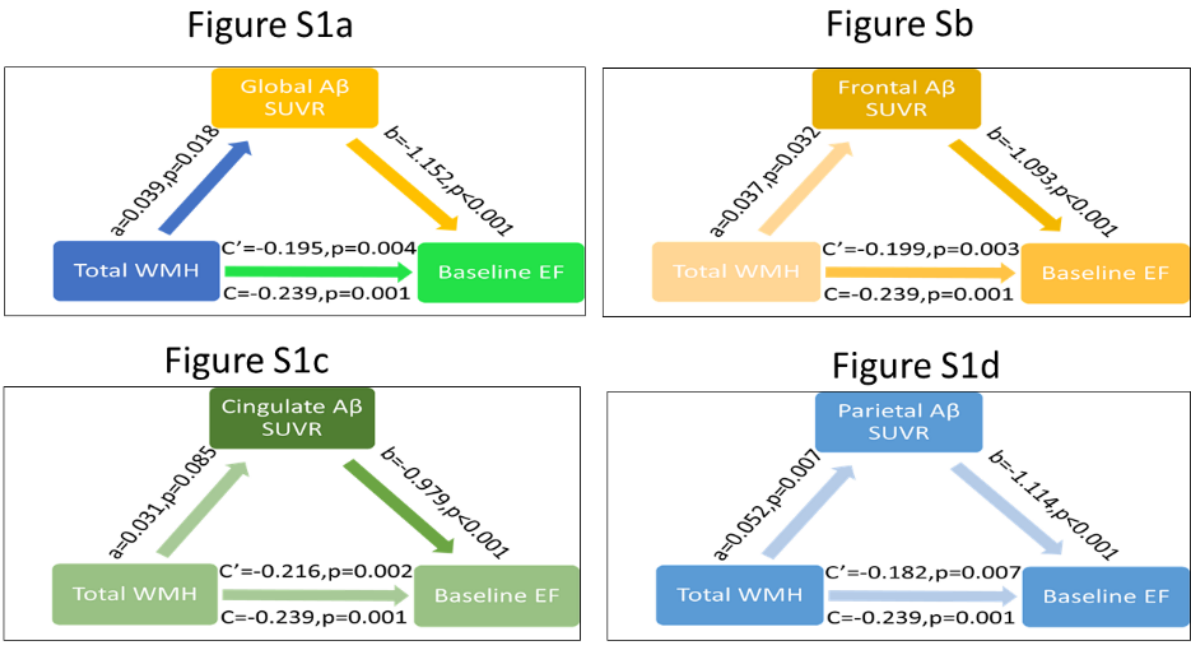
Figure S1. Path models of the mediation effect of global and regional Aβ burden between WMH and baseline EF performance.



As such, path a is expressed the change in Aβ SUVr with one unit increase in WMH, whereas path b is expressed decrement of baseline EF associated with an increment of Aβ SUVr. Path c' the direct effect of WMH on EF and path c (total effect). The confidence intervals for the indirect mediation effects of WMH on baseline EF through global Aβ burden (a× b = −0.045; CI: −0.09, −0.01) (Figure S1a), frontal Aβ (a× b = −0.045; CI: −0.08, −0.005) (Figure S1b) and parietal Aβ (a× b = −0.058; −0.11, −0.02) (Figure S1d) were significant. There was no significant mediation effect by cingulate Aβ SUVr for baseline EF performance (Figure S1c).

(WMH, white matter hyperintensities; EF, Executive function; SUVr, standard uptake value ratio; Aβ, beta amyloid)

Figure S2: Path models of the mediation effect of global and regional Aβ burden between WMH and baseline ADNI-memory scores.

