**Supplementary Material:** Supplementary Table S1 Supplementary Figure S1-S3

Cluster size	<b>P</b> <sub>FWE-corr</sub>	<b>P</b> <sub>FDR-corr</sub>	Т	P <sub>uncorr</sub>	х	у	Z
ADNI-1 AD vs Contr	ols						
71783	0.0001	0.0004	12.14	0.0001	46	-12	-24
	0.0001	0.0004	11.62	0.0001	36	-16	-20
	0.0001	0.0004	11.55	0.0001	-40	-18	-24
72	0.0001	0.0004	7.11	0.0001	28	-22	38
52	0.0001	0.0004	6.94	0.0001	-6	-2	28
ADNI-2 AD vs. Contr	ols						
60265	0.0001	0.0005	10.73	0.0001	44	-12	-24
	0.0001	0.0005	10.20	0.0001	-40	-18	-24
	0.0001	0.0005	9.63	0.0001	-34	-20	-30
69	0.0001	0.0005	6.32	0.0001	-6	0	28

**Table S1: AD Atrophy Network Mapping Results.** Peak voxel coordinates and T-values for local maxima are reported for results surviving a voxel-wide family-wise errorcorrected p < 0.05 using permutation testing for clusters > 10 voxels.

Cluster size	Т	X	у	Ζ				
AVLT Delayed Recognition								
67	4.59	-18	-34	-2				
60	4.57	34	-42	-2				
42	4.25	-36	-22	-20				
AVLT Delaved Reca	11							
3121	5 11	-12	-22	-8				
634	4 52	32	-6	-20				
159	5.10	-20	-40	6				
111	5.22	28	-40	6				
33	4.77	12	-58	-42				
14	5.11	-8	-26	4				
Delusions								
3528	5.85	12	20	68				
1257	5.64	38	24	-14				
1214	5.41	18	10	18				
500	5.27	-24	52	32				
460	5.83	-52	-62	-28				
294	5.43	-30	52	-12				
282	5.26	-32	22	-12				
69	4.55	66	-48	38				
66	5.15	56	-54	-30				
23	4.58	42	-56	-28				
19	4.31	-14	14	68				
10	4.22	-2	24	18				

**Table S2: Symptom Atrophy Network Mapping Results.** Peak voxel coordinates andT-values for local maxima are reported for results surviving a voxel-wide family-wiseerror corrected p < 0.05 using permutation testing for clusters > 10 voxels. Coordinatesin bold were used to generate ROIs.



**Fig. S1: Atrophy Network Mapping Control Analyses.** While the percentage of patients with atrophy in the same location increases with more stringent threshold (**A**), overlap of atrophy network maps (**B**) and comparison to control subjects (**C**) remains unchanged. Controlling for seed size by thresholding atrophy to the same total size (highest 5% of voxels) resulted in similar findings. In contrast, use of peak atrophy seeds resulted in less robust results vs. using distributed atrophy seeds (bottom). Spatial correlations with reference to results generated using a threshold of w < -2 are reported.



**Fig. S2: Atrophy network mapping of Memory delayed recognition.** (**A**) Voxel-wide regression analysis comparing functional connectivity strength of single-subject atrophy maps and AVLT delayed recognition scores. (**B**) Scatter-plot showing relationship between functional connectivity strength to the peak atrophy network mapping result and delayed recognition scores.



Fig. S3: Comparing lesion network mapping for memory with atrophy network mapping for memory delayed recall.