

Keck School of Medicine of USC

Alzheimer's Therapeutic Research Institute

ATRI ADNI REPORT

ADNI2 Data Collection Summary

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Introduction

ADNI has had three phases: ADNI1, ADNIGO, and ADNI2. A brief summary of the study design is available from <http://adni.loni.usc.edu/study-design/> and a detailed and comprehensive schedule of assessments is available from <http://adni.loni.usc.edu/wp-content/uploads/2012/10/adni-complete-study-schedule.pdf>.

Briefly, each phase of ADNI enrolled new subjects; and ADNIGO and ADNI2 continued to follow *rollover* subjects from prior phases. In this report we focus on three subgroups of ADNI subjects:

1. All ADNI2 subjects
2. Newly enrolled ADNI2 subjects
3. Rollover subjects from ADNI1 and ADNIGO followed in ADNI2

For each group, we summarize the baseline demographics and longitudinal counts of subjects completing the schedule of assessments.

All ADNI2 subjects

	N	CN N = 314	SMC N = 107	EMCI N = 300	LMCI N = 311	AD N = 150	Combined N = 1182	P-value
Age	1182	74.1 (5.8)	72.2 (5.6)	71.2 (7.4)	73.1 (7.4)	74.7 (8.2)	73.0 (7.0)	< 0.001 ¹
Sex : Female	1182	158 (50%)	62 (58%)	133 (44%)	127 (41%)	62 (41%)	542 (46%)	0.009 ²
Education	1182	16.5 (2.6)	16.8 (2.5)	16.0 (2.7)	16.1 (2.8)	15.8 (2.7)	16.2 (2.7)	0.007 ¹
Marital : Married	1182	226 (72%)	70 (65%)	227 (76%)	242 (78%)	130 (87%)	895 (76%)	< 0.001 ²
Widowed		42 (13%)	15 (14%)	21 (7%)	38 (12%)	14 (9%)	130 (11%)	
Divorced		33 (11%)	12 (11%)	34 (11%)	26 (8%)	5 (3%)	110 (9%)	
Never married		13 (4%)	10 (9%)	14 (5%)	3 (1%)	1 (1%)	41 (3%)	
Unknown		0 (0%)	0 (0%)	4 (1%)	2 (1%)	0 (0%)	6 (1%)	
Ethnicity : Unknown	1182	1 (0%)	2 (2%)	1 (0%)	0 (0%)	1 (1%)	5 (0%)	0.14 ²
Not Hisp/Latino		300 (96%)	103 (96%)	284 (95%)	304 (98%)	141 (94%)	1132 (96%)	
Hisp/Latino		13 (4%)	2 (2%)	15 (5%)	7 (2%)	8 (5%)	45 (4%)	
Race : Am Indian/Alaskan	1182	1 (0%)	0 (0%)	1 (0%)	0 (0%)	0 (0%)	2 (0%)	0.049 ²
Asian		7 (2%)	0 (0%)	4 (1%)	5 (2%)	5 (3%)	21 (2%)	
Hawaiian/Other PI		0 (0%)	0 (0%)	1 (0%)	1 (0%)	0 (0%)	2 (0%)	
Black		21 (7%)	3 (3%)	5 (2%)	10 (3%)	6 (4%)	45 (4%)	
White		283 (90%)	101 (94%)	279 (93%)	294 (95%)	137 (91%)	1094 (93%)	
More than one		2 (1%)	3 (3%)	7 (2%)	1 (0%)	2 (1%)	15 (1%)	
Unknown		0 (0%)	0 (0%)	3 (1%)	0 (0%)	0 (0%)	3 (0%)	
CDR-SB	1182	0.030 (0.126)	0.075 (0.179)	1.283 (0.757)	1.630 (0.910)	4.507 (1.696)	1.341 (1.622)	< 0.001 ¹
ADAS 11	1178	5.8 (3.0)	5.6 (2.7)	7.9 (3.5)	11.1 (4.6)	20.8 (7.1)	9.6 (6.4)	< 0.001 ¹
MMSE	1182	29.1 (1.2)	29.0 (1.2)	28.4 (1.6)	27.5 (1.8)	23.1 (2.1)	27.7 (2.4)	< 0.001 ¹

Mean (SD) for continuous variables.

N is the number of non-missing values.