Figure S2a

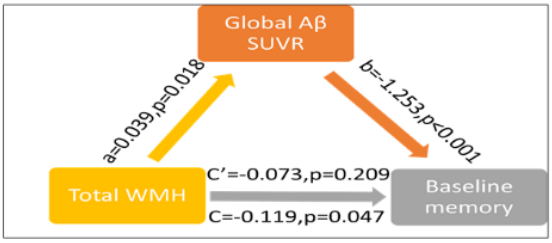


Figure S2b

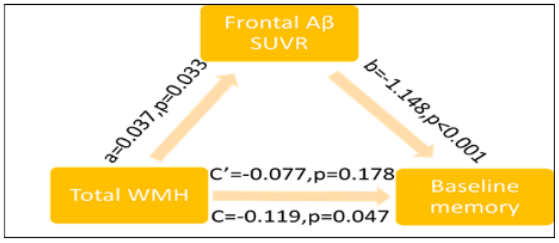


Figure S2c

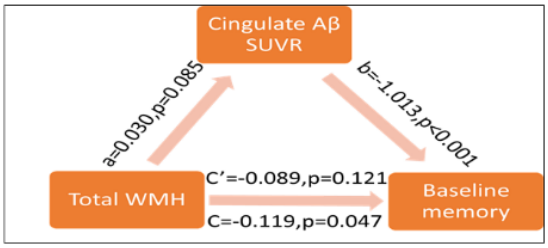
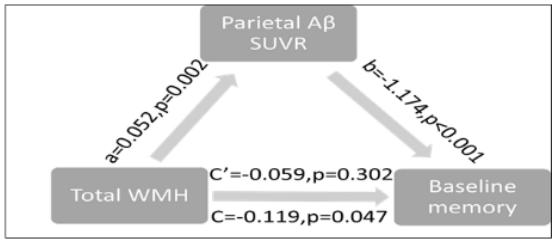
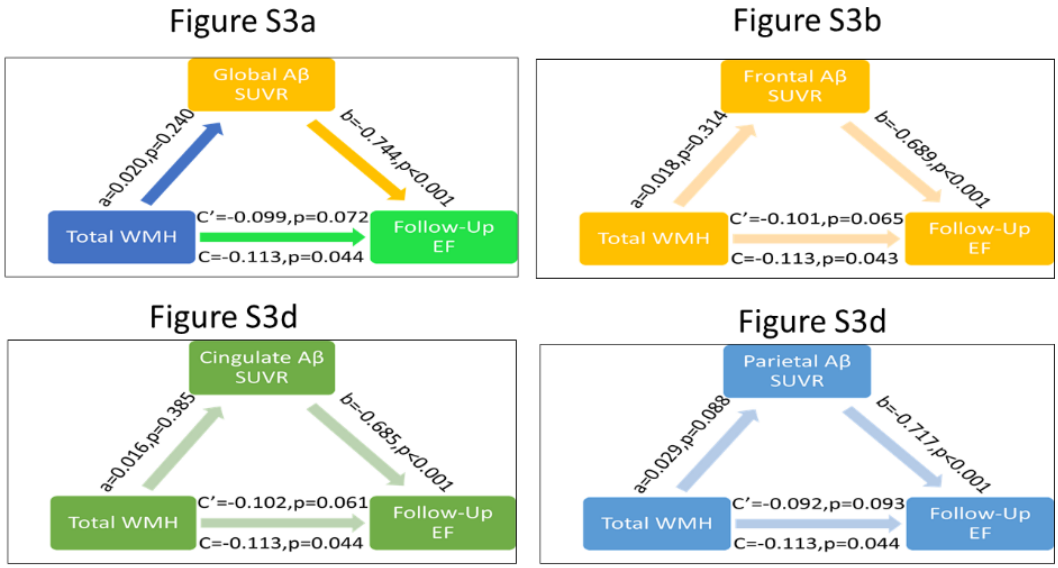


