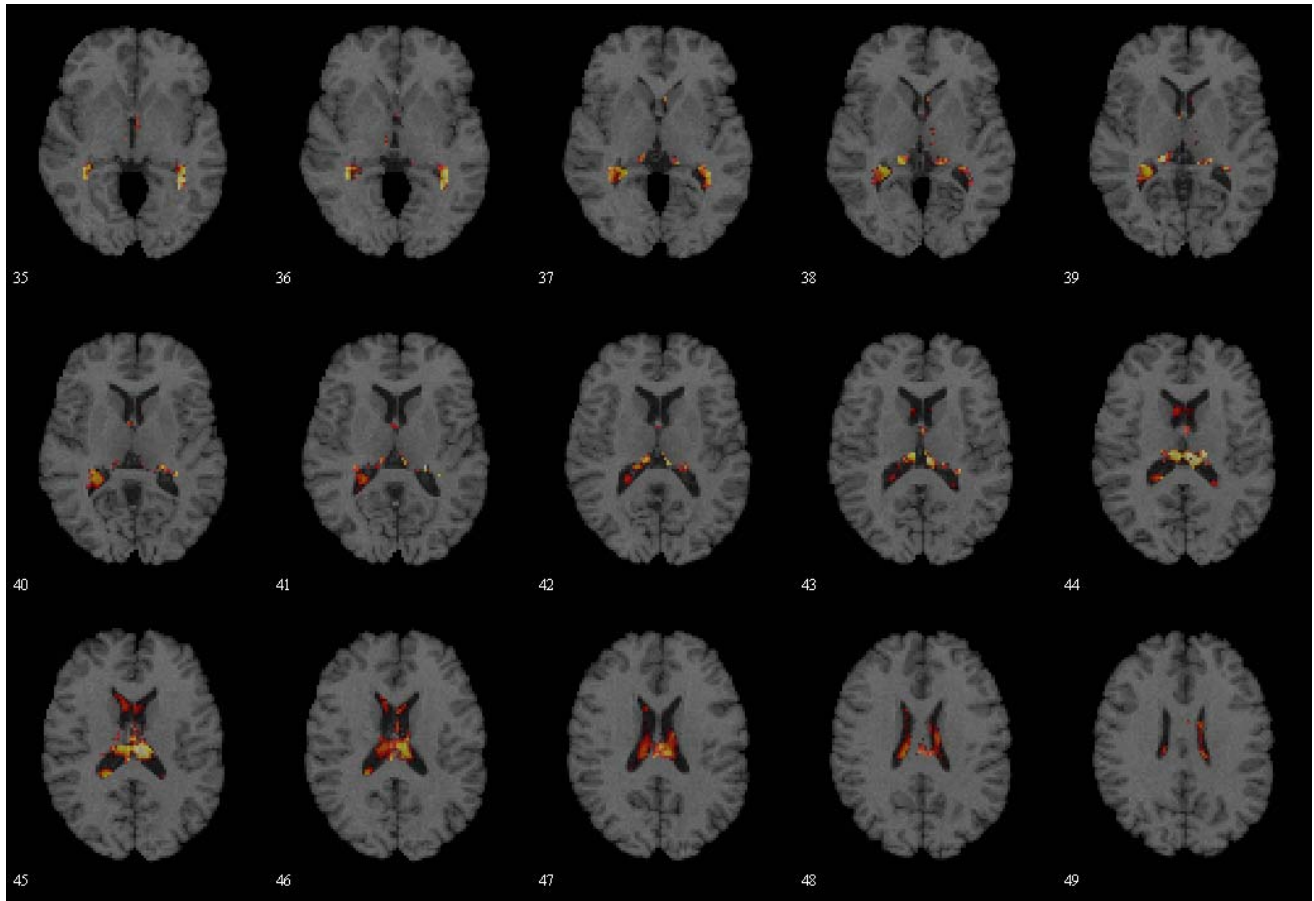


SUPPLEMENTARY DATA

Supplementary Figure 1. 2D axial plots of trends ($p < 0.05$) detected by ODVBA for group differences between VN RAVENS maps of long and short diabetes duration groups. Subjects with long diabetes duration ($n=100$) had higher RAVENS values, i.e. higher regional ventricular volume, in the highlighted areas, compared to subjects with short diabetes duration ($n=100$). The colormap from red to yellow indicates less to more significance respectively.



