

Assessing potential impact of Aducanumab on lifetime risks of Alzheimer's Dementia

Introduction

The drug Aducanumab was recently approved by the Federal Drug Administration (FDA) for use in people with mild cognitive impairment (MCI) who also have a significant buildup of Amyloid plaque in the brain. The drug is designed to reduce Amyloid plaque buildup, which hopefully slows the progression from MCI to early-stage Alzheimer's disease (AD) dementia.

Here we assess the potential impact of Aducanumab using a multistate model for AD dementia. The states in the model are

1. Normal
2. Amyloidosis (A)
3. Neurodegeneration (N)
4. A + N
5. A + N + MCI
6. N + MCI
7. AD dementia.

We assume a set of potential drug effects on the probability of transitioning from state 5 (A + N + MCI) to state 7 (AD dementia), with potential relative risks (RRs) of 0.95, 0.9, and 0.75. We calculate lifetime and ten-year risks of developing AD dementia for each of these RRs, to be compared with an RR of 1 (no drug effect). We also calculate lifetime and ten-year risks under the assumption that Aducanumab takes effect without delay or with a 2-year delay.

Lifetime risks: females

Below are tables for female lifetime risks of AD dementia for ages $\in (60, 65, \dots, 95)$ for each potential RR in descending order (1, 0.95, 0.90, 0.75). There are two tables for each RR (except RR = 1) and sex: the first has a two-year delay until the intervention takes effect. The second has no delay.

Table 1: Lifetime risks of AD dementia if Aducanumab has no treatment effect

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 20.14 % | 30.97 % | 30.27 % | 41.87 % | 95.63 % | 78.08 % |
| 65 | 18.73 % | 29.29 % | 27.58 % | 40.8 % | 93.57 % | 71.41 % |
| 70 | 16.63 % | 26.86 % | 24.45 % | 38.9 % | 90.06 % | 63.02 % |
| 75 | 13.82 % | 23.52 % | 20.8 % | 35.85 % | 84.71 % | 53.17 % |
| 80 | 10.42 % | 19.09 % | 16.54 % | 31.19 % | 76.19 % | 41.99 % |
| 85 | 7.07 % | 13.77 % | 11.87 % | 24.69 % | 63.81 % | 30.33 % |
| 90 | 4.14 % | 8.39 % | 7.31 % | 16.87 % | 46.68 % | 19.1 % |
| 95 | 2.07 % | 4.27 % | 3.82 % | 9.91 % | 29.89 % | 10.76 % |

Table 2: Lifetime risks of AD dementia if Aducanumab has an RR of 0.95 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 19.74 % | 30.43 % | 29.89 % | 41.3 % | 95.47 % | 78.08 % |
| 65 | 18.34 % | 28.74 % | 27.19 % | 40.2 % | 93.33 % | 71.41 % |
| 70 | 16.25 % | 26.31 % | 24.04 % | 38.25 % | 89.72 % | 63.02 % |
| 75 | 13.47 % | 22.97 % | 20.38 % | 35.17 % | 84.25 % | 53.17 % |
| 80 | 10.12 % | 18.57 % | 16.14 % | 30.48 % | 75.64 % | 41.99 % |
| 85 | 6.83 % | 13.33 % | 11.52 % | 24.03 % | 63.26 % | 30.33 % |
| 90 | 3.99 % | 8.08 % | 7.05 % | 16.38 % | 46.3 % | 19.1 % |
| 95 | 1.98 % | 4.09 % | 3.67 % | 9.62 % | 29.73 % | 10.76 % |

Table 3: Lifetime risks of AD dementia if Aducanumab has an RR of 0.95 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 19.74 % | 30.43 % | 29.89 % | 41.3 % | 95.34 % | 78.08 % |
| 65 | 18.34 % | 28.74 % | 27.19 % | 40.2 % | 93.14 % | 71.41 % |
| 70 | 16.25 % | 26.31 % | 24.04 % | 38.25 % | 89.43 % | 63.02 % |
| 75 | 13.47 % | 22.97 % | 20.38 % | 35.16 % | 83.81 % | 53.17 % |
| 80 | 10.12 % | 18.57 % | 16.14 % | 30.46 % | 74.99 % | 41.99 % |
| 85 | 6.83 % | 13.33 % | 11.52 % | 23.98 % | 62.36 % | 30.33 % |
| 90 | 3.99 % | 8.08 % | 7.05 % | 16.29 % | 45.25 % | 19.1 % |
| 95 | 1.98 % | 4.09 % | 3.67 % | 9.5 % | 28.75 % | 10.76 % |

