Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1A. Demographic and PET characteristics for patients with dementia

Cohort	Reference(s)	Diagnosis	N	Mean age (SD)	Median age (range)	Setting	Tracer (N)	Outcome	Cut-point
AIBL	1	AD	53	72±9	73(55-91)	Memory clinic	[^{11}C]PIB	$SUVr_{40-70}$	1.5 SUVr
Amsterdam*	2,3	AD FTD DLB VaD CBS	241 70 13 2 10	63±7 64±7 64±7 55±13 64±9	63(38-84) 65(43-78) 62(55-76) 55(46-64) 68(40-71)	Memory clinic	[^{11}C]PIB (243) [^{18}F]Flutemetamol (93)	BP_{ND} $SUVr_{60-90}$ $SUVr_{90-110}$	Visual read
ADNI	4,5	AD	163	76±8	76(55-90)	Memory clinic	[^{11}C]PIB (17) [^{18}F]Florbetapir (146)	$SUVr_{50-70}$ $SUVr_{50-70}$	1.5 SUVr 1.1 SUVr
Melbourne*	6-8	AD FTD DLB VaD	41 22 22 4	72±10 67±9 71±6 73±11	73(56-86) 64(53-82) 73(60-80) 73(61-85)	Memory clinic	[^{11}C]PIB (44) [^{18}F]Florbetaben (45)	DVR $SUVr_{40-70}$ $SUVr_{90-110}$	Visual read 1.5 SUVr 1.4 SUVr
Melbourne	9	AD FTD CBS	41 46 19	68±6 68±9 67±6	67(55-80) 70(49-82) 69(57-76)	Frontotemporal Dementia clinic	[^{11}C]PIB (106)	$SUVr_{40-70}$	1.5 SUVr
Seoul NUH	10	AD	27	69±9	71(55-81)	Community study	[^{11}C]PIB	$SUVr_{60-90}$	Visual read
Paris	11	AD	21	63±5	62(55-78)	Memory clinic	[^{11}C]PIB	$SUVr_{50-70}$	1.4 SUVr
Washington University (St. Louis)	12	AD	25	73±7	79(65-89)	Research Center	[^{11}C]PIB	MCBP	0.2 MCBP
Washington University (St. Louis)	13	DLB	6	71±9	69(61-87)	Movement disorder Center	[^{11}C]PIB	MCBP	0.2 MCBP
Seoul Samsung	14	AD VaD	69 70	70±9 74±7	72(39-88) 75(57-87)	Memory clinic	[^{11}C]PIB	$SUVr_{60-90}$	1.5 SUVr
Leipzig	15	AD	74	70±8	72(55-86)	Memory clinic	[^{18}F]Florbetaben	BAPL score on visual read	2 BAPL score

Leuven	16	AD	15	73±7	72(65-87)	Memory clinic	[^{11}C]PIB	DVR	Visual read
TU Munich	17,18	AD FTD	41 7	67±9 65±5	66(51-84) 64(60-75)	Research Unit	[^{11}C]PIB	$SUVr_{40-70}$	Visual read
San Francisco*	19	AD FTD CBS	111 92 24	68±9 66±8 69±7	66(48-90) 67(47-85) 70(55-88)	Memory clinic	[^{11}C]PIB (207) [^{18}F]Florbetapir (20)	DVR $SUVr_{50-70}$	Visual read
GE	20	AD	27	70±7	71(56-82)	Memory clinic	[^{18}F]Flutemetamol	SUV_{85-115}	Visual read
Santander*	21	AD FTD CBS	26 6 4	69±6 68±8 59±6	69(58-84) 71(53-77) 60(52-65)	Memory clinic	[^{11}C]PIB	$SUVr_{55-60}$	Visual read
Hong Kong*	22	VaD	46	77±8	79(61-90)	Neurology clinic	[^{11}C]PIB	SUV_{35-45}	1.46 SUV
Tours	23	AD	14	69±7	69(56-81)	Memory clinic	[^{18}F]Florbetapir	$SUVr_{50-70}$	Visual read
Pittsburgh	24	AD	54	71±10	74(50-95)	Memory clinic	[^{11}C]PIB	$SUVr_{50-70}$	1.67 SUVr (atrophy corrected)
Freiburg*	25	AD FTD DLB VaD CBS	61 16 2 2 1	67±9 67±8 72±0 75±13 73	70(46-80) 68(53-79) 72(72-72) 75(67-84) 73	Memory clinic	[^{11}C]PIB	BP_{ND}	Visual read
Philadelphia	26	AD	21	73±10	75(56-86)	Memory clinic	[^{18}F]Florbetapir	SUV_{50-60}	Visual read
Copenhagen	27	AD FTD	18 11	63±6 66±12	64(53-74) 68(42-82)	Memory clinic	[^{11}C]PIB	SUV_{40-70}	Visual read
Phoenix	28	AD	45	75±9	77(52-88)	14 memory clinics	[^{18}F]Florbetapir	$SUVr_{50-60}$	1.08 SUVr
AVID	29	AD FTD DLB VaD CBS	48 5 3 5 1	78±7 63±5 75±6 78±10 76	79(61-91) 64(55-68) 75(68-80) 82(63-86) 76	19 memory clinics	[^{18}F]Florbetapir	SUV_{50-60}	Visual read
Pennsylvania	30	AD	13	68±10	67(55-87)	Memory clinic	[^{11}C]PIB	$SUVr_{50-60}$	Visual read

Stockholm	31	AD	26	68±9	68(55-84)	Memory clinic	[^{11}C]PIB	$SUVr_{40-60}$	1.41 SUV_r
Turku*	32	AD FTD DLB VaD	37 7 3 9	66±8 59±11 70±13 67±10	65(51-85) 61(46-76) 64(60-85 66(52-82)	Memory clinic	[^{11}C]PIB	$SUVr_{60-90}$	1.5 SUV_r
Caen	33	AD FTD	18 2	70±11 68±6	70(53-88) 68(64-72)	Memory clinic	[^{18}F]Florbetapir	$SUVr_{50-70}$	1.1 SUVr
Barcelona	Not published	AD FTD DLB CBS	29 4 2 2	69±8 75±3 66±10 59±1	68(54-86) 75 (71-77) 66(58-73) 59(58-60)	Memory clinic	[^{11}C]PIB	$SUVr_{60-90}$	Visual read