SUPPLEMENTARY DATA

Supplementary Table 1. Reasons for missing or excluded scans across treatment groups

| Reason | Glycemia Intervention* | |
|--------------------------------|------------------------|---------------------|
| | Intensive (n=294) | Standard (n=320) |
| Death before 40 month visit | 11 (3.7) | 7 (2.2) |
| Poor image quality | 6 (2.0) | 3 (0.9) |
| MRI exclusion | 8 (2.7) | 5 (1.6) |
| Image processing QC exclusion | 9 (3.0) | 6 (1.9) |
| Claustrophobic / very high BMI | 3 (1.0) | 2 (0.6) |
| Refused / Withdrew Consent | 11 (3.7) | 6 (1.9) |
| Moved | 7 (2.4) | 5 (1.6) |
| Unknown | 18 (6.1) | 19 (5.9) |
| Total | 73 (21.8) | 53 (14.7) |

* Data shown are N (percent of total available baseline scans)

SUPPLEMENTARY DATA

Supplementary Table 2. Baseline characteristics comparing glycemia arm in sample of 488 MRI participants

| | Overall (N=488) | Glycemia Arm | | P-value |
|---|------------------------|------------------------|------------------------|---------|
| | | Standard (N=267) | Intensive (N=221) | |
| Age (years) | 62.2 ± 5.6 | 62.5 ± 5.8 | 61.8 ± 5.5 | 0.2216 |
| Women | 223 (45.7%) | 126 (47.2%) | 97 (43.9%) | 0.4664 |
| Education | | | | 0.9546 |
| Less than high school graduate | 45 (9.2%) | 23 (8.6%) | 22 (10.0%) | |
| High school graduate or GED | 119 (24.4%) | 65 (24.3%) | 54 (24.4%) | |
| Some college/technical school | 163 (33.4%) | 89 (33.3%) | 74 (33.5%) | |
| College graduate or more | 161 (33.0%) | 90 (33.7%) | 71 (32.1%) | |
| Clinical Center Network | | | | 0.8272 |
| 3-CCN-Minn/Iowa | 230 (47.1%) | 128 (47.9%) | 102 (46.2%) | |
| 4-CCN-Ohio/Mich | 68 (13.9%) | 34 (12.7%) | 34 (15.4%) | |
| 5-CCN-Northeast | 64 (13.1%) | 34 (12.7%) | 30 (13.6%) | |
| 6-CCN-Southeast | 126 (25.8%) | 71 (26.6%) | 55 (24.9%) | |
| Race/Ethnicity | | | | 0.9260 |
| White only | 331 (67.8%) | 185 (69.3%) | 146 (66.1%) | |
| Spanish/Hispanic | 31 (6.4%) | 16 (6.0%) | 15 (6.8%) | |
| Black, non Hispanic | 84 (17.2%) | 44 (16.5%) | 40 (18.1%) | |
| Asian, not Hispanic or Black | 7 (1.4%) | 3 (1.1%) | 4 (1.8%) | |
| Other | 35 (7.2%) | 19 (7.1%) | 16 (7.2%) | |
| Smoking Status | | | | 0.4347 |
| Never | 226 (46.4%) | 117 (43.8%) | 109 (49.5%) | |
| Former | 200 (41.1%) | 114 (42.7%) | 86 (39.1%) | |
| Current | 61 (12.5%) | 36 (13.5%) | 25 (11.4%) | |
| Systolic Blood Pressure (mm Hg) | 134.6 ± 17.8 | 135.7 ± 19.0 | 133.3 ± 16.3 | 0.1375 |
| Diastolic Blood Pressure (mm Hg) | 74.7 ± 10.2 | 74.7 ± 10.6 | 74.7 ± 9.7 | 0.9962 |
| Diabetes Duration (years) | 10.0 ± 7.1 | 10.4 ± 7.5 | 9.6 ± 6.5 | 0.1880 |
| HbA1c (% , mmol/mol) | 8.1 ± 0.9 (65 ± 10) | 8.1 ± 0.9 (65 ± 10) | 8.2 ± 1.0 (66 ± 11) | 0.3359 |
| Total Cholesterol (mg/dL) | 181.6 ± 40.4 | 182.7 ± 45.1 | 180.3 ± 33.8 | 0.5182 |
| Low-density lipoprotein (mg/dL) | 101.1 ± 32.2 | 102.7 ± 35.4 | 99.1 ± 27.9 | 0.2225 |
| High-density lipoprotein in Women (mg/dL) | 48.7 ± 12.4 | 48.4 ± 12.4 | 49.1 ± 12.4 | 0.6878 |
| High-density lipoprotein in Men (mg/dL) | 40.0 ± 10.3 | 40.4 ± 9.3 | 39.4 ± 11.4 | 0.4321 |
| BMI | 32.5 ± 5.1 | 32.0 ± 4.9 | 33.0 ± 5.3 | 0.0362 |
| History of cardiovascular disease | 124 (25.4%) | 67 (25.1%) | 57 (25.8%) | 0.8600 |
| Total Brain Volume | 925.5 ± 96.2 | 925.4 ± 92.4 | 925.6 ± 100.8 | 0.9762 |
| Depression (patient health questionnaire >10) | 57 (11.7%) | 29 (10.9%) | 28 (12.7%) | 0.5359 |
| Baseline DSST | 54.6 ± 15.6 | 55.1 ± 15.8 | 54.0 ± 15.3 | 0.4054 |
| Baseline RAVLT | 7.6 ± 2.5 | 7.6 ± 2.5 | 7.6 ± 2.4 | 0.9479 |
| Baseline STROOP | 30.5 ± 15.6 | 29.9 ± 14.0 | 31.2 ± 17.3 | 0.3756 |
| Baseline MMSE | 27.7 ± 2.3 | 27.7 ± 2.4 | 27.6 ± 2.3 | 0.8395 |