Table 4: Lifetime risks of AD dementia if Aducanumab has an RR of 0.9 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 19.31 % | 29.85 % | 29.49 % | 40.69 % | 95.28 % | 78.08 % |
| 65 | 17.91 % | 28.15 % | 26.76 % | 39.54 % | 93.06 % | 71.41 % |
| 70 | 15.84 % | 25.71 % | 23.61 % | 37.56 % | 89.35 % | 63.02 % |
| 75 | 13.1 % | 22.38 % | 19.94 % | 34.43 % | 83.75 % | 53.17 % |
| 80 | 9.8 % | 18.02 % | 15.72 % | 29.73 % | 75.04 % | 41.99 % |
| 85 | 6.59 % | 12.87 % | 11.16 % | 23.34 % | 62.67 % | 30.33 % |
| 90 | 3.83 % | 7.76 % | 6.79 % | 15.86 % | 45.9 % | 19.1 % |
| 95 | 1.89 % | 3.91 % | 3.51 % | 9.34 % | 29.56 % | 10.76 % |

Table 5: Lifetime risks of AD dementia if Aducanumab has an RR of 0.9 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 19.31 % | 29.85 % | 29.49 % | 40.68 % | 95.01 % | 78.08 % |
| 65 | 17.91 % | 28.15 % | 26.76 % | 39.54 % | 92.65 % | 71.41 % |
| 70 | 15.84 % | 25.71 % | 23.61 % | 37.55 % | 88.72 % | 63.02 % |
| 75 | 13.1 % | 22.38 % | 19.94 % | 34.41 % | 82.82 % | 53.17 % |
| 80 | 9.8 % | 18.02 % | 15.72 % | 29.69 % | 73.69 % | 41.99 % |
| 85 | 6.59 % | 12.87 % | 11.16 % | 23.24 % | 60.82 % | 30.33 % |
| 90 | 3.83 % | 7.76 % | 6.79 % | 15.68 % | 43.75 % | 19.1 % |
| 95 | 1.89 % | 3.91 % | 3.51 % | 9.09 % | 27.57 % | 10.76 % |

Table 6: Lifetime risks of AD dementia if Aducanumab has an RR of 0.75 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 17.84 % | 27.81 % | 28.08 % | 38.47 % | 94.53 % | 78.08 % |
| 65 | 16.48 % | 26.1 % | 25.31 % | 37.22 % | 92 % | 71.41 % |
| 70 | 14.48 % | 23.66 % | 22.12 % | 35.1 % | 87.89 % | 63.02 % |
| 75 | 11.87 % | 20.38 % | 18.46 % | 31.87 % | 81.88 % | 53.17 % |
| 80 | 8.78 % | 16.2 % | 14.32 % | 27.18 % | 72.93 % | 41.99 % |
| 85 | 5.82 % | 11.38 % | 9.98 % | 21.06 % | 60.69 % | 30.33 % |
| 90 | 3.33 % | 6.74 % | 5.96 % | 14.22 % | 44.63 % | 19.1 % |
| 95 | 1.62 % | 3.34 % | 3.02 % | 8.45 % | 29.04 % | 10.76 % |

Table 7: Lifetime risks of AD dementia if Aducanumab has an RR of 0.75 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 17.84 % | 27.81 % | 28.08 % | 38.47 % | 93.65 % | 78.08 % |
| 65 | 16.48 % | 26.1 % | 25.31 % | 37.21 % | 90.7 % | 71.41 % |
| 70 | 14.48 % | 23.66 % | 22.12 % | 35.08 % | 85.96 % | 63.02 % |
| 75 | 11.87 % | 20.38 % | 18.46 % | 31.81 % | 79.07 % | 53.17 % |
| 80 | 8.78 % | 16.2 % | 14.32 % | 27.04 % | 68.96 % | 41.99 % |
| 85 | 5.82 % | 11.38 % | 9.98 % | 20.78 % | 55.51 % | 30.33 % |
| 90 | 3.33 % | 6.74 % | 5.96 % | 13.73 % | 38.83 % | 19.1 % |
| 95 | 1.62 % | 3.34 % | 3.02 % | 7.81 % | 23.87 % | 10.76 % |

Ten-year risks: females

Below are tables of female ten-year risks of AD dementia for each RR in descending order.

