

ADNI Clinical Core

Paul Aisen

Ron Petersen

Michael Donohue

Jennifer Salazar

ADNI Meeting

Vancouver, BC

April 18, 2016

The ADNI Study

- Informing the design of therapeutic trials by looking at clinical, imaging, biomarker, and genetic characteristics across NL, MCI, and AD cohorts

	ADNI1	ADNIGO	ADNI2	ADNI3*
Duration	2004-2009	2009-2011	2011-2016	2016-2021
Sample Size	800	200	1180	1070-2000
Cohorts	NL, MCI, AD	EMCI	NL, SMC, EMCI, LMCI, AD	NL, MCI, AD

***ADNI3 expected to commence August/September 2016**

Please encourage participation in ADNI3!

We need *700-800 rollover participants* (of the total, N = 1070-2000)

- Cognitively normal cohort:
 - *295-330 rollover*
 - 135-500 new
- MCI cohort:
 - *275-320 rollover*
 - 150-515 new
- AD cohort:
 - *130-150 rollover*
 - 85-185 new

Inclusion Criteria

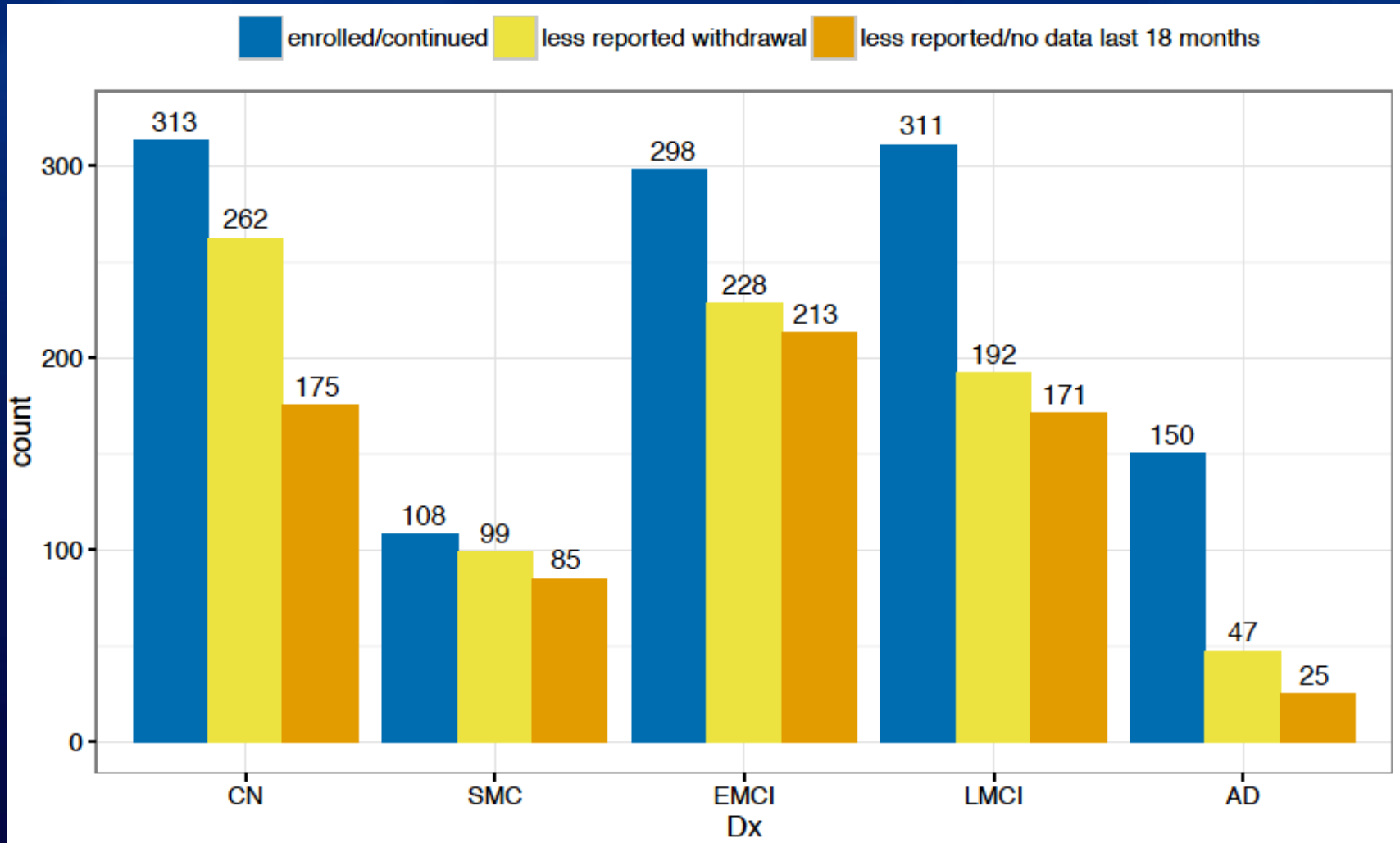
	CN	SMC	MCI	AD
CDR	0	0	0.5	0.5-1
MMSE	24-30	24-30	24-30	20-26
SMC	Neg	Pos		
LM-DR (cut-off scores)				
Educ				
0-7	≥ 3	> 3	≤ 6	≤ 2
8-15	≥ 5	> 5	≤ 9	≤ 4
≥ 16	≥ 9	> 9	≤ 11	≤ 8
Dementia	No	No	No	Yes