Tests used:

¹F test; ²Pearson test

Assessment counts for screen through month 96:

Event	Visit																		
	sc	bl	m03	m06	m12	m18	m24	m30	m36	m42	m48	m54	m60	m66	m72	m78	m84	m90	m96
1.5 Tesla MRI	274	0	1	272	266	137	246	0	245	0	193	0	175	0	158	0	101	0	55
3 Tesla MRI	987	62	781	778	789	25	652	0	147	0	143	0	22	0	35	0	40	0	37
AV45 PET	0	889	0	0	3	0	556	0	21	0	211	0	82	0	67	0	59	0	46
Blood	0	1161	0	1094	1005	138	882	0	575	0	379	0	233	0	219	0	178	0	129
Clinical assessments	2669	1182	788	1108	1022	864	929	512	619	223	408	169	258	211	243	212	198	128	153
Cogstate In-clinic/Supervised	0	0	0	0	0	0	2	0	5	0	5	0	3	0	0	0	0	0	0
Cogstate Remote/Independent	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0
CSF	0	953	0	0	121	0	383	0	62	0	109	0	39	0	28	0	20	0	13
FDG PET	0	1029	0	123	122	68	490	0	115	0	116	0	79	0	73	0	52	0	11
PIB PET	0	8	0	0	42	0	42	0	27	0	2	0	0	0	0	0	0	0	0
TAU PET	0	0	0	0	0	0	7	0	2	0	5	0	0	0	0	0	0	0	1
Urine	0	273	0	270	264	135	250	0	229	0	43	0	0	0	0	0	0	0	0

Assessment counts for month 102 on:

Event	Visit				
	m102	m108	m114	m120	Sum
1.5 Tesla MRI	0	23	0	0	2146
3 Tesla MRI	0	12	0	1	4511
AV45 PET	0	24	0	1	1959
Blood	0	64	0	3	6060
Clinical assessments	7	79	1	3	11986
Cogstate In-clinic/Supervised	0	2	0	0	17
Cogstate Remote/Independent	0	0	0	0	3
CSF	0	11	0	0	1739
FDG PET	0	0	0	0	2278
PIB PET	0	0	0	0	121
TAU PET	0	3	0	0	18
Urine	0	0	0	0	1464

Newly enrolled ADNI2 subjects

	N	CN N = 188	SMC N = 107	EMCI N = 181	LMCI N = 163	AD N = 150	Combined N = 789	P-value
Age	789	73.4 (6.2)	72.2 (5.6)	71.0 (7.3)	72.2 (7.5)	74.7 (8.2)	72.7 (7.2)	< 0.001 ¹
Sex : Female	789	98 (52%)	62 (58%)	79 (44%)	77 (47%)	62 (41%)	378 (48%)	0.048 ²
Education	789	16.5 (2.6)	16.8 (2.5)	16.1 (2.7)	16.5 (2.6)	15.8 (2.7)	16.3 (2.6)	0.014 ¹
Marital : Married	789	127 (68%)	70 (65%)	139 (77%)	119 (73%)	130 (87%)	585 (74%)	< 0.001 ²
Widowed		26 (14%)	15 (14%)	11 (6%)	21 (13%)	14 (9%)	87 (11%)	
Divorced		27 (14%)	12 (11%)	20 (11%)	18 (11%)	5 (3%)	82 (10%)	
Never married		8 (4%)	10 (9%)	11 (6%)	3 (2%)	1 (1%)	33 (4%)	
Unknown		0 (0%)	0 (0%)	0 (0%)	2 (1%)	0 (0%)	2 (0%)	
Ethnicity : Unknown	789	1 (1%)	2 (2%)	0 (0%)	0 (0%)	1 (1%)	4 (1%)	0.084 ²
Not Hisp/Latino		175 (93%)	103 (96%)	174 (96%)	161 (99%)	141 (94%)	754 (96%)	
Hisp/Latino		12 (6%)	2 (2%)	7 (4%)	2 (1%)	8 (5%)	31 (4%)	
Race : Am Indian/Alaskan	789	1 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)	0.4 ²
Asian		5 (3%)	0 (0%)	3 (2%)	1 (1%)	5 (3%)	14 (2%)	
Hawaiian/Other PI		0 (0%)	0 (0%)	1 (1%)	1 (1%)	0 (0%)	2 (0%)	
Black		14 (7%)	3 (3%)	4 (2%)	7 (4%)	6 (4%)	34 (4%)	
White		166 (88%)	101 (94%)	170 (94%)	153 (94%)	137 (91%)	727 (92%)	
More than one		2 (1%)	3 (3%)	2 (1%)	1 (1%)	2 (1%)	10 (1%)	
Unknown		0 (0%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)	1 (0%)	
CDR-SB	789	0.035 (0.137)	0.075 (0.179)	1.320 (0.799)	1.758 (0.997)	4.507 (1.696)	1.541 (1.852)	< 0.001 ¹
ADAS 11	785	5.8 (3.1)	5.6 (2.7)	8.1 (3.7)	11.6 (4.9)	20.8 (7.1)	10.3 (7.2)	< 0.001 ¹
MMSE	789	29.0 (1.3)	29.0 (1.2)	28.4 (1.6)	27.6 (1.8)	23.1 (2.1)	27.4 (2.7)	< 0.001 ¹

Mean (SD) for continuous variables.

N is the number of non-missing values.

