Supplement

Table S1. Participant Characteristics, All Enrollees

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Vanderbilt(N=386) | Marshfield(N=205) | Combined(N=591) |
|  | Age, median (IQR) | 57.0 (53.2, 62.0) | 73.0 (69.0, 78.0) | 63.0 (56.0, 72.0) |
| Age category | 50-59 | 64% | 0% | 42% |
|  | 60-69 | 24% | 27% | 25% |
|  | 70+ | 13% | 73% | 34% |
| Sex | Female | 65% | 52% | 61% |
|  | Male | 35% | 48% | 39% |
| Race | White | 94% | 100% | 96% |
|  | Black | 6% | 0% | 4% |
|  | Other | 1% | 0% | 0% |
| Comorbid conditions | Cardiovascular Disease | 6% | 8% | 7% |
|  | Pulmonary Disease | 10% | 8% | 9% |
|  | Immunosuppressed\* | 2% | 8% | 4% |
|  | Other | 17% | 12% | 15% |

\*Where immunosuppressed is defined as having an immune suppressive condition such as HIV, receipt of chemotherapy, corticosteroids or other immune suppressive medications or have received a transplant.

Other high risk conditions are defined as cancer, diabetes, renal or liver disease, seizures, memory difficulties, or sickle cell anemia.

Table S2. Seroconversion, seroprotection, and geometric mean titer (GMT) responses by vaccine type/sub-type and participant characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sub-type | Group  | N | Seroconversionn (%) | Seroprotectionn (%) | Pre-vaccination GMT(95% CI) | GMT-fold\* (95% CI) |
| H1N1 |
| Age (years) | 50-59 | 135 | 54 (40) | 78 (58) | 11.9 (10.1, 14.0) | 3.1 (2.6, 3.6) |
|  | 60-69 | 108 | 22 (20) | 40 (37) | 10.4 (8.9, 12.2) | 2.1 (1.8, 2.5) |
|  | 70 | 172 | 41 (24) | 66 (38) | 10.8 (9.5, 12.2) | 2.3 (2.0, 2.6) |
| Gender | Female | 251 | 76 (30) | 115 (46) | 11.0 (9.9, 12.2) | 2.5 (2.3, 2.8) |
|  | Male | 164 | 41 (25) | 69 (42) | 11.1 (9.6, 12.8) | 2.4 (2.1, 2.8) |
| BMI | BMI < 30 | 250 | 70 (28) | 107 (43) | 10.4 (9.4, 11.5) | 2.5 (2.2, 2.8) |
|  | BMI ≥ 30 | 163 | 46 (28) | 76 (47) | 12.1 (10.5, 14.0) | 2.4 (2.1, 2.8) |
| VES | VES 0-2 | 339 | 96 (28) | 152 (45) | 11.2 (10.2, 12.3) | 2.5 (2.2, 2.7) |
|  | VES 3-6 | 61 | 14 (23) | 22 (36) | 9.5 (7.7, 11.6) | 2.4 (1.9, 3.0) |
|  | VES 7-10 | 15 | 7 (47) | 10 (67) | 14.5 (9.0, 23.4) | 3.2 (1.7, 5.9) |
| H3N2 |
| Age (years) | 50-59 | 135 | 97 (72) | 104 (77) | 13.8 (11.2, 16.9) | 7.6 (6.1, 9.4) |
|  | 60-69 | 108 | 65 (60) | 84 (78) | 15.4 (12.4, 19.1) | 5.3 (4.3, 6.6) |
|  | 70 | 172 | 113 (66) | 137 (80) | 16.1 (13.6, 19.0) | 5.8 (4.9, 6.9) |
| Gender | Female | 251 | 176 (70) | 202 (80) | 15.4 (13.3, 17.8) | 7.1 (6.2, 8:3) |
|  | Male | 164 | 99 (60) | 123 (75) | 14.7 (12.3, 17.6) | 5.0 (4.2, 6.0) |
| BMI | BMI < 30 | 250 | 155 (62) | 191 (76) | 15.0 (13.0, 17.4) | 5.5 (4.8, 6.4) |
|  | BMI ≥ 30 | 163 | 119 (73) | 133 (82) | 15.3 (12.9, 18.2) | 7.4 (6.1, 8.9) |
| VES | VES 0-2 | 339 | 227 (67) | 265 (78) | 14.5 (12.8, 16.4) | 6.3 (5.6, 7.2) |
|  | VES 3-6 | 61 | 36 (59) | 47 (77) | 17.3 (12.6, 23.7) | 5.2 (3.8, 7.2) |
|  | VES 7-10 | 15 | 12 (80) | 13 (87) | 23.0 (13.6, 38.9) | 7.3 (4.0, 13.2) |
| B |
| Age (years) | 50-59 | 135 | 49 (36) | 131 (97) | 52.5 (42.7, 64.6) | 2.6 (2.2, 3.1) |
|  | 60-69 | 108 | 35 (32) | 100 (93) | 49.4 (40.6, 60.2) | 2.3 (2.0, 2.7) |
|  | 70 | 172 | 43 (25) | 162 (94) | 56.6 (49.2, 65.0) | 2.0 (1.8, 2.2) |
| Gender | Female | 251 | 73 (29) | 241 (96) | 56.3 (49.3, 64.4) | 2.2 (2.0, 2.5) |
|  | Male | 164 | 54 (33) | 152 (93) | 49.0 (41.8, 57.4) | 2.3 (2.0, 2.6) |
| BMI | BMI < 30 | 250 | 71 (28) | 237 (95) | 51.8 (45.1, 59.4) | 2.2 (2.0, 2.4) |
|  | BMI ≥ 30 | 163 | 55 (34) | 154 (94) | 56.5 (48.7, 65.4) | 2.4 (2.1, 2.8) |
| VES | VES 0-2 | 339 | 111 (33) | 324 (96) | 52.9 (47.4, 59.2) | 2.4 (2.1, 2.6) |
|  | VES 3-6 | 61 | 11 (18) | 54 (89) | 53.8 (40.1, 72.0) | 1.8 (1.5, 2.2) |
|  | VES 7-10 | 15 | 5 (33) | 15 (100) | 60.6 (33.5, 109.9) | 2.3 (1.4, 3.8) |

Where BMI = body mass index, VES= vulnerable elders survey

\* GMT ratio is the post-vaccination titer divided by the pre-vaccination titer.