ADNI 2 Enrollment by Cohort

Total at initial entry (includes 276 ADNI 1 + 120 ADNI GO rollovers): **1180**

Current total (less reported withdrawals): **828** (20 less since Jan. 2016)

Current total (less no data in last 18 months): **669** (up 19 since Jan. 2016)



ADNI3 Rollover Estimates

- 67% of sites have provided responses
- Overall 57% of ADNI2 participants are interested in rolling over into ADNI3

	NL (n=338)	MCI (n=295)	AD (n=169)	Total (802)
Yes	221	164	76	461
Maybe/Unk	17	14	6	37
No	19	23	22	64
% interested	65%	56%	45%	57%

Unresponsive sites...interested in participating in ADNI3?

Site Code	Site Name	AD	CN	MCI	Total Possible Participants	Total Interested in Rolling Over	% of responses submitted
5	UCSD	5	3	4	12	0	0.0%
12	University of Alabama-Birmingham	3	7	4	14	0	0.0%
13	Mt. Sinai School of Medicine	2	5	5	12	0	0.0%
16	Wien Center	5	3	4	12	0	0.0%
23	University of Kentucky	8	6	5	19	0	0.0%
35	UCLA	5	3	5	13	0	0.0%
52	Sunnybrook Health Sciences	5	1	4	10	0	0.0%
70	Nathan S. Kline Institute	0	2	0	2	0	0.0%
99	Banner Sun Health Research	1	3	4	8	0	0.0%
100	Boston University	1	8	3	14	0	0.0%
128	University of California, Irvine - Neuropsychiatric Center	3	11	14	28	0	0.0%
129	Banner Alzheimer's Institute	1	4	4	9	0	0.0%
130	Ohio State University	7	6	11	24	0	0.0%
131	Albany Medical College	0	2	0	2	0	0.0%
Total unknown:		46	64	67	179		

ADNI3: Schedule of Events

Rollover and New Subjects

	Baseline	12 month	24 month	36 month	48 month
CN	CV, MRI, Tau, AMY, LP	Phone Check	CV, MRI, Tau (+/-), AMY, LP	CV, MRI, Tau (+/-) OR Phone Check	CV, MRI, Tau, AMY, LP
MCI	CV, MRI, Tau, AMY, LP, FDG	CV, MRI	CV, MRI, Tau (+/-), AMY, LP	CV, MRI, Tau (+/-)	CV, MRI, Tau, AMY, LP
AD	CV, MRI, Tau, AMY, LP, FDG	CV, MRI, Tau	CV, MRI, Tau, AMY, LP	Phone Check (Neuropath only)	Phone Check (Neuropath only)

All rollover and new subjects have a full clinic visit, LP and PET scans in Year 1 of ADNI 3

CN: visits q2 years unless selected additional Year 3 Tauvisit/scans

MCI: annual visits; some will have Year 2, 3 Tau PET

AD: annual for first 2 years

Random selection for additional Tau scans

- **Tau-PET Imaging** is done at the Baseline and final visit for all ADNI3 CN and MCI participants.
- Additionally, randomly selected 20% amyloid negative, and 80% amyloid positive CN and MCI participants will have two more scans (for a total of four scans).
 - Participants remain blind to amyloid scan result
- AD participants will have an AV-1451 PET scan at each in-clinic visit (for a total of three scans).

New assessments in ADNI3

- MINT (instead of Boston naming)
- FCI-SF
- Cogstate

Multilingual Naming Test (MINT)

- The MINT is a test of object picture naming designed to include items that are comparable across English, Spanish and other languages, Mandarin and Hebrew.
- It replaces the Boston Naming Test in the Uniform Data Set of the NIA-funded AD centers because the BNT contains items that are not of the same level of difficulty for Spanish and English speakers.

Financial Capacity Instrument – Short Form (FCI-SF)

- The FCI-SF is a brief performance measure of everyday financial skills that uses both performance and time to completion variables.
- In prior research the FCI-SF performance and timing variables have discriminated between amyloid-positive and -negative controls, as well as control vs MCI vs mild AD groups.