This table shows the primary paper(s), demographics, and PET characteristics for each cohort providing patient data for this meta-analysis.
AD = Alzheimer's disease; FTD = Frontotemporal dementia; VaD = Vascular dementia; DLB = Dementia with Lewy bodies; CBS = Corticobasal syndrome; PIB = Pittsburgh Compound-B; SUVr = Standardized uptake value ratio; DVR = Distribution volume ratio; BP_{ND} = Non-displaceable binding potential; BAPL = Brain amyloid-beta plaque load; MCBP = Mean cortical binding potential.
* Cohorts providing (unpublished) individual participant data in addition to published data.

eTable 1B. Demographic and PET characteristics for healthy controls

Cohort	Reference(s)	N	Mean age (SD)	Median age (range)	Setting	Tracer (N)	Outcome	Cut-point
AIBL	1	178	72±7	72(59-89)	Memory clinic	[^{11}C]PIB	$SUVr_{40-70}$	1.5 SUVr
Amsterdam	2	15	67±7	68(57-80)	Memory clinic	[^{11}C]PIB (15)	BP_{ND} $SUVr_{60-90}$	Visual read
ADNI	4,5	323	75±7	75(56-94)	Memory clinic	[^{11}C]PIB (10) [^{18}F]Florbetapir (313)	$SUVr_{50-70}$ $SUVr_{50-70}$	1.5 SUVr 1.1 SUVr
Melbourne	6	33	72±6	74(56-83)	Memory clinic	[^{11}C]PIB (10) [^{18}F]Florbetaben (23)	DVR $SUVr_{40-70}$ $SUVr_{90-110}$	Visual read 1.5 SUVr 1.4 SUVr
Paris	11	11	66±6	65(59-75)	Memory clinic	[^{11}C]PIB	$SUVr_{50-70}$	1.4 SUVr
Washington University (St. Louis)	12,34	441	67±10	67(45-89)	Research center	[^{11}C]PIB	MCBP	0.2 MCBP
Seoul Samsung	14	35	71±5	71(62-82)	Memory clinic	[^{11}C]PIB	$SUVr_{60-90}$	1.5 SUVr
Leipzig	15	68	68±7	69(55-85)	Memory clinic	[^{18}F]Florbetaben	BAPL score on visual read	2 BAPL score
Leuven	16	16	71±7	71(59-89)	Memory clinic	[^{11}C]PIB	DVR	Visual read
GE	20	25	56±18	58(25-78)	Memory clinic	[^{18}F]Flutemetamol	SUV_{85-115}	Visual read
TU Munich	18	15	64±7	65(53-75)	Research Unit	[^{11}C]PIB	$SUVr_{40-70}$	Visual read
San Francisco	35	10	62±9	62(48-73)	Memory clinic	[^{11}C]PIB (10)	DVR	Visual read
Santander	21	1	58	58	Memory clinic	[^{11}C]PIB	$SUVr_{55-60}$	Visual read

Hong Kong	22	18	67±8	66(56-84)	Neurology clinic	[^{11}C]PIB	SUV_{35-45}	1.46 SUV
Tours	23	21	68±10	67(60-109)	Memory clinic	[^{18}F]Florbetapir	$SUVr_{50-70}$	Visual read
Pittsburgh	36	165	77±10	78(39-94)	Memory clinic	[^{11}C]PIB	$SUVr_{50-70}$	1.67 SUVr (atrophy corrected)
Philadelphia	26	27	65±14	66(38-91)	Memory clinic	[^{18}F]Florbetapir	SUV_{50-60}	Visual read
Phoenix	28	147	45±22	39(18-92)	14 memory clinics	[^{18}F]Florbetapir	$SUVr_{50-60}$	1.08 SUVr
Pennsylvania	30	14	70±9	69(59-87)	Memory clinic	[^{11}C]PIB	$SUVr_{50-60}$	Visual read
Caen	33	81	54±19	59(21-84)	Memory clinic	[^{18}F]Florbetapir	$SUVr_{50-70}$	1.1 SUVr
Berkeley	37	81	75±7	74(61-96)	Research Center	[^{11}C]PIB	DVR	1.08 DVR
Copenhagen	38	18	61±7	61(51-75)	Research Center	[^{11}C]PIB	$SUVr_{40-70}$	1.5 SUVr
Dallas	39	106	71±11	75(55-85)	Research Center	[^{18}F]Florbetapir	$SUVr_{50-60}$	1.22 SUVr

This table shows the primary paper(s), demographics, and PET characteristics for each cohort providing healthy control data for this meta-analysis.
SUVr = Standardized uptake value ratio; DVR = Distribution volume ratio; BP_{ND} = Non-displaceable binding potential; BAPL = Brain amyloid-beta plaque load; MCBP = Mean cortical binding potential.

eTable 2A. Quality assessment of PET cohorts including patients with dementia

		STROBE/QUADAS criterion*									
Cohort	**Reference(s)**	**Setting**	**Generalizability**	**Selection**	**Measurements**	**Reference**	**Bias**	**Subject flow**	**Descriptives**	**Outcome**	**Dichotimization**
AIBL	1	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Amsterdam	2	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	3	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
ADNI	4	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
	5	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Melbourne	6	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	7	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
	8	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Melbourne	9	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Seoul NUH	10	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Paris	11	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Washington University (St. Louis)	12	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Washington University (St. Louis)	13	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Seoul Samsung	14	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Leipzig	15	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Leuven	16	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
TU Munich	17	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes

	18	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
San Francisco	19	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
GE	20	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Santander	21	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Hong Kong	22	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Tours	23	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Pittsburgh	24	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Freiburg	25	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Philadelphia	26	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Copenhagen	27	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Phoenix	28	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
AVID	29	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Pennsylvania	30	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Stockholm	31	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Turku	32	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Caen	33	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Barcelona	Not published										