Table 8: Ten-year risks of AD dementia if Aducanumab has an RR of 1

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|--------|---------|------------|----------|
| 60 | 0.2 % | 1.26 % | 3.6 % | 7.07 % | 93.47 % | 57.22 % |
| 65 | 0.47 % | 2.5 % | 4.32 % | 10.71 % | 91.72 % | 55.35 % |
| 70 | 1.07 % | 4.65 % | 5.52 % | 15.5 % | 88.64 % | 52.24 % |
| 75 | 2.2 % | 7.83 % | 7.33 % | 20.79 % | 83.83 % | 47.4 % |
| 80 | 3.68 % | 11.05 % | 9.34 % | 24.43 % | 75.84 % | 39.97 % |
| 85 | 4.68 % | 11.5 % | 9.67 % | 23.1 % | 63.74 % | 30 % |
| 90 | 3.84 % | 8.17 % | 7.07 % | 16.76 % | 46.68 % | 19.09 % |
| 95 | 2.06 % | 4.27 % | 3.82 % | 9.9 % | 29.89 % | 10.76 % |

Table 9: Ten-year risks of AD dementia if Aducanumab has an RR of 0.95 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|--------|---------|------------|----------|
| 60 | 0.2 % | 1.22 % | 3.59 % | 6.9 % | 92.93 % | 57.22 % |
| 65 | 0.46 % | 2.42 % | 4.28 % | 10.45 % | 91.16 % | 55.35 % |
| 70 | 1.04 % | 4.5 % | 5.44 % | 15.12 % | 88.07 % | 52.24 % |
| 75 | 2.13 % | 7.58 % | 7.17 % | 20.27 % | 83.23 % | 47.4 % |
| 80 | 3.56 % | 10.69 % | 9.09 % | 23.8 % | 75.23 % | 39.97 % |
| 85 | 4.52 % | 11.11 % | 9.38 % | 22.46 % | 63.18 % | 30 % |
| 90 | 3.69 % | 7.86 % | 6.83 % | 16.26 % | 46.29 % | 19.09 % |
| 95 | 1.98 % | 4.09 % | 3.67 % | 9.62 % | 29.73 % | 10.76 % |

Table 10: Ten-year risks of AD dementia if Aducanumab has an RR of 0.95 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|--------|---------|------------|----------|
| 60 | 0.2 % | 1.22 % | 3.59 % | 6.9 % | 92.68 % | 57.22 % |
| 65 | 0.46 % | 2.42 % | 4.28 % | 10.44 % | 90.87 % | 55.35 % |
| 70 | 1.04 % | 4.5 % | 5.44 % | 15.12 % | 87.71 % | 52.24 % |
| 75 | 2.13 % | 7.58 % | 7.17 % | 20.26 % | 82.75 % | 47.4 % |
| 80 | 3.56 % | 10.69 % | 9.09 % | 23.77 % | 74.57 % | 39.97 % |
| 85 | 4.52 % | 11.11 % | 9.38 % | 22.41 % | 62.29 % | 30 % |
| 90 | 3.69 % | 7.86 % | 6.83 % | 16.17 % | 45.24 % | 19.09 % |
| 95 | 1.98 % | 4.09 % | 3.67 % | 9.5 % | 28.75 % | 10.76 % |

Table 11: Ten-year risks of AD dementia if Aducanumab has an RR of 0.9 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|--------|---------|------------|----------|
| 60 | 0.19 % | 1.18 % | 3.57 % | 6.72 % | 92.3 % | 57.22 % |
| 65 | 0.45 % | 2.33 % | 4.24 % | 10.17 % | 90.53 % | 55.35 % |
| 70 | 1.01 % | 4.35 % | 5.36 % | 14.71 % | 87.43 % | 52.24 % |
| 75 | 2.06 % | 7.32 % | 7.01 % | 19.72 % | 82.57 % | 47.4 % |
| 80 | 3.44 % | 10.32 % | 8.84 % | 23.13 % | 74.58 % | 39.97 % |
| 85 | 4.35 % | 10.7 % | 9.07 % | 21.8 % | 62.59 % | 30 % |
| 90 | 3.54 % | 7.55 % | 6.57 % | 15.75 % | 45.9 % | 19.09 % |
| 95 | 1.89 % | 3.91 % | 3.51 % | 9.34 % | 29.56 % | 10.76 % |

