PALS CODEBOOK

for the Study of

Physical Performance Across the Life Span

(revision June 23, 2024)

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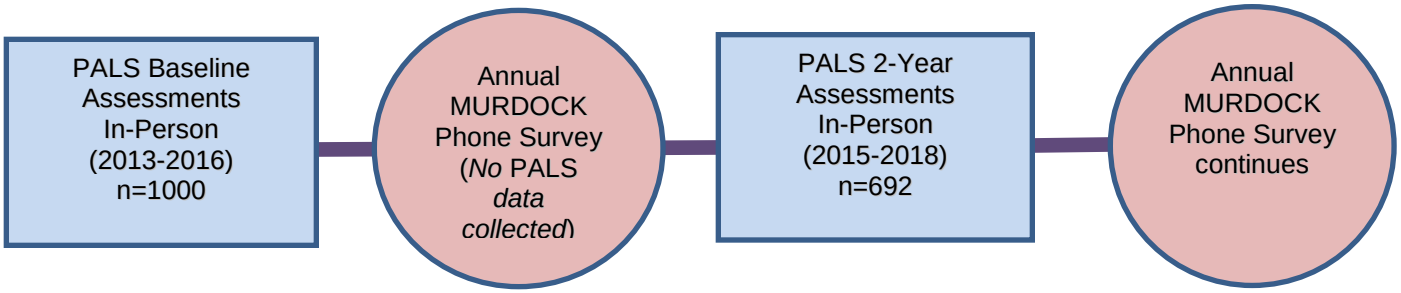
Table of Contents

PALS STUDY OVERVIEW

The PALS study (PIs Dr. Miriam Morey and Dr. Harvey Cohen) is a longitudinal cohort study created by the Duke OAIC (Pepper) Center during a prior funding cycle. The overall objective of the PALS study is to examine patterns of age and sex-related differences in biological markers, physical function, and physical activity across the adult lifespan, and to longitudinally characterize changes in biological markers and the association of these changes with functional aging. The design of PALS—in particular, the inclusion of young adults—was motivated by the recognition that biological aging occurs across the lifespan, not just among the aged. The recruitment phase for the PALS study was 2013-2016, and the 2-year follow-up data collection phase spans 2015-2018. Study assessments were completed in-person at baseline and at 2-years, with interim telephone surveys conducted yearly (and planned to continue indefinitely) as shown in Figure 1.

Figure 1. PALS Study Design and Data Collection Time Points



Study participants were drawn from the Measurement to Understand the Reclassification of Disease of Cabarrus/Kannapolis (MURDOCK) registry. Study participants were eligible if they were (a) at least 30 years of age; (b) residents of 20-Zip Code region that included Cabarrus and portions of surrounding Counties and the city of Kannapolis in North Carolina for at least 6 months; and (c) provided written informed consent. All potential participants were scheduled for an in-person baseline study visit, during which time informed consent, HIPAA authorization, and study measures were administered. PALS was approved by the Institutional Review Boards of Duke University Medical Center and the Carolinas Healthcare System.

Enrolled participants (N=1000) were stratified in equal numbers by decade of life with a target of 100 participants per decade divided equally between men and women from age 30 to 59, 200 per decade from age 60 to 79, and all interested participants over age 80. Six participants subsequently rescinded permission for use of data (Visit 1 n=994).

692 participants completed assessments at Year 2. Most common reasons for not completing Year 2 assessment included ‘declined visit’ (n=143) and ‘unable to contact’ (n=116).

Data are collected and managed using REDCap electronic data capture tools hosted at Duke University. Demographic variables (education, race, and ethnicity) are collected by self-report. Other measures include physical performance, surveys of self-reported health and behaviors and accelerometry. Blood samples were collected in a non-fasting state and are stored for future investigations.

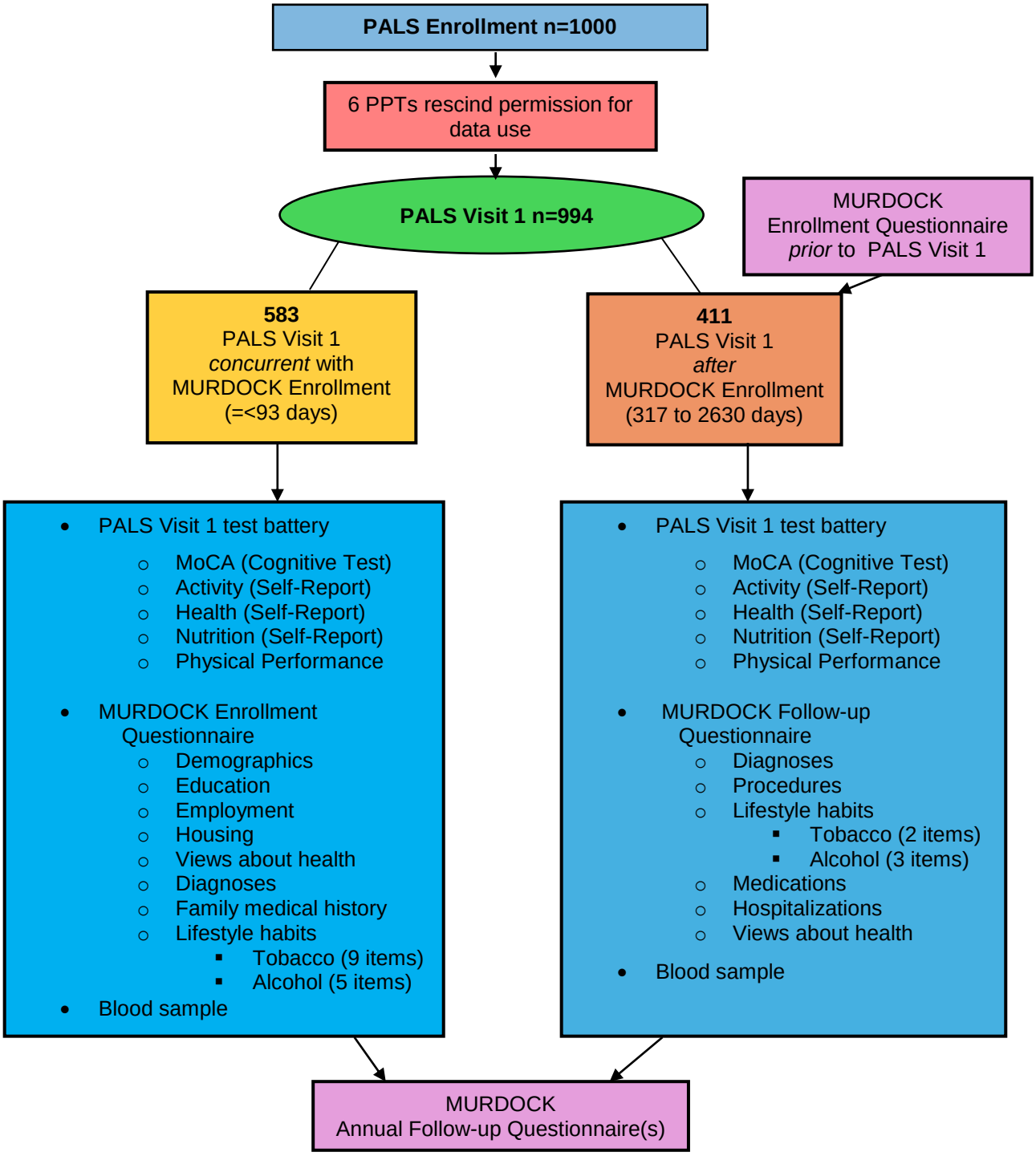
PALS Study Publications (as of 6/30/2024)

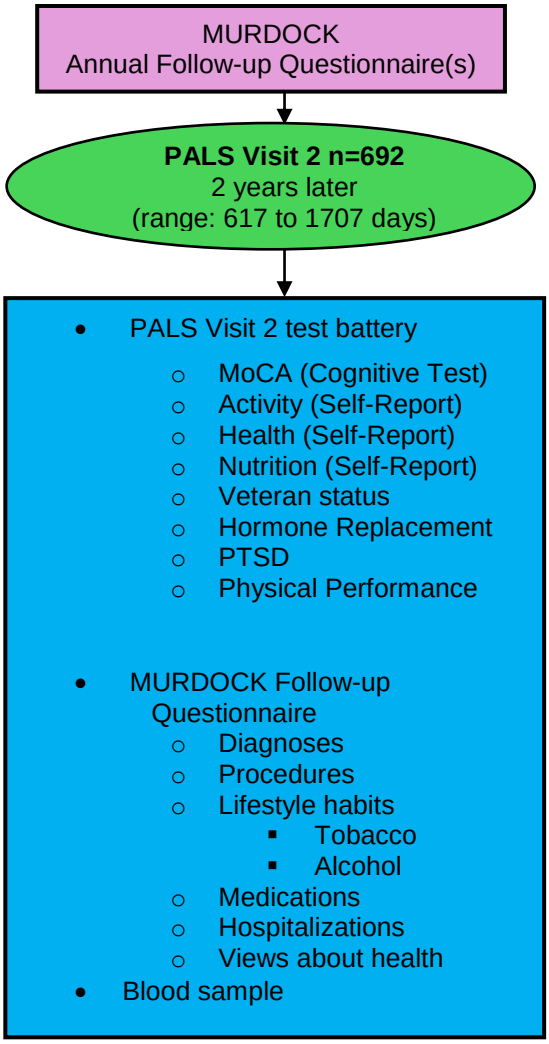
1. Hall KS, Cohen HJ, Pieper CF, et al. Physical Performance Across the Adult Life Span: Correlates With Age and Physical Activity. *J Gerontol A Biol Sci Med Sci*. 2017 Apr 1;72(4):572-578. https://doi.org/10.1093/gerona/glw120 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6075535/
2. Noppert GA, Brown CS, Chanti-Ketterl M, Hall KS, Newby LK, Cohen HJ, Morey MC. The Impact of Multiple Dimensions of Socioeconomic Status on Physical Functioning Across the Life Course. *Gerontol Geriatr Med*. 2018 Aug 28;4:2333721418794021. https://doi.org/10.1177/2333721418794021 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6113730/
3. Parker D, Sloane R, Pieper CF, Hall KS, Kraus VB, Kraus WE, Huebner JL, Ilkayeva OR, Bain JR, Newby LK, Cohen HJ, Morey MC. Age-Related Adverse Inflammatory and Metabolic Changes Begin Early in Adulthood. *J Gerontol A Biol Sci Med Sci.* 2019 Feb 15;74(3):283-289. https://doi.org/10.1093/gerona/gly121 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6376106/
4. Hua K, Luo S, Hall K, Morey M, Cohen HJ. Novel analytic approaches to investigate minute-level actigraphy and associations with physical function. Innovation in Aging, 2020, Vol. 4, No. S1:194-5. https://doi.org/10.1093/geroni/igaa057.630 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7740491/
5. Lee R, Hall K, Sloane R, Pieper C, Kraus W, Kraus V, Bain J, Newby K, Cohen HJ, Morey M. Diabetes mellitus and physical performance across the adult life span: A cross-sectional study in the PALS Study. J Am Geriatr Soc. 2021 Apr;69(S1):S97. *Conference.*
6. Mitchell C, Morey M, Sloane R, Parker D, Cohen H, Hall K. Two-Year Changes in Physical Activity Domains Across the Lifespan: Impact of Age and Gender. J Am Geriatr Soc. 2021 Apr;69(S1):S102. *Conference.*
7. Parker DC, Kraus WE, Whitson HE, Kraus VB, Smith PJ, Cohen HJ, Pieper CF, Faldowski RA, Hall KS, Huebner JL, Ilkayeva OR, Bain JR, Newby LK, Huffman KM. Tryptophan Metabolism and Neurodegeneration: Longitudinal Associations of Kynurenine Pathway Metabolites with Cognitive Performance and Plasma Alzheimer's Disease and Related Dementias Biomarkers in the Duke Physical Performance Across the LifeSpan Study. J Alzheimers Dis. 2023;91(3):1141-1150. https://doi.org/10.3233/jad-220906 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10074831/

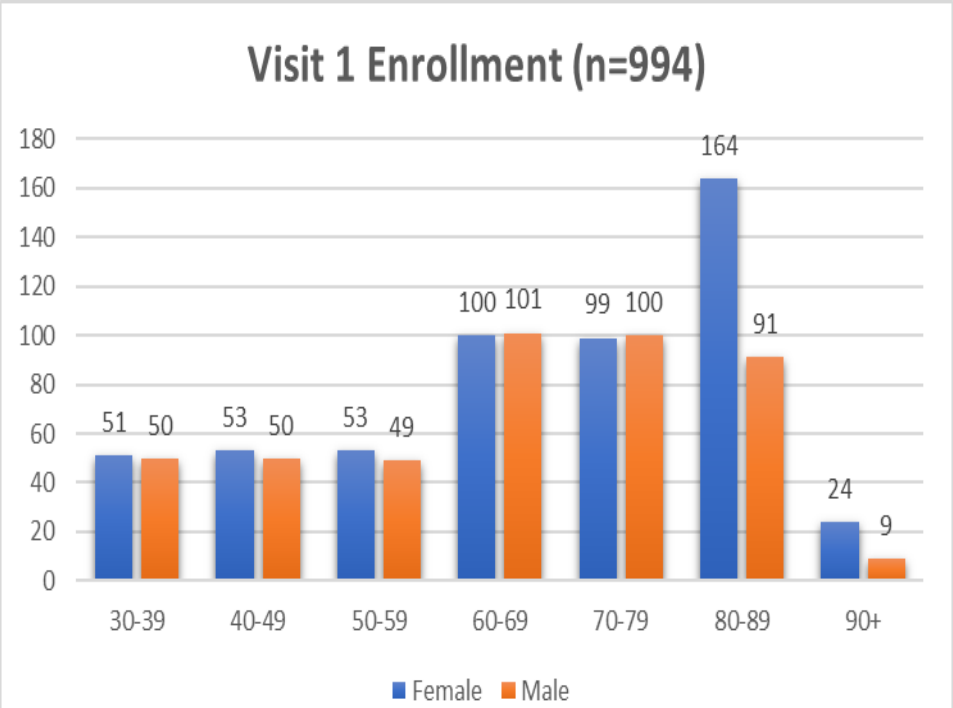
MURDOCK Study Background publications

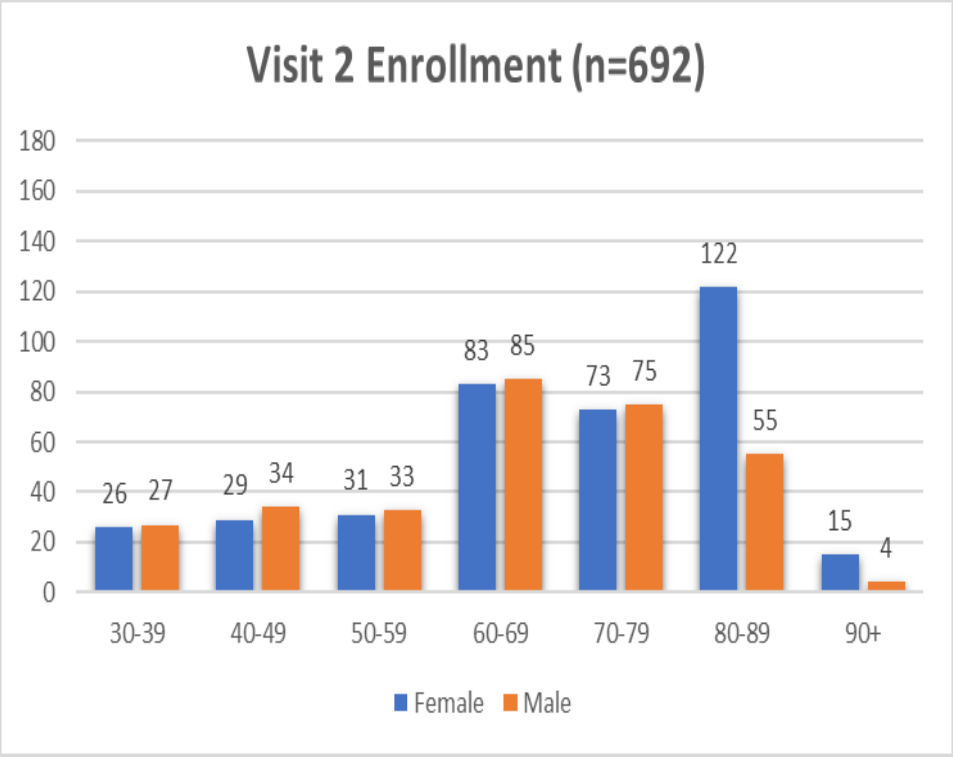
1. Bhattacharya S, Dunham AA, Cornish MA, et al. The Measurement to Understand Reclassification of Disease of Cabarrus/Kannapolis (MURDOCK) Study Community Registry and Biorepository. *Am J Transl Res*. 2012;4(4):458-470. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3493022/
2. Tenenbaum JD, Christian V, Cornish MA, et al. The MURDOCK Study: a long-term initiative for disease reclassification through advanced biomarker discovery and integration with electronic health records. *Am J Transl Res*. 2012;4(3):291–301. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3426390/

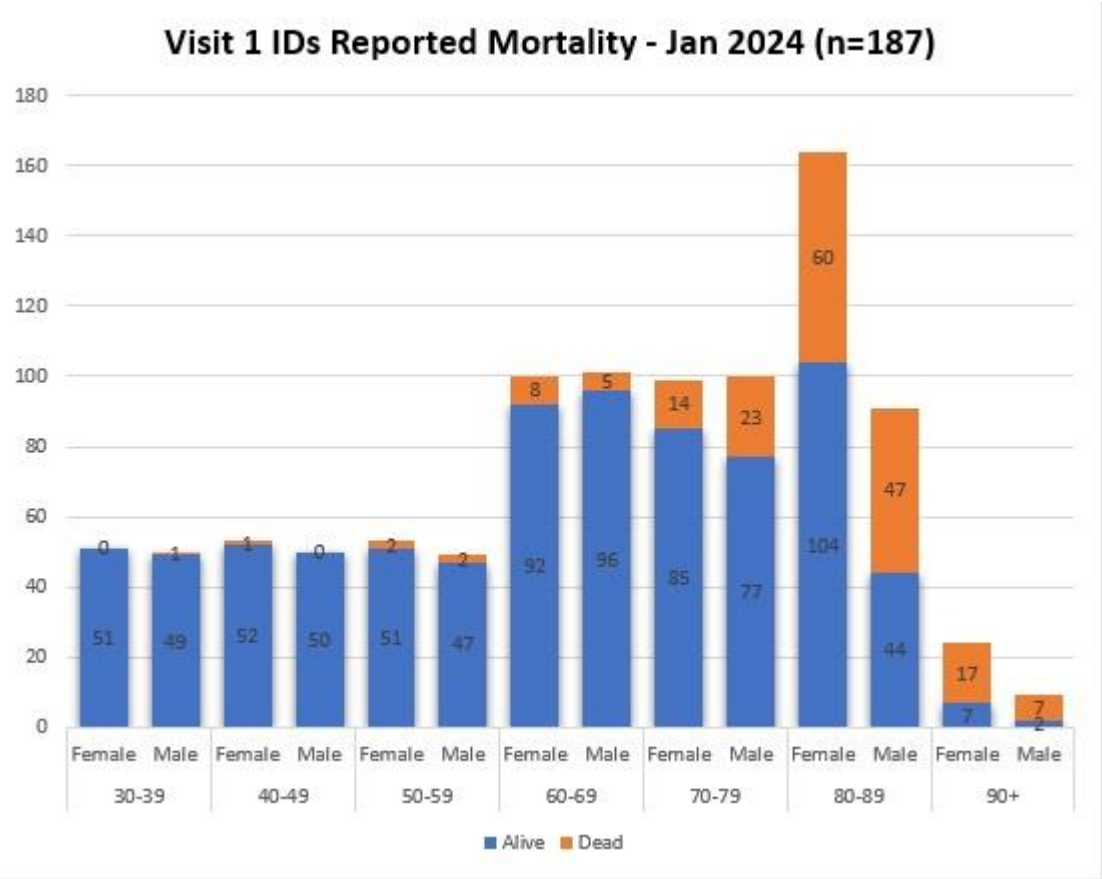
PALS Study Enrollment Timeline

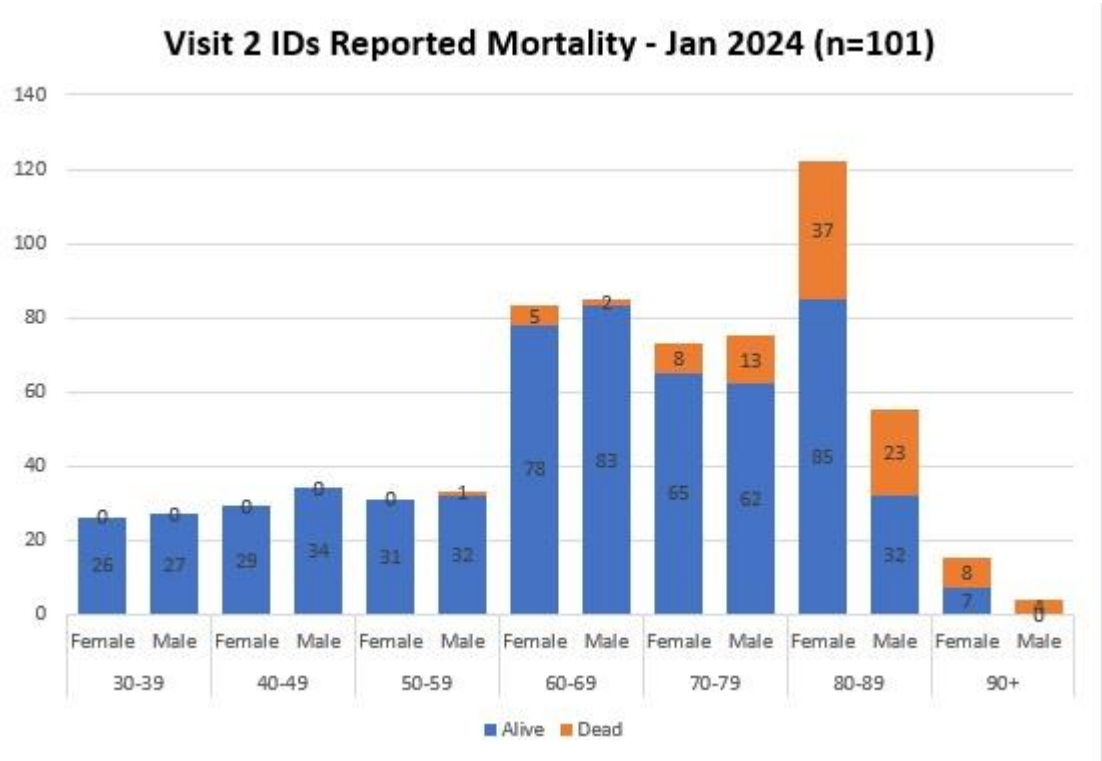



MURDOCK
Annual Follow-up Questionnaire(s)
PALS Visit 2 n=692
2 years later
(range: 617 to 1707 days)
PALS Visit 2 test battery
MoCA (Cognitive Test)
Activity (Self-Report)
Health (Self-Report)
Nutrition (Self-Report)
Veteran status
Hormone Replacement
PTSD
Physical Performance
MURDOCK Follow-up Questionnaire
Diagnoses
Procedures
Lifestyle habits
Tobacco
Alcohol
Medications
Hospitalizations
Views about health
Blood sample


Visit 1 Enrollment (n=994)
180
160
140
120
100
80
60
40
20
0
51 50
53 50
53 49
100 101
99 100
164
91
24
9
30-39
40-49
50-59
60-69
70-79
80-89
90+
Female
Male


Visit 2 Enrollment (n=692)
180
160
140
120
100
80
60
40
20
0
26 27
29 34
31 33
83 85
73 75
122
55
15
4
30-39
40-49
50-59
60-69
70-79
80-89
90+
Female
Male


Visit 1 IDs Reported Mortality - Jan 2024 (n=187)
180
160
140
120
100
80
60
40
20
0
0
1
1
0
2
2
8
5
14
23
60
47
17
7
51
49
52
50
51
47
92
96
85
77
104
44
7
2
Female Male Female Male Female Male Female Male Female Male Female Male Female Male
30-39
40-49
50-59
60-69
70-79
80-89
90+
Alive
Dead


Visit 2 IDs Reported Mortality - Jan 2024 (n=101)
140
120
100
80
60
40
20
0
0
0
0
0
0
1
5
2
8
13
37
23
8
0
26
27
29
34
31
32
78
83
65
62
85
32
7
Female Male Female Male Female Male Female Male Female Male Female Male Female Male
30-39
40-49
50-59
60-69
70-79
80-89
90+
Alive
Dead

PALS CODEBOOK

ADMINISTRATIVE DATA

Reasons for PALS Visit 2 non-participation (closed Sept 2018)

	REASON	n
	Deceased	**24**
	Screening failure	**12**
	Congestive Heart Failure	*7*
	Heart Attack	*4*
	Advice from doctor	*1*
	Withdrawal from Study	**17**
	Health reasons	*4*
	Memory reasons	*1*
	No longer interested	*4*
	No reason given	*8*
	Declined visit	**143**
	Health reasons	*58*
	Caregiver for family member with health issues	*5*
	Moved from area or Transportation issue	*23*
	Scheduling conflict	*3*
	Too busy	*4*
	Lost interest	*10*
	Declined – No reason given	*38*
	Declined – More compensation wanted	*2*
	Lost to Follow-up – Unable to contact for Visit 2 follow-up	**112**
	Active	*102*
	Inactive	*7*
	Uncontactable	*2*
	On hold	*1*
	Total	**308**

MURDOCK Operational Status

Active: Alive, contact information on file, collecting follow up, able to recruit for follow-up studies.
Inactive: Alive, contact information on file, no longer collecting follow up, does not want to be recruited for follow-up studies, all collected data and samples available for analysis.
Uncontactable: No current, valid, phone number, email address, USPS address on file. All collected data and samples available for analysis. If new contact or death information is found during intermittent check, record will be updated and status accordingly.
On hold: Inactive "temporarily", usually for one year, due to participant request, most often due to personal hardship. All collected data and samples available for analysis. Records are reviewed and updated to active status after hold period.
Deceased: No longer alive, follow up censured at date of death, all collected data and samples available for analysis.

PALS CODEBOOK

DEMOGRAPHIC VARIABLES

PALS CODEBOOK

DEMOGRAPHIC DATA

These variables were collected at MURDOCK Study Enrollment.
Current Marital Status is also collected at PALS Enrollment and Visit 2.

VARIABLE	MEASURE	CODE	Participants
	Recruitment	PALS Enrollment @ MURDOCK Study enrollment	583
		PALS Enrollment 1-7 years after MURDOCK Study enrollment	411
Sex	Gender	F = Female	544 (54.73)
		M = Male	450 (45.27)
NIH_ Ethnicity	Ethnicity	H = Hispanic or Latino	42 (4.23)
		NH = Non-Hispanic or Latino	941 (94.86)
		.D = Don't Know/Not sure/Prefer not to answer	7 (0.70)
		Missing	4
NIH_Race1 NIH_Race2 NIH_Race3	Race	A = Asian	6 (0.60)
		AI = American Indian and Alaskan Native	2 (0.20)
		B = Black or African-American	80 (8.05)
		O = Other	23 (2.31)
		PI = Native Hawaiian and Other Pacific Islander	1 (0.10)
		W = Caucasian	864 (86.92)
		.D = Don't Know/Not sure/Prefer not to answer	10 (1.01)
		Multi-Race	
		AI+B	1 (0.10)
		AI+W	4 (0.40)
		O+W	1 (0.10)
		AI+B+W	2 (0.20)
Marital	Marital Status	1 = Married	625 (63.00)
		2 = Separated	20 (2.02)
		3 = Divorced	101 (10.18)
		4 = Never married	48 (4.84)
		5 = Widowed	180 (18.15)
		6 = Domestic Partner	18 (1.81)
		Missing	2

PALS CODEBOOK

EDUCATION

These variables were collected at MURDOCK Study Enrollment ONLY.

VARIABLE	QUESTION	CODE	Participants
edu	What is the **highest level of education** you have achieved?	1 = <High School Graduate 2 = High School Graduate/GED 3 = Some College/Assoc Degree 4 = Bachelor's Degree 5 = Masters or Higher Pro Degree	44 (4.43) 191 (19.22) 324 (32.60) 253 (25.45) 182 (18.31)
edu_mo	What was the **highest level of education your mother** achieved? (or the person you lived with who was like a mother to you)	1 = <High School Graduate 2 = High School Graduate/GED 3 = Some College/Assoc Degree 4 = Bachelor's Degree 5 = Masters or Higher Pro Degree .D = Don't Know	315 (33.40) 337 (35.74) 165 (17.50) 91 (9.65) 35 (3.71) 51
edu_fa	What was the **highest level of education your father** achieved? (or the person you lived with who was like a father to you)	1 = <High School Graduate 2 = High School Graduate/GED 3 = Some College/Assoc Degree 4 = Bachelor's Degree 5 = Masters or Higher Pro Degree .D = Don't Know	362 (39.65) 251 (27.49) 143 (15.66) 84 (9.20) 73 (8.00) 81

PALS CODEBOOK

EMPLOYMENT

These variables were collected at MURDOCK Study Enrollment ONLY.

VARIABLE	QUESTION	CODE	Participants
emp_12mo	During the past twelve months, did you do **any work for pay**?	0 = No 1 = Yes	529 (53.22) 469 (47.78)
emp_curr	What is your **current employment status**?	1 = Working now full-time 2 = Working now part-time 3 = Unemployed/looking for work 4 = Stay at home full-time for parenting, care giving, or other responsibilities 5 = Retired 6 = Temporarily laid off or sick/maternity leave 7 = Permanently disabled 8 = Student 9 = Other Missing	228 (23.34) 89 (9.11) 43 (4.40) 29 (2.97) 528 (54.04) 5 (0.51) 29 (2.97) 9 (0.92) 17 (1.74) 17
emp_laid_off	If you have done work for pay in the past 12 months, how many times have you been **laid off from work**?	0 1 .N = Not applicable Missing	416 (93.06) 31 (6.94) 516 31

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PALS CODEBOOK

HOUSING

These variables were collected at MURDOCK Study Enrollment ONLY.

VARIABLE	QUESTION	CODE	Participants
house_type	**Where do you live**?	1 = A single family home that is detached from other homes	802 (80.85)
		2 = A single family home that is attached to other homes (like a townhouse or duplex)	71 (7.16)
		3 = An apartment	74 (7.46)
		4 = Other	45 (4.54)
		Missing	2
house_ payment	How do you **pay for your housing**?	1 = I make a mortgage payment	404 (40.85)
		2 = I pay rent	158 (15.98)
		3 = I don't have to pay for housing because I own my house outright	366 (37.01)
		4 = I don't have to pay for housing because I live with family or friends	0
		5 = Other	61 (6.17)
		Missing	5
How many people currently live in your household (**including yourself**)?			
hh_lt_18	Children under age 18	0	807 (81.35)
		1	84 (8.47)
		2	62 (6.25)
		3	25 (2.52)
		4	11 (1.11)
		5	2 (0.20)
		8	1 (0.10)
		Missing	2
hh_18_65	Adults aged 18–65	0	454 (45.81)
		1	195 (19.68)
		2	256 (25.83)
		3	62 (6.26)
		4	17 (1.72)
		5	7 (0.71)
		Missing	3
hh_gt_65	Adults over age 65	0	397 (40.10)
		1	279 (28.18)
		2	311 (31.41)
		3	2 (0.20)
		4	1 (0.10)
		Missing	4

PALS CODEBOOK

INCOME AND SELF-ASSESSMENT GROWING UP

These variables were collected at MURDOCK Study Enrollment ONLY.

VARIABLE	QUESTION	CODE	Participants
hh_income	What was your **total household income LAST YEAR**? Please include all sources of income before taxes.	1 = Under $10,000 2 = $10,000–29,999 3 = $30,000–49,999 4 = $50,000–69,999 5 = $70,000–89,999 6 = $90,000 or more .D = Don't know Missing	28 (3.05) 183 (19.93) 192 (20.92) 156 (16.99) 121 (13.18) 238 (25.93) 57 19
how_well_ off	**How well off** would you say your family was when you were growing up to age 12? Would you say they were:	1 = Poor 2 = Below average 3 = About average 4 = Above average 5 = Quite well off Missing	130 (13.10) 196 (19.76) 549 (55.34) 108 (10.89) 9 (0.91) 2

PALS CODEBOOK

MILITARY SERVICE

Military service was not included in MURDOCK Study data collection.

These questions were added at PALS Visit 2.

VARIABLE	QUESTION	CODE	Participants
mil_srvc	Did you ever serve in the military?	0 = No 1 = Yes Missing	536 (78.25) 149 (21.75) 7
combat	Did you serve in a combat zone?	0 = No 1 = Yes Missing	630 (93.33) 45 (6.67) 17
va_care	Do you receive your primary medical care at a VA Medical Center?	0 = No 1 = Yes Missing	642 (95.25) 32 (4.75) 18

PALS CODEBOOK

MEDICAL HISTORY

PALS CODEBOOK

COMORBIDITY INDEX

(figures based on Visit 1 n=994)

MURDOCK Study Enrollment and Follow-up questionnaires query 34 specific conditions.

NOTE: A subset of PALS participants was already enrolled in the general MURDOCK study for a range of 1-7 years prior to PALS Enrollment. In these cases, any Yes response during one of the prior MURDOCK visits counted as a cumulative Yes for that condition.