* The quality of the primary paper(s) from cohorts that provided participant level data of patients with dementia was assessed using STROBE and QUADAS items (see below for detailed explanation).
NA= not available from the report.

eTable 2B. Quality assessment of PET cohorts with cognitively normal participants

		STROBE/QUADAS criterion*									
Cohort	**Reference(s)**	**Setting**	**Generalizability**	**Selection**	**Measurements**	**Reference**	**Bias**	**Subject flow**	**Descriptives**	**Outcome**	**Dichotimization**
AIBL	1	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Amsterdam	2	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
ADNI	5	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
	4	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Melbourne	6	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Paris	11	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Washington University (St. Louis)	34	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	12	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Seoul Samsung	14	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Leipzig	15	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Leuven	16	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
GE	20	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
TU Munich	18	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
San Francisco	35	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Santander	21	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Hong Kong	22	yes	yes	yes	yes	yes	yes	yes	no	yes	yes
Tours	23	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Pittsburgh	36	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes

Philadelphia	26	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Phoenix	28	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Pennsylvania	30	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Caen	33	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Berkeley	37	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Copenhagen	38	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes
Dallas	39	yes	yes	yes	yes	yes	NA	yes	yes	yes	yes

* The quality of the primary paper(s) from cohorts that provided participant level data of healthy controls was assessed using STROBE and QUADAS items (see below for detailed explanation).
NA= not available from the report.

eTable 2C. Quality checklist of STROBE and QUADAS items and its operationalization

Criterion	STROBE[40] item(s)	QUADAS[41] item(s)	Operationalization
Setting	5		Description of study setting and recruitment strategy.
Generalizability		1	Representativeness of spectrum of participants who will receive the test in practice or in research projects.
Selection	6	2	Description of inclusion criteria and sampling method.
Measurements	7, 8, 11	8, 9	Detailed description of amyloid assessment method and diagnostic criteria.
Reference		3	Appropriate method of amyloid assessment.
Bias	9	7, 10, 11	Indication that the clinician repsponsible for the clinical diagnosis was blinded for amyloid status, and that amyloid measurements were interpreted independent of risk factors.
Subject flow	13	5, 6, 13, 14	Explanation of non-participation at each stage.
Descriptives	14	1	Characterization of participants.
Outcome	15		Report of prevalence data.
Dichotomization	16	8, 9	Description of cutoff for amyloid positivity.

Each criterion was rated “yes” when criterion was met, not available (“NA”) when not reported and “no” when criterion was not met.

eTable 3. Prevalence estimates according to age, diagnosis, and APOE ε4 status of published cohorts only

	Age (years)											
	50	**n**	**60**	**n**	**70**	**n**	**80**	**n**	**90**	**n**	**ALL**	**n**
AD	93% (90-95)	57	91% (89-93)	359	89% (85-91)	501	84% (81-87)	354	79% (73-85)	68	88% (85-90)	1330
APOE ε4+	97% (92-99)	18	96% (94-98)	149	95% (92-96)	239	92% (89-95)	159	90% (83-94)	21	95% (90-96)	586
APOE ε4-	86% (73-94)	22	84% (77-90)	112	78% (71-85)	102	72% (65-79)	96	66% (50-76)	32	78% (71-85)	364
FTD	6% (3-14)	25	9% (6-15)	99	15% (12-19)	123	19% (11-32)	36	-	1	12% (8-19)	284
APOE ε4+	11% (6-22)	5	19% (12-28)	18	33% (26-41)	21	43% (35-50)	3	-	0	20% (17-34)	46
APOE ε4-	3% (1-6)	10	5% (3-8)	51	9% (6-12)	73	15% (11-19)	23	-	1	10% (6-13)	158
DLB	-	0	44% (27-63)	15	51% (39-61)	22	58% (34-78)	10	-	2	50% (31-67)	49
APOE ε4+	-	0	63% (56-74)	4	75% (65-83)	9	83% (67-92)	3	-	0	69% (58-85)	16
APOE ε4-	-	0	27% (18-44)	7	38% (29-47)	3	54% (30-77)	5	-	1	44% (23-60)	18
CBS	-	2	41% (28-56)	20	35% (23-49)	31	28% (13-51)	5	-	1	37% (22-53)	59
APOE ε4+	-	2	67% (49-82)	5	63% (57-68)	9	-	1	-	0	53% (48-77)	17
APOE ε4-	-	0	30% (18-44)	15	27% (22-34)	14	-	2	-	1	35% (19-42)	32

This Table is similar to Table 2 in the main paper, except that here only data from published cohorts (28/29 cohorts, excluding 29 AD, 4 FTD, 2 DLB and 2 CBS patients) are presented. All VaD patients and Controls come from published cohorts and are therefore not included in this Table. This analysis yielded highly similar results compared to the data presented in Table 2.

Data represent prevalence estimates (95% confidence interval) derived from generalized estimating equation models. The models included amyloid status (+ or -), age, diagnosis, the interaction age * diagnosis, and APOE status (+ or -) when appropriate. The analysis was adjusted for study effects. No estimates were provided if the 5-year range around the indicated column age included <3 patients. Variable “n” indicates the number of participants within the 5-year range around the indicated column ages 60, 70 and 80 (e.g. for age=60, all participants between 55 and 64 were counted). For column ages 50 and 90 all participants <55 and >85 were counted, and variable “ALL” includes the entire age range.