Tests used:

¹F test; ²Pearson test

Assessment counts for screen through month 48:

Event	Visit											Sum
	sc	bl	m03	m06	m12	m18	m24	m30	m36	m42	m48	
1.5 Tesla MRI	0	0	1	0	0	0	0	0	0	0	0	1
3 Tesla MRI	868	0	666	603	610	0	496	0	36	0	67	3346
AV45 PET	0	770	0	0	2	0	468	0	9	0	67	1316
Blood	0	771	0	710	618	0	529	0	225	0	77	2930
Clinical assessments	2157	789	673	721	633	502	566	163	262	10	98	6574
Cogstate In-clinic/Supervised	0	0	0	0	0	0	2	0	5	0	5	12
Cogstate Remote/Independent	0	0	0	0	0	0	1	0	1	0	1	3
CSF	0	703	0	0	1	0	281	0	3	0	29	1017
FDG PET	0	778	0	0	1	0	292	0	0	0	0	1071
TAU PET	0	0	0	0	0	0	7	0	2	0	5	14

NOTE: Newly enrolled ADNI2 subjects can only be followed for a maximum 48 months under ADNI2.

Rollover subjects from ADNI1 and ADNIGO followed in ADNI2

	CN N = 126	EMCI N = 119	LMCI N = 148	Combined N = 393	P-value
Age	75.3 (4.8)	71.6 (7.6)	74.1 (7.1)	73.7 (6.8)	< 0.001 ¹
Sex : Female	60 (48%)	54 (45%)	50 (34%)	164 (42%)	0.043 ²
Education	16.3 (2.8)	15.9 (2.7)	15.7 (3.0)	16.0 (2.8)	0.17 ¹
Marital : Married	99 (79%)	88 (74%)	123 (83%)	310 (79%)	0.006 ²
Widowed	16 (13%)	10 (8%)	17 (11%)	43 (11%)	
Divorced	6 (5%)	14 (12%)	8 (5%)	28 (7%)	
Never married	5 (4%)	3 (3%)	0 (0%)	8 (2%)	
Unknown	0 (0%)	4 (3%)	0 (0%)	4 (1%)	
Ethnicity : Unknown	0 (0%)	1 (1%)	0 (0%)	1 (0%)	0.07 ²
Not Hisp/Latino	125 (99%)	110 (92%)	143 (97%)	378 (96%)	
Hisp/Latino	1 (1%)	8 (7%)	5 (3%)	14 (4%)	
Race : Am Indian/Alaskan	0 (0%)	1 (1%)	0 (0%)	1 (0%)	0.005 ²
Asian	2 (2%)	1 (1%)	4 (3%)	7 (2%)	
Hawaiian/Other PI	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Black	7 (6%)	1 (1%)	3 (2%)	11 (3%)	
White	117 (93%)	109 (92%)	141 (95%)	367 (93%)	
More than one	0 (0%)	5 (4%)	0 (0%)	5 (1%)	
Unknown	0 (0%)	2 (2%)	0 (0%)	2 (1%)	
CDR-SB	0.024 (0.107)	1.227 (0.688)	1.490 (0.781)	0.940 (0.885)	< 0.001 ¹
ADAS 11	5.7 (2.8)	7.5 (3.0)	10.5 (4.2)	8.1 (4.0)	< 0.001 ¹
MMSE	29.1 (1.0)	28.4 (1.5)	27.4 (1.7)	28.2 (1.6)	< 0.001 ¹

Mean (SD) for continuous variables.

Tests used:

¹F test; ²Pearson test

Assessment counts for screen through month 96:

Event	Visit																		
	sc	bl	m03	m06	m12	m18	m24	m30	m36	m42	m48	m54	m60	m66	m72	m78	m84	m90	m96
1.5 Tesla MRI	274	0	0	272	266	137	246	0	245	0	193	0	175	0	158	0	101	0	55
3 Tesla MRI	119	62	115	175	179	25	156	0	111	0	76	0	22	0	35	0	40	0	37
AV45 PET	0	119	0	0	1	0	88	0	12	0	144	0	82	0	67	0	59	0	46
Blood	0	390	0	384	387	138	353	0	350	0	302	0	233	0	219	0	178	0	129
Clinical assessments	512	393	115	387	389	362	363	349	357	213	310	169	258	211	243	212	198	128	153
Cogstate In-clinic/Supervised	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
CSF	0	250	0	0	120	0	102	0	59	0	80	0	39	0	28	0	20	0	13
FDG PET	0	251	0	123	121	68	198	0	115	0	116	0	79	0	73	0	52	0	11
PIB PET	0	8	0	0	42	0	42	0	27	0	2	0	0	0	0	0	0	0	0
TAU PET	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Urine	0	273	0	270	264	135	250	0	229	0	43	0	0	0	0	0	0	0	0

Assessment counts for month 102 on:

Event	Visit				Sum
	m102	m108	m114	m120	
1.5 Tesla MRI	0	23	0	0	2145
3 Tesla MRI	0	12	0	1	1165
AV45 PET	0	24	0	1	643
Blood	0	64	0	3	3130
Clinical assessments	7	79	1	3	5412
Cogstate In-clinic/Supervised	0	2	0	0	5
CSF	0	11	0	0	722
FDG PET	0	0	0	0	1207
PIB PET	0	0	0	0	121
TAU PET	0	3	0	0	4
Urine	0	0	0	0	1464