VARIABLE NAME	MEASURE	CODE	FREQUENCY (%)			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
Do you **have, or have you ever had,** any of the following?						
cad	**CORONARY_ ARTERY_ DISEASE**	0 = NO 1= YES	516 (94.85) 28 (5.15)		370 (82.22) 80 (17.78)	
afib	**ATRIAL_ FIBRILLATION**	0 = NO 1= YES	498 (91.54) 46 (8.46)		394 (87.56) 56 (12.44)	
mi	**HEART_ ATTACK or ANGINA**	0 = NO 1= YES	523 (96.14) 21 (3.86)		392 (87.11) 58 (12.89)	
chf	**CONGESTIVE_ HEART_ FAILURE**	0 = NO 1= YES	532 (97.79) 12 (2.21)		429 (95.33) 21 (4.67)	
pacemaker	**DEFIBRILLATOR or PACEMAKER**	0 = NO 1= YES	532 (97.79) 12 (2.21)		434 (96.44) 16 (3.56)	
breast	**BREAST_ CANCER**	0 = NO 1= YES	495 (90.99) 49 (9.01)		448 (99.56) 2 (0.44)	
colon	**COLON_ CANCER**	0 = NO 1= YES	535 (93.35) 9 (1.65)		445 (98.89) 5 (1.11)	
lung	**LUNG_ CANCER**	0 = NO 1= YES	537 (98.71) 7 (1.29)		448 (99.56) 2 (0.44)	
prostate	**PROSTATE_ CANCER**	0 = NO 1= YES	0 (100.0) 0 (0.0)		408 (90.67) 42 (9.33)	

PALS CODEBOOK

COMORBIDITY INDEX

(figures based on Visit 1 n=994)

VARIABLE NAME	MEASURE	CODE	FREQUENCY (%)			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
Do you **have, or have you ever had,** any of the following?						
cervical	**CERVICAL_ CANCER**	0 = NO 1= YES	532 (97.79) 12 (2.21)		0 (0.0) 450 (100)	
melanoma	**MELANOMA**	0 = NO 1= YES	521 (95.77) 23 (4.23)		409 (90.89) 41 (9.11)	
skin_other	**SKIN_ OTHER**	0 = NO 1= YES	414 (76.10) 130 (23.90)		329 (73.11) 121 (26.89)	
oral	**ORAL**	0 = NO 1= YES	543 (99.82) 1 (0.18)		449 (99.78) 1 (0.22)	
cancer_ other	**CANCER_ OTHER**	0 = NO 1= YES	519 (95.40) 25 (4.60)		427 (94.89) 23 (5.11)	
diabetes	**DIABETES**	0 = NO 1= YES	468 (86.03) 76 (13.97)		368 (81.78) 82 (18.22)	
high_chol	**HIGH_ CHOLOSTEROL**	0 = NO 1= YES	258 (47.43) 286 (52.57)		206 (45.78) 244 (54.22)	
thyroid	**THYROID_ DISEASE**	0 = NO 1= YES	426 (78.31) 118 (21.69)		400 (88.89) 50 (11.11)	
htn	**HIGH_BLOOD_ PRESSURE**	0 = NO 1= YES	295 (54.23) 249 (45.77)		237 (52.67) 213 (47.33)	
obesity	**OBESITY**	0 = NO 1= YES	415 (76.29) 129 (23.71)		354 (78.67) 96 (21.33)	
asthma	**ASTHMA**	0 = NO 1= YES	478 (87.87) 66 (12.13)		387 (86.00) 63 (14.00)	
emphysema	**EMPHYSEMA or COPD**	0 = NO 1= YES	512 (94.12) 32 (5.88)		427 (94.89) 23 (5.11)	
oa	**OSTEO ARTHRITIS**	0 = NO 1= YES	343 (63.05) 201 (36.95)		346 (76.89) 104 (23.11)	

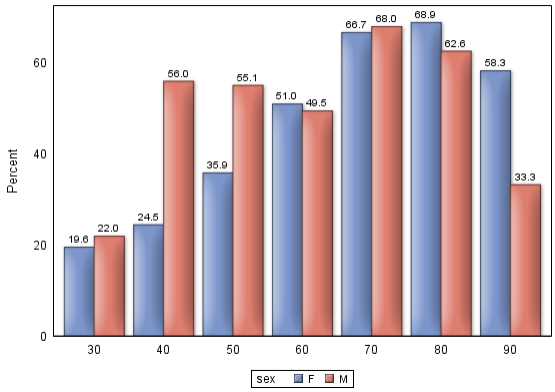
PALS CODEBOOK

COMORBIDITY INDEX

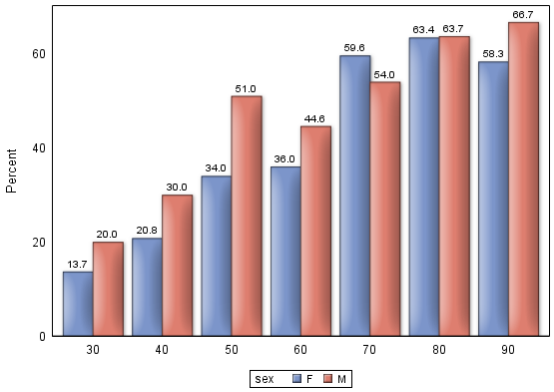
(figures based on Visit 1 n=994)

MEASURE	VARIABLE NAME	CODE	FREQUENCY (%)			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
Do you **have, or have you ever had,** any of the following?						
ra	**RHEUMATOID_ ARTHRITIS**	0 = NO 1= YES	491 (90.26) 53 (9.74)		408(90.67) 42 (9.33)	
autoimmune	**OTHER_ AUTOIMMUNE_ DISEASE**	0 = NO 1= YES	504 (92.65) 40 (7.35)		437 (97.11) 13 (2.89)	
osteo_ other	**OSTEOPOROSIS_ OSTEOPENIA**	0 = NO 1= YES	376 (69.12) 168 (30.88)		431 (95.78) 19 (4.22)	
gout	**GOUT**	0 = NO 1= YES	520 (95.59) 24 (4.41)		395 (87.78) 55 (12.22)	
alz	**ALZHEIMERS_ DISEASE**	0 = NO 1= YES	541 (99.45) 3 (0.55)		449 (99.78) 1 (0.22)	
depression	**DEPRESSION**	0 = NO 1= YES	406 (74.63) 138 (25.37)		379 (84.22) 71 (15.78)	
mental_ other	**OTHER_ MENTAL**	0 = NO 1= YES	526 (96.69) 18 (3.31)		432 (96.00) 18 (4.00)	
stroke	**STROKE**	0 = NO 1= YES	523 (96.14) 21 (3.86)		419 (93.11) 31 (6.89)	
ms	**MULTIPLE_ SCLEROSIS**	0 = NO 1= YES	539 (99.08) 5 (0.92)		447 (99.33) 3 (0.67)	
crohns	**CROHN'S_ DISEASE or ULCERATIVE_ COLITIS**	0 = NO 1= YES	536 (98.53) 8 (1.47)		441 (98.67) 6 (1.33)	
liver	**LIVER_ DISEASE**	0 = NO 1= YES	534 (98.16) 10 (1.84)		444 (98.67) 6 (1.33)	
kidney	**KIDNEY_ DISEASE**	0 = NO 1= YES	520 (95.59) 24 (4.41)		433 (96.22) 17 (3.78)	

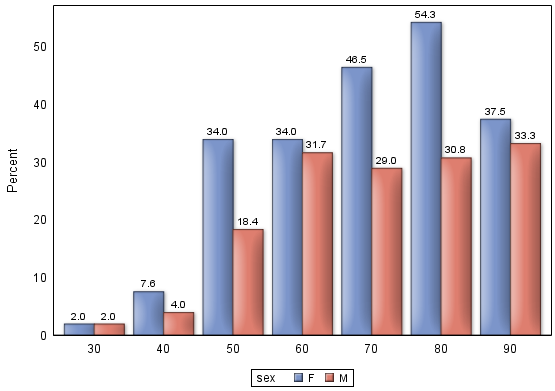
PALS Visit 1 High Cholesterol Percentages Within Sex*Age Group Cohorts



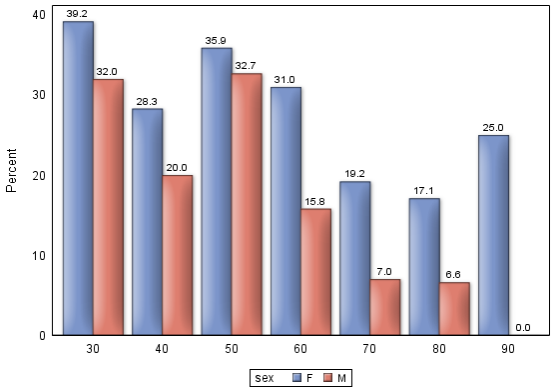
PALS Visit 1 Hypertension Percentages Within Sex*Age Group Cohorts



PALS Visit 1 Osteoarthritis Percentages Within Sex*Age Group Cohorts



PALS Visit 1 Depression Percentages Within Sex*Age Group Cohorts



PALS CODEBOOK

Family Medical History

These variables were collected at MURDOCK Study Enrollment ONLY.

Have your **biological parents or siblings** (brothers or sisters) ever had the following conditions?

VARIABLE NAME	MEASURE	CODE	MURDOCK Enrollment FREQUENCY (%)
Heart disease *(coronary artery disease, heart attack, bypass surgery, or angioplasty/stent)*			
famhx_heart	**FAMHX HEART_DISEASE**	0 = NO 1= YES Don't Know (.D) Missing	731 (76.95) 219 (23.05) 41 3
Cancer			
famhx_cancer	**FAMHX CANCER**	0 = NO 1= YES Don't Know (.D) Missing	429 (44.36) 538 (55.64) 25 2
Mental illness *(depression, bipolar disorder, anxiety, schizophrenia, etc.)*			
famhx_mental	**FAMHX MENTAL ILLNESS**	0 = NO 1= YES Don't Know (.D) Missing	723 (77.58) 209 (22.42) 56 6
Dementia			
famhx_dementia	**FAMHX DEMENTIA**	0 = NO 1= YES Don't Know (.D) Missing	731 (76.95) 219 (23.05) 41 3
Diabetes			
famhx_diabetes	**FAMHX DIABETES**	0 = NO 1= YES Don't Know (.D) Missing	614 (63.76) 349 (36.24) 29 2

PALS CODEBOOK

Hormone Replacement Therapy

A question on Hormone Replacement Therapy was NOT included in MURDOCK Study data collection.

This question was ADDED at PALS Visit 2.

VARIABLE	DATA	CODE	Participants
hrt	Question for women only: Do you take hormone replacement therapy as a treatment for menopause?	0 = No 1 = Yes .D = Don't Know .N = Not Applicable (Male) Missing	351 (94.61) 20 (5.39) 2 313 6

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group			Female Visit 2	
hrt	Hormone Replacement Therapy	0 = No 1 = Yes Missing	**30-39**			25 (100.00) 0 (0.00) 0	
		0 = No 1 = Yes Missing	**40-49**			27 (96.43) 1 (3.57) 1	
		0 = No 1 = Yes Missing	**50-59**			26 (92.86) 2 (7.14) 3	
		0 = No 1 = Yes Don't Know Missing	**60-69**			76 (93.83) 5 (6.17) 1 1	
		0 = No 1 = Yes Don't Know Missing	**70-79**			63 (87.50) 9 (12.50) 1 0	
		0 = No 1 = Yes Missing	**80-89**			119 (97.54) 3 (2.46) 0	
		0 = No 1 = Yes Missing	**90+**			15 (100.00) 0 (0.00) 0	

PALS CODEBOOK

Depression, Anxiety, Post-Traumatic Stress Disorder

A question on Depression, Anxiety, and PTSD was NOT included in MURDOCK Study data collection.

This question was added at PALS Visit 2.

VARIABLE	DATA	CODE	Participants
dep_anx_ ptsd	Has a doctor ever told you you have depression, anxiety or post-traumatic stress disorder (PTSD)?	0 = No 1 = Yes Missing	564 (83.43) 112 (16.57) 16

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group			Female Visit 2	Male Visit 2
dep_ anx_ ptsd	Depression Anxiety PTSD	0 = No 1 = Yes Missing	**30-39**			16 (64.00) 9 (36.00) 1	18 (75.00) 6 (25.00) 3
		0 = No 1 = Yes Missing	**40-49**			19 (65.52) 10 (34.48) 0	26 (81.25) 6 (18.75) 2
		0 = No 1 = Yes Missing	**50-59**			25 (92.59) 2 (7.41) 4	26 (78.79) 7 (21.21) 0
		0 = No 1 = Yes Missing	**60-69**			60 (73.17) 22 (26.83) 1	73 (86.90) 11 (13.10) 1
		0 = No 1 = Yes Missing	**70-79**			58 (81.69) 13 (18.31) 2	66 (89.19) 8 (10.81) 1
		0 = No 1 = Yes Missing	**80-89**			108 (89.26) 13 (10.74) 1	52 (94.55) 3 (5.45) 0
		0 = No 1 = Yes Missing	**90+**			13 (86.67) 2 (13.33) 0	4 (100.00) 0 (0.00) 0

PALS CODEBOOK

Hospitalization Data

Hospitalization data are collected at MURDOCK Study Follow-up visits.
No Hospitalization data were collected at MURDOCK Study Enrollment.

If you **have been hospitalized within the last year**, please list the reason(s) you were hospitalized, the date(s) you were admitted, and the name(s) of the hospital(s).

Reason for Hospitalization	Admission Date (Month/Year)	Hospital Name

Note that Hospitalization data BEGIN at MURDOCK Study enrollment; the data are NOT a lifetime record of hospitalizations per PPT. Also, Date of Hospitalization is recorded in the MURDOCK Study Participant forms by month (not day). The PALS Hospitalization dataset contains 3 variables:

ID	Participant ID
Hosp	Reason for Hospitalization
Months_offset	Difference in months between Hospitalization and PALS Visit 1

The MONTHS_OFFSET var in the Hospitalizations dataset is the difference, in months, between PALS Visit 1 and a Hospitalization on record. The PALS Visit 1 date is cropped *to month only* for this comparison. A PALS Visit 1 date of March 1st equals a date of March 31st for example.

Value	
0	Hospitalization occurred the *same* month of PALS Visit 1
-6	Hospitalization occurred 6 months *before* the month of Visit 1
+6	Hospitalization occurred 6 months *after* the month of Visit 1

PALS PPTs who had already enrolled in the MURDOCK Study may have Hospitalization data prior to PALS Visit 1: for example, one PPT recorded a Hospitalization event 82 months prior to PALS enrollment.

PALS PPTs who enrolled in the MURDOCK Study *at about the same time* as PALS enrollment will NOT have a record of Hospital visits prior to enrollment. It's possible such a person was in the hospital; the setup of the MURDOCK Study Hospitalization form is such that it does NOT query long-term historical data. As of Spring 2019, there were 741 hospitalization events for 382 PPTs.

Most common Reasons for Hospitalization (rev 4/13/2022):

Reason	**# of entries**	**# of unique IDs**
Cardiovascular	196	149
Joint replacement	101	76
Pneumonia	42	21
Kidney	23	19
Hernia	23	19
Fall	35	29
Prostate	18	16
Back Surgery	14	12
Hysterectomy	10	10
Cataract	6	4

PALS CODEBOOK

Procedure Data

Procedure data are collected at MURDOCK Study Follow-up visits.
No Procedure data were collected at MURDOCK Study Enrollment.

Procedures

Please indicate if you have had of any of the following medical procedures in the past year.

15. Heart/cardiac catheterization
- ❑ Yes
- ❑ No

16. Heart/cardiac angioplasty or stent
- ❑ Yes
- ❑ No

17. Coronary artery bypass surgery
- ❑ Yes
- ❑ No

18. Heart/cardiac stress test
- ❑ Yes
- ❑ No

19. Joint replacement
- ❑ Yes → Which joint? _____
- ❑ No

20. Chest x-ray
- ❑ Yes
- ❑ No

21. Joint x-ray
- ❑ Yes → Which joint? _____
- ❑ No

22. CT or MRI scan
- ❑ Yes → Which part of the body was scanned? _____
- ❑ No

Note that the form does NOT include dates, PPTs record only if a procedure occurred DURING THE PAST YEAR. The variable PALS_V1_PROCEDURE_REPORT indicates the difference in DAYS between the Procedure Report Form Date and the PALS Visit 1 date. A positive value indicates the Procedure Report Form preceded PALS Visit 1; a negative value indicates the Procedure Report Form occurred after PALS Visit 1. PALS PPTs who had already enrolled in Murdock may have Procedure data prior to PALS Visit 1: for example, one PPT recorded a Procedure event 82 months prior to PALS enrollment.

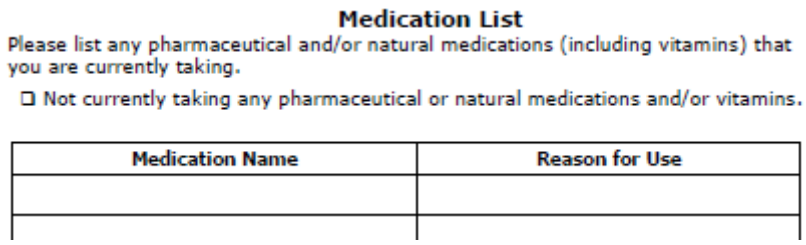
NOTE re: CT or MRI scan: A few records exist which indicate a scan was performed in the last year, but do not indicate what was scanned. PALS PPTs who enrolled in the MURDOCK Study *at about the same time* as PALS enrollment will NOT have a record of Procedures prior to enrollment.

Procedure (rev 6/24/2024)	**# of entries**	**# of unique IDs**
Heart/cardiac catheterization	163	105
Heart/cardiac angioplasty or stent	108	70
Coronary artery bypass surgery	36	29
Heart/cardiac stress test	646	324
Joint replacement	333	158
Hip=47 Knee=83 Shoulder=17 Spine=4 Misc=Teeth, Finger, Thumb, Elbow Null=10		
Chest x-ray	1571	569
Joint x-ray	1643	581
CT or MRI scan	2001	681

PALS CODEBOOK

Medication Data

Medication data are collected at MURDOCK Study Enrollment and Follow-up visits.



Medication List

Please list any pharmaceutical and/or natural medications (including vitamins) that you are currently taking.

❑ Not currently taking any pharmaceutical or natural medications and/or vitamins.

Medication Name	Reason for Use

Only *current* medication use is listed. The PALS Medication dataset contains 3 variables:

ID	Participant ID
Med	Medication name
Med_reason	Reason for use

At times, the Medication name field will include dosage and/or frequency; these instances are relatively infrequent in the data. Typos exist in the Medication name and Reason fields also.

PALS CODEBOOK

Blood Pressure, Heart Rate, Waist Circumference

These variables were collected at MURDOCK Study Enrollment ONLY.

Blood pressure (Systolic/Diastolic), Heart Rate (bpm) and Waist Circumference were measured at MURDOCK enrollment only. Days offset is the difference between the data collection date and PALS Visit 1 date. NOTE the range of variability among Participants between dates of MURDOCK Enrollment and PALS Visit 1.

11 PPTs did not have Collection dates. In those cases, Days offset is missing.

VARIABLE NAME	MEASURE	Stats	Collection Date to PALS Visit 1	
pals_v1_ offset_col	Collection date to PALS Visit 1 date	n Range Mean SD Median Missing	983 (98.9) -9 – 2630 638.5 813.3 20.0 11	

PALS CODEBOOK

Blood Pressure-Systolic

This variable was collected at MURDOCK Study Enrollment ONLY.

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female MURDOCK Enrollment		Male MURDOCK Enrollment	
bp_sys	Blood Pressure-Systolic	n Range Mean SD Missing	**30-39**	51 72-147 112.7 12.5 0		50 102-163 122.8 12.4 0	
		n Range Mean SD Missing	**40-49**	53 87-156 116.6 15.0 0		49 92-161 129.0 11.7 1	
		n Range Mean SD Missing	**50-59**	53 94-159 122.3 16.3 0		49 104-189 130.8 17.5 0	
		n Range Mean SD Missing	**60-69**	100 89-180 126.1 18.0 0		101 95-186 133.3 16.8 0	
		n Range Mean SD Missing	**70-79**	99 94-207 134.3 19.7 0		99 96-175 135.3 16.4 1	
		n Range Mean SD Missing	**80-89**	164 91-203 139.6 20.2 0		91 89-171 133.8 18.3 0	
		n Range Mean SD Missing	**90+**	24 117-188 144.0 16.9 0		9 89-167 139.2 22.7 0	

PALS CODEBOOK

Blood Pressure-Diastolic

This variable was collected at MURDOCK Study Enrollment ONLY.

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female MURDOCK Enrollment		Male MURDOCK Enrollment	
bp_dias	Blood Pressure-Diastolic	n Range Mean SD Missing	**30-39**	51 50-118 73.7 12.1 0		50 57-99 77.4 9.9 0	
		n Range Mean SD Missing	**40-49**	53 50-102 76.1 11.7 0		49 60-102 80.7 9.1 1	
		n Range Mean SD Missing	**50-59**	53 55-105 77.7 10.9 0		49 56-111 80.5 11.4 0	
		n Range Mean SD Missing	**60-69**	100 52-116 74.9 10.9 0		101 56-106 78.6 10.3 0	
		n Range Mean SD Missing	**70-79**	99 48-114 73.6 11.5 0		99 51-104 74.4 12.1 1	
		n Range Mean SD Missing	**80-89**	164 47-107 72.5 10.3 0		91 40-105 69.9 11.7 0	
		n Range Mean SD Missing	**90+**	24 55-87 68.5 8.8 0		9 51-81 66.4 10.4 0	

PALS CODEBOOK

Resting Heart Rate (bpm)

This variable was collected at MURDOCK Study Enrollment ONLY.

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female MURDOCK Enrollment		Male MURDOCK Enrollment	
hr	Heart Rate	n Range Mean SD Missing	**30-39**	51 56-109 75.2 11.5 0		50 43-108 66.7 12.8 0	
		n Range Mean SD Missing	**40-49**	52 53-95 73.4 10.2 1		49 50-102 71.0 12.5 1	
		n Range Mean SD Missing	**50-59**	53 58-100 71.6 9.0 0		49 40-102 71.9 13.7 0	
		n Range Mean SD Missing	**60-69**	100 45-99 71.0 10.9 0		101 41-95 65.9 9.4 0	
		n Range Mean SD Missing	**70-79**	99 50-103 69.4 9.5 0		99 45-149 66.7 13.0 1	
		n Range Mean SD Missing	**80-89**	164 47-100 69.0 10.1 0		90 42-123 64.7 13.1 0	
		n Range Mean SD Missing	**90+**	24 50-91 70.6 10.1 0		9 51-93 66.4 11.4 0	

PALS CODEBOOK

Waist Circumference

This variable was collected at MURDOCK Study Enrollment ONLY.

NOTES

- At Enrollment, low values include 35, 36.8, 37.5 and 48 (Perhaps inches were recorded.)
- **These outliers are likely incorrect and should be considered in data analysis and addressed in manuscript preparation.**

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female MURDOCK Enrollment		Male MURDOCK Enrollment	
waist_circ	Waist Circumference (cm)	n Range Mean SD Missing	**30-39**	51 64.0-140.0 88.6 16.4 0		50 71.0-133.2 95.8 13.0 0	
		n Range Mean SD Missing	**40-49**	53 60.4-128.1 89.9 16.5 0		49 82.5-133.3 99.3 12.6 1	
		n Range Mean SD Missing	**50-59**	53 35.0-124.0 89.6 15.7 0		49 37.5-137.5 103.2 17.0 0	
		n Range Mean SD Missing	**60-69**	100 62.2-118.5 91.3 13.3 0		101 36.8-138.1 103.0 14.7 0	
		n Range Mean SD Missing	**70-79**	99 61.8-119.5 90.2 12.5 0		100 75.6-144.0 105.1 14.1 0	
		n Range Mean SD Missing	**80-89**	163 48.0-121.5 90.5 12.5 1		90 80.2-166.2 103.2 11.6 1	
		n Range Mean SD Missing	**90+**	24 69.1-103.2 84.5 10.0 0		9 86.0-106.9 95.6 7.1 0	

PALS CODEBOOK

PHYSICAL PERFORMANCE MEASURES

Physical Performance Measures

- 4-meter Walk
  - Normal walking pace
  - Rapid walking pace
- Single Leg Stance
  - Left leg
  - Right leg
  - Composite score
- Chair stands in 30 seconds
- 6-minute walk

NOTE: The Physical Activities Scripts for each performance test are located in the Appendix of the PALS Codebook.

PALS CODEBOOK

4-meter Walk: Normal walking pace

(Visit 1 n = 994, Visit 2 n = 692)

The 4-meter walk measures usual and maximal gait speed. Participants started 2-feet away from the start line and were prompted to walk at their usual pace for the calculation of normal walking speed and "as fast as you can" for the measure of rapid walking pace. Two trials were recorded and the fastest of the two trials served as the final measure for each outcome (normal and rapid).

Usual gait speed is a good indicator of functional status and is predictive of institutionalization and mortality. Gait speed is a calculated variable of the time to walk a specific distance (i.e. 4 meters). Gait speed is most often described in meters/sec.

Guralnik JM, Simonsick EM, Ferrucci L, Glynn RJ, Berkman LF, Blazer DG, Scherr PA, and Wallace RB. A short physical performance battery assessing lower extremity function: association with self-reported disability and prediction of mortality and nursing home admission. *J Gerontol*. 49:M85-M94, 1994. http://dx.doi.org/10.1093/geronj/49.2.M85

Purser JL, Weinberger M, Cohen HJ, et al. Walking speed predicts health status and hospital costs for frail elderly male veterans. *J Rehab Res Dev.* 2005;42(4):535-546.

Perera S, Mody S, Woodman R, Studenski SA. Meaningful change and responsiveness in common physical performance measures in older adults. *J Am Geriatr Soc.* 2006;54(5):743-749. 10.1111/j.1532-5415.2006.00701.x

Middleton A, Fritz SL, Lusardi M. Walking speed: The functional vital sign. *J Aging Phys Act.* 2015;23(2):314-322. 10.1123/japa.2013-0236

Hall KS, Cohen HJ, Pieper CF, et al. Physical Performance Across the Adult Life Span: Correlates With Age and Physical Activity. *J Gerontol A Biol Sci Med Sci*. 2017 Apr 1;72(4):572-578. 10.1093/gerona/glw120

VAR NAME	MEASURE	Stats	Visit 1	Visit 2
normal_pace	4-meter Walk: Normal Walking Pace (m/sec)	n Range Mean SD Missing/Unable	994 (100.0) 0.27 – 2.80 1.21 0.30 0	692 (100.0) 0.34 – 2.34 1.19 0.30 0

VAR NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
normal_pace	4-meter Walk-Normal Walking Pace (m/sec)	n Range Mean SD Missing/Unable	544 (100.0) 0.27 – 2.25 1.16 0.29 0	379 (100.0) 0.34 – 2.34 1.15 0.32 0	450 (100.0) 0.33 – 2.80 1.27 0.30 0	313 (100.0) 0.46 – 1.94 1.25 0.27 0
ppcd_assis_devices	Asst. Devices Used	1 = cane 2 = walker 3 = quad 4 = other	15 1 15 1	14 1 18 2	7 1 6 1	5 1 0 2

PALS CODEBOOK

4-meter Walk: Normal walking pace

(Visit 1 n = 994, Visit 2 n = 692)

VAR NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
normal_pace	4-meter Walk: Normal Walking Pace (m/sec)	n Range Mean SD Missing/Unable	**30-39**	51 0.87-2.17 1.36 0.27 0	26 0.95-1.87 1.34 0.24 0	50 0.91-2.27 1.43 0.28 0	27 0.95-1.94 1.38 0.26 0
		n Range Mean SD Missing/Unable	**40-49**	53 0.71-2.14 1.35 0.24 0	29 1.03-2.09 1.50 0.24 0	50 0.92-2.06 1.39 0.21 0	34 0.73-1.75 1.36 0.21 0
		n Range Mean SD Missing/Unable	**50-59**	53 0.90-1.98 1.35 0.26 0	31 0.86-2.20 1.44 0.32 0	49 0.79-2.20 1.43 0.28 0	33 0.46-1.71 1.35 0.26 0
		n Range Mean SD Missing/Unable	**60-69**	100 0.62-2.25 1.27 0.26 0	83 0.76-2.34 1.25 0.28 0	101 0.81-2.21 1.34 0.25 0	85 0.64-1.91 1.30 0.25 0
		n Range Mean SD Missing/Unable	**70-79**	99 0.41-1.51 1.12 0.19 0	73 0.67-1.62 1.11 0.20 0	100 0.80-2.80 1.24 0.27 0	75 0.75-1.94 1.22 0.26 0
		n Range Mean SD Missing/Unable	**80-89**	164 0.32-1.50 0.98 0.22 0	122 0.34-1.65 0.97 0.26 0	91 0.44-1.97 1.05 0.27 0	55 0.54-1.49 1.01 0.23 0
		n Range Mean SD Missing/Unable	**90+**	24 0.27-1.85 0.90 0.34 0	15 0.42-1.21 0.80 0.24 0	9 0.33-1.46 0.86 0.34 0	4 0.64-1.53 0.98 0.38 0

PALS CODEBOOK

4-meter Walk: Rapid walking pace

(Visit 1 n = 994, Visit 2 n = 692)

The 4-meter walk measures usual and maximal gait speed. Participants started 2-feet away from the start line and were prompted to walk at their usual pace for the calculation of normal walking speed and "as fast as you can" for the measure of rapid walking pace. Two trials were recorded and the fastest of the two trials served as the final measure for each outcome (normal and rapid). Gait speed is most often described in meters/sec.

Guralnik, J. M., E. M. Simonsick, L. Ferrucci, R. J. Glynn, L. F. Berkman, D. G. Blazer, P. A. Scherr, and R. B. Wallace. A short physical performance battery assessing lower extremity function: association with self-reported disability and prediction of mortality and nursing home admission. *J Gerontol*. 49:M85-M94, 1994. http://dx.doi.org/10.1093/geronj/49.2.M85

NIH Toolbox: 4-Meter Walk Gait Speed Test (2012) http://www.healthmeasures.net/images/nihtoolbox/Technical_Manuals/Motor/Toolbox_4-Meter_Walk_Gait_Speed_Test_Technical_Manual.pdf

VAR NAME	MEASURE	Stats	Visit 1	Visit 2
rapid_pace	4-meter Walk: Rapid Walking Pace (m/sec)	n Range Mean SD Missing	994 (100.0) 0.42 – 3.92 1.78 0.49 0	692 (100.0) 0.51 – 3.13 1.73 0.50 0

VAR NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
rapid_pace	4-meter Walk: Rapid Walking Pace (m/sec)	n Range Mean SD Missing	544 (100.0) 0.42 – 2.96 1.66 0.44 0	379 (100.0) 0.51 – 3.05 1.61 0.48 0	450 (100.0) 0.45 – 3.92 1.91 0.51 0	313 (100.0) 0.51 – 3.13 1.87 0.48 0
ppcd_assis_devices	Asst. Devices Used	1 = cane 2 = walker 3 = quad 4 = other	15 1 15 1	14 1 18 2	7 1 6 1	5 1 0 2

PALS CODEBOOK

4-meter Walk: Rapid walking pace

(Visit 1 n = 994, Visit 2 n = 692)

VAR NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
rapid_pace	4-meter Walk: Rapid Walking Pace (m/sec)	n	**30-39**	51	26	50	27
		Range		1.42-2.92	1.28-2.78	1.31-3.92	1.26-2.99
		Mean		2.01	2.03	2.21	2.12
		SD		0.36	0.39	0.46	0.45
		Missing		0	0	0	0
		n	**40-49**	53	29	50	34
		Range		1.24-2.78	1.49-3.05	1.20-3.20	0.96-3.13
		Mean		2.01	2.18	2.09	2.13
		SD		0.32	0.36	0.44	0.45
		Missing		0	0	0	0
		n	**50-59**	53	31	49	33
		Range		1.31-2.96	1.11-2.92	1.20-3.74	0.51-2.92
		Mean		1.94	2.06	2.20	2.12
		SD		0.39	0.40	0.48	0.42
		Missing		0	0	0	0
		n	**60-69**	100	83	101	85
		Range		0.62-2.78	0.93-2.86	1.14-3.13	0.87-3.03
		Mean		1.81	1.78	2.04	1.98
		SD		0.38	0.38	0.41	0.41
		Missing		0	0	0	0
		n	**70-79**	99	73	100	75
		Range		0.56-2.42	0.85-2.27	0.91-3.42	1.03-2.67
		Mean		1.63	1.54	1.82	1.73
		SD		0.33	0.30	0.44	0.39
		Missing		0	0	0	0
		n	**80-89**	164	122	91	55
		Range		0.42-2.86	0.56-2.00	0.45-2.61	0.77-2.42
		Mean		1.36	1.28	1.50	1.47
		SD		0.34	0.34	0.43	0.39
		Missing		0	0	0	0
		n	**90+**	24	15	9	4
		Range		0.45-1.81	0.51-1.54	0.47-3.15	0.99-3.05
		Mean		1.17	1.05	1.47	1.60
		SD		0.39	0.30	0.80	0.97
		Missing		0	0	0	0

PALS CODEBOOK
Single Leg Stance

(Visit 1 n = 994, Visit 2 n = 692)

Balance was assessed using the timed single leg stance test, which measures the time participants are able to stand unassisted on one leg with eyes open. Participants were asked to stand with arms across chests and lift the right or left leg for a maximum of 60 seconds. The test was repeated up to 3 times for each leg or until successful completion. A maximum of 3 trials was recorded. For the baseline PALS performance paper (Hall et al) the best score for each leg was averaged and reported as a mean based on the protocol described by Yoshimura.

NOTE: When data are missing, the text variable leg_stance_note includes interviewer notes for the assessment.