AD = Alzheimer disease; FTD = Frontotemporal dementia; DLB = Dementia with Lewy bodies; CBS = Corticobasal syndrome; APOE = Apolipoprotein E.

eTable 4. Prevalence of amyloid positivity on PET in subtypes of Alzheimer's disease and frontotemporal dementia

	Observed probability (N amyloid positive/total patients)	**GEE estimated probability (95% CI)**
Alzheimer's disease subtype		
Posterior cortical atrophy	96% (52/54)	96% (89-99)
Logopenic primary aphasia	90% (63/70)	90% (84-94)
Frontotemporal dementia (FTD) subtype		
Semantic dementia	11% (7/62)	11% (7-19)
Progressive non-fluent aphasia	15% (9/59)	15% (11-21)
Behavioral variant FTD	13% (3/24)	13% (6-24)

Observed and estimated (using generalized estimating equations, GEE) probabilities of amyloid PET positivity in different subtypes of Alzheimer's disease and frontotemporal dementia.

eTable 5. Characteristics of AD autopsy patients

	NACC AD autopsy patients *(n=1369)*
Age – yr	81.7±10.4
Age – median (range)	83 (37-111)
Age groups – no. (%)	
<55	21 (1.5)
55-59	27 (2.0)
60-64	48 (3.5)
65-69	83 (6.1)
70-74	109 (8.0)
75-79	192 (14.0)
80-84	268 (19.6)
≥ 85	621 (45.4)
Male – no. (%)	743 (54.3)
Education – yr	14.8±3.4
MMSE score	16.1±6.6
APOE ε4 carrier/non-carrier – no. (%)*	491/501 (49.5)

Data are presented as mean ± SD or number (%), unless indicated otherwise.
NACC = National Alzheimer's Coordinating Center; AD = Alzheimer's disease; MMSE = Mini-mental state examination; APOE = Apolipoprotein E.
* APOE data missing in 27.5% of patients

eTable 6. Estimated and observed prevalence of amyloid on PET according to tracer, assessment and acquisition method

	N	AD		FTD		VaD		DLB		CBS	
		GEE	Observed	GEE	Observed	GEE	Observed	GEE	Observed	GEE	Observed
Tracer											
[^{11}C]PIB	1330	89% (87-91)	90% (771/860)	10% (7-14)	11% (26/248)	28% (21-37)	30% (37/127)	60% (44-73)	58% (23/40)	36% (24-50)	40% (22/55)
[^{18}F]florbetapir	328	85% (80-89)	83% (249/301)	36% (16-62)	33% (5/15)	-	-	-	-	-	-
Assessment											
Visual	1123	90% (88-92)	88% (656/747)	10% (6-14)	11% (26/233)	24% (17-32)	27% (16-59)	53% (36-67)	52% (22/42)	36% (24-50)	38% (16/42)
Quantitative	774	88% (85-90)	88% (537/612)	16% (9-27)	16% (9/55)	31% (23-40)	33% (26/79)	-	-	37% (22-54)	37% (7/19)
Data acquisition											
Static (SUVr)	1318	89% (87-91)	88% (843/957)	12% (8-16)	12% (20/164)	29% (22-38)	30% (41/136)	41% (25-55)	40% (10/25)	34% (21-48)	36% (13/36)
Dynamic (DVR/BP_{ND})	579	87% (84-89)	87% (350/402)	11% (6-16)	12% (15/124)	-	-	61% (43-75)	62% (16/26)	32% (18-48)	40% (10/25)

The estimated (95% confidence interval) and observed (n amyloid positive PET scan/total n) prevalence of amyloid-positivity according to tracer, assessment and data acquisition were presented if ≥10 data points are available. PET tracers [^{18}F]flutemetamol and [^{18}F]florbetaben were not assessed due to relatively small numbers within each cell. None of the differences in prevalence estimates according to tracer, assessment or data acquisition reached significance.

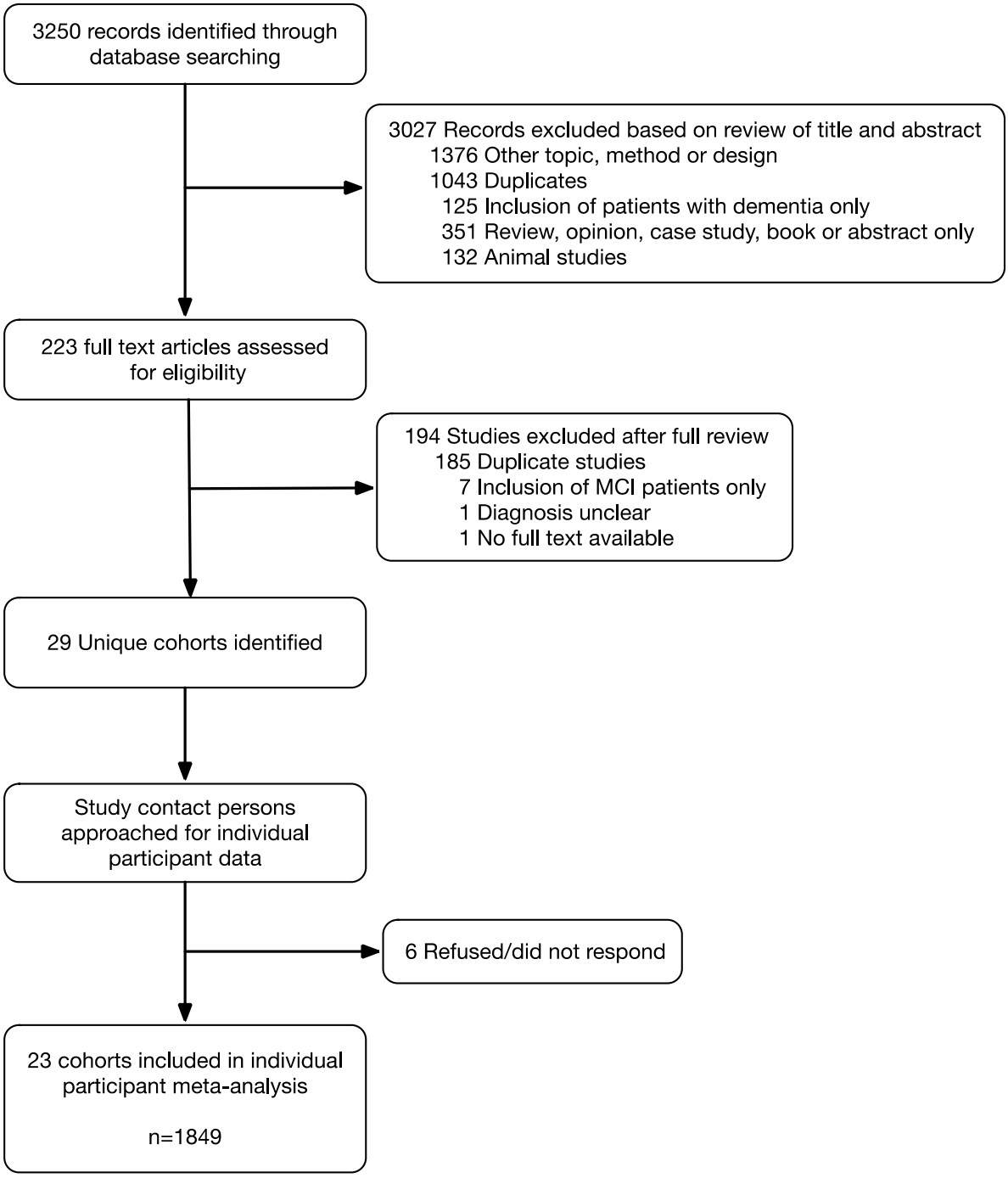
AD = Alzheimer's disease; FTD = Frontotemporal dementia; VaD = Vascular dementia; DLB = Dementia with Lewy bodies; CBS = Corticobasal syndrome; PIB = Pittsburgh Compound-B; SUVr = Standardized uptake value ratio; DVR = Distribution volume ratio; BP_{ND} = Non-displaceable binding potential.