Table 12: Ten-year risks of AD dementia if Aducanumab has an RR of 0.9 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|--------|---------|------------|----------|
| 60 | 0.19 % | 1.18 % | 3.57 % | 6.71 % | 91.76 % | 57.22 % |
| 65 | 0.45 % | 2.33 % | 4.24 % | 10.16 % | 89.89 % | 55.35 % |
| 70 | 1.01 % | 4.35 % | 5.36 % | 14.7 % | 86.64 % | 52.24 % |
| 75 | 2.06 % | 7.32 % | 7.01 % | 19.7 % | 81.54 % | 47.4 % |
| 80 | 3.44 % | 10.32 % | 8.84 % | 23.08 % | 73.18 % | 39.97 % |
| 85 | 4.35 % | 10.7 % | 9.07 % | 21.69 % | 60.73 % | 30 % |
| 90 | 3.54 % | 7.55 % | 6.57 % | 15.57 % | 43.75 % | 19.09 % |
| 95 | 1.89 % | 3.91 % | 3.51 % | 9.09 % | 27.57 % | 10.76 % |

Table 13: Ten-year risks of AD dementia if Aducanumab has an RR of 0.75 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.18 % | 1.04 % | 3.51 % | 6.09 % | 89.87 % | 57.22 % |
| 65 | 0.41 % | 2.06 % | 4.11 % | 9.22 % | 88.09 % | 55.35 % |
| 70 | 0.92 % | 3.84 % | 5.09 % | 13.34 % | 84.99 % | 52.24 % |
| 75 | 1.84 % | 6.47 % | 6.5 % | 17.86 % | 80.15 % | 47.4 % |
| 80 | 3.04 % | 9.11 % | 8.01 % | 20.9 % | 72.25 % | 39.97 % |
| 85 | 3.81 % | 9.39 % | 8.08 % | 19.6 % | 60.58 % | 30 % |
| 90 | 3.08 % | 6.55 % | 5.76 % | 14.11 % | 44.62 % | 19.09 % |
| 95 | 1.62 % | 3.34 % | 3.02 % | 8.45 % | 29.04 % | 10.76 % |

Table 14: Ten-year risks of AD dementia if Aducanumab has an RR of 0.75 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.18 % | 1.04 % | 3.51 % | 6.08 % | 87.93 % | 57.22 % |
| 65 | 0.41 % | 2.06 % | 4.11 % | 9.2 % | 85.9 % | 55.35 % |
| 70 | 0.92 % | 3.84 % | 5.09 % | 13.3 % | 82.41 % | 52.24 % |
| 75 | 1.84 % | 6.47 % | 6.5 % | 17.79 % | 76.95 % | 47.4 % |
| 80 | 3.04 % | 9.11 % | 8.01 % | 20.76 % | 68.14 % | 39.97 % |
| 85 | 3.81 % | 9.39 % | 8.08 % | 19.31 % | 55.36 % | 30 % |
| 90 | 3.08 % | 6.55 % | 5.76 % | 13.63 % | 38.83 % | 19.09 % |
| 95 | 1.62 % | 3.34 % | 3.02 % | 7.81 % | 23.87 % | 10.76 % |

Lifetime risks: males

Below are tables for male lifetime risks of AD dementia for ages $\in (60, 65, \dots, 95)$ for each potential RR in descending order (1, 0.95, 0.90, 0.75).