Yoshimura N, Oka H, Muraki S, et al. Reference values for hand grip strength, muscle mass, walking time, and one-leg standing time as indices for locomotive syndrome and associated disability: the second survey of the ROAD study. J Orthop Sci. 2011;16:768–777. 10.1007/s00776-011-0160-1

VARIABLE NAME	MEASURE	Stats	Visit 1	Visit 2
ppcd_ best_ left_rt_ time	Single Leg Stance-Composite Left/Right Best (sec)	n Range Mean SD Missing	973 (97.89) 0 -60.00 32.87 23.65 21	661 (95.52) 0.67-60.00 30.75 23.49 0

VARIABLE NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
ppcd_ best_ left_rt_ time	Single Leg Stance-Composite Left/Right Best (sec)	n Range Mean SD Missing	531 (97.61) 0 – 60.00 30.79 23.72 13	357 (94.20) 0.67 – 60.00 28.78 23.56 22	442 (98.22) 0 – 60.00 35.37 23.35 8	304 (97.12) 0.82 – 60.00 33.06 23.22 9
ppcd_ best_ rt_leg_ time	Single Leg Stance-Right Leg Best (sec)	n Range Mean SD Missing	533 (97.97) 0 – 60.00 31.54 24.65 11	363 (95.78) 0.09 – 60.00 29.32 24.74 16	445 (98.88) 0 – 60.00 36.36 24.31 5	308 (98.40) 0.50 – 60.00 33.09 24.73 5
ppcd_ best_ left_leg_ time	Single Leg Stance-Left Leg Best (sec)	n Range Mean SD Missing	534 (98.16) 0 – 60.00 29.80 24.52 10	361 (95.25) 0.61 – 60.00 27.55 24.27 18	443 (98.88) 0 – 60.00 34.10 24.61 7	306 (97.76) 1.14 – 60.00 32.44 24.30 7

PALS CODEBOOK

Single Leg Stance: Composite Left/Right Leg Best

(Visit 1 n = 994, Visit 2 n = 692)

VAR NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
ppcd_best_left_rt_time	Single Leg Stance-Composite Left/Right Best (sec)	n	**30-39**	51	26	50	27
		Range		9.88-60.00	4.74-60.00	18.48-60.00	18.35-60.00
		Mean		56.49	54.62	58.73	57.90
		SD		10.06	14.26	6.20	8.41
		Missing		0	0	0	0
		n	**40-49**	53	29	50	34
		Range		4.43-60.00	18.25-60.00	3.06-60.00	12.12-60.00
		Mean		54.75	58.12	55.74	53.41
		SD		13.81	7.83	13.63	14.84
		Missing		0	0	0	0
		n	**50-59**	52	31	49	33
		Range		2.50-60.00	0.67-60.00	3.49-60.00	2.82-60.00
		Mean		47.36	49.00	42.08	41.38
		SD		18.27	15.18	20.53	21.01
		Missing		1	0	0	0
		n	**60-69**	100	82	100	84
		Range		0.00-60.00	1.21-60.00	3.04-60.00	2.33-60.00
		Mean		37.65	36.79	40.35	38.40
		SD		20.88	22.14	20.14	20.84
		Missing		0	1	1	1
		n	**70-79**	99	72	100	74
		Range		0.00-60.00	0.94-60.00	0.00-60.00	1.95-60.00
		Mean		25.92	22.25	27.24	21.96
		SD		20.09	18.37	19.82	18.07
		Missing		0	1	0	1
		n	**80-89**	156	109	86	49
		Range		0.00-57.70	0.83-53.22	0.00-60.00	0.82-48.48
		Mean		10.98	9.16	12.39	9.03
		SD		11.60	9.65	14.68	10.12
		Missing		8	13	5	6
		n	**90+**	20	8	7	3
		Range		0.00-21.12	1.10-13.28	1.58-7.50	1.46-8.74
		Mean		2.93	4.29	3.49	4.15
		SD		4.53	3.95	2.06	3.99
		Missing		4	7	2	1

PALS CODEBOOK

Single Leg Stance: Right Leg Best

(Visit 1 n = 994, Visit 2 n = 692)

VAR NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
ppcd_best_rt_leg_time	Single Leg-Stance-Right Leg Best (sec)	n	**30-39**	51	26	50	27
		Range		10.33-60.00	2.93-60.00	26.58-60.00	17.89-60.00
		Mean		57.04	55.00	59.01	57.33
		SD		9.80	13.56	5.02	9.75
		Missing		0	0	0	0
		n	**40-49**	53	29	50	34
		Range		5.44-60.00	3.97-60.00	1.86-60.00	3.99-60.00
		Mean		55.19	57.62	55.64	52.05
		SD		13.80	10.59	13.85	17.71
		Missing		0	0	0	0
		n	**50-59**	53	31	49	33
		Range		3.00-60.00	0.09-60.00	2.98-60.00	3.00-60.00
		Mean		47.19	52.93	45.60	40.86
		SD		19.37	14.43	20.71	23.51
		Missing		0	0	0	0
		n	**60-69**	100	82	101	85
		Range		0.00-60.00	1.35-60.00	1.99-60.00	2.49-60.00
		Mean		38.55	38.15	41.50	39.90
		SD		22.44	23.57	22.55	22.97
		Missing		0	1	0	0
		n	**70-79**	99	73	100	74
		Range		0.00-60.00	0.59-60.00	0.00-60.00	1.32-60.00
		Mean		27.25	23.13	28.71	23.15
		SD		22.17	20.65	21.77	20.55
		Missing		0	0	0	1
		n	**80-89**	157	111	88	52
		Range		0.00-60.00	0.80-60.00	0.00-60.00	0.50-60.00
		Mean		11.93	9.39	12.69	7.82
		SD		14.17	11.10	15.15	9.98
		Missing		7	11	3	3
		n	**90+**	20	11	7	3
		Range		0.00-14.86	1.11-11.25	1.35-11.00	1.61-9.75
		Mean		2.63	3.64	4.66	4.63
		SD		3.34	3.29	3.55	4.46
		Missing		4	4	2	1

PALS CODEBOOK

Single Leg Stance: Left Leg Best

(Visit 1 n = 994, Visit 2 n = 692)

VAR NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
ppcd_best_left_leg_time	Single Leg-Stance-Left Leg Best (sec)	N	**30-39**	51	26	50	27
		Range		9.42-60.00	4.48-60.00	10.37-60.00	18.80-60.00
		Mean		55.94	54.24	58.45	58.47
		SD		12.02	15.49	7.99	7.93
		Missing		0	0	0	0
		N	**40-49**	53	29	50	34
		Range		3.41-60.00	32.53-60.00	1.90-60.00	7.11-60.00
		Mean		54.30	58.62	55.84	54.78
		SD		14.29	5.45	13.90	13.73
		Missing		0	0	0	0
		N	**50-59**	52	31	49	33
		Range		2.00-60.00	1.24-60.00	2.50-60.00	2.50-60.00
		Mean		46.81	45.06	38.55	41.90
		SD		19.68	20.87	24.42	22.03
		Missing		1	0	0	0
		N	**60-69**	100	83	101	84
		Range		0.00-60.00	1.06-60.00	3.08-60.00	2.05-60.00
		Mean		36.75	35.04	38.84	36.47
		SD		22.78	23.28	21.36	22.12
		Missing		0	0	1	1
		N	**70-79**	99	72	100	74
		Range		0.00-60.00	1.25-60.00	0.00-60.00	1.72-60.00
		Mean		24.59	21.06	25.76	20.76
		SD		21.19	19.41	21.42	19.32
		Missing		0	1	0	1
		N	**80-89**	158	112	87	50
		Range		0.00-56.84	0.80-60.00	0.00-60.00	0.00-60.00
		Mean		9.89	8.77	11.80	9.83
		SD		11.42	10.88	16.06	14.42
		Missing		6	10	4	5
		N	**90+**	21	8	9	4
		Range		0.00-27.37	0.61-15.31	1.04-4.00	1.30-7.72
		Mean		3.66	4.12	2.32	3.20
		SD		6.05	4.75	1.05	3.03
		Missing		3	7	2	0

PALS CODEBOOK
Chair Stands in 30 seconds

(Visit 1 n = 994, Visit 2 n = 692)

The chair-stand measures lower extremity strength. Participants were asked to sit in the middle of the chair with their feet flat on the floor about shoulders width apart; arms crossed over their chest. The score is the number of completed stands in 30 seconds; a participant receives credit for a stand in-progress more than halfway up when time is called. Participants who attempted but were unable to perform the task received a score of 0. A standard folding chair (17 inches) was used for this task.

NOTE: When data are missing, the text variable chair_stands_note includes interviewer notes for the assessment.

Rikli RE, Jones CJ. Development and validation of criterion-referenced clinically relevant fitness standards for maintaining physical independence in later years. *Gerontologist.* 2013;53(2):255-267. 10.1093/geront/gns071

Rikli RE, Jones CJ. Functional fitness normative scores for community-residing older adults, ages 60-94. *J Aging Phys Act.* 1999;7:162-181. https://journals.humankinetics.com/doi/10.1123/japa.7.2.162

Hall KS, Cohen HJ, Pieper CF, et al. Physical Performance Across the Adult Life Span: Correlates With Age and Physical Activity. *J Gerontol A Biol Sci Med Sci*. 2017 Apr 1;72(4):572-578. 10.1093/gerona/glw120

VARIABLE NAME	MEASURE	Stats	Visit 1	Visit 2
ppcd_num_stands_30sec	Chair Stands in 30 seconds	n Range Mean SD Missing	986 (99.20) 0 - 38 14.45 6.07 8	681 (98.41) 0 - 39 14.33 6.28 11

VARIABLE NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
ppcd_num_stands_30sec	Chair Stands in 30 seconds	n Range Mean SD Missing	538 (98.90) 0 – 36 13.56 6.29 6	369 (97.36) 0 – 35 13.12 6.23 10	448 (99.56) 0 – 38 15.51 5.61 2	312 (99.68) 0 – 39 15.76 6.03 1

PALS CODEBOOK

Chair Stands in 30 seconds

(Visit 1 n = 994, Visit 2 n = 692)

VAR NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
ppcd_num_stands_30sec	Chair Stands in 30 secs	n	**30-39**	51	26	50	27
		Range		8-36	11-35	10-34	12-33
		Mean		19.69	20.27	18.50	20.30
		SD		5.75	6.65	5.41	5.16
		Missing		0	0	0	0
		n	**40-49**	53	29	50	34
		Range		7-30	10-25	5-38	8-39
		Mean		18.77	18.14	19.82	20.56
		SD		5.25	4.47	6.04	6.60
		Missing		0	0	0	0
		n	**50-59**	53	31	49	33
		Range		8-28	9-31	8-30	9-29
		Mean		16.83	16.29	17.20	18.00
		SD		4.74	4.91	4.20	4.85
		Missing		0	0	0	1
		n	**60-69**	97	83	101	85
		Range		0-26	0-30	9-29	4-28
		Mean		15.23	14.93	16.19	16.34
		SD		4.57	4.93	4.41	5.07
		Missing		3	0	0	0
		n	**70-79**	99	72	100	75
		Range		0-24	0-26	0-30	0-26
		Mean		13.27	12.64	14.85	14.35
		SD		4.70	5.04	4.93	4.86
		Missing		0	1	0	0
		n	**80-89**	162	116	91	55
		Range		0-22	0-21	0-21	0-22
		Mean		8.93	8.99	11.13	10.73
		SD		4.78	4.95	4.39	4.79
		Missing		2	6	0	0
		n	**90+**	23	12	7	3
		Range		0-17	0-15	0-14	0-9
		Mean		7.17	7.67	8.29	7.33
		SD		5.10	5.14	5.79	2.08
		Missing		1	3	2	1

PALS CODEBOOK

6-minute Walk

(Visit 1 n = 994, Visit 2 n = 692)

The 6-minute walk test assesses walking distance as a measure of aerobic endurance and capacity. The test is self-paced with participant encouraged to walk as quickly as they can over six minutes following the methods of Rikli and Jones. Assistive devices are allowed and documented below. For convenience, the test was measured in feet and converted to yards if using Rikli and Jones normative data. The distance walked is captured even if participants stop before 6 minutes.

NOTE: When data are missing, the text variable 6_min_walk_note includes interviewer notes for the assessment.

Rikli RE, Jones CJ. Development and validation of criterion-referenced clinically relevant fitness standards for maintaining physical independence in later years. *Gerontologist.* 2013;53(2):255-267. 10.1093/geront/gns071

Rikli RE, Jones CJ. Functional fitness normative scores for community-residing older adults, ages 60-94. *J Aging Phys Act.* 1999;7:162-181. 10.1123/japa.7.2.162

Bohannon R. Six-minute walk test. A meta-analysis of data from apparently healthy elders. *Topics in Geriatric Rehabilitation*. 2017 23(2), 155-160. 10.1097/01.TGR.0000270184.98402.ef

Harada ND, Chiu V, Stewart AL. Mobility-related function in older adults: assessment with a 6-minute walk test. *Arch Phys Med Rehabil.* 1999 Jul;80(7):837-41. https://www.archives-pmr.org/article/S0003-9993(99)90236-8/pdf

Steffen TM, Hacker TA, Mollinger L. Age- and gender-related test performance in community-dwelling elderly people: Six- Minute Walk Test, Berg Balance Scale, Timed Up & Go Test, and gait speeds. *Phys Ther.* 2002 Feb;82(2):128-37. 10.1093/ptj/82.2.128

Hall KS, Cohen HJ, Pieper CF, et al. Physical Performance Across the Adult Life Span: Correlates With Age and Physical Activity. *J Gerontol A Biol Sci Med Sci*. 2017 Apr 1;72(4):572-578. 10.1093/gerona/glw120

VARIABLE NAME	MEASURE	Stats	Visit 1	Visit 2
ppcd_ 6min_ walk	6-min Walk: (m/sec)	n Range Mean SD Missing	993 (99.90) 104-2926 1701.42 483.25 1	691 (99.85) 116-3042 1737.56 490.91 1

VARIABLE NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
ppcd_ 6min_ walk	Total distance walked in 6 minutes (feet)	n Range Mean SD Missing	544 (100.0) 104 – 2926 1593.46 482.52 0	378 (99.73) 116 – 2976 1609.89 488.89 1	449 (99.78) 152 – 2805 1832.22 451.22 1	313 (100.0) 286 – 3042 1891.74 447.84 0
ppcd_ assis_ devices	Asst. Devices Used	1 = cane 2 = walker 3 = quad 4 = other	15 1 15 1	14 1 18 2	7 1 6 1	5 1 0 2

PALS CODEBOOK

6-minute Walk

(Visit 1 n = 994, Visit 2 n = 692)

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
ppcd_6min_walk	Total distance walked in 6 minutes (feet)	n Range Mean SD Missing	**30-39**	51 1199-2926 1962.27 352.72 0	26 1320-2976 2118.85 376.35 0	50 1494-2754 2131.74 234.70 0	27 1640-3042 2229.93 280.58 0
		n Range Mean SD Missing	**40-49**	53 1179-2652 1970.42 336.63 0	29 1534-2706 2118.83 294.48 0	50 1218-2597 2127.86 298.47 0	34 1362-2586 2134.56 289.40 0
		n Range Mean SD Missing	**50-59**	53 1021-2503 1893.43 332.59 0	31 1323-2377 1915.45 291.81 0	49 890-2685 2030.33 341.51 0	33 474-2841 2130.00 434.26 0
		n Range Mean SD Missing	**60-69**	99 382-2287 1803.30 336.20 0	83 549-2519 1783.95 360.66 0	101 980-2805 1988.28 249.12 0	85 1080-2816 2039.55 346.41 0
		n Range Mean SD Missing	**70-79**	99 382-2287 1588.08 330.53 0	73 440-2259 1591.26 336.82 0	100 1006-2373 1738.31 309.47 0	75 1002-2754 1755.84 324.90 0
		n Range Mean SD Missing	**80-89**	164 330-1990 1245.29 389.30 0	121 116-1957 1288.76 403.57 1	91 152-2168 1392.90 462.82 0	55 405-2342 1445.60 412.41 0
		n Range Mean SD Missing	**90+**	24 104-1976 841.88 460.60 0	15 180-1501 830.33 371.40 0	8 180-1635 1100.13 482.80 1	4 286-1754 1120.75 610.88 0

PALS CODEBOOK

PHYSICAL ACTIVITY

PALS CODEBOOK

Physical Activity

STANFORD BRIEF ACTIVITY SURVEY

The **Stanford Brief Activity Survey** is a self-administered questionnaire that attempts to have the respondent summarize his/her usual physical activity on-the-job and during leisure-time for the past year, based on a single statement for each. Question 1 pertains to On-The-Job activity; Question 2 pertains to Leisure-Time activity.

Taylor-Piliae RE, Norton LC, Haskell WL, Mahbouda MH, Fair JM, Iribarren C, Hlatky MA, Go AS, Fortmann SP. Validation of a new brief physical activity survey among men and women aged 60-69 years. *Am J Epidemiol.* 2006 Sep 15;164(6):598-606. 10.1093/aje/kwj248

Taylor-Piliae RE, Haskell WL, Iribarren C, Norton LC, Mahbouba MH, Fair JM, Hlatky MA, Go AS, Fortmann SP. Clinical utility of the Stanford brief activity survey in men and women with early-onset coronary artery disease. *J Cardiopulm Rehabil Prev.* 2007 Jul-Aug;27(4):227-32. 10.1097/01.HCR.0000281768.97899.bb

Taylor-Piliae RE, Fair JM, Haskell WL, Varady AN, Iribarren C, Hlatky MA, Go AS, Fortmann SP. Validation of the Stanford Brief Activity Survey: examining psychological factors and physical activity levels in older adults. J Phys Act Health. 2010 Jan;7(1):87-94. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4696759/

PALS CODEBOOK

Physical Activity

Stanford Brief Activity Survey

SBAS Activity Intensity Summary Level

(Visit 1 n = 993, Visit 2 n = 692)

[1 PPT (133994) did not receive a questionnaire at Visit 1]
[PPTs with a missing value for Question1 or Question 2 were not scored: Visit 1 n=6; Visit 2 n=1]

Scoring is based on the intersection of On-The-Job activity and Leisure-Time activity self-report responses:

Red=Inactive
Yellow=Light-intensity
Green=Moderate intensity
Blue= Hard Intensity
Lavender= Very Hard Intensity

		Leisure-time activity (F-J)				
		F	G	H	I	J
On-the-Job Activity (A-E)	A					
	B					
	C					
	D					
	E					

VARIABLE NAME	MEASURE	Scale	Sex*Age Group [n (% within cohort)]			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
sbas_score	Activity Level	1 = Inactive	129 (23.76)	99 (26.19)	69 (15.51)	37 (11.82)
		2 = Light-intensity activity	108 (19.89)	59 (15.61)	73 (16.40)	58 (18.53)
		3 = Moderate-intensity activity	201 (37.02)	129 (34.13)	153 (34.38)	111 (35.46)
		4 = Hard-intensity activity	48 (8.84)	40 (10.58)	76 (17.08)	64 (20.45)
		5 = Very hard-intensity activity	57 (10.50)	51 (13.49)	74 (16.63)	43 (13.74)
		Missing	1	1	5	0

PALS CODEBOOK

Physical Activity

Stanford Brief Activity Survey

Question 1: *On-The-Job Activity* During the Past Year

(Visit 1 n = 993, Visit 2 n = 692)

[1 PPT (133994) did not receive a questionnaire at Visit 1]
[1 PPT (159385) did not answer Question 1 at Visit 1]

1= Do not have job or regular work.
2= I spent most of the day sitting or standing. When I was at work I did such things as writing, typing, talking on the telephone, assembling small parts or operating a machine that takes very little exertion or strength. If I drove a car or truck while at work, I did not lift or carry anything for more than a few minutes each day.
3= I spent most of the day walking or using my hands and arms in work that required moderate exertion. When I was at work I did such things as delivering mail, patrolling on guard duty, mechanical work on automobiles or other large machines, house painting or operating a machine that requires some moderate activity of me. If I drove a truck or lift, my job required me to lift and carry things frequently.
4= I spent most of the day lifting or carrying heavy objects or moving most of my body in some other way. When I was at work, I did such things as stacking cargo or inventory, handling parts or materials, or I did work like that of a carpenter who builds structures or a gardener who does most of the work without machines.
5= I spent most of the day doing hard physical labor. When I was at work I did such things as digging or chopping with heavy tools, or carrying heavy loads (bricks, for example) to the place where they are to be used. If I drove a truck or operated equipment, my job also required me to do hard physical work most of the day with only short breaks.

VARIABLE NAME	MEASURE	Scale	Sex*Age Group [n (% within cohort)]			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
act_job	On the Job Activity	1 = No job/regular work	362 (66.67)	272 (71.77)	247 (55.01)	170 (54.31)
		2 = Sitting or standing	112 (20.63)	63 (16.62)	134 (29.84)	96 (30.67)
		3 = Moderate exertion	55 (10.13)	33 (8.71)	50 (11.14)	37 (11.82)
		4 = Lifting or carrying	13 (2.39)	11 (2.90)	14 (3.12)	10 (3.19)
		5 = Hard physical labor	1 (0.18)	0 (0.00)	4 (0.89)	0 (0.00)
		Missing	1	0	0	0

PALS CODEBOOK

Physical Activity

Stanford Brief Activity Survey

Question 2: *Leisure Time Activity* During the Past Year

(Visit 1 n = 993, Visit 2 n = 692)

[1 PPT (133994) did not receive a questionnaire at Visit 1]
[5 PPTs (978, 102127, 102496, 159385, 160577) did not answer Question 2 at Visit 1;
1 PPT (160520) did not answer Question 2 at Visit 2]

1= Most of my leisure time was spent without very much physical activity. I mostly did things like watching television, reading, or playing cards. If I did anything else, it was likely to be light chores around the house or yard, or some easy-going game like bowling or catch. Only occasionally, no more than once or twice a month, did I do anything more vigorous, like jogging, playing tennis, or active gardening.
2= Weekdays, when I got home from work, I did few active things. But most weekends I was able to get outdoors for some light exercise—going for walks, playing a round of golf (without motorized carts), or doing some active chores around the house.
3= Three times per week, on the average, I engaged in some moderate activity—such as brisk walking or slow jogging, swimming or riding a bike for 15-20 minutes or more. Or I spent 45 minutes to an hour or more doing moderately difficult chores—such as raking or washing windows, mowing the lawn or vacuuming, or playing games such as doubles tennis or basketball.
4= During my leisure time over the past year, I engaged in a regular program of physical fitness involving some kind of heavy physical activity at least three times per week. Examples of heavy physical activity are: jogging, running or riding fast on a bicycle for 30 minutes or more; heavy gardening or other chores for an hour or more; active games or sports such as handball or tennis for an hour or more; or a regular program involving calisthenics and jogging or the equivalent for 30 minutes or more.
5= Over the past year I engaged in a regular program of physical fitness along the lines described in the last paragraph, but I did it almost daily—5 or more times per week.

VARIABLE NAME	MEASURE	Scale	Sex*Age Group [n (% within cohort)]			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
act_ leisure	Leisure Time Activity	1 = Little physical activity	166 (30.57)	118 (31.22)	100 (22.47)	57 (18.21)
		2 = Light exercise	78 (14.36)	45 (11.90)	50 (11.24)	40 (12.78)
		3 = Moderate activity	198 (36.46)	126 (33.33)	154 (34.61)	113 (36.10)
		4 = Heavy physical- 3x/wk	45 (8.29)	38 (10.05)	68 (15.28)	60 (19.17)
		5 = Heavy physical- Daily	56 (10.31)	51 (13.49)	73 (16.40)	43 (13.74)
		Missing	1	0	4	0

PALS CODEBOOK

Physical Activity to Strengthen Muscles (Minutes/Week)

(Visit 1 n = 994, Visit 2 n = 692)

How many times a week on average, do you do LEISURE-TIME physical activities specifically designed to STRENGTHEN your muscles such as lifting weights or doing calisthenics? (Include all such activities even if you have mentioned them before.)

This question was added as a single item to assess strength training in a manner similar to the Godin-Shephard Leisure-Time Physical Activity Questionnaire.

NOTES

- At Visit 1, 2 females in Age Group 70 reported 2100 and 1400 mins/wk in activity.
- At Visit 2, 1 female in Age Group 40 reported 900 mins/wk and 1 male in Age Group 70 reported 1320 mins/wk.
- **These outliers are likely incorrect and should be considered in data analysis and addressed in manuscript preparation.**

Godin G, Shephard RJ. A simple method to assess exercise behavior in the community. *Can J Appl Sport Sci*. 1985 Sep;10(3):141-6.

Amireault S, Godin G, Lacombe J, Sabiston CM. The use of the Godin-Shephard Leisure-Time Physical Activity Questionnaire in oncology research: a systematic review. *BMC Med Res Methodol.* 2015 Aug 12;15:60. doi: 10.1186/s12874-015-0045-7

VARIABLE NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
exercise_ mins_ wk	Exercise (mins/wk)	n Range Mean SD Missing	516 (94.85) 0 – 2100 118.07 164.37 28	377 (99.47) 0 – 900 113.59 129.14 2	425 (94.44) 0 – 960 137.49 145.28 25	309 (98.72) 0 – 1320 136.71 154.94 4

PALS CODEBOOK

Physical Activity to Strengthen Muscles (Minutes/Week)

(Visit 1 n = 994, Visit 2 n = 692)

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
			NOTE: At Visit 1, 2 females in Age Group 70 reported 2100 and1400 mins/wk. NOTE: At Visit 2, 1 female in Age Group 40 reported 900 mins/wk and 1 male in Age Group 70 reported 1320 mins/wk.				
exercise_mins_wk	Exercise (mins/wk)	n Range Mean SD Missing	**30-39**	49 0-630 106.53 133.12 2	25 0-540 123.00 130.39 1	48 0-420 123.44 101.19 2	27 0-270 102.96 96.75 0
		n Range Mean SD Missing	**40-49**	48 0-600 118.02 142.15 5	29 0-900 186.38 212.20 0	44 0-420 130.80 114.70 6	34 0-450 123.97 134.17 0
		n Range Mean SD Missing	**50-59**	50 0-360 107.12 105.58 3	31 0-450 134.68 115.91 0	47 0-600 112.77 134.73 2	32 0-480 138.72 142.75 1
		n Range Mean SD Missing	**60-69**	91 0-450 104.60 109.72 9	82 0-675 109.91 123.57 1	96 0-630 138.43 145.53 5	84 0-630 136.07 136.74 1
		n Range Mean SD Missing	**70-79**	96 0-2100 157.91 271.57 3	73 0-600 120.41 132.17 0	92 0-900 158.29 173.88 8	74 0-1320 162.03 203.67 1
		n Range Mean SD Missing	**80-89**	160 0-840 109.33 127.69 4	122 0-630 94.73 107.03 0	89 0-960 141.89 153.66 2	54 0-720 126.48 151.54 1
		n Range Mean SD Missing	**90+**	22 0-840 114.09 181.37 2	15 0-135 54.00 58.25 0	9 0-420 108.33 130.74 0	4 0-300 140.00 112.47 0

PALS CODEBOOK

MONTREAL COGNITIVE ASSESSMENT (MoCA)

PALS CODEBOOK
Montreal Cognitive Assessment Test (MoCA)

(Visit 1 n = 994, Visit 2 n = 692)

NOTE

- The protocol directs the interviewer to discontinue testing if the MoCA total score is <16. **15 Visit 1 PPTs scored below this criterion. This should be considered in data analysis and addressed in manuscript preparation.**

The Montreal Cognitive Assessment test is a brief cognitive screening tool for Mild Cognitive Impairment. The MoCA assesses several cognitive domains:

- The short-term memory recall task (5 points) involves two learning trials of five nouns and delayed recall after approximately five minutes**.**
- Visuospatial abilities are assessed using a clock-drawing task (3 points) and a three-dimensional cube copy (1 point).
- Multiple aspects of executive functions are assessed using an alternation task adapted from the trail-making B task (1 point), a phonemic fluency task (1 point), and a two-item verbal abstraction task (2 points).
- Attention, concentration, and working memory are evaluated using a sustained attention task (target detection using tapping; 1 point), a serial subtraction task (3 points), and digits forward and backward (1 point each).
- Language is assessed using a three-item confrontation naming task with low-familiarity animals (lion, camel, rhinoceros; 3 points), repetition of two syntactically complex sentences (2 points), and the aforementioned fluency task.
- **O**rientation to time and place is evaluated by asking the subject for the date and the city in which the test is occurring (6 points). [from Wikipedia, accessed Spring 2019]

Participants receive an additional point if the person has 12 years of education or less. The maximum possible score remains at 30 if such a person receives a perfect score.

Nasreddine ZS, Phillips NA, Bédirian V, Charbonneau S, Whitehead V, Collin I, Cummings JL, Chertkow H. The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment*. J Am Geriatr Soc*. 53(4):695-699, 2005. 10.1111/j.1532-5415.2005.53221.x

Luis CA, Keegan AP, Mullan M. Cross validation of the Montreal Cognitive Assessment in community dwelling older adults residing in the Southeastern US. *Int J Geriatr Psychiatry.* 24(2):197-201, 2009. 10.1002/gps.2101

VARIABLE NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
moca_ ttl_ score	MoCA Cognitive Assessment Total Score	n Range Mean SD Not applicable	542 6 – 30 24.71 3.65 2	378 4 – 30 25.29 3.71 1	448 11 – 30 24.63 3.35 2	312 10 – 30 25.13 3.63 1

PALS CODEBOOK
Montreal Cognitive Assessment Test (MoCA)

(Visit 1 n = 994, Visit 2 n = 692)

NOTE

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- Multiple aspects of executive functions are assessed using an alternation task adapted from the trail-making B task (1 point), a phonemic fluency task (1 point), and a two-item verbal abstraction task (2 points).
- Attention, concentration, and working memory are evaluated using a sustained attention task (target detection using tapping; 1 point), a serial subtraction task (3 points), and digits forward and backward (1 point each).
- Language is assessed using a three-item confrontation naming task with low-familiarity animals (lion, camel, rhinoceros; 3 points), repetition of two syntactically complex sentences (2 points), and the aforementioned fluency task.
- **O**rientation to time and place is evaluated by asking the subject for the date and the city in which the test is occurring (6 points). [from Wikipedia, accessed Spring 2019]

Participants receive an additional point if the person has 12 years of education or less. The maximum possible score remains at 30 if such a person receives a perfect score.

Nasreddine ZS, Phillips NA, Bédirian V, Charbonneau S, Whitehead V, Collin I, Cummings JL, Chertkow H. The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. *J Am Geriatr Soc*. 53(4):695-699, 2005. 10.1111/j.1532-5415.2005.53221.x

Luis CA, Keegan AP, Mullan M. Cross validation of the Montreal Cognitive Assessment in community dwelling older adults residing in the Southeastern US. *Int J Geriatr Psychiatry.* 24(2):197-201, 2009. 10.1002/gps.2101

VARIABLE NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
moca_note	MoCA Notes	3 PPTs unable to do visual test sections 1 PPT Murdock staff	2 females: visual impairment	1 female: visual impairment	1 male: visual impairment 1 male: staff member	1 male: staff member

PALS CODEBOOK

MoCA Total Score

(Visit 1 n = 994, Visit 2 n = 692)

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
moca_ttl_score	MoCA Cognitive Assessment Total Score	n	**30-39**	51	26	49	26
		Range		18-30	22-30	19-30	23-30
		Mean		26.55	28.00	27.22	28.08
		SD		2.95	2.21	2.07	1.98
		Missing		0	0	1	1
		n	**40-49**	53	29	50	34
		Range		21-30	23-30	17-30	16-30
		Mean		25.89	26.28	26.16	26.91
		SD		2.20	2.40	2.31	2.56
		Missing		0	0	0	0
		n	**50-59**	53	31	49	33
		Range		17-30	17-30	17-30	20-30
		Mean		26.38	26.61	25.39	26.36
		SD		3.00	2.72	2.72	2.80
		Missing		0	0	0	0
		n	**60-69**	100	83	101	85
		Range		16-30	12-30	16-30	15-30
		Mean		25.77	26.24	25.47	25.95
		SD		3.19	3.66	2.69	2.98
		Missing		0	0	0	0
		n	**70-79**	99	73	100	75
		Range		14-30	16-29	16-30	14-30
		Mean		24.43	25.45	23.66	24.13
		SD		3.07	2.69	3.12	3.37
		Missing		0	0	0	0
		n	**80-89**	162	121	90	55
		Range		13-30	11-30	11-30	10-30
		Mean		23.38	24.07	22.36	22.27
		SD		3.52	3.67	3.79	4.13
		Missing		2	1	1	0
		n	**90+**	24	15	9	4
		Range		6-28	5-27	19-26	20-22
		Mean		20.17	19.80	21.78	21.00
		SD		5.95	5.78	2.77	0.82
		Missing		0	0	0	0

PALS CODEBOOK

MoCA Education <= 12 years

(Visit 1 n = 994, Visit 2 n = 692)

Participants receive an additional point for their score if the person has 12 years of education or less.

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
moca_edu	Education	0 = No 1 = Yes Missing	**30-39**	42 (82.4) 9 (17.6) 0	22 (84.6) 4 (15.4) 0	42 (85.7) 7 (14.3) 1	23 (88.5) 3 (11.5) 1
		0 = No 1 = Yes Missing	**40-49**	45 (84.9) 8 (15.1) 0	25 (86.2) 4 (13.8) 0	45 (90.0) 5 (10.0) 0	32 (94.1) 2 (5.9) 0
		0 = No 1 = Yes Missing	**50-59**	45 (84.9) 8 (15.1) 0	29 (93.5) 2 (6.5) 0	41 (83.7) 8 (16.3) 0	29 (87.9) 4 (12.1) 0
		0 = No 1 = Yes Missing	**60-69**	73 (73.0) 27 (27.0) 0	63 (75.9) 20 (24.1) 0	86 (85.1) 15 (14.9) 0	77 (90.6) 8 (9.4) 0
		0 = No 1 = Yes Missing	**70-79**	63 (63.6) 36 (36.4) 0	53 (72.6) 20 (27.4) 0	81 (81.0) 19 (19.0) 0	62 (82.7) 13 (17.3) 0
		0 = No 1 = Yes Missing	**80-89**	112 (68.3) 52 (31.7) 0	84 (68.9) 38 (31.1) 0	69 (75.8) 22 (24.2) 0	43 (78.2) 12 (21.8) 0
		0 = No 1 = Yes Missing	**90+**	13 (54.2) 11 (45.8) 0	9 (60.0) 6 (40.0) 0	6 (66.7) 3 (33.3) 0	2 (50.0) 2 (50.0) 0

PALS CODEBOOK

NUTRITION MEASURES

PALS CODEBOOK

Nutrition Self-Report

Times Per Week Eat at Restaurant

(Visit 1 n = 993, Visit 2 n = 692)

[1 PPT did not receive questionnaire at Visit 1]

On average, how many times per week do you eat meals that were prepared in a restaurant? Please include eat-in restaurants, carry-out restaurants, and restaurants that deliver food to your house.

The National Health and Nutrition Examination Survey (NHANES) is a program of studies designed to assess the health and nutritional status of adults and children in the United States. This question is similar to question *DBD895* in the Diet Behavior & Nutrition section survey: https://wwwn.cdc.gov/Nchs/Nhanes/2011-2012/DBQ_G.htm#DBD895

VARIABLE NAME	MEASURE	Scale		Sex [n (% within cohort)]			
				Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
meals	Restaurant meals/week	1 = <1/week		362 (66.67)	133 (35.19)	247 (55.01)	66 (21.15)
		2 = 1-2/week		112 (20.63)	128 (33.86)	134 (29.84)	122 (39.10)
		3 = 3-6/week		55 (10.13)	77 (20.37)	50 (11.14)	81 (25.96)
		4 = 7-10/week		13 (2.39)	29 (7.67)	14 (3.12)	35 (11.22)
		5 = 11-13/week		1 (0.18)	1 (0.26)	4 (0.89)	6 (1.92)
		6 = >=14/week		1	10 (2.65)	0	2 (0.64)
		Don't know (.D)			0		0
		Missing			1		1

PALS CODEBOOK

Nutrition Self-Report

How Often Do You Read Nutrition Labels

(Visit 1 n = 993, Visit 2 n = 692)

[1 PPT did not receive questionnaire at Visit 1]

When shopping for food products, how often do you read the nutrition label?