eTable 7. Heterogeneity assessment across age ranges for all diagnostic groups

Age	Measure	AD	FTD	VaD	DLB	CBS
<60	I^2 (%)	0	0	0	33.3	0
	# Cohorts	24	8	3	2	5
60-70	I^2 (%)	19.9	0	0	0	0
	# Cohorts	27	11	7	5	5
70-80	I^2 (%)	20.5	24.2	0	0	0
	# Cohorts	27	11	5	6	5
80+	I^2 (%)	0	0	60.7*	0	-
	# Cohorts	25	4	6	4	1
ALL	I^2 (%)	0	0	33.8	0	0
	# Cohorts	27	12	7	7	7

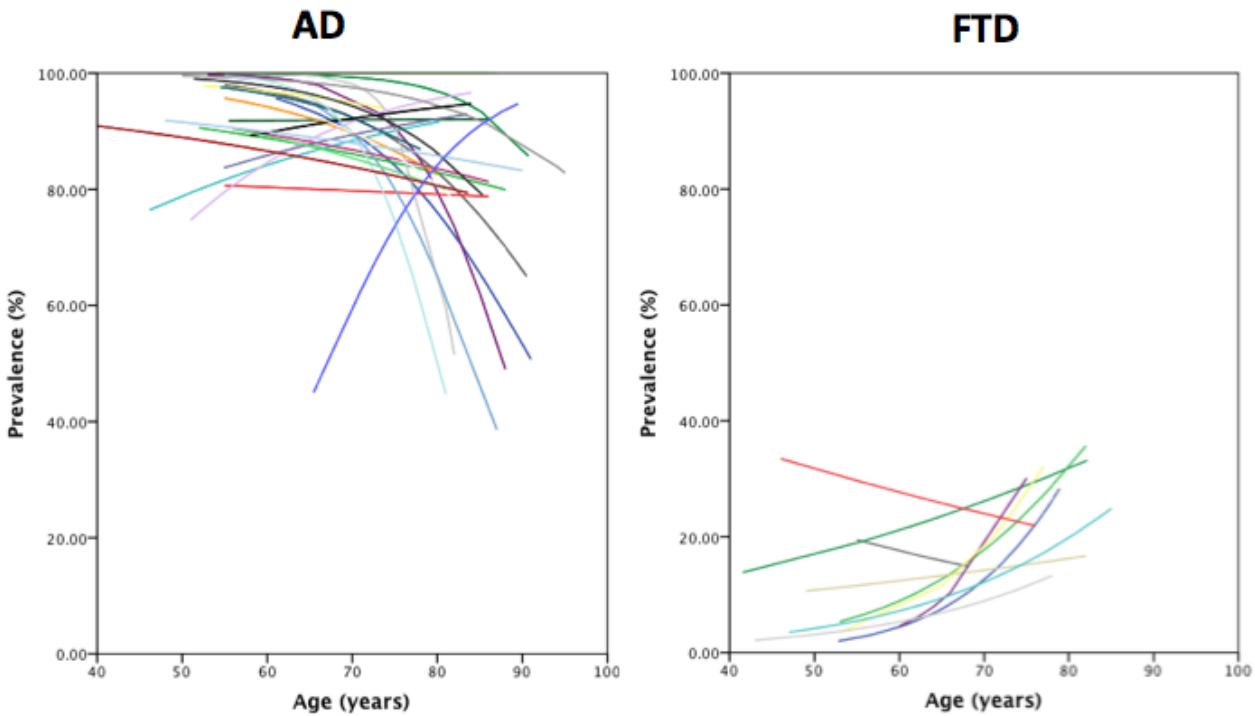
I^2 statistics and prevalence estimates were obtained from random-effects meta-analyses. Prevalence estimates with 95% confidence intervals represents the mean across cohorts for each age group, weighed for the number of participants per cohort. I^2 statistic value greater than 50% was considered significant heterogeneity (*, VaD 80+ group only). This analysis indicates that heterogeneity is limited, suggesting that pooling data across cohorts is justified.

eFigure 1. Flowchart of healthy control selection



MEDLINE and Web of Science databases were searched from 2004 to April 2015 and yielded 3250 hits. The flow diagram shows how 29 unique cohorts were identified that applied amyloid imaging with PET in healthy controls. 23 cohorts were included in the final meta-analysis, comprising individual participant data from 1849 participants.