- The FCI-SF comprises 37 performance items which evaluate four constructs of monetary calculation, financial conceptual knowledge, use of a checkbook/register, and use of a bank statement.
- The FCI-SF also includes six variables measuring time to completion (in seconds) of four FCI-SF tasks.
- The FCI-SF takes 15 minutes or less to administer.

Cogstate pilot in ADNI2

- 55% of ADNI CN and MCI offered Cogstate pilot participation consented
- 104 Cogstate batteries completed
 - 59 in clinic
 - 45 unsupervised
- Some issues:
 - Web navigation and login difficulties
 - Use of keyboard for test responses

Cogstate in ADNI3

- NC and MCI
- In clinic and quarterly unsupervised
- Procedures under development

New recruitment tools for ADNI3

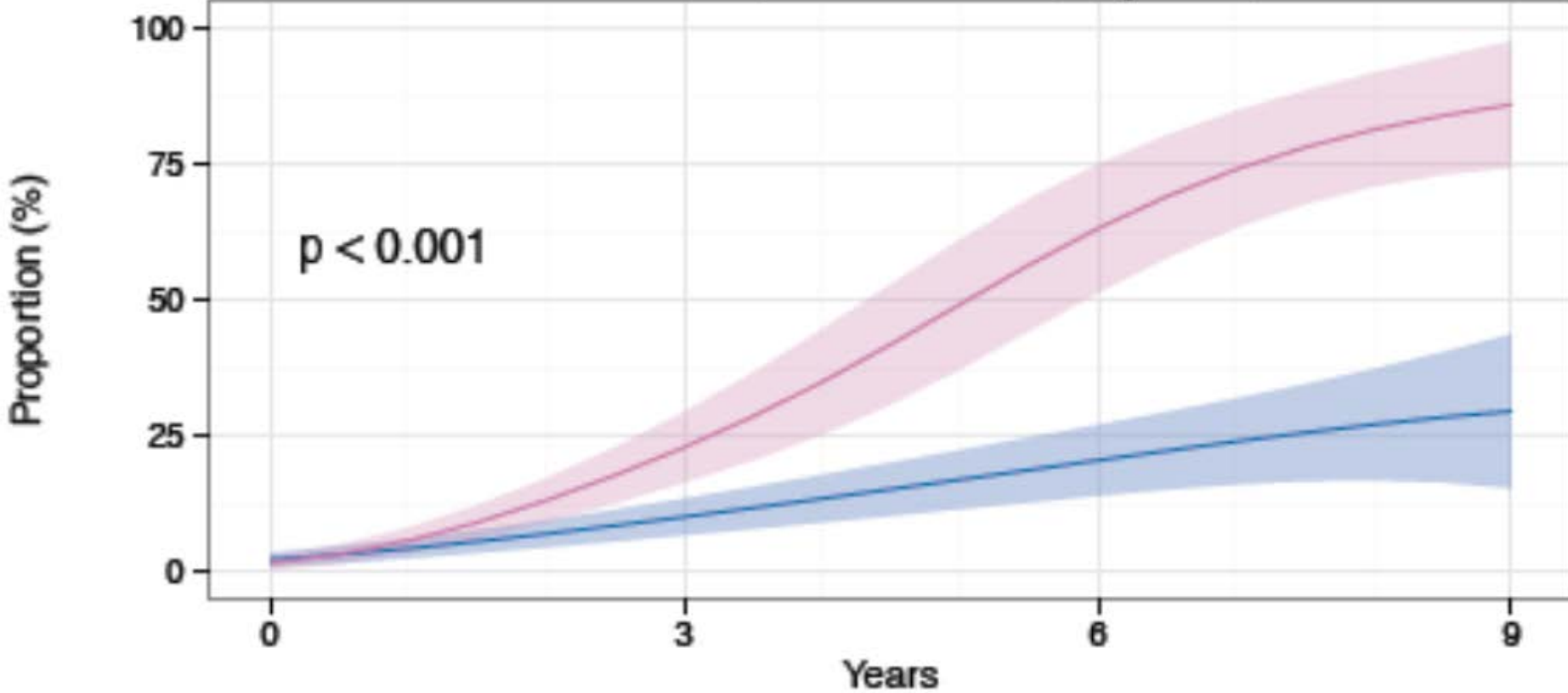
- Brain Health Registry
- Other registries
- ATRI Recruitment Core

Importance of timely recruitment and subject retention

- Cannot be overstated

Preclinical AD progresses to CDR=0.5

CDRG>0 rate with covariate adjustment



Elevated	197	189	147	162	66	49	30	38	30	26	11
Normal	240	230	194	200	91	69	59	61	55	38	18