The National Health and Nutrition Examination Survey (NHANES) is a program of studies designed to assess the health and nutritional status of adults and children in the United States. This question is similar to question *DBQ750* in the Diet Behavior & Nutrition section survey: https://wwwn.cdc.gov/Nchs/Nhanes/2009-2010/CBQPFA_F.htm#DBQ750

VARIABLE NAME	MEASURE	Scale		Sex [n (% within cohort)]			
				Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
label	Read nutrition labels	1 = Always		362 (66.67)	88 (23.22)	247 (55.01)	38 (12.14)
		2 = Very Often		112 (20.63)	137 (36.15)	134 (29.84)	97 (30.99)
		3 = Sometimes		55 (10.13)	95 (25.07)	50 (11.14)	96 (30.67)
		4 = Rarely		13 (2.39)	32 (8.44)	14 (3.12)	51 (16.29)
		5 = Never		1 (0.18)	14 (3.69)	4 (0.89)	20 (6.39)
		6 = I do not shop for food		1	13 (3.43)	0	11 (3.51)
		Don't know (.D)			0		0
		Missing			0		0

PALS CODEBOOK

Nutrition (Servings by Food Category)

Laura Svetkey, MD, MHS, Director of Clinical Research at the Sarah W Stedman Nutrition and Metabolism Center, helped put together the diet questions. The questions are not from any specific survey or instrument; the questions are based on experience from DASH (Dietary Approaches to Stop Hypertension) trials and prior studies on weight loss/weight management.

A general Dietary Assessment Primer for Food Frequency Questionnaires with further links may be found here: https://dietassessmentprimer.cancer.gov/learn/questionnaire-screeners.html

How many servings of each of the following do you have per day, on average (1 serving= 1 cup solids, 12 ounces liquid. Please use only whole numbers, no ranges).

(Visit 1 n = 993, Visit 2 n = 692)
[1 PPT did not receive questionnaire at Visit 1]

VARIABLE NAME	MEASURE	Scale		Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
Fruits and vegetables--fresh, canned, or frozen (not including juices, potatoes, or lettuce)							
fruit_veg	Fruits & Vegetables	n Range Mean SD Don't Know		486 0-10 2.9 1.7 58	353 0-8 3.0 1.5 26	403 0-12 2.5 1.5 46	301 0-12 2.5 1.6 12
Milk or dairy foods that are made from milk, such as cheese, cottage cheese, ice cream, milk shakes, or yogurt.							
milk_dairy	Milk & Dairy	n Range Mean SD Don't Know		502 0-10 1.9 1.2 42	365 0-8 1.8 1.1 14	415 0-10 1.7 1.2 34	307 0-8 1.6 1.2 6
Protein foods, such as meat, fish, seafood, chicken, turkey, or eggs. Also include protein foods such as peanut butter, or foods that are made from dried beans, such as bean soup, baked beans, or refried beans, meat substitutes, and soy protein foods such as tofu.							
protein	Protein	n Range Mean SD Don't Know		503 0-23 2.6 1.8 41	374 0-14 2.6 1.3 5	420 0-20 2.7 2.1 29	308 0-18 2.6 1.7 5
Sweets (cookies, candies, cakes, ice cream, etc.)							
sweets	Sweets	n Range Mean SD Don't Know		486 0-10 1.4 1.1 58	354 0-9 1.3 1.2 25	401 0-28 1.3 1.1 48	300 0-7 1.2 1.2 13

PALS CODEBOOK

Nutrition (Servings by Food Category)

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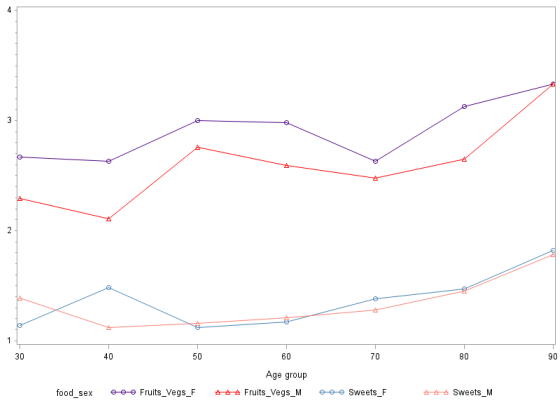
How many servings of each of the following do you have per day, on average (1 serving= 1 cup solids, 12 ounces liquid. Please use only whole numbers, no ranges).

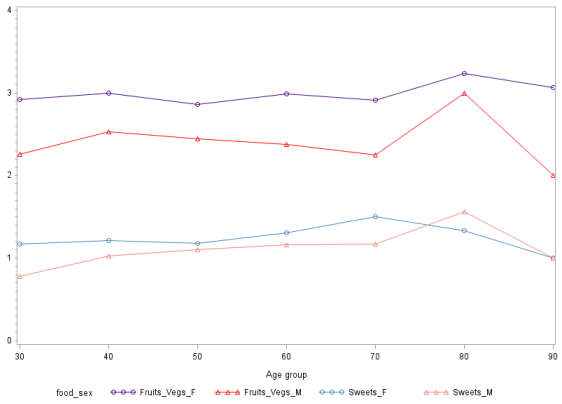
(Visit 1 n = 993, Visit 2 n = 692)
[1 PPT did not receive questionnaire at Visit 1]

VARIABLE NAME	MEASURE	Scale		Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
Caffeinated drinks							
caffeine	Caffeine drinks	n Range Mean SD Don't Know		515 0-20 1.5 1.9 29	370 0-20 1.5 2.0 9	425 0-14 2.0 1.9 24	305 0-10 1.9 1.9 8
Sugar sweetened beverages (non-diet soda, sweetened tea, punch, etc.)							
sugar_ sweet	Sugar-sweetened beverages	n Range Mean SD Don't Know		506 0-20 0.7 1.5 38	371 0-7 0.6 1.1 8	417 0-25 0.8 1.7 32	301 0-10 0.7 1.4 12

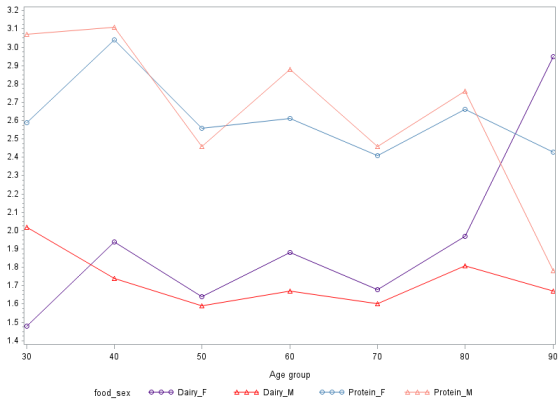
Visit 1 Fruits/Vegetables + Sweets (servings/day)



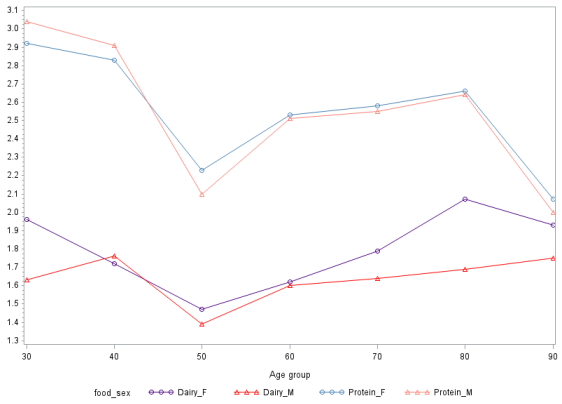
Visit 2 Fruits/Vegetables + Sweets (servings/day)



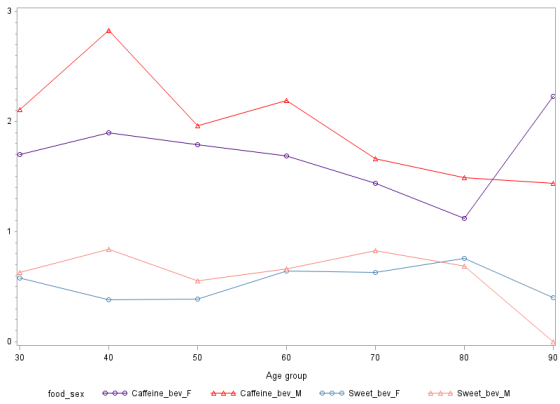
Visit 1 Dairy + Protein (servings/day)



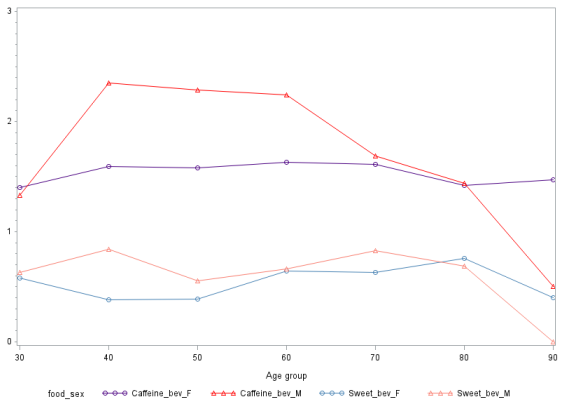
Visit 2 Dairy + Protein (servings/day)



Visit 1 Caffeinated bevs + Sugar-sweetened bevs (servings/day)



Visit 2 Caffeinated bevs + Sugar-sweetened bevs (servings/day)



PALS CODEBOOK

TOBACCO & ALCOHOL USE

PALS CODEBOOK

TOBACCO USE DATA

These variables were collected at MURDOCK Study Enrollment.

VARIABLE	DATA	CODE	Participants
tob_ smoke_ 100	In your lifetime, have you **smoked at least 100 cigarettes** (5 packs)?	0 = No 1 = Yes .D = Don't Know Missing	556 (56.16) 434 (43.84) 3 1
tob_ smoker_ curr	Do you **currently smoke cigarettes**?	.S = Skip 0 = No 1 = Yes, only some days 2 = Yes, everyday Missing	556 (55.94) 384 (38.63) 25 (2.52) 27 (2.72) 2
tob_ smoke_ yrs	If you currently smoke or have smoked cigarettes regularly in the past, **how many years** have you smoked/did you smoke regularly?	.S = Skip 0 = I have never smoked at least 100 cigarettes 1 = Less than 1 year 2 = 1–5 Years 3 = 6–10 Years 4 = 11–15 Years 5 = 16–20 Years 6 = 21–25 Years 7 = More than 25 Years Missing	556 (55.94) 2 (0.20) 32 (3.22) 80 (8.05) 62 (6.24) 50 (5.03) 61 (6.14) 38 (3.82) 105 (10.56) 8
tob_ smokeless	Have you **ever used or tried any smokeless tobacco products** such as chewing tobacco or snuff?	0 = No 1 = Yes Missing	864 (87.18) 127 (12.82) 3
tob_ smokeless_ curr	Do you **currently use chewing tobacco or snuff** every day, some days, or not at all?	0 = Not at all 1 = Some days 2 = Every day Missing	921 (98.29) 6 (0.64) 10 (1.07) 57
tob_ cigars	Do you **currently use cigars, pipes, bidis, kreteks, or other tobacco products**? Do not include cigarettes, snuff, or chewing tobacco.	0 = No 1 = Yes Missing	973 (97.99) 20 (2.01) 1

PALS CODEBOOK

TOBACCO USE DATA

These variables were collected at MURDOCK Study Enrollment**.**

VARIABLE	DATA	CODE	Participants
tob_ work	What is your **exposure to tobacco smoke in your indoor workplace** while you are there?	0 = I have never been exposed to tobacco smoke at work	459 (46.41)
		1 = I have previously been exposed to tobacco smoke at work	518 (52.38)
		2 = I am currently exposed to tobacco smoke at work	12 (1.21)
		Missing	5
tob_ home	What is your **exposure to tobacco smoke in your home** while you are there?	0 = I have never been exposed to tobacco smoke at home	474 (47.98)
		1 = I have previously been exposed to tobacco smoke at home	469(47.47)
		2 = I am currently exposed to tobacco smoke at home	45 (4.55)
		Missing	6

PALS CODEBOOK

TOBACCO USE DATA

2 **Tobacco Use** variables ONLY were collected at MURDOCK Study Follow-ups:
tob_smoker_curr and **tob_cigs_day**.
If a PPT did NOT currently smoke, **tob_cigs_day**=.S (Skip)
Some PPTs left **tob_smoker_curr** as missing and put **tob_cigs_day** = 0.
These PPTs were assigned **tob_cigs_day**=.S (Skip)
Some PPTs left both variables missing.

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
On days that you smoke (or did smoke), about **how many cigarettes a day** do you smoke/did you smoke, on the average?							
tob_cigs_day	Cigarettes Daily	n Cohort	**30-39**	51	26	50	27
		n Smokers		4	0	10	2
		Range		1-10	.	1-20	5-16
		Mean		5.75	.	10.2	10.5
		SD		4.92	.	6.36	7.78
		Missing		22	1	16	0
		Skip		25	25	24	25
		n Cohort	**40-49**	53	29	50	34
		n Smokers		6	2	2	1
		Range		1-20	14-20	1-8	2
		Mean		11.5	17	4.5	2
		SD		8.02	4.24	4.95	0
		Missing		24	0	22	1
		Skip		23	27	26	32
		n Cohort	**50-59**	53	31	49	33
		n Smokers		3	1	7	4
		Range		2-15	15	3-20	4-15
		Mean		10.67	15	10.57	8.5
		SD		7.51	0	5.5	5.07
		Missing		29	0	16	0
		Skip		21	30	26	29
		n Cohort	**60-69**	100	81	101	85
		n Smokers		5	3	8	5
		Range		8-20	4-20	1-30	2-22
		Mean		13.2	9.67	13.75	11.2
		SD		6.26	8.96	9.13	9.23
		Missing		40	0	27	0
		Skip		55	78	66	80
		n Cohort	**70-79**	99	73	100	74
		n Smokers		3	3	3	1
		Range		5-30	1-6	10-12	20
		Mean		15	3.33	11.33	20
		SD		15.23	2.52	1.15	0
		Missing		21	3	7	1
		Skip		75	67	90	72

PALS CODEBOOK

TOBACCO USE DATA

2 **Tobacco Use** variables ONLY were collected at MURDOCK Study Follow-ups:
tob_smoker_curr and **tob_cigs_day**.
If a PPT did NOT currently smoke, **tob_cigs_day**=.S (Skip)
Some PPTs left **tob_smoker_curr** as missing and put **tob_cigs_day** = 0.
These PPTs were assigned **tob_cigs_day**=.S (Skip)
Some PPTs left both variables missing.

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
		n Cohort	**80-89**	164	120	91	55
		n Smokers		1	0	0	0
		Range		1	.	.	.
		Mean		1	.	.	.
		SD		0	.	.	.
		Missing		34	5	15	0
		Skip		129	115	76	55
		n Cohort	**90+**	24	15	9	4
		n Smokers		0	0	1	0
		Range		.	.	1	.
		Mean		.	.	1	.
		SD		.	.	0	.
		Missing		10	0	2	0
		Skip		14	15	6	4

PALS CODEBOOK

ALCOHOL USE DATA

These variables were collected at MURDOCK Study Enrollment.

VARIABLE	DATA	CODE	Participants
alc_drink_ past_month	During the past month, have you had at least **one drink of any alcoholic beverage**, such as beer, wine, wine coolers, or liquor?	0 = No [skip next question] 1 = Yes Missing	402 (40.48) 591 (59.52) 1
alc_ days_week	During the past month, on **how many days per week did you drink any alcoholic beverages**, on the average?	0 = Less than 1 day per week/**don't drink alcoholic beverages** 1 = 1–2 days per week 2 = 3–4 days per week 3 = 5–7 days per week .S = Skip Missing	194 (33.22) 188 (32.19) 93 (15.92) 109 (18.66) 402 8
alc_ yrs_use	If you currently drink, or have drunk alcohol regularly in the past (even if it was only one or two drinks/week), **how many years have you drunk/did you drink alcohol regularly**?	0 = I have never drunk alcohol regularly 1 = Less than 1 year 2 = 1–5 Years 3 = 6–10 Years 4 = 11–15 Years 5 = 16–20 Years 6 = 21–25 Years 7 = More than 25 Years Missing	417 (42.12) 30 (3.03) 70 (7.07) 68 (6.87) 60 (6.06) 48 (4.85) 50 (5.05) 247 (24.95) 4
alc_ legal	In your entire life, did you EVER have **job, school, personal, or legal troubles because of your drinking or being sick from drinking**—like missing too much work?	0 = No 1 = Yes .D = Don't Know Missing	955 (96.37) 36 (3.63) 2 1

PALS CODEBOOK

HEALTH SELF-REPORT

PALS CODEBOOK

Health Self-Report: PROMIS® Measures

(Visit 1 n = 994, Visit 2 n = 688)

NOTE: 4 PPTs did not have MURDOCK Follow-up data to coincide with PALS Visit 2 (3 Females, 1 Male).

PROMIS® (*Patient-Reported Outcomes Measurement Information System*) is a set of person-centered measures that evaluates and monitors physical, mental, and social health in adults (and children). PROMIS® measures were developed by the NIH to standardize Patient-Reported Outcomes measurement and reporting across studies. Measures in the PROMIS® toolbox can be used with the general population and with individuals living with chronic conditions.

The MURDOCK Enrollment and Follow-up Study forms include these PROMIS® measures:

- 2 Global Health measures
  - 1 on Physical Health
  - 1 on Pain, clustered with Pain Interference measures
- 9 Physical function measures from Physical Function Short Form 10a
  - 1 Add'l physical function measure
- 4 Anxiety measures (Anxiety Short Form 4a)
- 4 Depression measures
- 3 Fatigue measures
- 3 Pain Interference measures
- 4 Add'l measures related to Satisfaction

The PROMIS® physical function instruments measure self-reported capability rather than actual performance of physical tasks.

Short Forms: PROMIS instruments are scored using item-level calibrations. This means that the most accurate way to score a PROMIS instrument is to use the Health Measures Scoring Service (https://www.assessmentcenter.net/ac_scoringservice) or a data collection tool that automatically calculates scores (e.g., Assessment Center, REDCap auto-score). This method of scoring uses responses to each item for each participant. We refer to this as "response pattern scoring." Because response pattern scoring is more accurate than the use of raw score/scale score look up tables included in this manual, it is preferred. Response pattern scoring is especially useful when there is missing data (i.e., a respondent skipped an item), different groups of participants responded to different items, or you have created a new questionnaire using a subset of questions from a PROMIS item bank.

Cella D, Riley W, Stone A, Rothrock N, Reeve B, Yount S, Amtmann D, Bode R, Buysse D, Choi S, et al. The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005–2008. *J Clin Epidemiol*. 2010;63:1179–94. 10.1016/j.jclinepi.2010.04.011

PALS CODEBOOK

Health Self-Report: PROMIS® Global Health - Physical

(Visit 1 n = 994, Visit 2 n = 688)

PROMIS® (*Patient-Reported Outcomes Measurement Information System*) is a set of person-centered measures that evaluates and monitors physical, mental, and social health in adults (and children). PROMIS® measures were developed by the NIH to standardize PRO measurement and reporting across studies. Measures in the PROMIS® toolbox can be used with the general population and with individuals living with chronic conditions.

Hays RD, Schalet BD, Spritzer KL, Cella D. Two-item PROMIS® global physical and mental health scales. *J Patient Rep Outcomes*. 2017;1(1):2. 10.1186/s41687-017-0003-8

VARIABLE NAME	MEASURE	Scale		Sex [n (% within cohort)]			
				Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Scale v1.2 – Global Health (Global01) In general, would you say your health is:							
health_ self_ rating	Health Self-rating	1 = Excellent 2 = Very good 3 = Good 4 = Fair 5 = Poor Missing		64 (11.8) 200 (36.9) 215 (39.7) 55 (10.1) 8 (1.5) 2	62 (16.6) 150 (40.1) 124 (33.2) 35 (9.4) 3 (0.8) 0	52 (11.6) 186 (41.4) 159 (35.4) 45 (10.0) 7 (1.6) 1	48 (15.5) 140 (45.3) 96 (31.1) 22 (7.1) 3 (1.0) 3

PALS CODEBOOK

Health Self-Report: PROMIS® Physical Function Measures

(Visit 1 n = 994, Visit 2 n = 688)

The questions selected for this assessment include 9 of 10 items from the PROMIS® Physical Function – Short Form 10a question set (Item PFB26: Are you able to shampoo your hair? was NOT included.). An additional question from PROMIS® Item Bank v2.0 – Physical Function (PFA7r1): Are you able to run 5 miles? is the last item.

Rose M, Bjorner JB, Gandek B, Bruce B, Fries JF, Ware JE Jr. The PROMIS® Physical Function item bank was calibrated to a standardized metric and shown to improve measurement efficiency. *J Clin Epidemiol*. 2014 May;67(5):516-26. 10.1016/j.jclinepi.2013.10.024

VARIABLE NAME	MEASURE	Scale		Sex [n (% within cohort)]			
				Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Item Bank v2.0 – Physical Function (PFC37) Does your health now limit you in climbing one flight of stairs?							
health_ stairs	Health: Climb 1 flight stairs	1 = Not at all		307 (56.6)	198 (52.8)	322 (71.7)	224 (72.3)
		2 = Very little		96 (17.7)	72 (19.2)	67 (14.9)	48 (15.5)
		3 = Somewhat		103 (19.0)	74 (19.7)	50 (11.1)	32 (10.3)
		4 = Quite a lot		31 (5.7)	28 (7.5)	9 (2.0)	5 (1.6)
		5 = Cannot do		5 (0.9)	3 (0.8)	1 (0.2)	1 (0.3)
		Missing		2	1	1	2
PROMIS® Item Bank v2.0 – Physical Function (PFC36r1) Does your health now limit you in walking more than a mile?							
health_ walk_ mile	Health: Walk 1 mile	1 = Not at all		264 (48.6)	184 (49.5)	307 (68.8)	212 (68.8)
		2 = Very little		77 (14.2)	57 (15.3)	53 (11.9)	45 (14.6)
		3 = Somewhat		102 (18.8)	61 (16.4)	48 (10.8)	27 (8.8)
		4 = Quite a lot		48 (8.8)	30 (8.1)	16 (3.6)	15 (4.9)
		5 = Cannot do		52 (9.6)	40 (10.8)	22 (4.9)	9 (2.9)
		Missing		1	4	4	4
PROMIS® Item Bank v2.0 – Physical Function (PFA5) Does your health now limit you in lifting or carrying groceries?							
health_ groc	Health: Lift or carry groceries	1 = Not at all		316 (58.5)	218 (58.4)	347 (77.3)	244 (79.0)
		2 = Very little		98 (18.1)	76 (20.4)	58 (12.9)	37 (12.0)
		3 = Somewhat		91 (16.9)	54 (14.5)	35 (7.8)	25 (8.1)
		4 = Quite a lot		30 (5.6)	21 (5.6)	7 (1.6)	3 (1.0)
		5 = Cannot do		5 (0.9)	4 (1.1)	2 (0.4)	0 (0.0)
		Missing		4	3	1	3
PROMIS® Item Bank v2.0 – Physical Function (PFA3) Does your health now limit you in bending, kneeling, or stooping?							
health_ bend	Health: Bend, kneel or stoop	1 = Not at all		220 (40.7)	171 (46.0)	230 (51.2)	156 (50.8)
		2 = Very little		112 (20.7)	77 (20.7)	98 (21.8)	74 (24.1)
		3 = Somewhat		119 (22.0)	80 (21.5)	91 (20.3)	63 (20.5)
		4 = Quite a lot		75 (13.9)	36 (9.7)	27 (6.0)	14 (4.6)
		5 = Cannot do		15 (2.8)	8 (2.2)	3 (0.7)	0 (0.0)
		Missing		3	4	1	5

PALS CODEBOOK

Health Self-Report: PROMIS® Physical Function Measures

(Visit 1 n = 994, Visit 2 n = 688)

The questions selected for this assessment include 9 of 10 items from the PROMIS® Physical Function – Short Form 10a question set (Item PFB26: Are you able to shampoo your hair? was NOT included.). An additional question from PROMIS® Item Bank v2.0 – Physical Function (PFA7r1): Are you able to run 5 miles? is the last item.

Rose M, Bjorner JB, Gandek B, Bruce B, Fries JF, Ware JE Jr. The PROMIS® Physical Function item bank was calibrated to a standardized metric and shown to improve measurement efficiency. *J Clin Epidemiol*. 2014 May;67(5):516-26. 10.1016/j.jclinepi.2013.10.024

VARIABLE NAME	MEASURE	Scale		Sex [n (% within cohort)]			
				Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Item Bank v2.0 – Physical Function (PFA1) Does your health now limit you in doing vigorous activities, such as running, lifting heavy objects, participating in strenuous sports?							
health_ vigor_ act	Health: Vigorous activities	1 = Not at all		93 (17.2)	65 (17.7)	128 (28.6)	80 (26.4)
		2 = Very little		75 (13.9)	59 (16.0)	79 (17.6)	70 (23.1)
		3 = Somewhat		128 (23.7)	90 (24.5)	124 (27.7)	72 (23.8)
		4 = Quite a lot		119 (22.0)	72 (19.6)	61 (13.6)	54 (17.8)
		5 = Cannot do		126 (23.3)	82 (22.3)	56 (12.5)	27 (8.9)
		Missing		3	8	2	9
PROMIS® Item Bank v2.0 – Physical Function (PFA11) Are you able to do chores such as vacuuming or yard work?							
health_ chores	Health: Chores	1 = W/o any difficulty		261 (48.3)	195 (52.7)	304 (68.0)	211 (68.3)
		2 = W/ a little difficulty		143 (26.5)	75 (20.3)	88 (19.7)	66 (21.4)
		3 = W/ some difficulty		81 (15.0)	65 (17.6)	42 (9.4)	24 (7.8)
		4 = W/ much difficulty		29 (5.4)	21 (5.7)	10 (2.2)	7 (2.3)
		5 = Unable to do		26 (4.8)	14 (3.8)	3 (0.7)	1 (0.3)
		Missing		4	6	3	3
PROMIS® Item Bank v2.0 – Physical Function (PFA16r1) Are you able to dress yourself, including tying shoelaces and buttoning up your clothes?							
health_ dress	Health: Dressing	1 = W/o any difficulty		483 (88.8)	329 (88.2)	401 (89.1)	281 (90.6)
		2 = W/ a little difficulty		45 (8.3)	27 (7.2)	35 (7.8)	25 (8.1)
		3 = W/ some difficulty		11 (2.0)	12 (3.2)	8 (1.8)	3 (1.0)
		4 = W/ much difficulty		4 (0.7)	3 (0.8)	2 (0.4)	1 (0.3)
		5 = Unable to do		0 (0.0)	2 (0.5)	2 (0.4)	0 (0.0)
		Missing		1	3	2	2
PROMIS® Item Bank v2.0 – Physical Function (PFA55) Are you able to do wash and dry your body?							
health_ wash	Health: Wash & dry body	1 = W/o any difficulty		509 (93.7)	346 (93.0)	425 (94.7)	288 (93.2)
		2 = W/ a little difficulty		24 (4.4)	16 (4.3)	18 (4.0)	17 (5.5)
		3 = W/ some difficulty		7 (1.3)	8 (2.2)	4 (0.9)	3 (1.0)
		4 = W/ much difficulty		3 (0.6)	2 (0.5)	2 (0.4)	1 (0.3)
		5 = Unable to do		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
		Missing		1	4	1	3

PALS CODEBOOK

Health Self-Report: PROMIS® Physical Function Measures

(Visit 1 n = 994, Visit 2 n = 688)

The questions selected for this assessment include 9 of 10 items from the PROMIS® Physical Function – Short Form 10a question set (Item PFB26: Are you able to shampoo your hair? was NOT included.). An additional question from PROMIS® Item Bank v2.0 – Physical Function (PFA7r1): Are you able to run 5 miles? is the last item.

Rose M, Bjorner JB, Gandek B, Bruce B, Fries JF, Ware JE Jr. The PROMIS® Physical Function item bank was calibrated to a standardized metric and shown to improve measurement efficiency. *J Clin Epidemiol*. 2014 May;67(5):516-26. 10.1016/j.jclinepi.2013.10.024

VARIABLE NAME	MEASURE	Scale		Sex [n (% within cohort)]			
				Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Item Bank v2.0 – Physical Function (PFA45r1) Are you able to get on and off the toilet?							
health_ toilet	Health: On & off toilet	1 = W/o any difficulty		500 (92.1)	342 (91.7)	424 (94.4)	292 (94.2)
		2 = W/ a little difficulty		38 (7.0)	23 (6.2)	20 (4.5)	14 (4.5)
		3 = W/ some difficulty		4 (0.7)	7 (1.9)	5 (1.1)	4 (1.3)
		4 = W/ much difficulty		1 (0.2)	1 (0.3)	0 (0.0)	0 (0.0)
		5 = Unable to do		0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
		Missing		1	3	1	2
NOTE: This question is *NOT* from PROMIS Short Form 10a: PROMIS® Item Bank v2.0 – Physical Function (PFA7r1) Are you able to run 5 miles?							
health_ run_ 5mi	Health: Run 5 miles	1 = W/o any difficulty		22 (4.1)	20 (5.6)	34 (7.7)	19 (6.3)
		2 = W/ a little difficulty		30 (5.6)	13 (3.6)	50 (11.3)	28 (9.3)
		3 = W/ some difficulty		61 (11.4)	36 (10.0)	68 (15.3)	51 (16.9)
		4 = W/ much difficulty		51 (9.6)	41 (11.4)	74 (16.7)	49 (16.3)
		5 = Unable to do		370 (69.3)	250 (69.4)	217 (49.0)	154 (51.2)
		Missing		10	16	7	11

PALS CODEBOOK

Health Self-Report: PROMIS® Emotional Distress-Anxiety

(Visit 1 n = 994, Visit 2 n = 688)

PROMIS® Emotional Distress-Anxiety – Short Form 4a

Pilkonis PA, Choi SW, Reise SP, Stover AM, Riley WT, Cella D, Group PC. Item Banks for Measuring Emotional Distress From the Patient-Reported Outcomes Measurement Information System (PROMIS®): Depression, Anxiety, and Anger. *Assessment*. 2011;18:263–83. 10.1177/1073191111411667

VARIABLE NAME	MEASURE	Stats	Sex [n (% within cohort)]			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Item Bank v. 1.0 – Emotional Distress - Anxiety (EDANX01) In the past 7 days I felt fearful.						
anx_ fearful	Anxiety-Fearful	1 = Never	313 (58.0)	221 (59.2)	331 (73.7)	226 (73.6)
		2 = Rarely	142 (26.3)	106 (28.4)	87 (19.4)	64 (20.8)
		3 = Sometimes	77 (14.3)	40 (10.7)	27 (6.0)	15 (4.9)
		4 = Often	6 (1.1)	4 (1.1)	4 (0.9)	2 (0.7)
		5 = Always	2 (0.4)	2 (0.5)	0 (0.0)	0 (0.0)
		Missing	4	3	1	5
PROMIS® Item Bank v. 1.0 – Emotional Distress - Anxiety (EDANX40) In the past 7 days I found it hard to focus on anything other than my anxiety.						
anx_ anxiety	Anxiety-Anxiety	1 = Never	340 (63.1)	247 (66.2)	329 (73.6)	243 (78.1)
		2 = Rarely	135 (25.0)	91 (24.4)	82 (18.3)	53 (17.0)
		3 = Sometimes	54 (10.0)	30 (8.0)	31 (6.9)	12 (3.9)
		4 = Often	10 (1.9)	4 (1.1)	4 (0.9)	3 (1.0)
		5 = Always	0 (0.0)	1 (0.3)	1 (0.2)	0 (0.0)
		Missing	5	3	3	1
PROMIS® Item Bank v. 1.0 – Emotional Distress - Anxiety (EDANX41) In the past 7 days my worries overwhelmed me.						
anx_ worries	Anxiety-Worries	1 = Never	289 (53.5)	222 (59.4)	321 (71.5)	221 (72.2)
		2 = Rarely	150 (27.8)	101 (27.0)	84 (18.7)	65 (21.2)
		3 = Sometimes	80 (14.8)	45 (12.0)	38 (8.5)	19 (6.2)
		4 = Often	18 (3.3)	4 (1.1)	4 (0.9)	1 (0.3)
		5 = Always	3 (0.6)	2 (0.5)	2 (0.4)	0 (0.0)
		Missing	4	2	1	6
PROMIS® Item Bank v. 1.0 – Emotional Distress - Anxiety (EDANX53) In the past 7 days I felt uneasy.						
anx_ uneasy	Anxiety-Uneasy	1 = Never	232 (43.0)	168 (45.0)	233 (52.0)	173 (56.0)
		2= Rarely	200 (37.0)	140 (37.5)	156 (34.8)	108 (35.0)
		3 = Sometimes	95 (17.6)	57 (15.3)	50 (11.2)	24 (7.8)
		4 = Often	12 (2.2)	7 (1.9)	8 (1.8)	4 (1.3)
		5= Always	1 (0.2)	1 (0.3)	1 (0.2)	0 (0.0)
		Missing	4	3	2	3

PALS CODEBOOK

Health Self-Report: PROMIS® Emotional Distress-Depression

(Visit 1 n = 994, Visit 2 n = 688)

4 questions from the PROMIS® Mental Health Profile Domain: *Depression*

Pilkonis PA, Choi SW, Reise SP, Stover AM, Riley WT, Cella D, Group PC. Item Banks for Measuring Emotional Distress From the Patient-Reported Outcomes Measurement Information System (PROMIS®): Depression, Anxiety, and Anger. *Assessment*. 2011;18:263–83. 10.1177/1073191111411667

VARIABLE NAME	MEASURE	Stats	Sex [n (% within cohort)]			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Item Bank v. 1.0 – Emotional Distress - Depression (EDDEP04) In the past 7 days I felt worthless.						
dep_ worthless	Depression-Worthless	1 = Never	397 (73.5)	285 (76.4)	360 (80.4)	260 (83.3)
		2 = Rarely	91 (16.9)	62 (16.6)	63 (14.1)	33 (10.6)
		3 = Sometimes	40 (7.4)	21 (5.6)	21 (4.7)	15 (4.8)
		4 = Often	12 (2.2)	4 (1.1)	4 (0.9)	2 (0.6)
		5 = Always	0 (0.0)	1 (0.3)	0 (0.0)	2 (0.6)
		Missing	4	3	2	0
PROMIS® Item Bank v. 1.0 – Emotional Distress - Depression (EDDEP36) In the past 7 days I felt unhappy.						
dep_ unhappy	Depression-Unhappy	1 = Never	243 (44.9)	178 (47.6)	230 (51.5)	170 (54.5)
		2 = Rarely	195 (36.0)	140 (37.4)	149 (33.3)	112 (35.9)
		3 = Sometimes	86 (15.9)	48 (12.8)	59 (13.2)	22 (7.1)
		4 = Often	16 (3.0)	6 (1.6)	8 (1.8)	7 (2.2)
		5 = Always	1 (0.2)	2 (0.5)	1 (0.2)	1 (0.3)
		Missing	3	2	3	0
PROMIS® Item Bank v. 1.0 – Emotional Distress - Depression (EDDEP29) In the past 7 days I felt depressed.						
dep_ depress	Depression-Depress	1 = Never	279 (51.6)	212 (56.7)	282 (63.2)	210 (67.3)
		2 = Rarely	149 (27.5)	106 (28.3)	112 (25.1)	75 (24.0)
		3 = Sometimes	87 (16.1)	46 (12.3)	41 (9.2)	20 (6.4)
		4 = Often	23 (4.3)	6 (1.6)	9 (2.0)	6 (1.9)
		5 = Always	3 (0.6)	4 (1.1)	2 (0.4)	1 (0.3)
		Missing	3	2	4	0
PROMIS® Item Bank v. 1.0 – Emotional Distress - Depression (EDDEP41) In the past 7 days I felt hopeless.						
dep_ hopeless	Depression-Hopeless	1 = Never	412 (76.3)	298 (79.5)	354 (79.0)	263 (84.3)
		2 = Rarely	82 (15.2)	51 (13.6)	68 (15.2)	34 (10.9)
		3 = Sometimes	35 (6.5)	23 (6.1)	19 (4.2)	11 (3.5)
		4 = Often	11 (2.0)	3 (0.8)	7 (1.6)	3 (1.0)
		5 = Always	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)
		Missing	4	1	2	0

