurements only if I agree to do so. I am NOT required to do this, and I can stop my participation at any time.
- f) If at any time I would like to have my sample removed from storage, I may contact the Survey Director in writing and request that my sample be removed from storage and destroyed. I understand that any statistical information about my sample that may have been deposited in an external data repository prior to my request for removal cannot be withdrawn but no new information will be created.
- g) There is no additional incentive for completing this measure, nor is there a penalty if I choose not to complete this component.

- h) A Certificate of Confidentiality has been obtained from the Department of Health and Human Services for this study. With this Certificate, the investigators cannot be forced (for example by court subpoena) to disclose information that may identify me in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings. Disclosure will be necessary, however, upon request of DHHS for audit or program evaluation purposes.
- i) There are no known risks associated with doing this interview or with participation in this study. However, I may experience a small amount of pain at the time of the finger prick or incision site. In the unlikely event of any injury resulting from the research, no reimbursement, compensation, or free medical treatment is offered by any of the co-sponsors of this research project.
- j) I understand that although I will not receive direct benefit from my participation, others may ultimately benefit from the knowledge obtained in this study.
- k) I may ask questions about this procedure at any time and can expect truthful answers. I can ask the interviewer, or contact the Survey Director, Heidi Guyer, at the University of Michigan: (800) 759-7947.
- l) I will receive a copy of this form.

Please print name: _____

Please sign here and date: _____ **Date:** _____

Interviewer's Signature: _____ **Date:** _____

Location of Data Collection: _____
(City, State)

Should you have questions regarding your rights as a research participant, please contact the Health Sciences Institutional Review Board, 540 East Liberty Street, Suite 202, Ann Arbor, MI, 48104-2210, 734-936-0933, email: irbhsbs@umich.edu.

(MI922)

IWER: If R signed the blood consent form, continue to Blood Sample (page 31).

If R did not sign the blood consent form, do not complete this measure. Put an “X” through the consent form. Thank the R and enter the requested information in the computer. Do not make any marks in this

BLOOD SAMPLE COLLECTION

Equipment needed: Cholesterol and A1c Collection Kit (2 lab authorization Forms with blood collection cards; 2 lancets; alcohol prep pad; sterile gauze pad; adhesive bandage; pre-addressed, prepaid mailing envelope with desiccant, 2 pairs of vinyl gloves

*“As I mentioned, I’d like to collect a small sample of your blood. I will clean your finger with an alcohol wipe, then using a small instrument I will prick your finger and collect enough blood to fill up to **six small circles on two collection cards.**”*

“Do you understand the directions for this measurement?” (IWER: Circle one)

1.....YES → continue

5.....NO → do not complete this measure and answer question in box below

“Do you feel it would be safe for you to do this measurement?” (IWER: Circle one)

1.....YES → continue

5.....NO → do not complete this measure and answer question in box below

(MI923) BASED ON RESPONSES TO QUESTIONS ABOVE

(MI943 or MI924) IWER: Why didn’t R complete the blood sample? (Circle all that apply)

1 R felt it would not be safe

2 IWER felt it would not be safe

3 R refused or was not willing to complete the measurement

4 R tried but was unable to complete measurement

5 R did not understand the instructions

6 R has hemophilia or is on medication that thins the blood (anticoagulant)

7 No suitable space

8 Problem with equipment or supplies

97 Other (Specify): _____

→ Thank the R and enter the requested information in the computer

INSTRUCTIONS FOR BLOOD SAMPLE COLLECTION:

- 1) Open the Blood Collection Kit, remove the contents and place on a hard, clean, and dry surface (If any item is opened or broken, do not use).
- 2) Put on a pair of vinyl gloves.
- 3) Ask R to rub hands together or massage them so blood is flowing to finger tips.
- 4) Write the date and time of the blood collection on the lab authorization forms, and in this booklet (chart below).
- 5) Place a barcode label from one of the lab authorization form at the bottom of this page. This card will become the “storage card” once the label is removed.
- 6) Clean the R’s finger with the alcohol prep pad and make sure the R’s finger is dry before proceeding.
- 7) Remove blue tip from lancet in order to activate it. While holding the R’s hand firmly, place the lancet on the side of the pad of the R’s middle or ring finger or the R’s thumb.
- 8) Prick the finger with the lancet. If necessary, instruct the R to gently squeeze his/her finger from the base several times to form a large drop of blood.
- 9) With the sterile gauze pad, wipe away the first drop of blood.
- 10) When the next large drop of blood is formed, allow the blood to drop onto the center of the left-most circle on the blood collection card. If a single drop of blood does not completely fill a circle, you may add additional drops beside the first until the circle is filled. Try not to overlap the drops. If the blood does not absorb into the card, gently tap the card to break the surface tension of the blood and allow it to flow through to the card below.
- 11) Once the R completely fills one of the circles, assist the R with filling the other two circles on the collection card and then fill the three spots on the second card for storage (the storage card is the one with the barcode label removed).
- 12) Provide the R with a bandage.
- 13) Place or ask the R to place the used gauze pad, alcohol wipe, wrappers and lancet in the plastic bag and discard in the garbage.
- 14) Remove gloves and discard.
- 15) Allow the blood sample to air dry for 15 to 20 minutes.
- 16) Put on a new pair of vinyl gloves and remove the small end portion of the lab authorization form from both cards and place them in the booklet to mail to Ann Arbor.
- 17) Insert both blood collection cards with the lab authorization form in-tact into the mailing envelope. Note: The desiccant pack must be in the mailing envelope with the collection cards.
- 18) Discard gloves.
- 19) Mail the envelope to Ann Arbor as soon as possible.

IWER: Record date and time of specimen collection in chart.

Specimen #	Date	Time
1		am/pm

Barcode Label

IWER: If you were not able to collect a blood sample record the reason in the box on the previous page.

(MI926) IWER: What, if any, problems occurred during the collection of the blood sample? (Circle all that apply)

- 1 None
- 2 R became light-headed, fainted, or nauseous
- 3 R had difficulty getting finger to stop bleeding
- 4 Unable to obtain enough blood
- 5 Problem with equipment or supplies
- 97 Other (Specify): _____

(MI928) IWER: Who pricked the R's finger(s)? (Circle one)

- 1 R pricked own finger(s)
- 2 IWER pricked R's finger(s)
- 3 Both R and Iwer pricked R's finger(s)
- 4 Someone else pricked R's finger(s) (Specify relationship to R): _____

(MI929) IWER: How many circles were filled on the first card? (Circle one) 0 1 2 3

(MI945) IWER: How many circles were filled on the storage card? (Circle one) 0 1 2 3

(MI930) IWER: How many times did the R's finger need to be pricked in order to fill the cards? (Circle one)

- 1 One time
- 2 Two times
- 3 Two times but the R was unable to fill all of the collection areas

(MI931) IWER: How compliant was R during this measurement? (Circle one)

- 1 R was fully compliant
- 2 R was prevented from fully complying due to illness, pain, or other symptoms or discomforts
- 3 R was not fully compliant, but no obvious reason for this

“Thank you for your cooperation. This concludes the physical measure and biomarkers portion of the interview. Before we continue with the interview, I need a moment to enter a few pieces of information in the computer.”

IWER: Be sure that labels have been placed on all of the forms and samples and that the samples are in the mailing envelopes. Complete the checklist on the back of this booklet. You will be prompted to enter some information now, before you proceed with the interview, but most information will be entered after you have left the respondent's house.

PHYSICAL MEASURES & BIOMARKERS CHECKLIST

Saliva Collection:

Confirm saliva barcode ID on the consent form, Saliva Authorization Form and collection container

After sample is collected:

Collection container with absorbent material, are placed in plastic bag

The **top** (white) copy of the Saliva Authorization Form is placed in bubble mailer

Plastic bag is sealed, placed in bubble packet and mailed in as soon as possible (or refrigerated)

Blood Spot Collection:

Barcode label from one of the Lab Authorization Forms is affixed to the bottom of the blood instruction page

After sample is collected:

Blood collection cards are air dried for 15-20 minutes

Blood collection cards with the Lab Authorization Forms in-tact are placed in the white tyvek mailing envelope with the desiccant pack and sealed

Samples are mailed to Ann Arbor as soon as possible

Forms to Respondent:

1 copy of each of the 3 consent forms

Health Assessment Pamphlet

High Blood Pressure Card (if necessary)

Materials to mail to AA in Weekly Mailing:

Physical Measures Booklet with signed consent forms

Yellow copy of Saliva Authorization Form

Small end portion of the Blood Authorization Form

Completed transmittal form with the Physical Measures & Biomarker Booklet ID, Saliva Barcode ID and the Blood Barcode ID written in