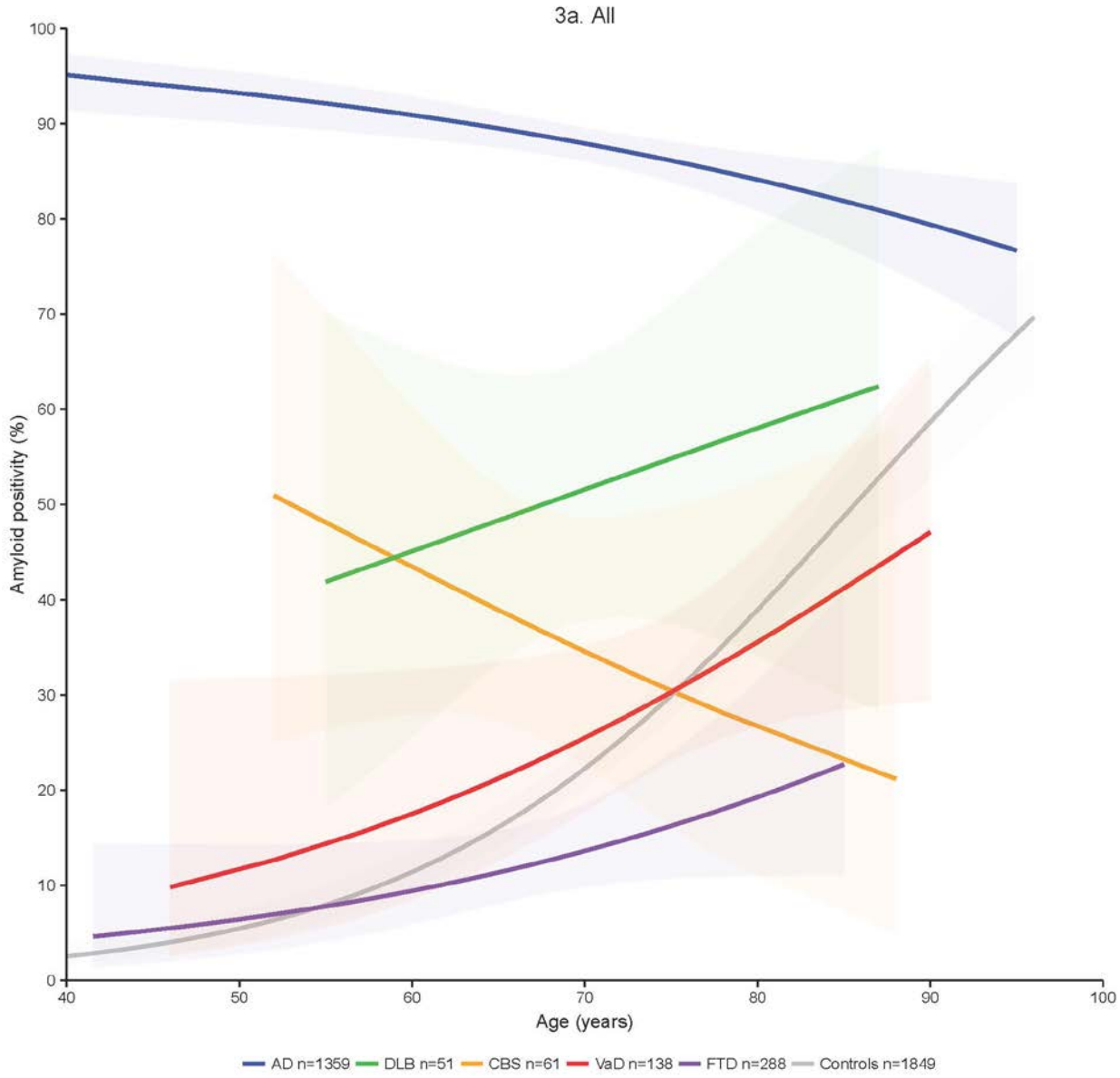
eFigure 2. Heterogeneity plot across cohorts for AD and FTD



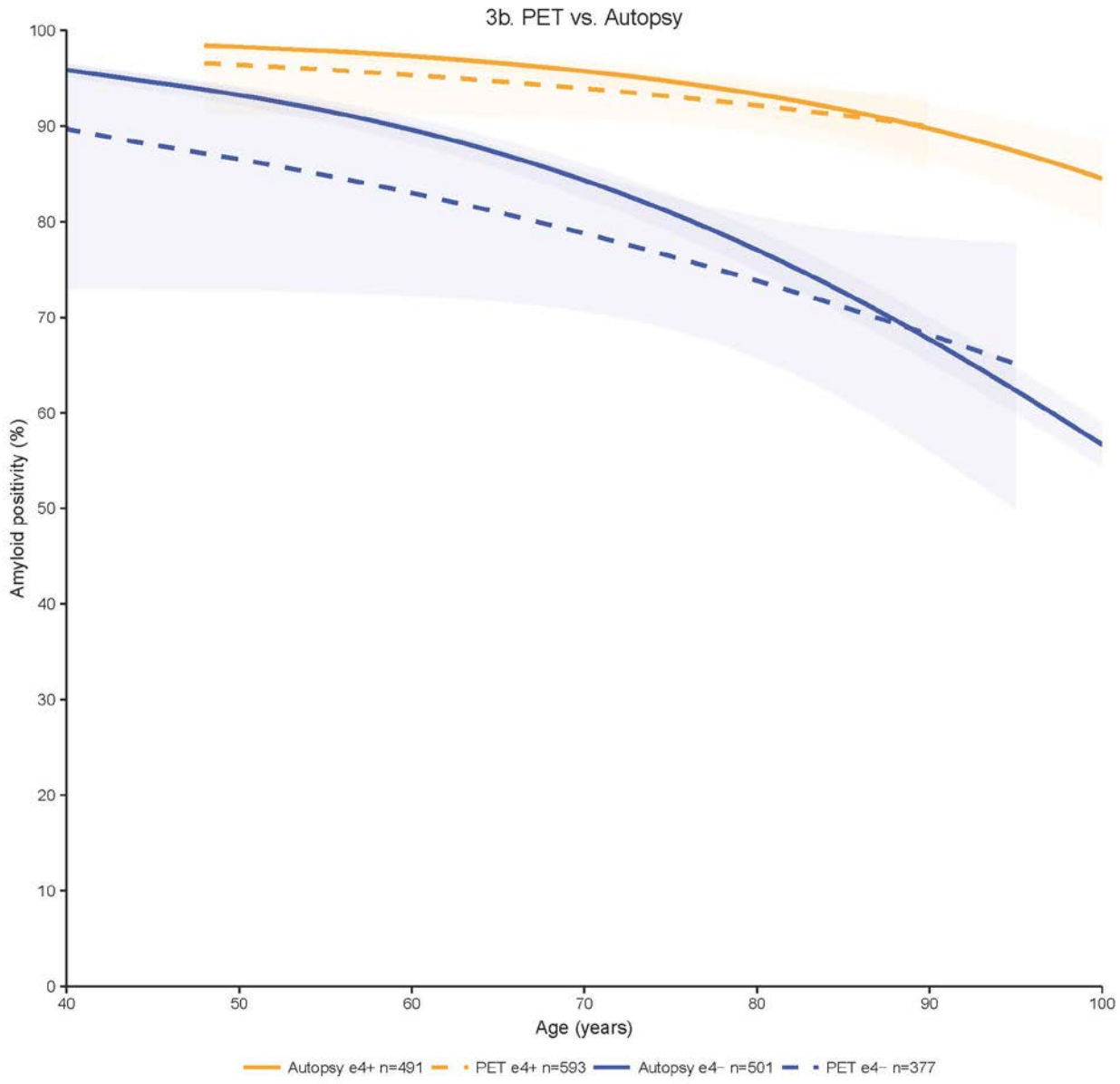
Prevalence estimates of amyloid-positivity across Alzheimer's disease (left, AD, n=27 cohorts) and Frontotemporal dementia (right, FTD, n=12 cohorts) cohorts as generated with estimating equations models. Only cohorts with more than 5 patients per diagnostic group were included. Plots for Vascular dementia, Dementia with Lewy bodies and corticobasal syndroms were not shown due to the small number of cohorts (n=7 for all) and limited sample sizes (n=138, 51 and 61, respectively).