PALS CODEBOOK

Health Self-Report: PROMIS® Fatigue

(Visit 1 n = 994, Visit 2 n = 688)

3 questions from the PROMIS® Physical Health Profile Domain: *Fatigue*

Ameringer S, Elswick RK Jr, Menzies V, Robins JL, Starkweather A, Walter J, Gentry AE, Jallo N. Psychometric Evaluation of the Patient-Reported Outcomes Measurement Information System Fatigue-Short Form Across Diverse Populations. *Nurs Res. 2016 Jul-Aug;65(4):279-89.* 10.1097/NNR.0000000000000162

VARIABLE NAME	MEASURE	Stats	Sex [n (% within cohort)]			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Item Bank v.1.0 – Fatigue (FATEXP40) In the past 7 days how fatigued were you on average?						
ftg_ fatigue	Fatigue-Fatigue	1 = Not At All	112 (20.6)	81 (21.5)	118 (26.2)	89 (28.6)
		2 = Very Little	254 (46.8)	189 (50.3)	224 (49.8)	160 (51.4)
		3 = Somewhat	119 (21.9)	69 (18.4)	78 (17.3)	48 (15.4)
		4 = Quite a bit	45 (8.3)	32 (8.5)	28 (6.2)	12 (3.9)
		5 = Very much	13 (2.4)	5 (1.3)	2 (0.4)	2 (0.6)
		Missing	1	0	0	1
PROMIS® Item Bank v.1.0 – Fatigue (FATEXP41) In the past 7 days how run-down did you feel on average?						
ftg _ rundown	Fatigue-Run down	1 = Not At All	182 (33.5)	146 (38.8)	170 (37.9)	123 (39.5)
		2 = Very Little	226 (41.6)	150 (39.9)	198 (44.1)	142 (45.7)
		3 = Somewhat	88 (16.2)	52 (13.8)	50 (11.1)	34 (10.9)
		4 = Quite a bit	34 (6.3)	25 (6.6)	29 (6.5)	9 (2.9)
		5 = Very much	13 (2.4)	3 (0.8)	2 (0.4)	3 (1.0)
		Missing	1	0	1	1
PROMIS® Item Bank v.1.0 – Fatigue (FATEXP34) In the past 7 days how tired did you feel on average?						
ftg _ tired	Fatigue-Tired	1 = Not At All	87 (16.0)	77 (20.5)	100 (22.3)	82 (26.3)
		2 = Very Little	295 (54.3)	207 (55.1)	252 (56.1)	174 (55.8)
		3 = Somewhat	98 (18.0)	58 (15.4)	64 (14.3)	41 (13.1)
		4 = Quite a bit	47 (8.7)	30 (8.0)	30 (6.7)	12 (3.8)
		5 = Very much	16 (2.9)	4 (1.1)	3 (0.7)	3 (1.0)
		Missing	1	0	1	0

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Health Self-Report: PROMIS® Global Health

(Visit 1 n = 994, Visit 2 n = 688)

PROMIS® Scale v1.2 – Global Health - Global07

59. How would you rate your pain on average?

❑ 0 **No pain** ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑ 7 ❑ 8 ❑ 9 ❑ 10 **Worst imaginable pain**

VARIABLE NAME	MEASURE	Stats	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
pain_rate	Rate Your Pain (0-10)	n Range Mean SD Missing	535 (98.34) 0 – 10 2.16 2.18 9	361 (96.01) 0 – 9 2.01 2.04 15	447 (99.33) 0 – 10 1.81 1.95 3	302 (96.79) 0 – 10 1.79 1.92 10

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Health Self-Report: PROMIS® Global Health

(Visit 1 n = 994, Visit 2 n = 688)

PROMIS® Scale v1.2 – Global Health - Global07

59. How would you rate your pain on average?

❑ 0 **No pain** ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑ 7 ❑ 8 ❑ 9 ❑ 10 **Worst imaginable pain**

VARIABLE NAME	MEASURE	Stats		Sex*Age Group			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
rate_pain	Rate Your Pain (0-10)	n	**30-39**	51	25	50	27
		Range		0-8	0-7	0-6	0-6
		Mean		1.61	0.96	1.22	1.52
		SD		2.08	1.65	1.53	1.58
		Missing		0	1	0	0
		n	**40-49**	53	28	50	34
		Range		0-9	0-8	0-10	0-6
		Mean		2.38	2.07	1.68	1.62
		SD		2.54	2.49	2.13	1.63
		Missing		0	1	0	0
		n	**50-59**	52	30	47	32
		Range		0-10	0-8	0-9	0-10
		Mean		2.60	2.27	2.53	2.19
		SD		2.59	2.57	2.68	2.61
		Missing		1	1	2	1
		n	**60-69**	100	77	96	83
		Range		0-10	0-7	0-7	0-7
		Mean		1.96	1.62	1.85	1.75
		SD		2.25	1.82	1.71	1.79
		Missing		0	4	5	2
		n	**70-79**	97	72	92	71
		Range		0-6	0-7	0-10	0-10
		Mean		1.96	1.82	1.81	1.80
		SD		1.71	1.55	2.00	2.03
		Missing		2	1	8	3
		n	**80-89**	158	116	89	51
		Range		0-10	0-9	0-8	0-8
		Mean		2.46	2.42	1.74	1.90
		SD		2.17	2.10	1.74	1.87
		Missing		6	5	2	4
		n	**90+**	24	13	9	4
		Range		0-5	0-8	0-5	0-3
		Mean		1.67	2.85	1.89	1.00
		SD		1.69	2.34	1.76	1.41
		Missing		0	2	0	0

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Health Self-Report: PROMIS® Pain Interference

(Visit 1 n = 994, Visit 2 n = 688)

3 questions from the PROMIS® Physical Health Profile Domain: *Pain Interference*

Amtmann D, Cook KF, Jensen MP, Chen WH, Choi S, Revicki D, Cella D, Rothrock N, Keefe F, Callahan L, Lai JS. Development of a PROMIS item bank to measure pain interference. *PAIN*. 2010;150:173–82. 10.1016/j.pain.2010.04.025

VARIABLE NAME	MEASURE	Stats	Sex [n (% within cohort)]			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Bank v1.1 – Pain Interference (PAININ9) In the past 7 days how much did pain interfere with your day to day activities?						
pain_day	Pain-Daily Activities	1 = Not At All	311 (57.7)	213 (57.9)	279 (62.7)	191 (62.0)
		2 = Very Little	148 (27.5)	102 (27.7)	118 (26.5)	90 (29.2)
		3 = Somewhat	50 (9.3)	38 (10.3)	35 (7.9)	21 (6.8)
		4 = Quite a bit	22 (4.1)	14 (3.8)	11 (2.5)	5 (1.6)
		5 = Very much	8 (1.5)	1 (0.3)	2 (0.4)	1 (0.3)
		Missing	5	8	5	4
PROMIS® Bank v1.1 – Pain Interference (PAININ31) In the past 7 days how much did pain interfere with your ability to participate in social activities?						
pain_social	Pain-Social Activities	1 = Not At All	399 (73.9)	284 (77.4)	365 (81.7)	251 (81.5)
		2 = Very Little	81 (15.0)	48 (13.1)	48 (10.7)	44(14.3)
		3 = Somewhat	34 (6.3)	21 (5.7)	26 (5.8)	7 (2.3)
		4 = Quite a bit	20 (3.7)	12 (3.3)	7 (1.6)	3 (1.0)
		5 = Very much	6 (1.1)	2 (0.5)	1 (0.2)	3 (1.0)
		Missing	4	9	3	4
PROMIS® Bank v1.1 – Pain Interference (PAININ3) In the past 7 days how much did pain interfere with your enjoyment of life?						
pain_enjoy	Pain-Enjoyment of life	1 = Not At All	341 (63.1)	237 (64.4)	304 (68.0)	213 (69.2)
		2 = Very Little	134 (24.8)	91 (24.7)	102 (22.8)	73(23.7)
		3 = Somewhat	40 (7.4)	26 (7.1)	34 (7.6)	14 (4.5)
		4 = Quite a bit	18 (3.3)	13 (3.5)	5 (1.1)	5 (1.6)
		5 = Very much	7 (1.3)	1 (0.3)	2 (0.4)	3 (1.0)
		Missing	4	8	2	4

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Health Self-Report: PROMIS® Satisfaction Measures

(Visit 1 n = 994, Visit 2 n = 688)

Add'l questions from various PROMIS® Domains related to *Satisfaction*

VARIABLE NAME	MEASURE	Stats	Sex [n (% within cohort)]			
			Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
PROMIS® Item Bank v. 1.0 – Sleep Disturbance (SLEEP115) In the past 7 days I was satisfied with my sleep.						
satis_ sleep	Satisfaction-Sleep	1 = Not At All 2= A Little Bit 3 = Somewhat 4 = Quite A Bit 5= Very Much Missing	37 (6.9) 81 (15.1) 139 (25.8) 143 (26.6) 138 (25.7) 6	28 (7.6) 50 (13.6) 74 (20.1) 115 (31.3) 101 (27.4) 8	26 (5.8) 78 (16.3) 118 (26.3) 127 (28.3) 104 (23.2) 2	20 (6.5) 45 (14.6) 80 (26.0) 99 (32.1) 64 (20.8) 4
PROMIS® Item Bank v1.1 – Anger (EDANG09) In the past 7 days I felt angry.						
satis_ angry	Satisfaction-Anger	1 = Not At All 2 = Very Little 3 = Somewhat 4 = Quite a bit 5 = Very much Missing	177 (32.8) 266 (49.4) 82 (15.2) 13 (2.4) 1 (0.2) 5	137 (36.8) 168 (45.2) 63 (16.9) 4 (1.1) 0 (0.0) 4	152 (33.9) 225 (50.2) 62 (13.8) 7 (1.6) 2 (0.4) 2	128 (41.2) 138 (44.4) 36 (11.6) 9 (2.9) 0 (0.0) 1
PROMIS® Item Bank v2.0 - Satisfaction with Social Roles and Activities (SRPSAT49r1) In the past 7 days I am satisfied with my ability to perform my daily routines.						
satis_ routine	Satisfaction-Daily Routines	1 = Not At All 2 = Very Little 3 = Somewhat 4 = Quite a bit 5 = Very much Missing	17 (3.2) 37 (6.9) 85 (15.8) 161 (29.9) 238 (44.2) 6	8 (2.2) 21 (5.7) 58 (15.6) 95 (25.6) 189 (50.9) 5	13 (2.9) 27 (6.0) 50 (11.2) 118 (26.4) 239 (53.5) 3	9 (2.9) 24 (7.7) 29 (9.3) 76 (24.4) 173 (55.6) 1
PROMIS® Item Bank v2.0 - Satisfaction with Social Roles and Activities (SRPSAT23r1) In the past 7 days I am satisfied with my ability to do leisure activities.						
satis_ leisure	Satisfaction-Leisure Activities	1 = Not At All 2 = Very Little 3 = Somewhat 4 = Quite a bit 5 = Very much Missing	17 (3.2) 45 (8.3) 92 (17.1) 156 (28.9) 229 (42.5) 5	7 (1.9) 20 (5.4) 65 (17.5) 90 (24.3) 189 (50.9) 5	20 (4.5) 29 (6.5) 59 (13.2) 120 (26.8) 220 (49.1) 2	12 (3.9) 20 (6.5) 36 (11.6) 77 (24.8) 165 (53.2) 2

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Health Self-Report: Satisfaction with Physical Function

(Visit 1 n = 994, Visit 2 n = 692)

The Physical Performance Cohort Participant Questionnaire includes 3 questions related to satisfaction with physical function:

- Current walking ability
- Current stair climbing ability
- Current lifting and carrying ability

These questions have a 7-point Likert scale response ranging from Very dissatisfied through Neutral to Very satisfied.

Katula JA, Rejeski WJ, Wickley KL, Berry MJ. Perceived difficulty, importance, and satisfaction with physical function in COPD patients. *Health Qual Life Outcomes.* 2004 Mar 31;2:18.10.1186/1477-7525-2-18

Rejeski WJ, Martin KA, Miller ME, Ettinger WH Jr, Rapp S. Perceived importance and satisfaction with physical function in patients with knee osteoarthritis. *Ann Behav Med*. 1998 Spring;20(2):141-8. 10.1007/BF02884460

PALS CODEBOOK

Health Self-Report: Walking

(Visit 1 n = 994, Visit 2 n = 692)

How satisfied or dissatisfied are you with your current walking ability?

VARIABLE NAME	MEASURE	Scale	Age Group	Sex*Age Group [n (% within cohort)]			
				Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
walking	walking	1 = Very dissatisfied	**30-39**	3 (5.88)	1 (3.85)	2 (4.00)	1 (3.70)
		2 = Smwht dissatisfied		2 (3.92)	1 (3.85)	1 (2.00)	1 (3.70)
		3 = A little dissatisfied		4 (7.84)	0 (0.00)	2 (4.00)	0 (0.00)
		4 = Neutral		3 (5.88)	1 (3.85)	1 (2.00)	0 (0.00)
		5 = A little satisfied		3 (5.88)	1 (3.85)	0 (0.00)	2 (7.41)
		6 = Somewhat satisfied		8 (15.69)	2 (7.69)	11 (22.00)	3 (11.11)
		7 = Very satisfied		28 (54.90)	20 (76.92)	33 (66.00)	20 (74.07)
		Missing		0	0	0	0
		1 = Very dissatisfied	**40-49**	2 (3.77)	1 (3.45)	1 (2.00)	0 (0.00)
		2 = Smwht dissatisfied		3 (5.66)	0 (0.00)	3 (6.00)	1 (2.94)
		3 = A little dissatisfied		3 (5.66)	3 (1034)	0 (0.00)	3 (8.82)
		4 = Neutral		5 (9.43)	2 (6.90)	2 (4.00)	3 (8.82)
		5 = A little satisfied		0 (0.00)	2 (6.90)	3 (6.00)	0 (0.00)
		6 = Somewhat satisfied		14 (26.42)	4 (13.79)	10 (20.00)	8 (23.53)
		7 = Very satisfied		26 (49.06)	17 (58.62)	31 (62.00)	19 (55.88)
		Missing		0	0	0	0
		1 = Very dissatisfied	**50-59**	2 (3.77)	1 (3.23)	5 (10.42)	4 (12.12)
		2 = Smwht dissatisfied		8 (15.09)	0 (0.00)	2 (4.17)	1 (3.03)
		3 = A little dissatisfied		8 (15.09)	6 (19.35)	7 (14.58)	1 (3.03)
		4 = Neutral		3 (5.66)	1 (3.23)	1 (2.08)	1 (3.03)
		5 = A little satisfied		1 (1.89)	2 (6.45)	4 (8.33)	1 (3.03)
		6 = Somewhat satisfied		15 (29.30)	4 (12.90)	8 (16.67)	9 (27.27)
		7 = Very satisfied		16 (30.19)	17 (54.84)	21 (43.75)	16 (48.48)
		Missing		0	0	1	0
		1 = Very dissatisfied	**60-69**	7 (7.00)	7 (8.43)	8 (7.92)	4 (4.71)
		2 = Smwht dissatisfied		8 (8.00)	3 (3.61)	2 (1.98)	6 (7.06)
		3 = A little dissatisfied		11 (11.00)	7 (8.43)	10 (9.90)	4 (4.71)
		4 = Neutral		5 (5.00)	6 (7.23)	1 (0.99)	7 (8.24)
		5 = A little satisfied		3 (3.00)	1 (1.20)	2 (1.98)	3 (3.53)
		6 = Somewhat satisfied		22 (22.00)	18 (21.69)	29 (28.71)	17 (20.00)
		7 = Very satisfied		44 (44.00)	41 (49.40)	49 (48.51)	44 (51.76)
		Missing		0	0	0	0
		1 = Very dissatisfied	**70-79**	5 (5.05)	7 (9.59)	6 (6.00)	1 (1.33)
		2 = Smwht dissatisfied		6 (6.06)	5 (6.85)	8 (8.00)	5 (6.67)
		3 = A little dissatisfied		14 (14.14)	10 (13.70)	9 (9.00)	7 (9.33)
		4 = Neutral		7 (7.07)	2 (2.74)	3 (3.00)	3 (4.00)
		5 = A little satisfied		9 (9.09)	1 (1.37)	7 (7.00)	7 (9.33)
		6 = Somewhat satisfied		21 (21.21)	22 (30.14)	19 (19.00)	15 (20.00)
		7 = Very satisfied		37 (37.37)	26 (35.62)	48 (48.00)	37 (49.33)
		Missing		0	0	0	0

PALS CODEBOOK

Health Self-Report: Walking

(Visit 1 n = 994, Visit 2 n = 692)

How satisfied or dissatisfied are you with your current walking ability?

VARIABLE NAME	MEASURE	Scale	Age Group	Sex*Age Group [n (% within cohort)]			
				Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
		1 = Very dissatisfied	**80-89**	16 (9.82)	8 (6.56)	9 (9.89)	3 (5.54)
		2 = Smwht dissatisfied		31 (19.02)	23 (18.85)	12 (13.19)	5 (9.09)
		3 = A little dissatisfied		28 (17.18)	21 (17.21)	12 (13.19)	11 (20.00)
		4 = Neutral		5 (3.07)	4 (3.28)	5 (5.49)	2 (3.64)
		5 = A little satisfied		8 (4.91)	7 (5.74)	6 (6.59)	5 (9.09)
		6 = Somewhat satisfied		37 (22.70)	32 (26.23)	16 (17.58)	14 (25.45)
		7 = Very satisfied		38 (23.31)	27 (22.13)	31 (34.07)	15 (27.27)
		Missing		1	0	0	0
		1 = Very dissatisfied	**90+**	1 (4.17)	3 (20.00)	1 (11.11)	0 (0.00)
		2 = Smwht dissatisfied		3 (12.50)	6 (40.00)	1 (11.11)	0 (0.00)
		3 = A little dissatisfied		7 (29.17)	2 (13.33)	2 (22.22)	2 (50.00)
		4 = Neutral		1 (4.17)	0 (0.00)	3 (33.33)	0 (0.00)
		5 = A little satisfied		1 (4.17)	0 (0.00)	0 (0.00)	0 (0.00)
		6 = Somewhat satisfied		6 (25.00)	3 (20.00)	0 (0.00)	1 (25.00)
		7 = Very satisfied		5 (20.83)	1 (6.67)	2 (22.22)	1 (25.00)
		Missing		0	0	0	0

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Health Self-Report: Stair climbing

(Visit 1 n = 994, Visit 2 n = 692)

How satisfied or dissatisfied are you with your current stair climbing ability?

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
stairs	stairs	1 = Very dissatisfied	**30-39**	3 (5.88)	1 (3.85)	2 (4.00)	1 (3.70)
		2 = Smwht dissatisfied		5 (9.80)	2 (7.69)	1 (2.00)	0 (0.00)
		3 = A little dissatisfied		5 (9.80)	1 (3.85)	2 (4.00)	2 (7.41)
		4 = Neutral		3 (5.88)	1 (3.85)	2 (4.00)	0 (0.00)
		5 = A little satisfied		5 (9.80)	0 (0.00)	4 (8.00)	1 (3.70)
		6 = Somewhat satisfied		7 (13.73)	1 (3.85)	13 (26.00)	7 (25.93)
		7 = Very satisfied		23 (45.10)	20 (76.92)	26 (52.00)	16 (59.26)
		Missing		0	0	0	0
		1 = Very dissatisfied	**40-49**	2 (3.77)	2 (6.90)	0 (0.00)	0 (0.00)
		2 = Smwht dissatisfied		4 (7.55)	0 (0.00)	2 (4.00)	0 (0.00)
		3 = A little dissatisfied		7 (13.21)	5 (17.24)	2 (4.00)	2 (5.88)
		4 = Neutral		4 (7.55)	1 (3.45)	4 (8.00)	3 (8.82)
		5 = A little satisfied		5 (9.43)	1 (3.45)	3 (6.00)	2 (5.88)
		6 = Somewhat satisfied		13 (24.53)	7 (24.14)	12 (24.00)	8 (23.53)
		7 = Very satisfied		18 (33.96)	13 (44.83)	27 (54.00)	19 (55.88)
		Missing		0	0	0	0
		1 = Very dissatisfied	**50-59**	4 (7.55)	3 (9.68)	0 (0.00)	2 (6.06)
		2 = Smwht dissatisfied		4 (7.55)	1 (3.23)	5 (10.42)	1 (3.03)
		3 = A little dissatisfied		9 (16.98)	1 (3.23)	9 (18.75)	4 (12.12)
		4 = Neutral		4 (7.55)	1 (3.23)	4 (8.33)	1 (3.03)
		5 = A little satisfied		6 (11.32)	3 (9.68)	3 (6.25)	2 (6.06)
		6 = Somewhat satisfied		15 (28.30)	8 (25.81)	11 (22.92)	11 (33.33)
		7 = Very satisfied		11 (20.75)	14 (45.16)	16 (33.33)	12 (36.36)
		Missing		0	0	1	0
		1 = Very dissatisfied	**60-69**	12 (12.00)	8 (9.64)	6 (5.94)	4 (4.71)
		2 = Smwht dissatisfied		8 (8.00)	9 (10.84)	8 (7.92)	5 (5.88)
		3 = A little dissatisfied		11 (11.00)	8 (9.64)	7 (6.93)	10 (11.76)
		4 = Neutral		6 (6.00)	4 (4.82)	3 (2.97)	1 (1.18)
		5 = A little satisfied		7 (7.00)	4 (4.82)	7 (6.93)	2 (2.35)
		6 = Somewhat satisfied		21 (21.00)	23 (27.71)	33 (32.67)	22 (25.88)
		7 = Very satisfied		35 (35.00)	27 (32.53)	37 (40.66)	41 (48.24)
		Missing		0	0	0	0
		1 = Very dissatisfied	**70-79**	7 (7.07)	5 (6.85)	7 (7.00)	1 (1.33)
		2 = Smwht dissatisfied		7 (7.07)	9 (12.33)	8 (8.00)	3 (4.00)
		3 = A little dissatisfied		16 (16.16)	12 (16.44)	8 (8.00)	9 (12.00)
		4 = Neutral		7 (7.07)	0 (0.00)	4 (4.00)	3 (4.00)
		5 = A little satisfied		7 (7.07)	4 (5.48)	10 (10.00)	2 (2.67)
		6 = Somewhat satisfied		30 (30.30)	21 (28.77)	27 (27.00)	23 (30.67)
		7 = Very satisfied		25 (25.25)	22 (30.14)	36 (36.00)	34 (45.33)
		Missing		0	0	0	0

PALS CODEBOOK

Health Self-Report: Stair climbing

(Visit 1 n = 994, Visit 2 n = 692)

How satisfied or dissatisfied are you with your current stair climbing ability?

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
		1 = Very dissatisfied	**80-89**	20 (12.27)	15 (12.30)	7 (7.69)	4 (7.27)
		2 = Smwht dissatisfied		35 (21.47)	22 (18.03)	7 (7.69)	6 (10.91)
		3 = A little dissatisfied		24 (14.72)	20 (16.39)	11 (12.09)	11 (20.00)
		4 = Neutral		6 (3.68)	4 (3.28)	5 (5.49)	4 (7.27)
		5 = A little satisfied		18 (11.04)	8 (6.56)	6 (6.59)	5 (9.09)
		6 = Somewhat satisfied		23 (14.11)	27 (22.13)	18 (19.78)	10 (18.18)
		7 = Very satisfied		37 (22.70)	26 (21.31)	37 (40.66)	15 (27.27)
		Missing		1	0	0	0
		1 = Very dissatisfied	**90+**	2 (8.33)	5 (33.33)	2 (22.22)	0 (0.00)
		2 = Smwht dissatisfied		0(0.00)	4 (26.67)	1 (11.11)	1 (25.00)
		3 = A little dissatisfied		3 (21.50)	1 (6.67)	1 (11.11)	2 (50.00)
		4 = Neutral		3 (21.50)	2 (13.33)	2 (22.22)	0 (0.00)
		5 = A little satisfied		3 (21.50)	0 (0.00)	1 (11.11)	0 (0.00)
		6 = Somewhat satisfied		7 (29.17)	3 (20.00)	1 (11.11)	0 (0.00)
		7 = Very satisfied		6 (25.00)	0 (0.00)	1 (11.11)	1 (25.00)
		Missing		0	0	0	0

PALS CODEBOOK

Health Self-Report: Lifting and carrying

(Visit 1 n = 994, Visit 2 n = 692)

How satisfied or dissatisfied are you with your current lifting and carrying ability?

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
lifting	lifting	1 = Very dissatisfied	**30-39**	4 (7.84)	1 (3.85)	2 (4.00)	1 (3.70)
		2 = Smwht dissatisfied		2 (3.92)	0 (0.00)	1 (2.00)	1 (3.70)
		3 = A little dissatisfied		1 (1.96)	2 (7.69)	3 (6.00)	1 (3.70)
		4 = Neutral		3 (5.88)	2 (7.69)	0 (0.00)	0 (0.00)
		5 = A little satisfied		7 (13.73)	0 (0.00)	6 (12.00)	2 (7.41)
		6 = Somewhat satisfied		9 (17.65)	4 (15.38)	13 (26.00)	5 (18.52)
		7 = Very satisfied		25 (49.02)	17 (65.38)	25 (50.00)	17 (62.96)
		Missing		0	0	0	0
		1 = Very dissatisfied	**40-49**	2 (3.77)	2 (6.90)	2 (4.00)	0 (0.00)
		2 = Smwht dissatisfied		3 (5.66)	0 (0.00)	0 (0.00)	2 (5.88)
		3 = A little dissatisfied		3 (5.66)	2 (6.90)	2 (4.00)	1 (2.94)
		4 = Neutral		4 (7.55)	1 (3.45)	4 (8.00)	1 (2.94)
		5 = A little satisfied		2 (3.77)	1 (3.45)	1 (2.00)	1 (2.94)
		6 = Somewhat satisfied		14 (26.42)	7 (24.14)	14 (28.00)	9 (26.47)
		7 = Very satisfied		25 (47.17)	16 (55.17)	27 (54.00)	20 (58.82)
		Missing		0	0	0	0
		1 = Very dissatisfied	**50-59**	2 (3.77)	2 (6.45)	2 (4.17)	3 (9.09)
		2 = Smwht dissatisfied		6 (11.32)	1 (3.23)	3 (6.25)	1 (3.03)
		3 = A little dissatisfied		5 (9.43)	1 (3.23)	7 (14.58)	2 (6.06)
		4 = Neutral		6 (11.32)	2 (6.45)	1 (2.08)	1 (3.03)
		5 = A little satisfied		1 (1.89)	2 (6.45)	3 (6.25)	1 (3.03)
		6 = Somewhat satisfied		21 (39.62)	9 (29.03)	10 (20.83)	13 (39.39)
		7 = Very satisfied		12 (22.64)	14 (45.16)	22 (45.83)	12 (36.36)
		Missing		0	0	1	0
		1 = Very dissatisfied	**60-69**	5 (5.00)	2 (2.41)	4 (3.96)	2 (2.35)
		2 = Smwht dissatisfied		7 (7.00)	2 (2.41)	7 (6.93)	5 (5.88)
		3 = A little dissatisfied		13 (13.00)	8 (9.64)	7 (6.93)	9 (10.59)
		4 = Neutral		7 (7.00)	8 (9.64)	5 (4.95)	1 (1.18)
		5 = A little satisfied		3 (3.00)	6 (7.23)	6 (5.94)	3 (3.53)
		6 = Somewhat satisfied		23 (23.00)	22 (26.51)	28 (27.72)	20 (23.53)
		7 = Very satisfied		42 (42.00)	35 (42.17)	44 (43.56)	45 (52.94)
		Missing		0	0	0	0
		1 = Very dissatisfied	**70-79**	2 (2.02)	4 (5.48)	5 (5.00)	1 (1.33)
		2 = Smwht dissatisfied		5 (5.05)	5 (6.85)	8 (8.00)	2 (2.67)
		3 = A little dissatisfied		12 (12.12)	6 (8.22)	6 (6.00)	5 (6.67)
		4 = Neutral		10 (10.10)	3 (4.11)	5 (5.00)	3 (4.00)
		5 = A little satisfied		6 (6.06)	9 (12.33)	2 (2.00)	4 (5.33)
		6 = Somewhat satisfied		30 (30.30)	25 (34.25)	18 (18.00)	26 (34.67)
		7 = Very satisfied		34 (34.34)	21 (28.77)	56 (56.00)	34 (45.33)
		Missing		0	0	0	0

PALS CODEBOOK

Health Self-Report: Lifting and carrying

(Visit 1 n = 994, Visit 2 n = 692)

How satisfied or dissatisfied are you with your current lifting and carrying ability?

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
		1 = Very dissatisfied	**80-89**	13 (7.98)	9 (7.44)	9 (9.89)	6 (10.91)
		2 = Smwht dissatisfied		19 (11.66)	13 (10.74)	6 (6.59)	4 (7.27)
		3 = A little dissatisfied		31 (19.02)	27 (22.31)	4 (4.40)	8 (14.55)
		4 = Neutral		11 (6.75)	7 (5.79)	10 (10.99)	7 (12.73)
		5 = A little satisfied		13 (7.98)	6 (4.96)	8 (8.79)	4 (7.27)
		6 = Somewhat satisfied		32 (19.63)	29 (23.97)	22 (24.18)	12 (21.82)
		7 = Very satisfied		44 (26.99)	30 (24.79)	32 (35.16)	14 (25.45)
		Missing		1	1	0	0
		1 = Very dissatisfied	**90+**	2 (8.33)	3 (20.00)	1 (11.11)	0 (0.00)
		2 = Smwht dissatisfied		2 (8.33)	5 (33.33)	2 (22.22)	1 (25.00)
		3 = A little dissatisfied		4 (16.67)	1 (6.67)	0 (0.00)	0 (50.00)
		4 = Neutral		3 (12.50)	1 (6.67)	3 (33.33)	0 (0.00)
		5 = A little satisfied		1 (4.17)	1 (6.67)	0 (0.00)	0 (0.00)
		6 = Somewhat satisfied		4 (16.67)	2 (13.33)	1 (11.11)	0 (0.00)
		7 = Very satisfied		8 (25.00)	2 (13.33)	2 (22.22)	3 (75.00)
		Missing		0	0	0	0

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Health Self-Report: Health Limitations

(Visit 1 n = 994, Visit 2 n = 692)

The Physical Performance Cohort Participant Questionnaire includes 3 questions related to health limitations:

- Current health problem
- Vision
- Hearing

The Current Health Problem question is used in the Survey of Health, Ageing and Retirement in Europe (SHARE), a multidisciplinary and cross-national panel database of micro data on health, socio-economic status and social and family networks of more than 85,000 individuals.

PPCPQ #5 Current Health Problem is Question PH005 in the Physical Health Module of the SHARE interview protocol. The question may also be referred to as the Global Activity Limitation Index (GALI) in research literature.

Vision and Hearing questions are from the Baseline Questionnaire for the North Carolina cohort of the EPESE (Established Populations for Epidemiologic Studies of the Elderly) study.
https://www.ncbi.nlm.nih.gov/pubmed/8481423
PPCPQ #6 Vision=EPESE Question 94; PPCPQ #7 Hearing=EPESE Question 87.

SHARE - Survey of Health, Ageing and Retirement in Europe. http://www.share-project.org/home0.html

Taylor, James O., Robert B. Wallace, Adrian M.Ostfeld, and Dan G. Blazer. ESTABLISHEDPOPULATIONS FOR EPIDEMIOLOGIC STUDIES OF THEELDERLY, 1981-1993: [EAST BOSTON, MASSACHUSETTS, IOWA AND WASHINGTON COUNTIES, IOWA, NEW HAVEN, CONNECTICUT, AND NORTH CENTRAL NORTH CAROLINA] [Computer file]. 3rd ICPSR version. Bethesda, MD: National Institute on Aging [producer], 1997. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [distributor], 1998

PALS CODEBOOK

Health Self-Report: Limited by Health Problem

(Visit 1 n = 994, Visit 2 n = 692)

For the past 6 months at least, to what extent have you been limited because of a health problem in activities people usually do?

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
limited	Limited by health	1 = Severely limited 2 = Lmtd, not severely 3 = Not limited Missing	**30-39**	2 (3.92) 4 (7.84) 45 (88.24) 0	0 (0.00) 3 (11.54) 23 (88.46) 0	0 (0.00) 7 (14.00) 43 (86.00) 0	0 (0.00) 6 (22.22) 21 (77.88) 0
		1 = Severely limited 2 = Lmtd, not severely 3 = Not limited Missing	**40-49**	2 (3.77) 15 (28.30) 36 (67.92) 0	0 (0.00) 9 (31.03) 20 (68.97) 0	2 (4.00) 4 (8.00) 44 (88.00) 0	0 (0.00) 6 (17.65) 28 (82.35) 0
		1 = Severely limited 2 = Lmtd, not severely 3 = Not limited Missing	**50-59**	2 (3.77) 20 (37.74) 31 (58.49) 0	1 (3.23) 4 (12.90) 26 (83.87) 0	2 (4.17) 13 (27.08) 33 (68.75) 1	2 (6.06) 8 (24.24) 23 (69.70) 0
		1 = Severely limited 2 = Lmtd, not severely 3 = Not limited Missing	**60-69**	3 (3.00) 31 (31.00) 66 (66.00) 0	1 (1.20) 24 (28.92) 58 (69.88) 0	2 (1.98) 25 (24.75) 74 (73.27) 0	2 (2.35) 29 (34.12) 54 (63.53) 0
		1 = Severely limited 2 = Lmtd, not severely 3 = Not limited Missing	**70-79**	1 (1.01) 31 (31.31) 67 (67.68) 0	1 (1.37) 22 (30.14) 50 (68.49) 0	1 (1.00) 22 (22.00) 77 (77.00) 0	2 (2.67) 24 (32.00) 49 (65.33) 0
		1 = Severely limited 2 = Lmtd, not severely 3 = Not limited Missing	**80-89**	4 (2.45) 83 (50.92) 76 (46.63) 1	5 (4.10) 58 (47.54) 59 (48.36) 0	5 (5.49) 35 (38.46) 51 (56.04) 0	3 (5.45) 25 (45.45) 27 (49.09) 0
		1 = Severely limited 2 = Lmtd, not severely 3 = Not limited Missing	**90+**	3 (12.50) 9 (37.50) 12 (50.00) 0	1 (6.67) 9 (60.00) 5 (33.33) 0	1 (11.11) 3 (33.33) 5 (55.56) 0	0 (0.00) 2 (50.00) 2 (50.00) 0

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Health Self-Report: Vision

(Visit 1 n = 994, Visit 2 n = 692)

With regard to your vision, can you see well enough to read large print such as newspaper headlines (wearing eye glasses, or contact lenses if you use them)?