Figure S2d



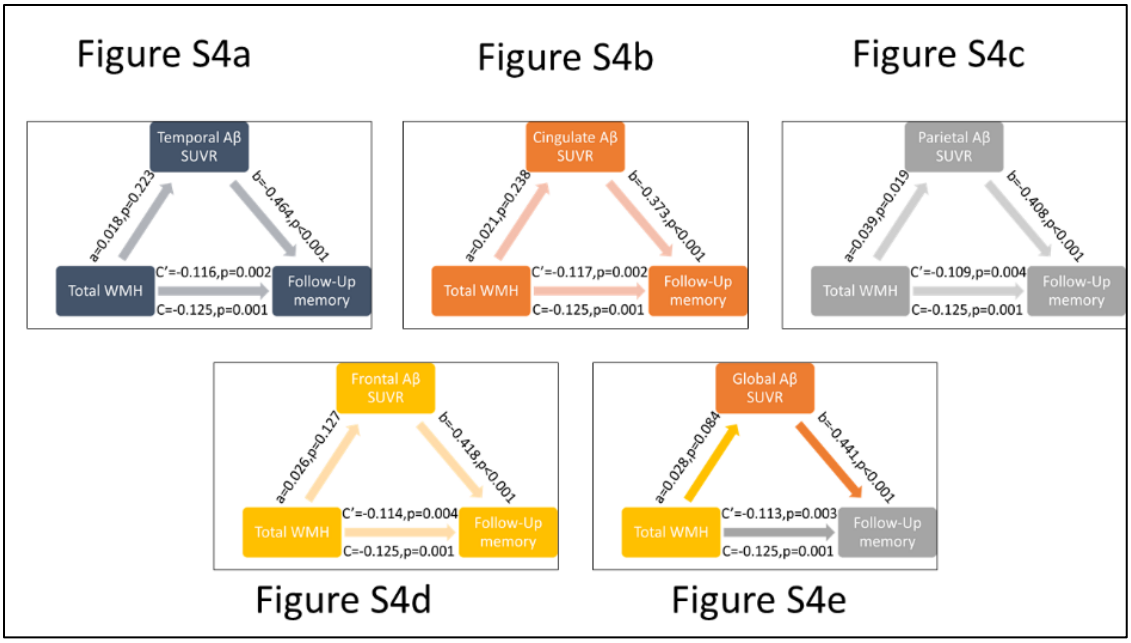
As such, path a is expressed the change in Aβ SUVr with one unit increase in WMH, whereas path b is expressed decrement of baseline ADNI-memory scores associated with an increment of Aβ SUVr. Path c' the direct effect of WMH on ADNI-memory scores and path c (total effect). The confidence intervals (CI) for the indirect mediation effects of WMH on baseline ADNI-memory scores through global (CI: −0.01, -0.006) (Figure S2a), frontal Aβ (CI: −0.11, -0.01) (Figure S2b) , cingulate Aβ (CI: −0.07, 0.004) (Figure S2c), and parietal Aβ (CI: −0.11, -0.02) (Figure S2d). (WMH, white matter hyperintensities; SUVr, standard uptake value ratio; Aβ, beta amyloid; CI, confidence intervals).

Figure S3. Path models of the mediation effect of baseline global and regional Aβ burden on longitudinal EF performance.



As such, path a is expressed one unit increase in WMH associated with increase of Aβ SUVr , whereas path b is expressed the change in longitudinal EF associated with an increment of Aβ SUVr. Path c' the direct effect of WMH on EF and path c (total effect). The confidence intervals (CI) for the indirect mediation effects of WMH on follow-up EF scores through global Aβ SUVr ((a× b = −0.015; CI :−0.045, 0.009) (Figure S3a), frontal Aβ (a× b = −0.012; CI: −0.041, 0.011) (Figure S3b), cingulate Aβ (a× b = −0.011; CI: −0.04, 0.014) (Figure S3c), and parietal Aβ (a× b = −0.021; CI: −0.05, 0.01) (Figure S3d). (WMH, white matter hyperintensities; EF, Executive function; SUVr, standard uptake value ratio; Aβ, beta amyloid; CI, confidence intervals).

Figure S4. Path models of the mediation effect of baseline global and regional Aβ burden on longitudinal memory performance.



As such, path a is expressed one unit increase in WMH associated with increase of Aβ SUVr, whereas path b is expressed the change in follow-up ADNI-memory scores associated with an increment of Aβ SUVr. Path c' the direct effect of WMH on follow-up ADNI-memory scores and path c (total effect). The confidence intervals (CI) for the indirect mediation effects of WMH on follow-up ADNI-memory scores through temporal Aβ (CI:-0.026, 0.06) (Figure S4a), cingulate Aβ (CI: −0.024, 0.05) (Figure S4b), parietal Aβ (CI: −0.035, 0.002) (Figure S4c), frontal Aβ (CI: −0.028, 0.04) (Figure S4d), and global Aβ (CI: −0.031, 0.002) (Figure S4e) were crossing zero. (WMH, white matter hyperintensities; SUVr, standard uptake value ratio; Aβ, beta amyloid; CI, confidence intervals).

Supplementary figure S5: Path models of the mediation effect of WMH between global and regional Aβ burden and baseline ADNI-memory scores.