eFigure 3. Prevalence of amyloid-positivity on PET with 95% confidence intervals

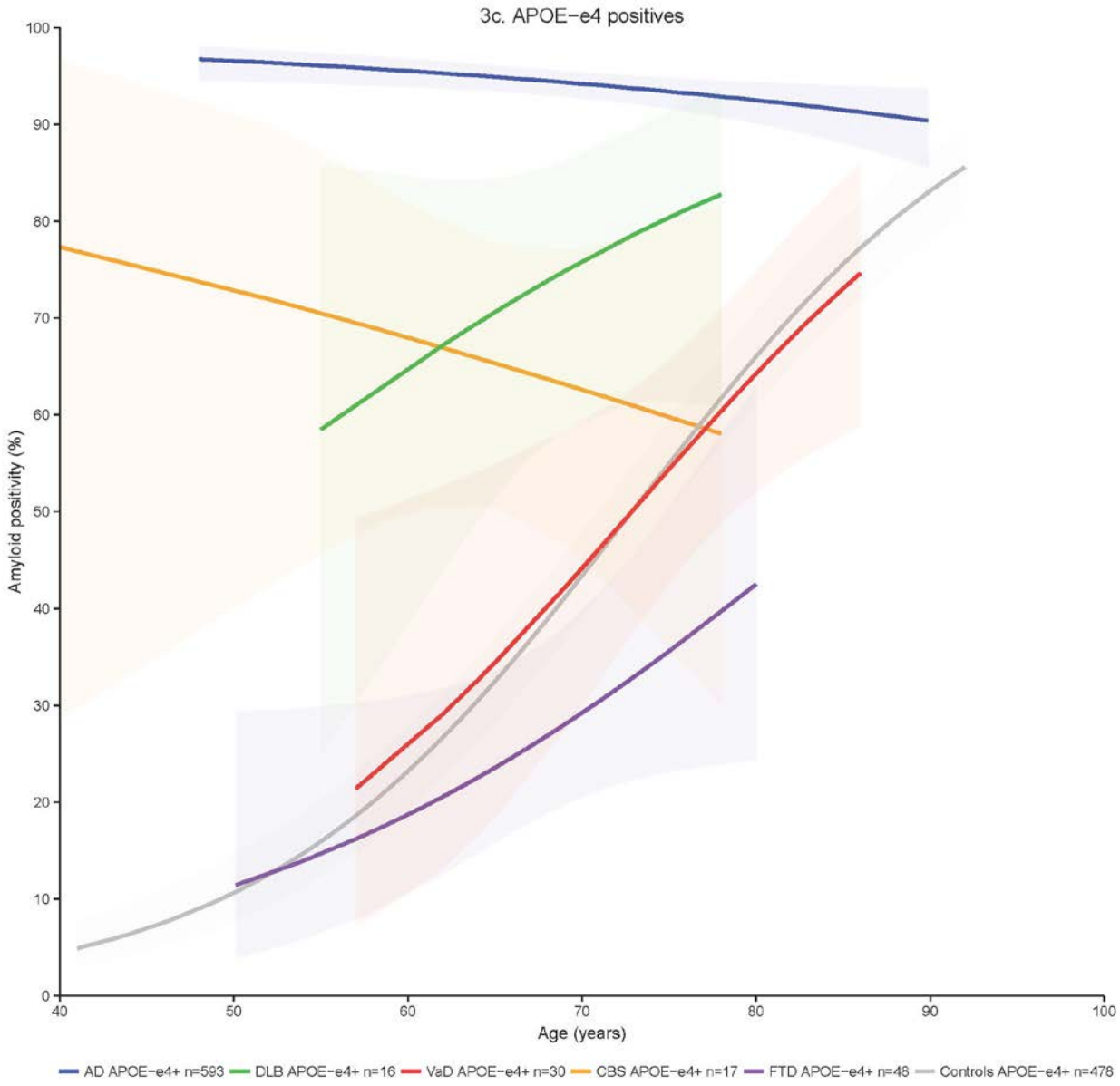
A. ALL diagnostic groups



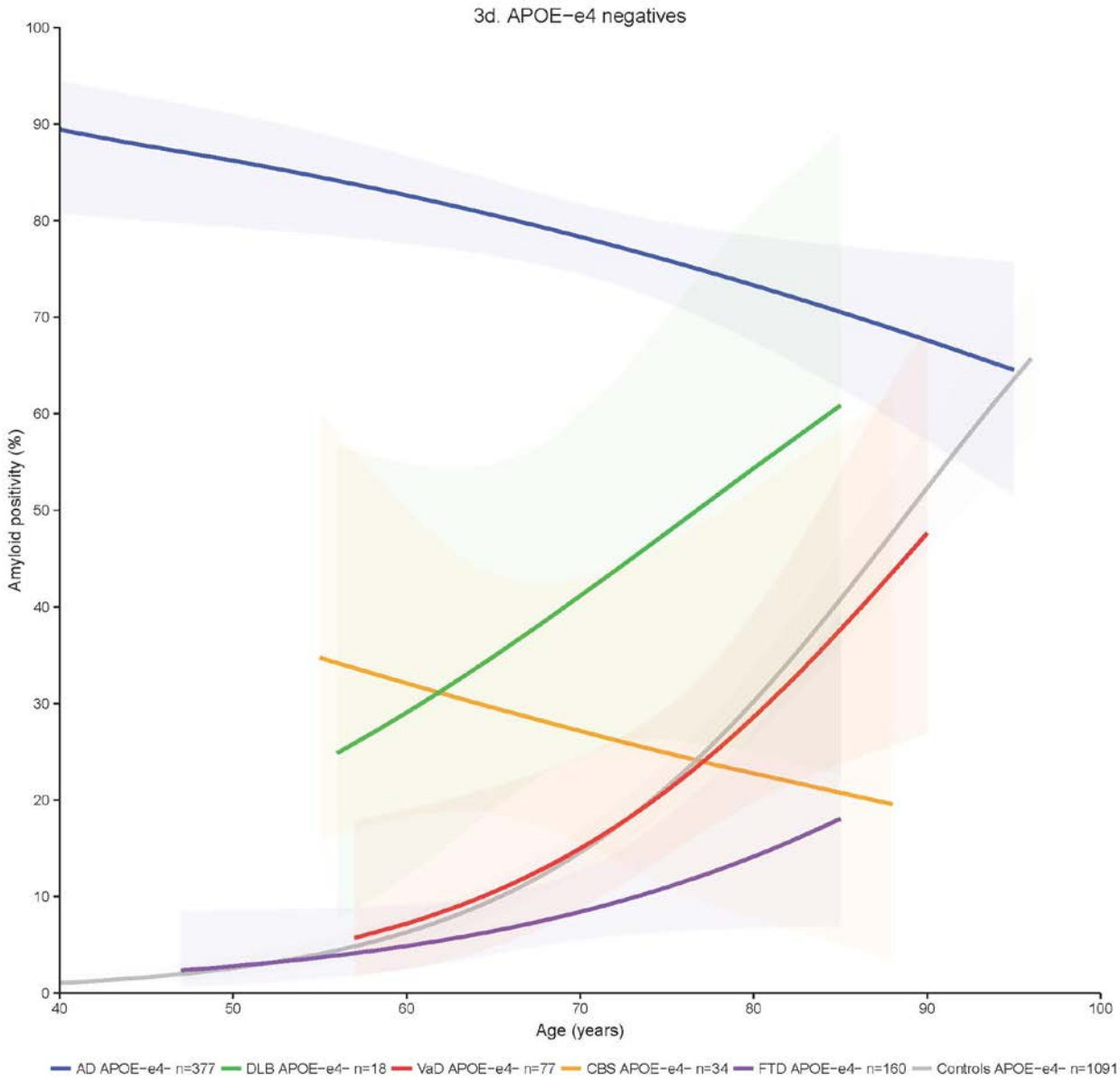
B. Amyloid PET vs amyloid assessment at autopsy



C. APOE e4 positives



D. APOE e4 negatives



eFigures 4 A-D are similar to Figure 1 A-D, but now include 95% confidence intervals as generated with generalized estimating equation models. The models included amyloid status (+ or -), age, diagnosis, an interaction between age and diagnosis, and were adjusted for study effects.
The curves were plotted using the point estimates generated by generalized estimating equations and represent the prevalence of positive amyloid PET scans for the different diagnostic groups as a function of age (the curves are within the age limits of the diagnostic groups).

eMethods. ADNI protocol

Parts of the data used in the preparation of this article were obtained from the Alzheimer's Disease Neuroimaging Initiative (ADNI) database (adni.loni.usc.edu). The ADNI was launched in 2003 by the National Institute on Aging (NIA), the National Institute of Biomedical Imaging and Bioengineering (NIBIB), the Food and Drug Administration (FDA), private pharmaceutical companies and non-profit organizations, as a $60 million, 5- year public-private partnership. The primary goal of ADNI has been to test whether serial magnetic resonance imaging (MRI), positron emission tomography (PET), other biological markers, and clinical and neuropsychological assessment can be combined to measure the progression of mild cognitive impairment (MCI) and early Alzheimer's disease (AD). Determination of sensitive and specific markers of very early AD progression is intended to aid researchers and clinicians to develop new treatments and monitor their effectiveness, as well as lessen the time and cost of clinical trials.

The Principal Investigator of this initiative is Michael W. Weiner, MD, VA Medical Center and University of California – San Francisco. ADNI is the result of efforts of many co-investigators from a broad range of academic institutions and private corporations, and subjects have been recruited from over 50 sites across the U.S. and Canada. The initial goal of ADNI was to recruit 800 subjects but ADNI has been followed by ADNI-GO and ADNI-2. To date these three protocols have recruited over 1500 adults, ages 55 to 90, to participate in the research, consisting of cognitively normal older individuals, people with early or late MCI, and people with early AD. The follow up duration of each group is specified in the protocols for ADNI-1, ADNI-2 and ADNI-GO. Subjects originally recruited for ADNI-1 and ADNI-GO had the option to be followed in ADNI-2. For up-to-date information, see www.adni-info.org.

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