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
vision	Vision	0 = No 1 = Yes Missing	**30-39**	2 (3.92) 49 (96.08) 0	0 (0.00) 25 (100.00) 1	0 (0.00) 50 (100.00) 0	0 (0.00) 27 (100.00) 0
		0 = No 1 = Yes Missing	**40-49**	0 (0.00) 53 (100.00) 0	0 (0.00) 29 (100.00) 0	1 (2.00) 49 (98.00) 0	0 (0.00) 34 (100.00) 0
		0 = No 1 = Yes Missing	**50-59**	0 (0.00) 53 (100.00) 0	0 (0.00) 31 (100.00) 0	2 (4.17) 46 (95.83) 1	0 (0.00) 33 (100.00) 0
		0 = No 1 = Yes Missing	**60-69**	2 (2.00) 98 (98.00) 0	0 (0.00) 83 (100.00) 0	0 (0.00) 101 (100.00) 0	1 (1.18) 84 (98.82) 0
		0 = No 1 = Yes Missing	**70-79**	0 (0.00) 99 (100.00) 0	0 (0.00) 73 (100.00) 0	1 (1.00) 99 (99.00) 0	0 (0.00) 33 (100.00) 0
		0 = No 1 = Yes Missing	**80-89**	3 (1.84) 160 (98.16) 1	4 (3.28) 118 (96.72) 0	2 (2.20) 89 (97.80) 0	1 (1.82) 54 (98.18) 0
		0 = No 1 = Yes Missing	**90+**	0 (0.00) 24 (100.00) 0	1 (6.67) 14 (93.33) 0	1 (11.11) 8 (88.89) 0	0 (0.00) 4 (100.00) 0

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Health Self-Report: Hearing

(Visit 1 n = 994, Visit 2 n = 692)

With regard to your hearing, can you usually hear and understand what a person says without seeing his face if that person talks in a normal voice to you in a quiet room?

VARIABLE NAME	MEASURE	Scale		Sex*Age Group [n (% within cohort)]			
			Age Group	Female Visit 1	Female Visit 2	Male Visit 1	Male Visit 2
hearing	Hearing	0 = No 1 = Yes Missing	**30-39**	1 (1.96) 50 (98.04) 0	1 (4.00) 24 (96.00) 1	0 (0.00) 50 (100.00) 0	0 (0.00) 27 (100.00) 0
		0 = No 1 = Yes Missing	**40-49**	3 (5.66) 50 (94.34) 0	3 (10.34) 26 (89.66) 0	3 (6.00) 47 (94.00) 0	1 (2.94) 33 (97.06) 0
		0 = No 1 = Yes Missing	**50-59**	3 (5.66) 50 (94.34) 0	1 (3.23) 30 (96.77) 0	2 (4.17) 46 (95.83) 1	1 (3.03) 32 (96.97) 0
		0 = No 1 = Yes Missing	**60-69**	8 (8.00) 92 (92.00) 0	7 (8.43) 76 (91.57) 0	8 (7.92) 93 (92.08) 0	7 (8.24) 78 (91.76) 0
		0 = No 1 = Yes Missing	**70-79**	8 (8.16) 90 (91.84) 1	9 (12.33) 64 (87.67) 0	15 (15.15) 84 (84.85) 1	11 (14.67) 64 (85.33) 0
		0 = No 1 = Yes Missing	**80-89**	26 (15.95) 137 (84.05) 1	19 (15.57) 103 (84.43) 0	12 (13.19) 79 (86.81) 0	10 (18.18) 45 (81.82) 0
		0 = No 1 = Yes Missing	**90+**	2 (8.33) 22 (91.67) 0	3 (20.00) 12 (80.00) 0	0 (0.00) 9 (100.00) 0	1 (25.00) 3 (75.00) 0

PALS CODEBOOK

INFLAMMATORY BIOMARKER DATA

PALS CODEBOOK

Inflammatory Biomarker Data

(Visit 1 n = 972, Visit 2 To Be Assayed)

The first set of biomarker assays, including Adiponectin, IL-6, TNFRI and TNFRII, was done in Spring 2016 (working n=860). Remaining assays were completed in Spring 2017 (n=112). Additional biomarkers including G-CSF, IL-2, MMP-3, Paraoxonase, RANTES, and TNF-α, were measured on the complete set of Visit 1 samples (n=972) in Fall 2017.Visit 2 samples remain to be assayed.

All analytes, with the exception of Paraoxonase, were measured by immunoassay.TNF-α, TNFR-I, TNFR-II, IL-2, IL-6, G-CSF, RANTES, MMP-3 and adiponectin were quantified by immunoassay using electrochemi-luminescence detection (Mesoscale Discovery Systems, Rockville, MD). VCAM-1 and d-dimer were quantified by ELISA using colorimetric detection (R&D Systems, Minneapolis, MN and Sekisui Diagnostics, Lexington, MA, respectively). Paraoxonase activity was quantified by measuring its organophosphatase activity using a fluorometric assay (Invitrogen Molecular Probes, Waltham, MA). Table 1 provides a detailed description of the biomarker assays used in this study as well as the sample volume requirements.

Table 1. Description of biomarker assays used in PALS analysis

Analyte	Vendor	Catalog Number	Required Volume	Dilution
Adiponectin	MesoScale Discovery	K151BXC	10 µl	1000-fold
D-dimer	Sekisui Diagnostics	602	15 µl	20-fold
G-CSF	MesoScale Discovery	K151IPC	25 µl	Undiluted
IL-2*	MesoScale Discovery	K151AOH	25 µl	2-fold
IL-6	MesoScale Discovery	K151QXD	25 µl	2-fold
MMP-3	MesoScale Discovery	K151FZC	10 µl	10-fold
Paraoxonase	Invitrogen	E33702	5 µl	50-fold
RANTES	MesoScale Discovery	K151BFC	5 µl	101-fold
TNF-α*	MesoScale Discovery	K151QWD	25 µl	2-fold
TNFRI+	MesoScale Discovery	K151BIC	10 µl	10-fold
TNFRII+	MesoScale Discovery	K151BJC	10 µl	10-fold
sVCAM-1	R & D Systems	DVC00	5 µl	20-fold

*IL2/TNF-α and + TNFRI/TNFRII multiplex

In order to minimize the volume of samples used, several assays were combined in a multiplex assay as indicated. A Human Control Plasma sample was provided by the Biomarkers Shared Resource and run in duplicate on every plate to assess variability as well as establish a control range for each assay (mean ± 2SD). Manufacturer-provided controls were available for D-dimer and run in duplicate on each plate in addition to the HCP to assess intra- and inter- assay variability and to establish an acceptable control range.

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Inflammatory Biomarker Data

(Visit 1 n = 972, Visit 2 To Be Assayed)

Table 2 contains the Visit 1 ONLY biomarker concentrations for each of the analytes as well as measures of precision including the lowest level of detection (LLOD) and mean intra- (within plate) and inter- (between plate) assay variability for each assay. With the exception on IL-2, all biomarkers had the majority of values within the detectable range of the assay. For concentrations having values <LLOD, ½ LLOD can be imputed for the purposes of statistical analyses.

Table 2. Biomarker Concentrations and Measures of Precision

Analyte	Number	Mean (SD)	Range	LLOD	% > LLOD	Intra-assay CV (%)	Inter-assay CV (%)
Adiponectin	971	21.35(14.32) ng/ml	2.40-184.69 ng/ml	0.008 ng/ml	100	3.4	3.6
D-dimer	971	567.20 (509.02)	33.77-5473.80	2-4 ng/ml	100	2.2	4.2
G-CSF	968	12.48 (5.36) pg/ml	2.18-41.42 pg/ml	0.92 pg/ml	100	4.8	5.9
IL-2	972	0.12 (0.22) pg/ml	0.02-5.28 pg/ml	0.04 pg/ml	53	2.0	1.3
IL-6	971	2.61 (23.91) pg/ml	0.04-637.77 pg/ml	0.07 pg/ml	99	4.1	9.8
MMP-3	968	16510.67 (12155.06) pg/ml	2790.33-147297.58 pg/ml	2.6 pg/ml	100	3.8	3.5
Paraoxonase	968	0.0016 (0.0004) U/µl	1.844E-05-0.006 U/µl	N/A	100	1.1	6.1
RANTES	971	73208.70 (57868.45) pg/ml	1268.52-314675.33 pg/ml	0.67 pg/ml	100	4.6	3.9
TNF-α	971	2.49 (1.09) pg/ml	0.02-10.81 pg/ml	0.03 pg/ml	99	4.4	10.6
TNFRI	972	2986.30 (1382.98) pg/ml	1079.89-19021.47 pg/ml	7.7 pg/ml	100	4.6	8.2
TNFRII	972	4464.88 (2306.22) pg/ml	1427.57-24069.19 pg/ml	0.32 pg/ml	100	4.3	3.0
sVCAM-1	971	1603.22 (400.55) ng/ml	398.83-3877.70 ng/ml	0.6 ng/ml	100	3.9	8.5

Consult with a statistician as needed for guidance with these data.

PALS publication:

Parker D, Sloane R, Pieper CF, Hall KS, Kraus VB, Kraus WE, Huebner JL, Ilkayeva OR, Bain JR, Newby LK, Cohen HJ, Morey MC. Age-Related Adverse Inflammatory and Metabolic Changes Begin Early in Adulthood. *J Gerontol A Biol Sci Med Sci.* 2019 Feb 15;74(3):283-289. doi:10.1093/gerona/gly121

Prior Pepper research:

Lum H, Sloane R, Huffman KM, Kraus VB, Thompson DK, Kraus WE, Bain JR, Stevens R, Pieper CF, Taylor GA, Newgard CB, Cohen HJ, Morey MC. Plasma acylcarnitines are associated with physical performance in elderly men. *J Gerontol A Biol Sci Med Sci.* 2011 May;66(5):548-53. doi:10.1093/gerona/glr006

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METABOLOMICS DATA

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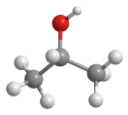
CONVENTIONAL METABOLITES

(Visit 1 n = 972, Visit 2 To Be Assayed)

Conventional metabolites assessed: Glucose (mg/dL), Triglycerides (mg/dL) NEFA (mmol/L), Total Ketones (µmol/L), 3-OH butyrate (µmol/L), Uric Acid (mg/dL), Lactate (mmol/L).



VARIABLE NAME	MEASURE	Stats	Visit 1	Visit 2
glu	Glucose (mg/dL)	n Range Mean SD Missing	972 (100.0) 52.0 – 439.0 112.65 33.37 0	
trig	Triglycerides (mg/dL)	n Range Mean SD Missing	972 (100.0) 39.0 – 754.0 157.99 91.83 0	
nefa	NEFA (mmol/L)	n Range Mean SD Missing	972 (100.0) 0.02 – 2.06 0.44 0.28 0	
ket	Total Ketones (µmol/L)	n Range Mean SD Missing	972 (100.0) 10.3 – 1312.2 98.91 110.61 0	
hbut	3-OH butyrate (µmol/L)	n Range Mean SD Missing	972 (100.0) 2.2 – 1051.6 59.40 83.60 0	
uric	Uric Acid (mg/dL)	n Range Mean SD Missing	972 (100.0) 2.1 – 11.0 5.53 1.37 0	
lact	Lactate (mmol/L)	n Range Mean SD Missing	972 (100.0) 0.50 – 7.60 1.74 0.93 0	

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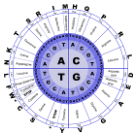
AMINO ACIDS

(Visit 1 n = 972, Visit 2 To Be Assayed)

Amino acids assessed (µg/ml): Glycine, Alanine, Serine, Proline, Valine, Leucine/Isoceucine, Methionine, Histidine, Phenylalanine, Tyrosine, Aspartate, Glutamate, Ornithine, Citrulline, Arginine



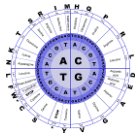
LAB NOTE: *Glx* and *Asx* are glutamate and aspartate respectively with some contribution from glutamine and asparagine. Glutamine and asparagine convert to glutamate and aspartate respectively during the sample prep (during hot acidic esterification). In other words, *Glx* and *Asx* are rough estimates for glutamate and aspartate.

VARIABLE NAME	MEASURE	Stats	Visit 1	Visit 2
gly	Glycine (µg/ml)	n Range Mean SD Missing	972 (100.0) 171.30–796.10 322.11 85.95 0	
ala	Alanine (µg/ml)	n Range Mean SD Missing	972 (100.0) 187.11–981.23 441.42 111.58 0	
ser	Serine (µg/ml)	n Range Mean SD Missing	972 (100.0) 49.22 -190.73 100.56 22.08 0	
pro	Proline (µg/ml)	n Range Mean SD Missing	972 (100.0) 77.74–795.53 228.73 76.30 0	
val	Valine (µg/ml)	n Range Mean SD Missing	972 (100.0) 108.7–657.46 246.29 60.33 0	
leu_ile	Leucine/ Isoleucine (µg/ml)	n Range Mean SD Missing	972 (100.0) 57.24-671.65 167.72 53.62 0	
met	Methionine (µg/ml)	n Range Mean SD Missing	972 (100.0) 12.00 - 73.36 27.68 7.88 0	

PALS CODEBOOK
AMINO ACIDS

(Visit 1 n = 972, Visit 2 To Be Assayed)

Amino acids assessed (µg/ml): Glycine, Alanine, Serine, Proline, Valine, Leucine/Isoceucine, Methionine, Histidine, Phenylalanine, Tyrosine, Aspartate, Glutamate, Ornithine, Citrulline, Arginine



LAB NOTE: *Glx* and *Asx* are glutamate and aspartate respectively with some contribution from glutamine and asparagine. Glutamine and asparagine convert to glutamate and aspartate respectively during the sample prep (during hot acidic esterification). In other words, *Glx* and *Asx* are rough estimates for glutamate and aspartate.

VARIABLE NAME	MEASURE	Stats	Visit 1	Visit 2
his	Histidine (µg/ml)	n Range Mean SD Missing	972 (100.0) 47.09 - 138.14 80.78 12.36 0	
phe	Phenylalanine (µg/ml)	n Range Mean SD Missing	972 (100.0) 27.68 - 152.02 64.77 13.09 0	
tyr	Tyrosine (µg/ml)	n Range Mean SD Missing	972 (100.0) 31.30 - 190.04 71.98 19.39 0	
asx	Asparagine (µg/ml)	n Range Mean SD Missing	972 (100.0) 28.86 - 735.58 60.36 37.08 0	
glx	Glutamine (µg/ml)	n Range Mean SD Missing	972 (100.0) 46.78 - 222.89 103.19 29.10 0	
orn	Ornithine (µg/ml)	n Range Mean SD Missing	972 (100.0) 30.66 - 171.56 71.35 18.12 0	
cit	Citrulline (µg/ml)	n Range Mean SD Missing	972 (100.0) 9.84 - 198.14 39.02 13.87 0	
arg	Arginine (µg/ml)	n Range Mean SD Missing	972 (100.0) 37.19 - 183.07 91.44 22.06 0	

PALS CODEBOOK
ACYLCARNITINES

(Visit 1 n = 972, Visit 2 To Be Assayed)

Several short- medium- and long-chain acylcarnitines were assessed.

VARIABLE NAME	MEASURE (µM)	Stats	Visit 1	Visit 2
C2	C2	n Range Mean SD Missing	972 (100.0) 2.1133 - 19.3659 7.4219 2.7739 0	
C3	C3	n Range Mean SD Missing	972 (100.0) 0.1067 - 1.6973 0.4046 0.1501 0	
C4_Ci4	C4/Ci4	n Range Mean SD Missing	972 (100.0) 0.0507 - 0.8546 0.2307 0.1007 0	
C5_1	C5:1	n Range Mean SD Missing	972 (100.0) 0.0290 - 1.2403 0.2701 0.1206 0	
C5	C5	n Range Mean SD Missing	972 (100.0) 0.0223 - 0.7525 0.1406 0.0735 0	
C4_OH	C4-O	n Range Mean SD Missing	972 (100.0) 0 - 0.2025 0.0372 0.0243 0	
C6	C6	n Range Mean SD Missing	972 (100.0) 0 - 0.7019 0.0226 0.0552 0	
C5_OH_ C3_DC	C5-OH/ C3-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.3187 0.0273 0.0256 0	

PALS CODEBOOK
ACYLCARNITINES

(Visit 1 n = 972, Visit 2 To Be Assayed)

Several short- medium- and long-chain acylcarnitines were assessed.

VARIABLE NAME	MEASURE (µM)	Stats	Visit 1	Visit 2
C4_DC_ Ci4_DC	C4-DC/ Ci4-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.3110 0.0400 0.0191 0	
C8_1	C8:1	n Range Mean SD Missing	972 (100.0) 0 - 1.6396 0.2980 0.1625 0	
C8	C8	n Range Mean SD Missing	972 (100.0) 0 - 2.2196 0.1248 0.1163 0	
C5_DC	C5-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.3763 0.0481 0.0264 0	
C8_1_OH_ C6_1_DC	C8:1OH/ C6:1-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.2592 0.0431 0.0200 0	
C6_DC_C8_ OH	C6-DC/ C8-OH	n Range Mean SD Missing	972 (100.0) 0 - 0.8158 0.0712 0.0487 0	
C10_3	C10:3	n Range Mean SD Missing	972 (100.0) 0.0165 - 0.5849 0.1135 0.0639 0	
C10_2	C10:2	n Range Mean SD Missing	972 (100.0) 0 - 0.2162 0.0365 0.0199 0	
C10_1	C10:1	n Range Mean SD Missing	972 (100.0) 0 - 0.7287 0.1687 0.0871 0	

PALS CODEBOOK
ACYLCARNITINES

(Visit 1 n = 972, Visit 2 To Be Assayed)

Several short- medium- and long-chain acylcarnitines were assessed.

VARIABLE NAME	MEASURE (µM)	Stats	Visit 1	Visit 2
C10	C10	n Range Mean SD Missing	972 (100.0) 0 - 3.3783 0.2315 0.1862 0	
C7_DC	C7-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.1813 0.0039 0.0151 0	
C8_1_DC	C8:1-DC	n Range Mean SD Missing	972 (100.0) 0.0072- 0.1678 0.0333 0.0156 0	
C10_OH_ C8_DC	C10-OH/ C8-DC	n Range Mean SD Missing	972 (100.0) 0 - 1.1653 0.0675 0.0454 0	
C12_1	C12:1	n Range Mean SD Missing	972 (100.0) 0 - 0.3666 0.1000 0.0518 0	
C12	C12	n Range Mean SD Missing	972 (100.0) 0.0142 - 0.5571 0.0851 0.0453 0	
C12_OH_ C10_DC	C12-OH/ C10-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.1054 0.0064 0.0093 0	
C14_2	C14:2	n Range Mean SD Missing	972 (100.0) 0 - 0.2211 0.0382 0.0222 0	
C14_1	C14:1	n Range Mean SD Missing	972 (100.0) 0 - 0.40140 0.0621 0.0363 0	

PALS CODEBOOK
ACYLCARNITINES

(Visit 1 n = 972, Visit 2 To Be Assayed)

Several short- medium- and long-chain acylcarnitines were assessed.

VARIABLE NAME	MEASURE (µM)	Stats	Visit 1	Visit 2
C14	C14	n Range Mean SD Missing	972 (100.0) 0 - 0.1250 0.0269 0.0109 0	
C14_1_OH	C14:1-OH	n Range Mean SD Missing	972 (100.0) 0 - 0.0499 0.0146 0.0061 0	
C14_OH_ C12_DC	C14-OH/ C12-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.0784 0.0096 0.0052 0	
C16_2	C16:2	n Range Mean SD Missing	972 (100.0) 0 - 0.0681 0.0071 0.0077 0	
C16_1	C16:1	n Range Mean SD Missing	972 (100.0) 0 - 0.1124 0.0193 0.0106 0	
C16	C16	n Range Mean SD Missing	972 (100.0) 0.0311 - 0.1735 0.0765 0.0208 0	
C16_1_OH_ C14_1_DC	C16:1-OH/ C14:1-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.0610 0.0071 0.0034 0	
C16_OH_ C14_DC	C16-OH/ C14-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.0497 0.0042 0.0030 0	
C18_2	C18:2	n Range Mean SD Missing	972 (100.0) 0 - 0.1260 0.0452 0.0166 0	

PALS CODEBOOK
ACYLCARNITINES

(Visit 1 n = 972, Visit 2 To Be Assayed)

Several short- medium- and long-chain acylcarnitines were assessed.

VARIABLE NAME	MEASURE (µM)	Stats	Visit 1	Visit 2
C18_1	C18:1	n Range Mean SD Missing	972 (100.0) 0.0241 - 0.2218 0.0820 0.0283 0	
C18	C18	n Range Mean SD Missing	972 (100.0) 0.0146 - 0.0888 0.0358 0.0100 0	
C18_2_OH	C18:2-OH	n Range Mean SD Missing	972 (100.0) 0 - 0.0474 0.0062 0.0036 0	
C18_1_OH_ C16_1_DC	C18:1-OH/ C16:1-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.0432 0.0052 0.0030 0	
C18_OH_ C16_DC	C18-OH/ C16-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.1460 0.0067 0.0075 0	
C20_4	C20:4	n Range Mean SD Missing	972 (100.0) 0.0507 - 0.0484 0.0067 0.0029 0	
C20	C20	n Range Mean SD Missing	972 (100.0) 0 - 0.0191 0.0048 0.0021 0	
C18_1_DC	C18:1-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.1147 0.0079 0.0735 0	
C20_OH_ C18_DC	C20-OH/ C18-DC	n Range Mean SD Missing	972 (100.0) 0 - 0.1527 0.0081 0.0060 0	

PALS CODEBOOK
ACYLCARNITINES

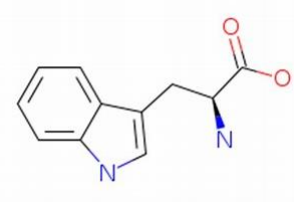
(Visit 1 n = 972, Visit 2 To Be Assayed)

Several short- medium- and long-chain acylcarnitines were assessed.

VARIABLE NAME	MEASURE (µM)	Stats	Visit 1	Visit 2
C22	C22	n Range Mean SD Missing	972 (100.0) 0 - 0.0279 0.0056 0.0028 0	

PALS CODEBOOK
Kynurenine Pathway Metabolites
(Visits 1+2 n = 315)

Parker DC, Kraus WE, Whitson HE, Kraus VB, Smith PJ, Cohen HJ, Pieper CF, Faldowski RA, Hall KS, Huebner JL, Ilkayeva OR, Bain JR, Newby LK, Huffman KM. Tryptophan Metabolism and Neurodegeneration: Longitudinal Associations of Kynurenine Pathway Metabolites with Cognitive Performance and Plasma Alzheimer's Disease and Related Dementias Biomarkers in the Duke Physical Performance Across the LifeSpan Study. *J Alzheimers Dis*. 2023;91(3):1141-1150. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10074831/



This study assessed these variables in a subset of PALS participants aged ≥55 with available data and plasma at the baseline and two-year assessments (*n*=301).

NOTE: Sample size n=315. The manuscript included only participants with complete data for *all* outcome measures (e.g. in some cases a MoCA score or other variable may have been missing). Add'l derived variables include KYN/TRP, KA/KYN and Aß42/Aß40 ratios.

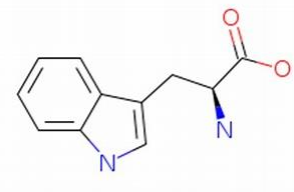
VARIABLE NAME	MEASURE	Stats	Visit 1	Visit 2
Ab40_1 **Ab40_2**	Aß40 Amyloid-ß 40 (pg/ml)	n Range Mean SD Missing	308 (97.8) 62.2638 – 304.2627 116.9077362 35.6857639 7	315 (100.0) 19.12489 – 264.1577 109.2570248 28.6453657 0
Ab42_1 **Ab42_2**	Aß42 Amyloid-ß 42 (pg/ml)	n Range Mean SD Missing	308 (97.8) 2.55549 – 14.95071 6.8806261 1.8730367 7	314 (99.7) 1.612442 – 11.69017 6.6130153 1.8451060 1
gfap_1 **gfap_2**	GFAP (glial fibrillary acidic protein) (pg/ml)	n Range Mean SD Missing	308 (97.8) 32.06518– 691.9487 176.0172859 104.7738337 7	315 (100.0) 19.70645 – 594.874 170.1351076 100.0258635 0
nfl_1 **nfl_2**	NfL (neurofilament light) (pg/ml)	n Range Mean SD Missing	308 (97.8) 5.463553 – 93.02016 26.909135 15.4812590 7	315 (100.0) 3.668339 – 124.3715 28.3359831 17.1196515 0
ptau_1 **ptau_2**	pTau-181 (neurofibrillary tau pathology) (pg/ml)	n Range Mean SD Missing	315 (100.0) 0.862815 – 23.51078 3.3613991 2.4146493 0	309 (98.1) 0.996337 – 27.7037500 3.5356209 2.7751108 6
kyn_1 **kyn_2**	KYN (kynurenine) (µg/ml)	n Range Mean SD Missing	313 (99.4) 0.857608 – 4.708541 1.8057827 0.5284274 2	315 (100.0) 0.9657910 – 5.9731820 1.8456799 0.5731016 0

PALS CODEBOOK

Kynurenine Pathway Metabolites

(Visits 1+2 n = 315)

Parker DC, Kraus WE, Whitson HE, Kraus VB, Smith PJ, Cohen HJ, Pieper CF, Faldowski RA, Hall KS, Huebner JL, Ilkayeva OR, Bain JR, Newby LK, Huffman KM. Tryptophan Metabolism and Neurodegeneration: Longitudinal Associations of Kynurenine Pathway Metabolites with Cognitive Performance and Plasma Alzheimer's Disease and Related Dementias Biomarkers in the Duke Physical Performance Across the LifeSpan Study. *J Alzheimers Dis*. 2023;91(3):1141-1150. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10074831/



This study assessed these variables in a subset of PALS participants aged ≥55 with available data and plasma at the baseline and two-year assessments (*n*=301).

NOTE: Sample size n=315. The manuscript included only participants with complete data for *all* outcome measures (e.g. in some cases a MoCA score or other variable may have been missing). Add'l derived variables include KYN/TRP, KA/KYN and Aß42/Aß40 ratios.

VARIABLE NAME	MEASURE	Stats	Visit 1	Visit 2
kyna_1 **kyna_2**	KA (kynurenic acid) (µg/ml)	n Range Mean SD Missing	313 (99.4) 0.0166070 – 0.3572720 0.0571115 0.0341124 2	315 (100.0) 0.015579 – 0.177921 0.0567184 0.0267140 0
tryp_1 **tryp_2**	TRP (tryptophan) (µg/ml)	n Range Mean SD Missing	313 (99.4) 21.33394 – 94.25761 53.3835347 10.7878846 2	315 (100.0) 17.86359 – 99.85451 51.9095996 11.8474668 0
eotaxin_1 **eotaxin_2**	Eotaxin (CCL-11 or eosinophil chemotactic protein) (pg/ml)	n Range Mean SD Missing	311 (98.7) 82.55525 – 734.1312 203.9923656 82.9714197 4	315 (100.0) 68.20799 – 3205.52 241.4261455 257.3759371 0
gdf15_1 **gdf15_2**	GDF-15 (growth differentiation factor 15) (pg/ml)	n Range Mean SD Missing	311 (98.7) 324.4142 – 4614.82 1195.61 669.7154937 4	315 (100.0) 250.1115 – 6171.49 1306.04 769.32335 0
mcp_1 **mcp_2**	MCP-1 (monocyte chemoattractant protein-1) (pg/ml)	n Range Mean SD Missing	311 (98.7) 33.18184– 606.2531000 141.9737565 48.814522 4	315 (100.0) 40.98622– 771.0305 150.1168813 61.9215362 0
ykl_1 **ykl_2**	YKL-40 (pg/ml)	n Range Mean SD Missing	311 (98.7) 7774.32 – 512658.4 61511.85 53843.18 4	315 (100.0) 9726.15 – 752742.10 75928.24 81769.45 0

PALS CODEBOOK

ACCELEROMETRY DATA

PALS CODEBOOK
Accelerometry Data

(n may vary depending on scoring protocol)

Choi+Lee protocol: Visit 1 n = 673, Visit 2 n = 483
Visits 1 & 2 n=340
NOTE: Many PPTs with Visit 2 data lacked Accelerometer data for Visit 1.

2 Visit 1 PPTs (160051 160214) had an add'l non-contiguous day of accelerometer data comprised primarily of sedentary activity. These days were not included in summaries.

Accelerometry data may be scored by a number of algorithms. Consult with Katherine Hall for the option best suited for your research inquiry.

Activity is generally classified into 3 levels:

- Sedentary
- Light
- Moderate-to-vigorous physical activity (MVPA)

Additional variables include daily step counts, sedentary bouts and breaks, and MET (metabolic equivalent of task) data, among others, and these may be calculated with different protocols.

NOTE: Younger cohorts included a number of First Responders, who were unable to wear accelerometers due to work protocols and therefore unable to participate in data collection.

PALS CODEBOOK

Accelerometry Data

PALS participants were provided an Actigraph GT3X+ accelerometer (ActiGraph Corp, Pensacola, Florida) and asked to wear the device on the hip for 7 consecutive days, removing it only during sleep and water-based activities (e.g., showering, water aerobics). Accelerometry data collection was repeated at the Year 2 PALS visit. Participation in this element of data collection was voluntary (participants were free to decline the accelerometer and remain in the study). At baseline, 745 of the 1000 participants agreed to wear the accelerometer. At Time 2, 530 of the 692 participants agreed to wear the accelerometer.

Participants returned the devices by mail, and data were screened for wear time using standard techniques (Choi, 2011, 2012; Lee, 2018; see Figure 1 below). Only participants wearing the device for 10 hours/day or more on 4 or more days (convention for compliant wear) are included in analyses. At baseline, n=684/745 (92% of those with device data). At Time 2, n=507/530 (96% of those with device data).

The accelerometer data were collected at 30 Hz and aggregated into 60-second, time-stamped epochs using the normal filter.

Hall PALS. Note: the PA stats reported in this paper were analyzed using slightly different procedures (Troiano 2008 algorithm).