Figure S5a

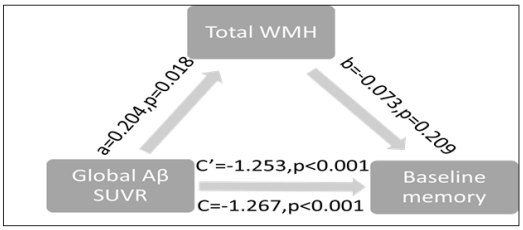


Figure S5b

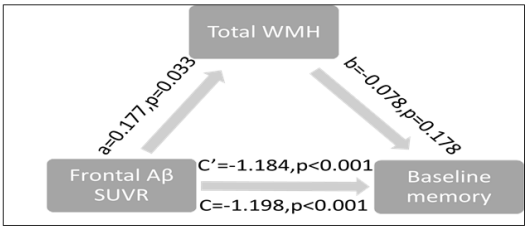


Figure S5c

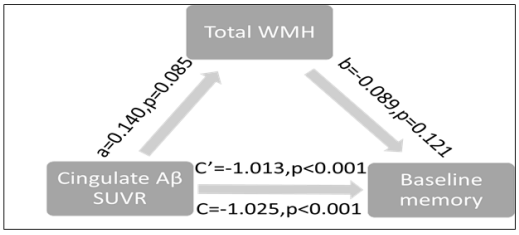
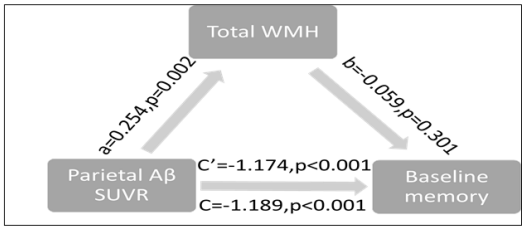
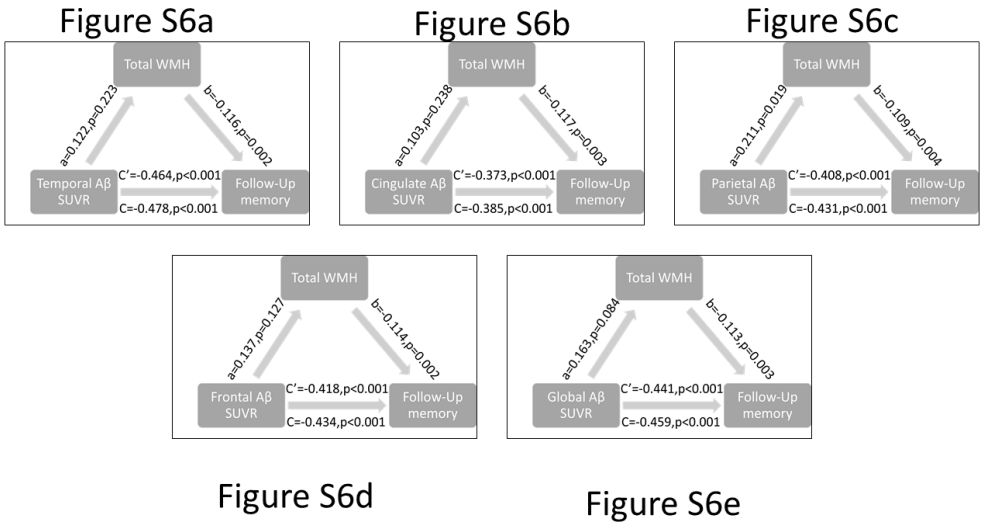


Figure S5d



As such, path a is expressed the change in WMH volumes with one unit increase in Aβ SUVr, whereas path b is expressed decrement of baseline ADNI-memory scores associated with an increment of WMH. Path c' the direct effect of Aβ SUVr on ADNI-memory scores and path c (total effect). The confidence intervals (CI) for the indirect mediation effects of WMH on baseline ADNI-memory scores through global (CI: −0.043, 0.007), frontal Aβ (CI: −0.039, 0.05), cingulate Aβ (CI: −0.039, 0.04), and parietal Aβ (CI: −0.046, 0.012) were crossing zero indicating no significant mediating effects.

Supplementary figure S6: Path models of the mediation effect of baseline WMH volumes on follow-up ADNI-memory performance



As such, path (a) is expressed one unit increase in Aβ SUVr associated with increase of WMH volumes, whereas path (b) is expressed the change in follow-up ADNI-memory scores associated with an increase in WMH volumes. (Path c') the direct effect of Aβ SUVr on follow-up ADNI-memory scores and path c (total effect). The confidence intervals (CI) for the indirect mediation effects of WMH on follow-up ADNI-memory scores through temporal Aβ (CI:-0.04, 0.01) cingulate Aβ (CI: −0.036, 0.009), parietal Aβ (CI: −0.052, 0.0001), frontal Aβ (CI: −0.024, 0.006), and global Aβ (CI: −0.047, 0.04) were crossing zero indicating no significant mediating effects.