Choi L, Liu Z, Matthews CE, Buchowski MS. Validation of accelerometer wear and nonwear time classification algorithm. *Med Sci Sports Exerc.* 2011; 43(2): 357-64. 10.1249/MSS.0b013e3181ed61a3

Choi L, Ward SC, Schnelle JF, Buchowski MS. Assessment of wear/nonwear time classification algorithms for triaxial accelerometer. *Med Sci Sports Exerc*. 2012; 44(10): 2009-16. 10.1249/MSS.0b013e318258cb36

Lee I-M, Shiroma EJ, Evenson KR, Kamada M, LaCroiz AZ, Buring JE. Using devices to assess physical activity and sedentary behavior in a large cohort study: the Women's Health Study. *J Meas Phys Behav*. 2018; 1(2): 60-69. 10.1123/jmpb.2018-0005

Sasaki JE, John D, Freedson PS. Validation and comparison of ActiGraph activity monitors. *J Sci Med Sport*. 2011; 14(5): 411-6. 10.1016/j.jsams.2011.04.003

Aguilar-Farias N, Brown WJ, Peeters GM. ActiGraph GT3X+ cut-points for identifying sedentary behavior in older adults in free-living environments. *J Sci Med Sport*. 2014; 17(3): 293-299. 10.1016/j.jsams.2013.07.002

Troiano RP, Berrigan D, Dodd KW, Masse LC, Tilert T, McDowell M. Physical activity in the United States measured by accelerometer. *Med Sci Sports Exerc*. 2008;40(1): 181-8. 10.1249/mss.0b013e31815a51b3

PALS CODEBOOK

Accelerometry Data

Accelerometry provides a plethora of activity metrics, all of which are available at the level of minute, hour, day, and total wear time. Activity metrics include:

- Step counts
    - Determined using the manufacturer's step algorithm. To calculate step volume, we summed steps across all compliant days and divided by this by number of compliant days to obtain mean steps per day.
- Time in sedentary, light, moderate-to-vigorous physical activity
    - We defined MVPA as any activity where the accelerometer vector magnitude, a summary measure of triaxial accelerations, was ≥2690 counts per minute (cpm) and LPA, 200-2689 vector magnitude cpm (Sasaki, 2011). Sedentary behavior was defined as activity <200 vector magnitude cpm (Aguilar-Farias, 2014). See Figure 2 below.
    - Sedentary analysis scoring procedures are detailed in Figure 3 below.
    - ***Note*:** This differs from the scoring procedures used in many of the previous NHANES studies, which used the Troiano 2008 cutpoints (based on the vertical axis only, not triaxial/vector magnitude).
        - We also scored the data using the Troiano 2008 algorithms (see Figure 5) and these data are available upon request.
- Energy expenditure (kcals, METs)
    - This is only available for participants that have body weight recorded (Baseline n=682). See Figure 2 below for EE scoring procedures.
- Stepping intensity
    - Peak 1-minute cadence is the highest number of steps recorded in any single minute of the day; peak 30-minute cadence is the meant steps per minute of the 30 highest 1-minute epochs that need not be consecutive; maximum 5-minute cadence is the mean steps per minute across any consecutive 5-minute span of the day with the highest number of steps; summed time spent at stepping rates of 0, 1 through 39 (incidental steps), and 40 steps/min or greater (purposeful steps); stepping rate of 100 steps/min or greater (corresponds to walking at moderate intensity or faster).
- Activity bouts (available for steps and activity intensity)

Figure 1. Wear time validation procedures

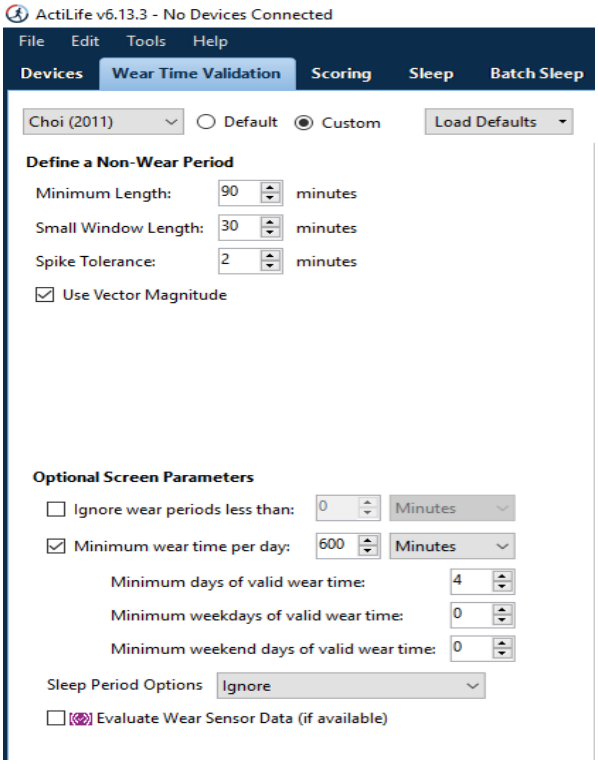


Figure 2. Data scoring procedures

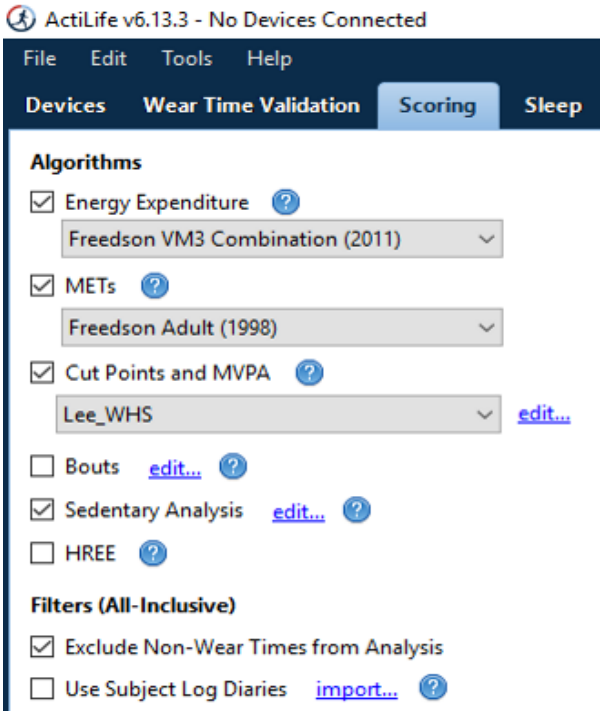


Figure 3. Sedentary Analysis scoring procedures (Aguilar-Farias, 2014)

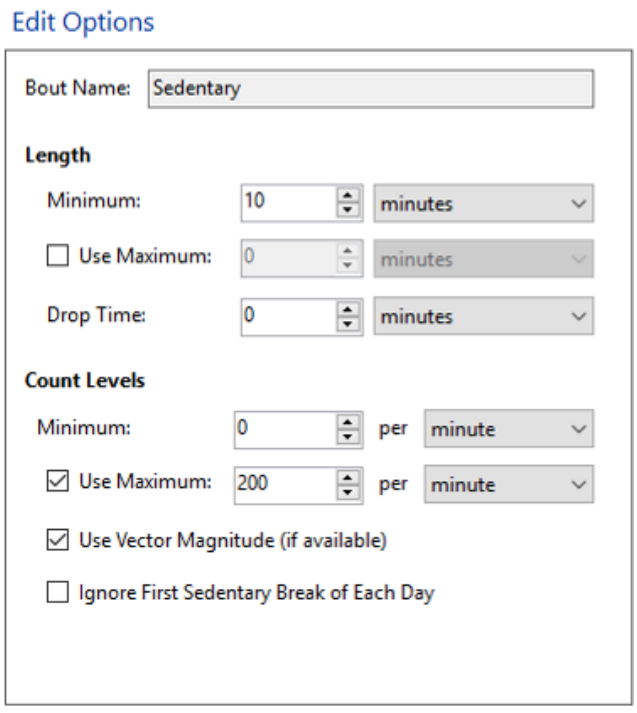


Figure 4. Activity bouts scoring procedures

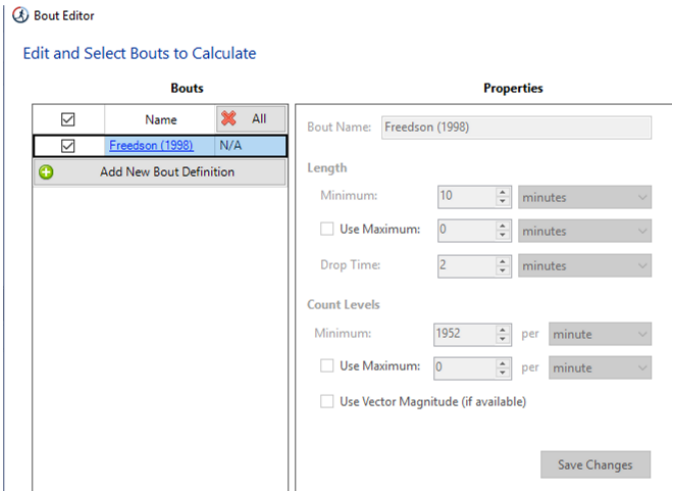
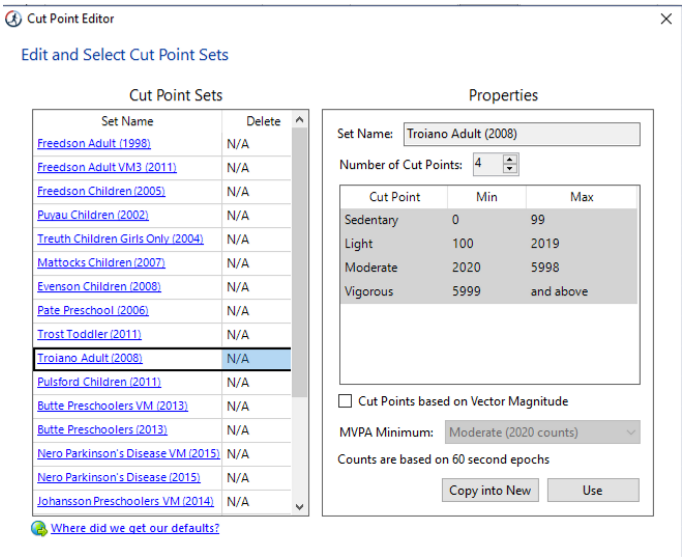
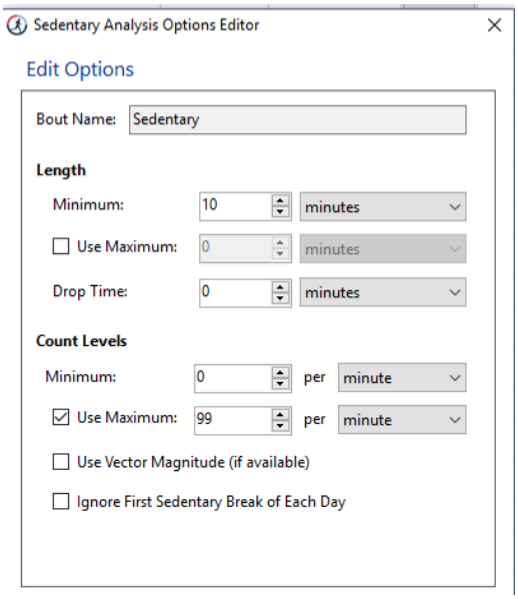


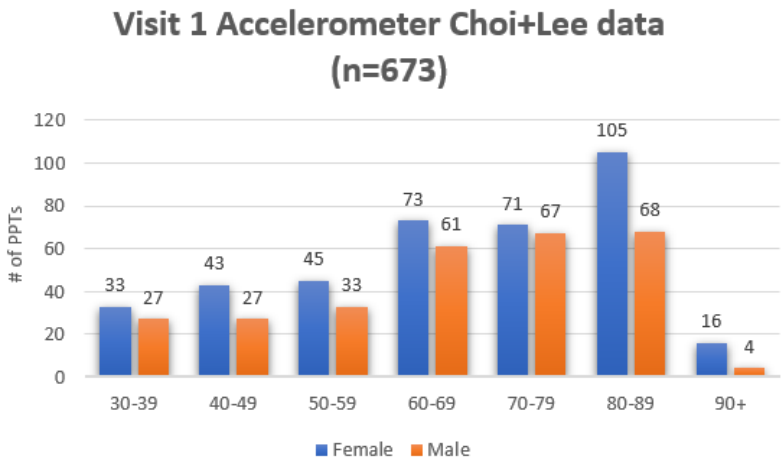
Figure 5. Supplemental data scoring for PALS (Troiano, 2008 algorithm)

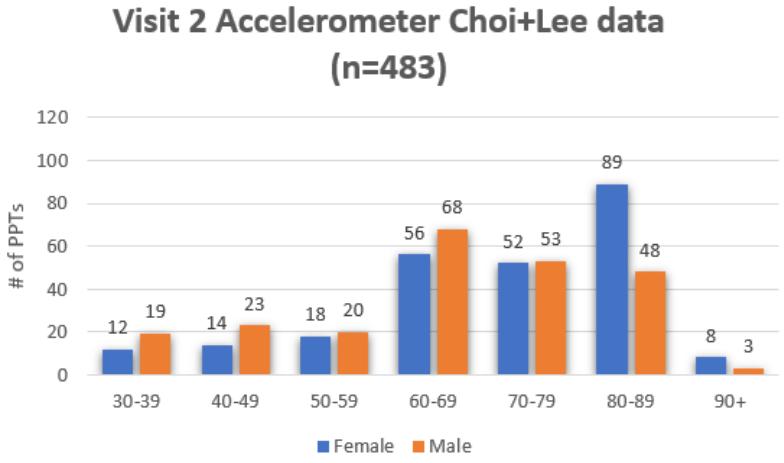




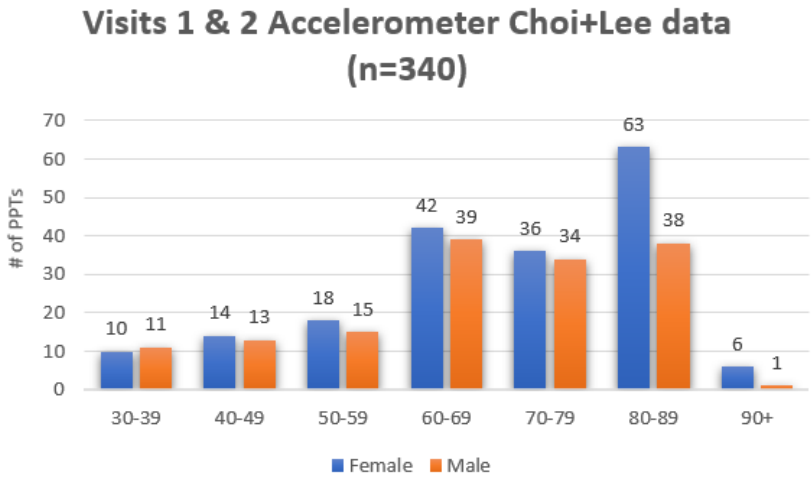
Accelerometer data are available *upon request* to Katherine.Hall@duke.edu

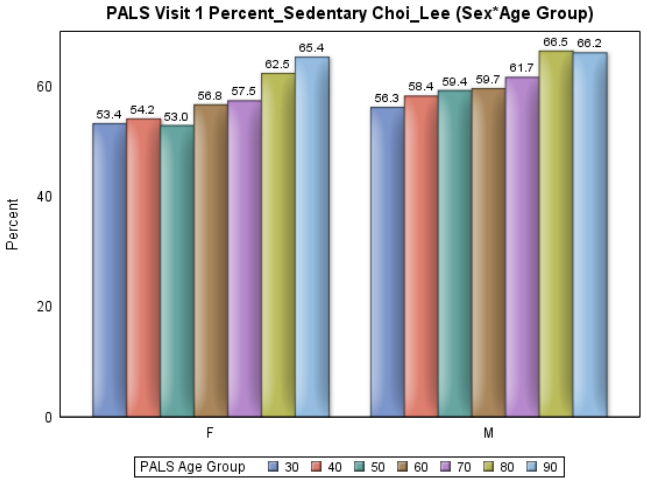
NOTE: The Activity Monitor Diary Instructions and the Accelerometer Script are located in the Appendix of the PALS Codebook.

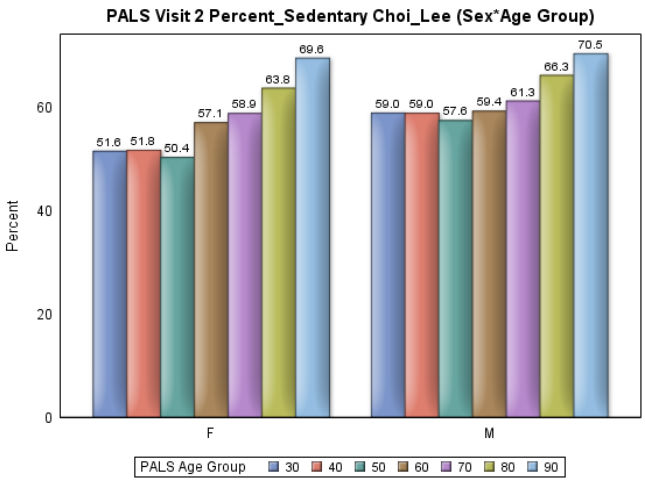


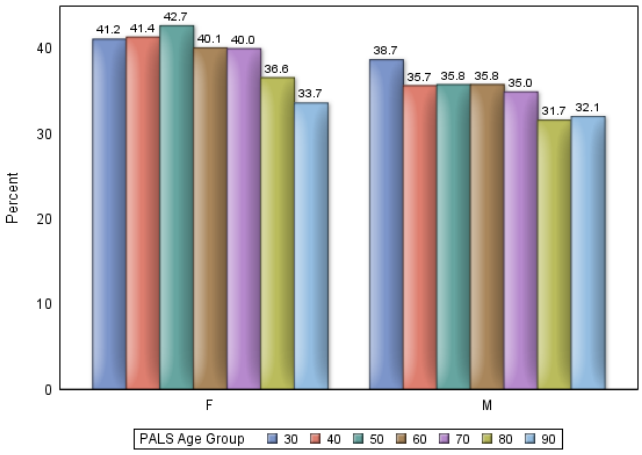


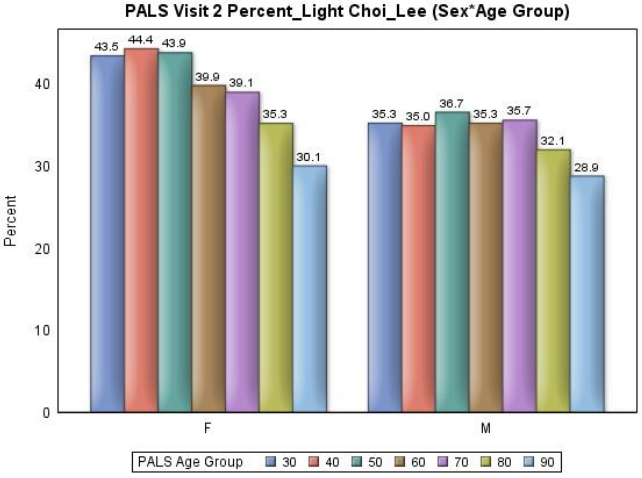
NOTE: Male 60-69 Visit 1 cohort has less entries than Visit 2 cohort due to data=0 in some V1 entries but not V2.

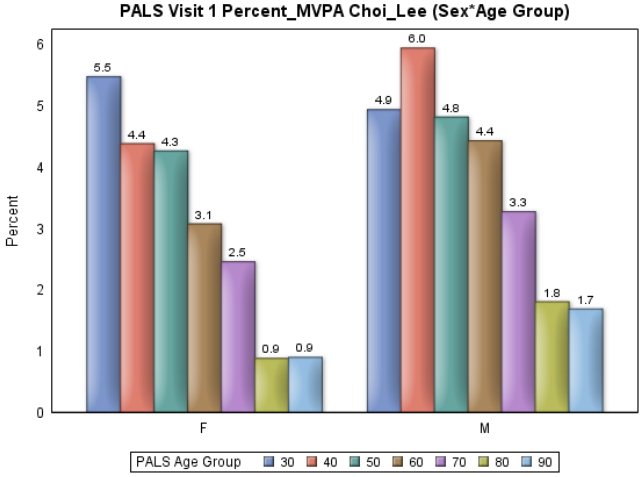


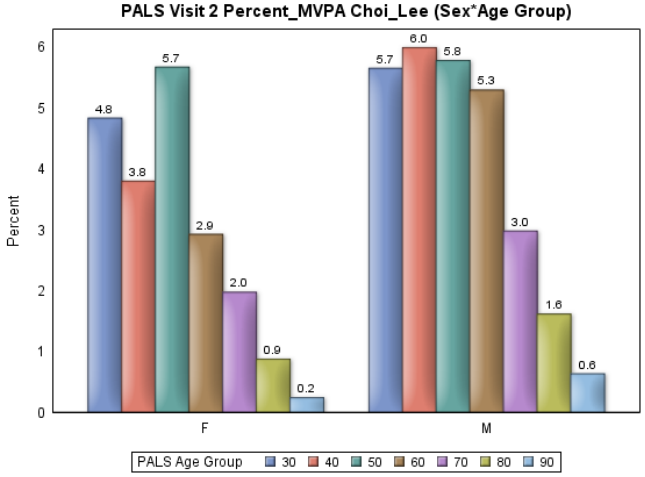

PALS Visit 1 Percent_Sedentary Choi_Lee (Sex*Age Group)
Percent
0
20
40
60
53.4
54.2
53.0
56.8
57.5
62.5
65.4
56.3
58.4
59.4
59.7
61.7
66.5
66.2
F
M
PALS Age Group 30 40 50 60 70 80 90

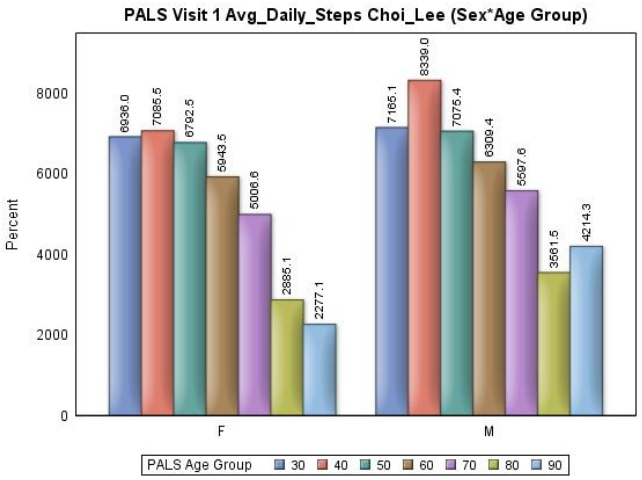

PALS Visit 2 Percent_Sedentary Choi_Lee (Sex*Age Group)
Percent
0
20
40
60
51.6
51.8
50.4
57.1
58.9
63.8
69.6
59.0
59.0
57.6
59.4
61.3
66.3
70.5
F
M
PALS Age Group 30 40 50 60 70 80 90

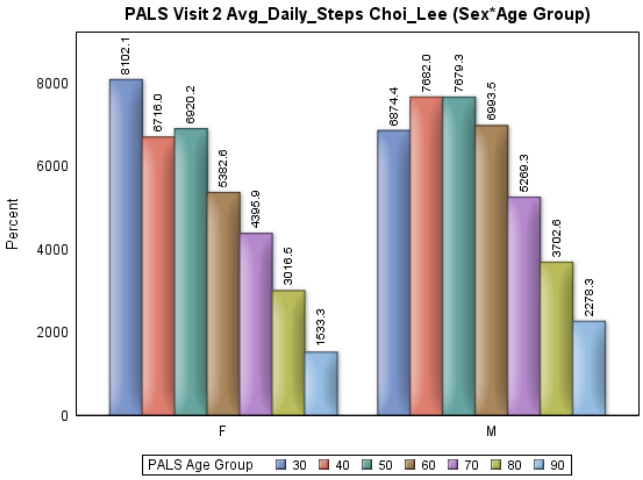

PALS Visit 1 Percent_Light Choi_Lee (Sex*Age Group)
Percent
0
10
20
30
40
41.2
41.4
42.7
40.1
40.0
36.6
33.7
38.7
35.7
35.8
35.8
35.0
31.7
32.1
F
M
PALS Age Group 30 40 50 60 70 80 90

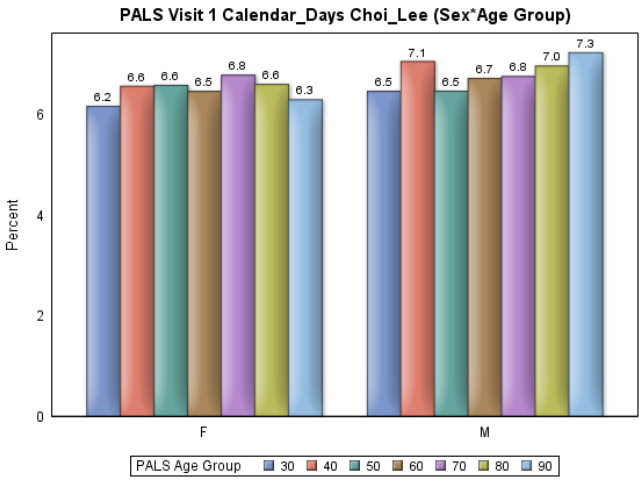

PALS Visit 2 Percent_Light Choi_Lee (Sex*Age Group)
Percent
0
10
20
30
40
43.5
44.4
43.9
39.9
39.1
35.3
30.1
35.3
35.0
36.7
35.3
35.7
32.1
28.9
F
M
PALS Age Group 30 40 50 60 70 80 90

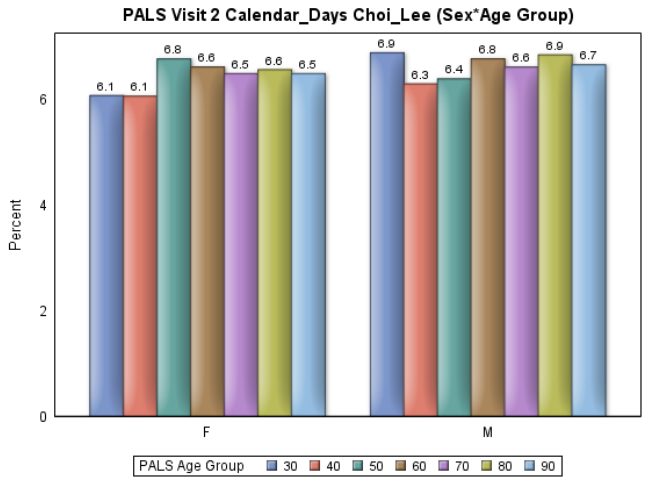

PALS Visit 1 Percent_MVPA Choi_Lee (Sex*Age Group)
Percent
0
1
2
3
4
5
6
5.5
4.4
4.3
3.1
2.5
0.9
0.9
4.9
6.0
4.8
4.4
3.3
1.8
1.7
F
M
PALS Age Group 30 40 50 60 70 80 90


PALS Visit 2 Percent_MVPA Choi_Lee (Sex*Age Group)
Percent
0
1
2
3
4
5
6
4.8
3.8
5.7
2.9
2.0
0.9
0.2
5.7
6.0
5.8
5.3
3.0
1.6
0.6
F
M
PALS Age Group 30 40 50 60 70 80 90


PALS Visit 1 Avg_Daily_Steps Choi_Lee (Sex*Age Group)
Percent
8000
6000
4000
2000
0
6936.0
7085.5
6792.5
5943.5
5006.6
2885.1
2277.1
7166.1
8339.0
7075.4
6309.4
5597.6
3561.5
4214.3
F
M
PALS Age Group 30 40 50 60 70 80 90


PALS Visit 2 Avg_Daily_Steps Choi_Lee (Sex*Age Group)
Percent
8000
6000
4000
2000
0
8102.1
6716.0
6920.2
5382.6
4386.9
3016.6
1533.3
6874.4
7682.0
7679.3
6993.5
5269.3
3702.6
2278.3
F
M
PALS Age Group 30 40 50 60 70 80 90


PALS Visit 1 Calendar_Days Choi_Lee (Sex*Age Group)
Percent
6
4
2
0
6.2
6.6
6.6
6.5
6.8
6.6
6.3
6.5
7.1
6.5
6.7
6.8
7.0
7.3
F
M
PALS Age Group 30 40 50 60 70 80 90


PALS Visit 2 Calendar_Days Choi_Lee (Sex*Age Group)
Percent
6
4
2
0
6.1
6.1
6.8
6.6
6.5
6.6
6.5
6.9
6.3
6.4
6.8
6.6
6.9
6.7
F
M
PALS Age Group 30 40 50 60 70 80 90

PALS CODEBOOK

APPENDICES

- Physical Performance Tests script
- Accelerometer Monitor script
- PALS Data Dictionary

APPENDIX H: PHYSICAL ACTIVITIES SCRIPT (PAGE 1 OF 5)

Physical Performance Testing Script

Introductory Script

"We are going to do a short series of tests that will help us understand how you function physically. I'm going to have you do some simple walking, balancing, and chair stands similar to what you may do during your day. This will take about 20 minutes to complete. I want you to do the very best you can on each of these tests. Do you have any questions before we begin?"

Revised 01/13/2014

APPENDIX H: PHYSICAL ACTIVITIES SCRIPT (PAGE 2 OF 5)

Gait Speed Script

"The first test is the 4-meter walk. This wil measure your walking speed. You will walk down the course (sidewalk, aisle) at your usual pace until I say "stop". (Direct participant o stand at the first tape mark.) (If patient uses an assistive walking device.... ***"Can you walk without your _____ (i.e. cane?)"*** (On the datasheet, record whether an assistive walking device is used) ***"Any questions?"*** (Pause for any questions.) ***"You may begin when you are ready."*** Start the stopwatch when the participant's foot crosses the first 'Time' line. Stop timing when the first foot completely crosses the second 'Time' line. Say ***"Stop"*** when they reach the final tape mark. Ask, ***"Was that your usual walking pace? Good"*** Ask this question at the completion of the first test only. Record time on datasheet to the nearest 1/100 second,

(Direct participant to stand at the first tape mark.) ***"Now I would like you to walk back down the course as fast as you can. Any Questions? You may begin when you are ready."*** Start the stopwatch when the participant's foot crosses the first 'Time' line. Stop timing when the first foot completely crosses the second 'Time' line. Say ***"Stop"*** when they reach the final taped mark. Ask, ***"Was that your fastest walking pace? Good"*** Ask this question at the completion of the first test only. Record time on score sheet to the nearest 1/100 second.

"We're going repeat this test." Repeat the above instrudions. You do not need to ask if they have any questions on the second test.

"Great job. Now we will check your balance."

Revised 01/13/2014

APPENDIX H: PHYSICAL ACTIVITIES SCRIPT (PAGE 3 OF 5)

Balance Script

"This next test is looking at your balance. Please take off your shoes. I would like you to stand with your arms across your chest, then lift one foot a few inches off the ground so that you are standing on one leg. . (demonstrate) ***You will try to hold this position for 60 seconds. The test will stop if your raised foot touches the ground, or if your arms fall away from your chest.*** If you stop the test prior to 60 seconds note and record the time for that trial ***"Do you have any questions? Put your arms at your chest. The test will start when you raise your foot. Begin when you are ready."*** Start the stopwatch when they raise one foot.

Repeat this test as often as necessary up to three times for each leg.

"Good job. Let's move on." Go to the chair stand test.

Revised 01/13/2014

APPENDIX H: PHYSICAL ACTIVITIES SCRIPT (PAGE 4 CF 5)

Give the following instruction just before starting the chair stand.

"The next two tests are more challenging. I want you to push yourself as much as possible but not to the point of exhaustion or beyond what you think is safe for you. I am going to encourage you but you are in charge of setting the limits.

Chair Stand Script

"The next test is the 30 second chair stand, which measures your leg strength. For this test you will sit in the middle of the chair, knees bent to a 90 degree angle, feet flat on the floor. Cross your arms over your chest and stand up and sit down as many times as you can in the 30 seconds. Please watch while I demonstrate. Be sure to stand all the way up and touch your bottom on the chair when you come down each time, as quickly as you can. I will count the chair stands as you do them."

"Let's practice once." Support the chair against the wall and correct performance if needed.

"I'll say 'Ready – Set – Go' You'll begin on the word 'Go'. The test will conclude when I say 'Stop'. Any questions? Remember, do as many as you can in the 30 seconds."

"Ready – Set – Go" Start the stopwatch on GO. Count stands only if arms stay crossed the chest; their bottom touches the chair and they come to a complete stand. Prompt / correct if needed. If subject is more than halfway up at the end of 30 seconds, it counts as a full stand.

Halfway into the test (at 15 seconds) prompt: *"as fast as you can".*

Revised 01/13/2014

APPENDIX H: PHYSICAL ACTIVITIES SCRIPT (PAGE 5 OF 5)

6-Minute Walk Test

6-Minute Walk Script

"The last test we are going to do is the 6 Minute Walk. This test will measure your endurance. You are going to walk as fast as you can for 6 minutes. You cannot jog or run; this is a walk test. Here is the starting point. Describe the course. ***I will give you prompts every minute and at the last 30 seconds. I will say "1 minute down, 5 to go", so you can judge how much time you have left. You can speed up or slow down as needed. You can stop to rest if desired but you can't sit or lean against anything and the time continues during rests. When the test is almost over I will walk behind you so that I can get an accurate measure of your distance walked.***

"Do you have any questions?"

"Remember, walk as fast as you safely can for the 6 minutes."

"Ready, set, go."

At the half way point (3 minutes) say, **"You're doing great!" "You are half way through." "Remember, walk as FAST as you safely can."**

At the end of the 6 minutes pick up the measuring stick to stop recording and say, **"Slow down." "We have finished with the test." "Continue walking slowly to cool down."**

Cool-down: walk slowly for a minute or two. Walk with the person to make sure their breathing sounds normal.

Scoring: Record the distance walked in feet.

Revised 01/13/2014

APPENDIX I: PHYSICAL PERFORMANCE ACTIVITY MONITOR DIARY

Accelerometer ID_____ Participant ID_____

Activity Monitor Diary

Thank you for agreeing to wear an Activity Monitor. As a participant in this program, we ask that you wear your Activity Monitor for a period of 7 days. Wear the monitor during all waking hours (you don't have to wear it when sleeping). The monitor should be worn snugly around your waist sitting just above your right hip, in line with your arm pit. If you are experiencing problems with your Activity Monitor or have questions, please call the MURDOCK Study office at 704.250.5861.

Please follow these 5 easy steps:

1. Begin wearing the monitor on the below **Requested Start Date.**

   Note: The monitor will STOP blinking once it has started collecting data.
2. Record the date and time when you begin wearing it next to **Actual Start Date.**
3. Stop wearing the monitor on the below **Requested End Date.**
4. Record the date and time when you stop wearing it next to **Actual End Date.**
5. **IMMEDIATELY** after the actual end date, please return in the padded return envelope that has been provided to you:
   - the Activity Monitor (with belt)
   - this form with bottom sections completed

Note: The envelope is prepaid, so you don't need to worry about postage.

Please remember that the monitor is NOT waterproof

Requested Start Date: _____ *(fill in for participant)*
Requested Start Time: **when you wake up in the morning**

Requested End Date: _____ *(fill in for participant)*
Requested End Time: **when you go bed that evening**

Actual Start Date & Time: _____
(please record date and time you start wearing the monitor)

Actual End Date & Time: _____
(please record date and time you remove the monitor on the final day)

Mail packet back: _____ *(fill in for participant)*

Version Date: 11 July 2013

APPENDIX J: PHYSICAL PERFORMANCE ACCELEROMETER SCRIPT

MURDOCK Horizon 2 Physical Performance Cohort Accelerometer Script

"As part of your participation in the study, we will have you wear an activity monitor for a period of 7 days. This monitor is similar to a pedometer and we ask that you wear it during all waking hours (so you don't have to wear this when you are sleeping). This monitor is also NOT waterproof so please do not wear it in the shower or if you go swimming etc.

The activity monitor is already attached to a belt that you will wear around your waist. Take both ends of the buckle and connect them in front of you, so that the belt is attached snugly around your waist. We recommend that you wear the monitor and the belt underneath your clothing. In fact, I generally tuck the monitor underneath the waistband of my pants when I wear it and that helps keep the monitor from sliding around too much. If you find that the belt is uncomfortable or irritating your skin you may wear it over thin clothing.

You may adjust the tightness of the belt by pulling on the straps to make it tighter or by pulling on the back of the buckle to make it looser. Your belt should be snug so that the monitor is flush against your skin, but not uncomfortably tight. We want the monitor to sit just above your right hip, in line with your arm pit *(it should NOT rest on the hip bone)*. If during the day you notice that your monitor has moved around toward your stomach or back toward your spine, please adjust it so that it is back in line with your arm pit.

Ok, let's go ahead and adjust your belt so that it is comfortable and the monitor is in the right spot. I think we are all set. We can go ahead and take the belt off now, and I will just go over this last bit of paperwork with you here.

Now, as I mentioned, we would like you to wear this monitor for the next 7 days. I have created a log sheet that tells you the exact date and time we have assigned you to start wearing the monitor. As you can see, tomorrow will be your first day *(point out Requested Start Date)*, and we ask that you just go ahead and put it on whenever you wake up in the morning *(point out Requested Start Time)*. We realize that this time may be different for different people, which is why we ask that you note in this area here *(point to Actual Start Time and Date)* the day and time that you actually started wearing your monitor.

Your last day for wearing the monitor will be XXX *(point out Requested End Date)*. When you go to bed that night, you can remove the monitor for the final time. We ask that you write in this area here *(point to Actual End Date and Time)* the day and time that you actually stopped wearing the monitor on your 7th and final day.

At the end of this 7-day period you will simply place the activity monitor and your completed log sheet into this padded envelope and drop it in the mail. You will see that I have written down here *(point to mail back date)* when you should be mailing the monitor back. We have already provided the necessary postage, so there will be no cost to you. It is very important that you mail the monitor and log sheet back to us within 3 days of your end date. If we have not received the monitor within 5 days measures will be taken to contact you to get the monitor back.

Ok, so any questions? If you get home and you think of something or if you have any issues with your monitor over the next 7 days please feel free to call our research associate Dr. Miriam Morey and she will be happy to assist you. Her name and phone number are at the top of your log sheet."

Version Date: 10 Jul 2013

PALS Data Dictionary

Physical Performance Baseline Questionnaire

Variable / Field Name	Field type	Field Description	Choices, Calculations, OR Slider Labels	Field Note
ID	int	unique participant identifier		
wave	int	PALS Visit #	=1 (Visit 1, also referred to as Baseline)	Variable Wave will indicate the particular visit in the PALS sequence
act_job	radio	On-The-Job Activity During Past Year	1= Do not have job or regular work. | 2= I spent most of the day sitting or standing. When I was at work I did such things as writing, typing, talking on the telephone, assembling small parts or operating a machine that takes very little exertion or strength. If I drove a car or truck while at work, I did not lift or carry anything for more than a few minutes each day. | 3= I spent most of the day walking or using my hands and arms in work that required moderate exertion. When I was at work I did such things as delivering mail, patrolling on guard duty, mechanical work on automobiles or other large machines, house painting or operating a machine that requires some moderate activity of me. If I drove a truck or lift, my job required me to lift and carry things frequently. | 4= I spent most of the day lifting or carrying heavy objects or moving most of my body in some other way. When I was at work, I did such things as stacking cargo or inventory, handling parts or materials, or I did work like that of a carpenter who builds structures or a gardener who does most of the work without machines. | 5= I spent most of the day doing hard physical labor. When I was at work I did such things as digging or chopping with heavy tools, or carrying heavy loads (bricks, for example) to the place where they are to be used. If I drove a truck or operated equipment, my job also required me to do hard physical work most of the day with only short breaks.	

act_leisure	radio	Leisure Time Activity During Past Year	1: Most of my leisure time was spent without very much physical activity. I mostly did things like watching television, reading, or playing cards. If I did anything else, it was likely to be light chores around the house or yard, or some easy-going game like bowling or catch. Only occasionally, no more than once or twice a month, did I do anything more vigorous, like jogging, playing tennis, or active gardening. | 2= Weekdays, when I got home from work, I did few active things. But most weekends I was able to get outdoors for some light exercise-going for walks, playing a round of golf (without motorized carts), or doing some active chores around the house. | 3= Three times per week, on the average, I engaged in some moderate activity-such as brisk walking or slow jogging, swimming or riding a bike for 15-20 minutes or more. Or I spent 45 minutes to an hour or more doing moderately difficult chores-such as raking or washing windows, mowing the lawn or vacuuming, or playing games such as doubles tennis or basketball. | 4= During my leisure time over the past year, I engaged in a regular program of physical fitness involving some kind of heavy physical activity at least three times per week. Examples of heavy physical activity are: jogging, running or riding fast on a bicycle for 30 minutes or more; heavy gardening or other chores for an hour or more; active games or sports such as handball or tennis for an hour or more; or a regular program involving calisthenics and jogging or the equivalent for 30 minutes or more. | 5= Over the past year I engaged in a regular program of physical fitness along the lines described in the last paragraph, but I did it almost daily-5 or more times per week.	

meals	radio	Times Per Week Eat at Restaurant	1: Less than 1/week | 2: 1-2/week | 3: 3-6/week | 4: 7-10/week |5: 11-13/week | 6: 14 or more/week | SAS D=Don't know/Not sure	On average, how many times per week do you eat meals that were prepared in a restaurant? Please include eat-in restaurants, carry-out restaurants, and restaurants that deliver food to your house. 2 PPTs with missing values-data from Murdock BLQ, not PALS BLQ.
label	radio	How Often do you Read Nutrition Labels	1: Always | 2= Very Often | 3= Sometimes | 4= Rarely| 5= Never | 6= I do not shop for food products	When shopping for food products, how often do you read the nutrition label?
fruit_veg	int	How Many Servings of Fruits and Vegetables	SAS D=Don't know	Fruits and vegetables - fresh, canned, or frozen (not including juices, potatoes, or lettuce)
milk_dairy	int	How Many Servings of Milk or Dairy Products	SAS D=Don't know	Milk or dairy foods that are made from milk, such as cheese, cottage cheese, ice cream, milk shakes, or yogurt.
protein	int	How Many Servings of Protein Foods	SAS D=Don't know	Protein foods, such as meat, fish, seafood, chicken, turkey, or eggs. Also include protein foods such as peanut butter, or foods that are made from dried beans.
sweets	int	How Many Servings of Sweets	SAS D=Don't know	Sweets (cookies, candies, cakes, ice cream, etc.
caffeine	int	How Much Caffeinated Drinks	SAS D=Don't know	Caffeinated drinks
sugar_swt	int	How Much of Sugar Sweetened Beverages	SAS D=Don't know	Sugar sweetened beverages (non-diet soda, sweetened tea, punch, etc.)
marital	drop-down	Current Marital Status	1= Married | 2= Divorced | 3= Widowed | 4= Separated | 5= Never Married | 6= Domestic Partner	

Montreal Cognitive Assessment (MoCA)

Variable / Field Name	Field type	Field Description	Choices, Calculations, OR Slider Labels
ID	int	unique participant identifier	
mve1	bit	Connect Number/letter sequence	1= Correct | 0 = Incorrect
mve2	bit	Copy cube	1= Correct | 0 = Incorrect
mve3	bit	Clock drawing (Hands)	1= Correct | 0 = Incorrect
mve4	bit	Clock drawing (Contour)	1= Correct | 0 = Incorrect
mve5	bit	Clock drawing (Numbers)	1= Correct | 0 = Incorrect
mve_subttl	int	Visuospatial/Executive Subtotal	sum([mve1],[mve2],[mve3], [mve4],[mve5])
mve6	bit	Lion	1= Correct | 0 = Incorrect
mve7	bit	Camel	1= Correct | 0 = Incorrect
mve8	bit	Rhinoceros	1= Correct | 0 = Incorrect
mn_subttl	int	Naming Subtotal	sum([mve6],[mve7],[mve8])
moca_mem1___1	checkbox	1st Trial (choice=Face)	
moca_mem1___2	checkbox	1st Trial (choice=Velvet)	
moca_mem1___3	checkbox	1st Trial (choice=Chair)	
moca_mem1___4	checkbox	1st Trial (choice=Daisy)	
moca_mem1___5	checkbox	1st Trial (choice=Red)	
nd_trial___1	checkbox	2nd Trial (choice=Face)	
nd_trial___2	checkbox	2nd Trial (choice=Velvet)	
nd_trial___3	checkbox	2nd Trial (choice=Chair)	
nd_trial___4	checkbox	2nd Trial (choice=Daisy)	
nd_trial___5	checkbox	2nd Trial (choice=Red)	
ma1	bit	Subject has to repeat in the forward order 21854	1= Correct | 0 = Incorrect
ma2	bit	Subject has to repeat in the backward order 742	1= Correct | 0 = Incorrect
ma3	bit	Read list of letters. The subject must tap with his hand at each letter A FBACMNAAJKLBAFAKDEAAAJAMOFAAB No points if 2 or more errors	1= Correct | 0 = Incorrect
ma4	int	Serial 7 substraction starting at 100	3=4-5 Correct subtractions/ 2 = 2-3 Correct subtractions/ 1 = 1 Correct subtraction/ 0 = 0 Correct
moca_att_dnf___1	checkbox	Serial 7 participant did not finish (choice=Check here if participant did not finish serial 7)	1= True | 0 = False
ma_subttl	int	Attention Subtotal	sum([ma1],[ma2],[ma3],[ma4])
ml1	bit	Repeat: I only know that John is the one to help today	1= Correct | 0 = Incorrect
ml2	bit	Repeat: The cat always hid under the couch when dogs were in the room	1= Correct | 0 = Incorrect
ml3	int	Fluency: Name maximum number of words in one minute that begin with the letter F	
ml4	checkbox	N > 10 words?	1= True | 0 = False
ml_subttl	int	Language Subtotal	sum([ml1],[ml2],[ml4])
mab1	bit	Similarity between train - bicycle =	1= Correct | 0 = Incorrect

		transport	
mab2	bit	Similarity between watch - ruler = measure	1= Correct | 0 = Incorrect
mab_subttl	int	Abstraction Subtotal	sum([mab1],[mab2])
mdr1	bit	Face with no cue	1= Correct / 0 = Incorrect If Incorrect, query with Category cue; if still Incorrect, query with Multiple Choice cue
mdr1a	bit	.....Face with category cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr1b	bit	.....Face Multiple Choice cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr2	bit	Velvet with no cue	1= Correct / 0 = Incorrect If Incorrect, query with Category cue; if still Incorrect, query with Multiple Choice cue
mdr2a	bit	.....Velvet with category cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr2b	bit	.....Velvet Multiple Choice cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr3	bit	Chair with no cue	1= Correct / 0 = Incorrect If Incorrect, query with Category cue; if still Incorrect, query with Multiple Choice cue
mdr3a	bit	.....Chair with category cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr3b	bit	.....Chair Multiple Choice cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr4	bit	Daisy with no cue	1= Correct / 0 = Incorrect If Incorrect, query with Category cue; if still Incorrect, query with Multiple Choice cue
mdr4a	bit	.....Daisy with category cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr4b	bit	.....Daisy Multiple Choice cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr5	bit	Red with no cue	1= Correct / 0 = Incorrect If Incorrect, query with Category cue; if still Incorrect, query with Multiple Choice cue
mdr5a	bit	.....Red with category cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr5b	bit	.....Red Multiple Choice cue	1= Correct / 0 = Incorrect Response recorded, does not count in score.
mdr_subttl	int	Delayed Recall Subtotal	sum([mdr1],[mdr2],[mdr3],[mdr4], [mdr5])
mo_dt	bit	Orientation-Date	1= Correct | 0 = Incorrect
mo_mo	bit	Orientation-Month	1= Correct | 0 = Incorrect
mo_yr	bit	Orientation-Year	1= Correct | 0 = Incorrect
mo_day	bit	Orientation-Day	1= Correct | 0 = Incorrect
mo_place	bit	Orientation-Place	1= Correct | 0 = Incorrect
mo_city	bit	Orientation-City	1= Correct | 0 = Incorrect
mo_subttl	int	Orientation Subtotal	sum([mo_dt],[mo_mo],[mo_yr], [mo_day],[mo_place],[mo_city])
m_ed	bit	Education-Add 1 point if 12 yr education or less	1= True | 0 = False

moca_ttlscore	int	MoCA total score	sum([mve_subttl],[mn_subttl], [ma_subttl],[ml_subttl],[mab_subttl], [mdr_subttl],[mo_subttl],[m_ed])
m_notes	checkbox	Relevant interviewer notes on form	1=Yes | 0=No

Variable / Field Name	Field type	Field Description	Choices, Calculations, OR Slider Labels	Field Note
ID	int	unique participant identifier		
ppcq_q1	radio	For the past 6 months at least, to what extent have you been limited because of a health problem in activities people usually do?	1=Severely limited | 2=Limited, but not severely | 3=Not limited	
ppcq_q2a	int	Exercise: Number of times per week		
ppcq_q2b	int	Exercise: How many minutes each time you do it?		
ppcq_q3	radio	How satisfied or dissatisfied are you with your current walking ability?	1=Very dissatisfied | 2=Somewhat dissatisfied | 3=A little dissatisfied | 4=Neutral | 5=A little satisfied | 6=Somewhat satisfied | 7=Very satisfied	
ppcq_q4	radio	How satisfied or dissatisfied are you with your current stair climbing ability?	1=Very dissatisfied | 2=Somewhat dissatisfied | 3=A little dissatisfied | 4=Neutral | 5=A little satisfied | 6=Somewhat satisfied | 7=Very satisfied	
ppcq_q5	radio	How satisfied or dissatisfied are you with your current lifting and carrying ability? (ex., Full laundry basket, bag of groceries)	1=Very dissatisfied | 2=Somewhat dissatisfied | 3=A little dissatisfied | 4=Neutral | 5=A little satisfied | 6=Somewhat satisfied | 7=Very satisfied	
ppcq_q6	radio	With regard to your vision, can you see well enough to read large print such as newspaper headlines (wearing eye glasses, or contact lenses if you use them)?	1=Yes | 0=No	
ppcq_q7	radio	With regard to your hearing, can you usually hear and understand what a person says without seeing his face if that person talks in a normal voice to you in a quiet room?	1=Yes | 0=No	
ppcp_q8ft	int	Height (feet)		Variable added in 2014
ppcp_q8in	int	Height (inches)		Variable added in 2014
ppcp_q8in	int	Weight (lbs)		Variable added in 2013
ppcq_notes	checkbox	Relevant interviewer notes on form	1=Yes | 0=No	

Variable / Field Name	Field type	Field Description	Choices, Calculations, OR Slider Labels	Field Note
ID	text	unique participant identifier		
ppcd_t1usual	decimal	4m walk: Trial 1 Usual Speed Time1 (seconds)		
ppcd_t1max	decimal	4m walk: Trial 1 Max Speed Time1 (seconds)		
ppcd_t2usual	decimal	4m walk: Trial 2 Usual Speed Time12(seconds)		
ppcd_t2max	decimal	4m walk: Trial 2 Max Speed Time2(seconds)		
ppcd_fastest_usual	decimal	4m walk: Fastest Usual	round(min([ppcd_t1usual], [ppcd_t2usual]),2)	No data entry. Fills automatically
ppcd_fastest_max	decimal	4m walk: Fastest Max	round(min([ppcd_t1max], [ppcd_t2max]),2)	No data entry. Fills automatically
ppcd_assis_devices	int	Assistive Devices Used	0=None | 1=Cane | 2=Quad cane | 3=Walker| 4=Other	
ppcd_assist_desc_other	text	Describe other assistive device		
ppcd_t1rl	decimal	Single Leg Stance: Trial 1 -Right Leg Time Held		
ppcd_t1ll	decimal	Single Leg Stance: Trial 1 - Left Leg Time Held		
ppcd_t2rl	decimal	Single Leg Stance: Trial 2 -Right Leg Time Held		
ppcd_t2ll	decimal	Single Leg Stance: Trial 2 - Left Leg Time Held		
ppcd_t3rl	decimal	Single Leg Stance: Trial 3 -Right Leg Time Held		
ppcd_t3ll	decimal	Single Leg Stance: Trial 3 - Left Leg Time Held		
ppcd_best_rt_leg_time	decimal	Single Leg Stance: Best - Right Leg Time	round(max([ppcd_t1rl], [ppcd_t2rl],[ppcd_t3rl]),2)	No data entry. Fills automatically
ppcd_best_left_leg_time	decimal	Single Leg Stance: Best - Left Leg Time	round(max([ppcd_t1ll], [ppcd_t2ll],[ppcd_t3ll]),2)	No data entry. Fills automatically
ppcd_shoes_on___1	checkbox	Check if shoes were kept on	1=Yes | 0=No	
ppcd_num_stands_30sec	int	Chair Stands completed in 30 seconds		
ppcd_6min_walk	int	6min walk: Number of Feet		
ppcd_ck_if_instr_given___1	checkbox	Check if activity monitor and instructions given to participant	1=Yes | 0=No	
ppcd_notes	checkbox	Relevant interviewer notes on form	1=Yes | 0=No	

Variable / Field Name	Field type	Field Description	Choices, Calculations, OR Slider Labels	Field Note
ID	int	unique participant identifier		
wave	int	PALS Visit #	=2 (Visit 2)	Variable Wave will indicate the particular visit in the PALS sequence
act_job	radio	On-The-Job Activity During Past Year	1= Do not have job or regular work. | 2= I spent most of the day sitting or standing. When I was at work I did such things as writing, typing, talking on the telephone, assembling small parts or operating a machine that takes very little exertion or strength. If I drove a car or truck while at work, I did not lift or carry anything for more than a few minutes each day. | 3= I spent most of the day walking or using my hands and arms in work that required moderate exertion. When I was at work I did such things as delivering mail, patrolling on guard duty, mechanical work on automobiles or other large machines, house painting or operating a machine that requires some moderate activity of me. If I drove a truck or lift, my job required me to lift and carry things frequently. | 4= I spent most of the day lifting or carrying heavy objects or moving most of my body in some other way. When I was at work, I did such things as stacking cargo or inventory, handling parts or materials, or I did work like that of a carpenter who builds structures or a gardener who does most of the work without machines. | 5= I spent most of the day doing hard physical labor. When I was at work I did such things as digging or chopping with heavy tools, or carrying heavy loads (bricks, for example) to the place where they are to be used. If I drove a truck or operated equipment, my job also required me to do hard physical work most of the day with only short breaks.	

act_leisure	radio	Leisure Time Activity During Past Year	1: Most of my leisure time was spent without very much physical activity. I mostly did things like watching television, reading, or playing cards. If I did anything else, it was likely to be light chores around the house or yard, or some easy-going game like bowling or catch. Only occasionally, no more than once or twice a month, did I do anything more vigorous, like jogging, playing tennis, or active gardening. | 2= Weekdays, when I got home from work, I did few active things. But most weekends I was able to get outdoors for some light exercise-going for walks, playing a round of golf (without motorized carts), or doing some active chores around the house. | 3= Three times per week, on the average, I engaged in some moderate activity-such as brisk walking or slow jogging, swimming or riding a bike for 15-20 minutes or more. Or I spent 45 minutes to an hour or more doing moderately difficult chores-such as raking or washing windows, mowing the lawn or vacuuming, or playing games such as doubles tennis or basketball. | 4= During my leisure time over the past year, I engaged in a regular program of physical fitness involving some kind of heavy physical activity at least three times per week. Examples of heavy physical activity are: jogging, running or riding fast on a bicycle for 30 minutes or more; heavy gardening or other chores for an hour or more; active games or sports such as handball or tennis for an hour or more; or a regular program involving calisthenics and jogging or the equivalent for 30 minutes or more. | 5= Over the past year I engaged in a regular program of physical fitness along the lines described in the last paragraph, but I did it almost daily-5 or more times per week.	
meals	radio	Times Per Week Eat at Restaurant	1: Less than 1/week | 2: 1-2/week | 3: 3-6/week | 4: 7-10/week |5: 11-13/week | 6: 14 or more/week | SAS D=Don't know/Not sure	On average, how many times per week do you eat meals that were prepared in a restaurant? Please include eat-in restaurants, carry-out restaurants, and restaurants that deliver food to your house.
label	radio	How Often do you Read Nutrition Labels	1: Always | 2= Very Often | 3= Sometimes | 4= Rarely| 5= Never | 6= I do not shop for food products	When shopping for food products, how often do you read the nutrition label?

fruit_veg	int	How Many Servings of Fruits and Vegetables	SAS D=Don't know	Fruits and vegetables - fresh, canned, or frozen (not including juices, potatoes, or lettuce)
milk_dairy	int	How Many Servings of Milk or Dairy Products	SAS D=Don't know	Milk or dairy foods that are made from milk, such as cheese, cottage cheese, ice cream, milk shakes, or yogurt.
protein	int	How Many Servings of Protein Foods	SAS D=Don't know	Protein foods, such as meat, fish, seafood, chicken, turkey, or eggs. Also include protein foods such as peanut butter, or foods that are made from dried beans.
sweets	int	How Many Servings of Sweets	SAS D=Don't know	Sweets (cookies, candies, cakes, ice cream, etc.
caffeine	int	How Much Caffeinated Drinks	SAS D=Don't know	Caffeinated drinks
sugar_swt	int	How Much of Sugar Sweetened Beverages	SAS D=Don't know	Sugar sweetened beverages (non-diet soda, sweetened tea, punch, etc.)
hrt	radio	Hormone Replacement For Menopause	1= Yes | 0= No | SAS value D=Don't know | SAS value. If male	Question for women only: Do you take hormone replacement therapy as a treatment for menopause?
mil_srvc	radio	Did you ever serve in the military?	1= Yes | 0= No	Visit 2 Questionnaire only
combat	radio	Did you serve in a combat zone?	1= Yes | 0= No	Visit 2 Questionnaire only
dep_anx_ptsd	radio	Has a doctor ever told you you have depression, anxiety or post-traumatic stress disorder (PTSD)?	1= Yes | 0= No	Visit 2 Questionnaire only

va_care	radio	Do you receive your primary medical care at a VA Medical Center?	1= Yes | 0= No	Visit 2 Questionnaire only
marital	drop-down	Current Marital Status	1= Married | 2= Divorced | 3= Widowed | 4= Separated | 5= Never Married | 6= Domestic Partner	

Variable / Field Name	Field type	Field Description	Choices, Calculations, OR Slider Labels	Field Note
ID	text	unique participant identifier		
Inflammatory Markers				PALS Visit 1 working n=972 March 2016: Adiponectin, D-Dimer, IL-6, TNFRI, TNFRII, sVCAM-1 (working n=860) March 2017: Adiponectin, D-Dimer, IL-6, TNFRI, TNFRII, sVCAM-1 (working n=112) Nov 2017: IL-2, G-CSF, MMP-3, Pxn, RANTES, TNF-α assays
adiponectin	decimal	Adiponectin		ng/ml Protein hormone involved in glucose regulation and fatty acid breakdown
Ddimer	decimal	D-dimer		ng/ml
G_CSF	decimal	G-CSF		pg/ml Granulocyte colony-stimulating factor
IL2	decimal	IL-2		pg/ml Interleukin-2
IL6	decimal	IL-6		pg/ml Interleukin-6
MMP_3	decimal	MMP-3		pg/ml Matrix Metalloproteinase 3
Pxn	decimal	Paraoxonase		U/µl
RANTES	decimal	RANTES		pg/ml Regulated on Activation, Normal T Expressed and Secreted. Also known as CCL5.
TNF_alpha	decimal	TNF-α		pg/ml Tumor necrosis factor-alpha
TNFRI	decimal	TNFRI		pg/ml Tumor necrosis factor receptor 1
TNFRII	decimal	TNFRII		pg/ml Tumor necrosis factor receptor 2
VCAM1	decimal	sVCAM-1		ng/ml Soluble Form of Vascular Cell Adhesion Molecule 1
Sample	text	Sample (H=Hemolytic L=Lipemic)	H=Hemolytic | L=Lipemic	Visit 1: H: n=10 L: n=10 H/L: n=1
Conventional Metabolites				PALS Visit 1 working n=972 Jan 2016: DMPI Stedman by Dr. Michael Muehlbauer and Huaxia Cui. [1 PPT not in PALS cohort; 2 Withdrawn PPTs] (working n=860) Feb 2017: (working n=112)
GLU	decimal	glucose		
TRIG	decimal	triglycerides		mg/dL
NEFA	decimal	NEFA		mmol/L
KET	decimal	total ketones		umol/L
HBUT	decimal	3-OH butyrate		umol/L
URIC	decimal	uric acid		mg/dL
LACT	decimal	lactate		mmol/L
Amino Acids				PALS Visit 1 working n=972 Nov 2015: DMPI Metabolomics Laboratory [1 PPT not in PALS cohort; 2 Withdrawn PPTs] (working n=860) Feb 2017: (working n=112)

				Note LLOD (Lower Limit of Detection) values for 2nd data set due to technology advances.
Gly	decimal			µM
Ala	decimal			µM
Ser	decimal			µM
Pro	decimal			µM
Val	decimal			µM
Leu/Ile	decimal			µM
Met	decimal			µM
His	decimal			µM
Phe	decimal			µM
Tyr	decimal			µM
Asx	decimal			µM
Glx	decimal			µM
Orn	decimal			µM
Cit	decimal			µM
Arg	decimal			µM
Acylcarnitines				PALS Visit 1 working n=972 Nov 2015: DMPI Metabolomics Laboratory [1 PPT not in PALS cohort; 2 Withdrawn PPTs] (working n=860) Feb 2017: (working n=112) Note LLOD (Lower Limit of Detection) values for 2nd data set due to technology advances.
C2	decimal	C2		µM
C3	decimal	C3		µM
C4_Ci4	decimal	C4/Ci4		µM
C5:1	decimal	C5:1		µM
C5	decimal	C5		µM
C4_OH	decimal	C4-OH		µM
C6	decimal	C6		µM
C5_OH_C3_DC	decimal	C5-OH/C3-DC		µM
C4_DC_Ci4_DC	decimal	C4-DC/Ci4-DC		µM
C8_1	decimal	C8:1		µM
C8	decimal	C8		µM
C5_DC	decimal	C5-DC		µM
C8_1_OH_C6_1_DC	decimal	C8:1-OH/C6:1-DC		µM
C6_DC_C8_OH	decimal	C6-DC/C8-OH		µM
C10_3	decimal	C10:3		µM
C10_2	decimal	C10:2		µM
C10_1	decimal	C10:1		µM
C10	decimal	C10		µM
C7_DC	decimal	C7-DC		µM
C8_1_DC	decimal	C8:1-DC		µM
C10_OH_C8_DC	decimal	C10-OH/C8-DC		µM

C12_1	decimal	C12:1		µM
C12	decimal	C12		µM
C12_OH_C10_DC	decimal	C12-OH/C10-DC		µM
C14_2	decimal	C14:2		µM
C14_1	decimal	C14:1		µM
C14	decimal	C14		µM
C14_1_OH	decimal	C14:1-OH		µM
C14_OH_C12_DC	decimal	C14-OH/C12-DC		µM
C16_2	decimal	C16:2		µM
C16_1	decimal	C16:1		µM
C16	decimal	C16		µM
C16_1_OH_C14_1_DC	decimal	C16:1-OH/C14:1-DC		µM
C16_OH_C14_DC	decimal	C16-OH/C14-DC		µM
C18_2	decimal	C18:2		µM
C18_1	decimal	C18:1		µM
C18	decimal	C18		µM
C18_2_OH	decimal	C18:2-OH		µM
C18_1_OH_C16_1_DC	decimal	C18:1-OH/C16:1-DC		µM
C18_OH_C16_DC	decimal	C18-OH/C16-DC		µM
C20_4	decimal	C20:4		µM
C20	decimal	C20		µM
C18_1_DC	decimal	C18:1-DC		µM
C20_OH_C18_DC	decimal	C20-OH/C18-DC		µM
C22	decimal	C22		µM

Kynurenine Pathway 2024 manuscript variables

Variable / Field Name	Field type	Field Description	Choices, Calculations, OR Slider Labels	Field Note
ID	text	unique participant identifier		
Kynurenine pathway variables				PALS Visit 1 and 2 working n=315; Manuscript n=301 Aß 40, Aß 42, Aß 40/Aß 42, GFAP, Nfl, pTau-181, Kynurenine, Kynurenic acid, Tryptophan, Eotaxin, GDF-15, MCP-1, YKL-40
ID	text	unique participant identifier		
Ab40_1	decimal	Amyloid-ß 40	Visit 1	pg/ml
Ab40_2			Visit 2	
Ab42_1	decimal	Amyloid-ß 42	Visit 1	pg/ml
Ab42_2			Visit 2	
gfap_1	decimal	GFAP (glial fibrillary acidic protein)	Visit 1	pg/ml
gfap_2			Visit 2	
nfl_1	decimal	NfL (neurofilament light)	Visit 1	pg/ml
nfl_2			Visit 2	
ptau_1	decimal	pTau-181 (neurofibrillary tau pathology)	Visit 1	pg/ml
ptau_2			Visit 2	
kyn_1	decimal	kynurenine	Visit 1	µg/ml
kyn_2			Visit 2	
kyna_1	decimal	KA (kynurenic acid)	Visit 1	µg/ml
kyna_2			Visit 2	
tryp_1	decimal	TRP (tryptophan)	Visit 1	µg/ml
tryp_2			Visit 2	
eotaxin_1	decimal	Eotaxin (CCL-11 or eosinophil chemo-tactic protein)	Visit 1	pg/ml
eotaxin_2			Visit 2	
gdf15_1	decimal	GDF-15 (growth differentiation factor 15)	Visit 1	pg/ml
gdf15_2			Visit 2	
mcp_1	decimal	MCP-1 (monocyte chemoattractant protein-1)	Visit 1	pg/ml
mcp_2			Visit 2	
ykl_1	decimal	YKL-40	Visit 1	pg/ml
ykl_2			Visit 2	

Accelerometer-Derived Variables

Variable / Field Name	Field type	Field Description
kcals	Num	Sum of kcals across all calendar days (Freedson VM3 Combination 2011)
Average_kcals_per_day	Num	Average kcals per day (Freedson VM3 Combination 2011)
Average_kcals_per_hour	Num	Average kcals per hour (Freedson VM3 Combination 2011)
METs	Num	MET rate (Freedson 1998)
Freedson__1998__Bouts	Num	Freedson (1998) Bouts
Total_Time_Freedson_1998_Bouts	Num	Total Time in Freedson (1998) MVPA Bouts (defined as >1952 cts/min consistent with CDC guidelines of 10-min MVPA bouts)
Avg_Time_per_Freedson_1998_Bout	Num	Avg Time per Freedson (1998) MVPA Bout (defined as >1952 cts/min consistent with CDC guidelines of 10-min MVPA bouts)
Max_Time_per_Freedson_1998_Bout	Num	Max Time per Freedson (1998) MVPA Bout (defined as >1952 cts/min consistent with CDC guidelines of 10-min MVPA bouts)
Min_Time_per_Freedson_1998_Bout	Num	Min Time per Freedson (1998) MVPA Bout (defined as >1952 cts/min consistent with CDC guidelines of 10-min MVPA bouts)
Total_Counts_Freedson_1998_Bouts	Num	Total Counts in Freedson (1998) MVPA Bouts (defined as >1952 cts/min consistent with CDC guidelines of 10-min MVPA bouts)
Total_Sedentary_Bouts	Num	Total Number of Sedentary Bouts
Total_Time_in_Sedentary_Bouts	Num	Total Length of Time in All Sedentary Bouts (minutes)
Average_Length_Sedentary_Bouts	Num	Average Length of Time in All Sedentary Bouts (minutes)
Maximum_Length_Sedentary_Bouts	Num	Maximum Length of Sedentary Bouts (minutes)
Minimum_Length_Sedentary_Bouts	Num	Minimum Length of Sedentary Bouts (minutes)
Daily_Average_Sedentary_Bouts	Num	Daily Average of Sedentary Bouts (minutes)
Total_Sedentary_Breaks	Num	Total Sedentary Breaks: number of periods between sedentary bouts
Total_Time_in_Sedentary_Breaks	Num	Total Time in Sedentary Breaks: total length of time in all sedentary breaks (minutes)
Average_length_Sedentary_Breaks	Num	Average length of Sedentary Breaks (min)
Maximum_Length_Sedentary_Breaks	Num	Max Length of Sedentary Breaks (min)
Minimum_Length_Sedentary_Breaks	Num	Minimum Length of Sedentary Breaks (min)
Daily_Average_Sedentary_Breaks	Num	Daily Average of Sedentary Breaks: total length of time in all sedentary breaks/days with wear time
Tot_Light_PA_FR	Num	Total Minutes of light intensity activity (Freedson VM3 2011)
Tot_Moderate_PA_FR	Num	Total Minutes of moderate intensity activity (Freedson VM3 2011)
Tot_Vigorous_PA_FR	Num	Total Minutes of vigorous intensity activity (Freedson VM3 2011)
Tot_VeryVigorous_PA_FR	Num	Total Minutes of very vigorous intensity activity (Freedson VM3 2011)
Perc_Light_FR	Num	Percent of the time spent in light intensity activity (Freedson VM3 2011)
Perc_Moderate_FR	Num	Percent of the time spent in moderate intensity activity (Freedson VM3 2011)

Perc_Vigorous_FR	Num	Percent of the time spent in vigorous intensity activity (Freedson VM3 2011)
Perc_VeryVigorous_FR	Num	Percent of the time spent in very vigorous intensity activity (Freedson VM3 2011)
Tot_MVPA_FR	Num	Total time spent in moderate-vigorous intensity activity (minutes; Freedson VM3 2011)
Perc_MVPA_FR	Num	Percent of time spent in MVPA (Freedson VM3 2011)
Sedentary_TR	Num	Total minutes of sedentary activity (Troiano 2008)
Light_TR	Num	Total minutes of light activity (Troiano 2008)
Moderate_TR	Num	Total minutes of moderate activity (Troiano 2008)
Vigorous_TR	Num	Total minutes of vigorous activity (Troiano 2008)
Perc_Sedentary_TR	Num	Percent of the time spent in sedentary activity (Troiano 2008)
Perc_Light_TR	Num	Percent of the time spent in light intensity activity (Troiano 2008)
Perc_Moderate_TR	Num	Percent of the time spent in moderate intensity activity (Troiano 2008)
Perc_Vigorous_TR	Num	Percent of the time spent in vigorous intensity activity (Troiano 2008)
Total_MVPA	Num	Total time spent in moderate-vigorous intensity activity (minutes; Troiano 2008)
Perc_MVPA_TR	Num	Percent of time spent in MVPA (Troiano 2008)
Time	Num	Length of scored time (total minutes over the calendar days scored)
Calendar_Days	Num	Number of calendar days scored
Avg_daily_steps	Num	Avg daily step counts
Steps_Counts	Num	Steps Counts
Steps_Average_Counts	Num	Steps Average Counts
Steps_Max_Counts	Num	Steps Max Counts
Steps_Per_Minute	Num	Steps Per Minute
Avg_daily_MVPA_TR	Num	Avg daily amt (min) of MVPA, as a continuous var. (not in bouts) per calendar day (Troiano 2008)
Avg_daily_MVPA_FR2011	Num	Avg daily amt (min) of MVPA per calendar day as a continuous variable--not in bouts (Freedson VM3 2011)
Avg_daily_SED_TR	Num	Avg daily amt (min) of Sedentary, not in bouts (from Troiano 2008)
Avg_daily_MVPAbouts_FR1998	Num	Avg daily amt (min) of MVPA per calendar day spent in 10-min bouts (Freedson 1998)
Avg_daily_SED_bouts_FR2011	Num	Avg daily amt (min) of Sedentary, spent in 10-min Bouts (from Freedson VM3 2011)
avg_daily_min_sedentary_choi_lee	Num	Avg Daily Mins Sedentary (Choi Lee)
avg_daily_min_light_choi_lee	Num	Avg Daily Mins Light (Choi Lee)
avg_daily_min_mvpa_choi_lee	Num	Avg Daily Mins MVPA (Choi Lee)
percent_sedentary_choi_lee	Num	Percent Sedentary (Choi Lee)
percent_light_choi_lee	Num	Percent Light (Choi Lee)
percent_mvpa_choi_lee	Num	Percent MVPA (Choi Lee)

avg_daily_steps_choi_lee	Num	Avg Daily Steps (Choi Lee)
		NOTE: Add'l Sedentary, Light and MVPA activity level variables and their derivatives will appear when data are analyzed with other protocols in the future!