Table 15: Lifetime risks of AD dementia if Aducanumab has no treatment effect

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 13.87 % | 23.1 % | 23.1 % | 33.62 % | 92.93 % | 71.73 % |
| 65 | 12.89 % | 21.85 % | 20.83 % | 32.88 % | 90.37 % | 64.87 % |
| 70 | 11.33 % | 19.89 % | 18.18 % | 31.27 % | 85.99 % | 56.29 % |
| 75 | 9.25 % | 17.19 % | 15.16 % | 28.6 % | 79.54 % | 46.59 % |
| 80 | 6.75 % | 13.63 % | 11.72 % | 24.46 % | 69.91 % | 35.95 % |
| 85 | 4.38 % | 9.5 % | 8.12 % | 18.88 % | 56.66 % | 25.31 % |
| 90 | 2.38 % | 5.43 % | 4.7 % | 12.38 % | 40.15 % | 15.59 % |
| 95 | 1.03 % | 2.43 % | 2.16 % | 6.56 % | 23.87 % | 8.23 % |

Table 16: Lifetime risks of AD dementia if Aducanumab has an RR of 0.95 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 13.58 % | 22.66 % | 22.8 % | 33.11 % | 92.71 % | 71.73 % |
| 65 | 12.6 % | 21.4 % | 20.52 % | 32.34 % | 90.06 % | 64.87 % |
| 70 | 11.05 % | 19.44 % | 17.86 % | 30.69 % | 85.58 % | 56.29 % |
| 75 | 9 % | 16.74 % | 14.84 % | 27.99 % | 79.03 % | 46.59 % |
| 80 | 6.54 % | 13.23 % | 11.42 % | 23.85 % | 69.35 % | 35.95 % |
| 85 | 4.23 % | 9.17 % | 7.86 % | 18.35 % | 56.17 % | 25.31 % |
| 90 | 2.29 % | 5.22 % | 4.52 % | 12.01 % | 39.86 % | 15.59 % |
| 95 | 0.99 % | 2.32 % | 2.07 % | 6.38 % | 23.78 % | 8.23 % |

Table 17: Lifetime risks of AD dementia if Aducanumab has an RR of 0.95 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 13.58 % | 22.66 % | 22.8 % | 33.11 % | 92.5 % | 71.73 % |
| 65 | 12.6 % | 21.4 % | 20.52 % | 32.34 % | 89.78 % | 64.87 % |
| 70 | 11.05 % | 19.44 % | 17.86 % | 30.68 % | 85.18 % | 56.29 % |
| 75 | 9 % | 16.74 % | 14.84 % | 27.98 % | 78.47 % | 46.59 % |
| 80 | 6.54 % | 13.23 % | 11.42 % | 23.83 % | 68.58 % | 35.95 % |
| 85 | 4.23 % | 9.17 % | 7.86 % | 18.29 % | 55.19 % | 25.31 % |
| 90 | 2.29 % | 5.22 % | 4.52 % | 11.92 % | 38.8 % | 15.59 % |
| 95 | 0.99 % | 2.32 % | 2.07 % | 6.28 % | 22.9 % | 8.23 % |

Table 18: Lifetime risks of AD dementia if Aducanumab has an RR of 0.9 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 13.26 % | 22.18 % | 22.49 % | 32.57 % | 92.45 % | 71.73 % |
| 65 | 12.29 % | 20.91 % | 20.19 % | 31.76 % | 89.71 % | 64.87 % |
| 70 | 10.76 % | 18.96 % | 17.52 % | 30.07 % | 85.13 % | 56.29 % |
| 75 | 8.74 % | 16.28 % | 14.5 % | 27.34 % | 78.48 % | 46.59 % |
| 80 | 6.33 % | 12.81 % | 11.11 % | 23.21 % | 68.76 % | 35.95 % |
| 85 | 4.07 % | 8.84 % | 7.6 % | 17.79 % | 55.66 % | 25.31 % |
| 90 | 2.19 % | 5 % | 4.35 % | 11.63 % | 39.55 % | 15.59 % |
| 95 | 0.94 % | 2.21 % | 1.98 % | 6.2 % | 23.68 % | 8.23 % |

Table 19: Lifetime risks of AD dementia if Aducanumab has an RR of 0.9 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 13.26 % | 22.18 % | 22.49 % | 32.56 % | 92.02 % | 71.73 % |
| 65 | 12.29 % | 20.91 % | 20.19 % | 31.75 % | 89.12 % | 64.87 % |
| 70 | 10.76 % | 18.96 % | 17.52 % | 30.06 % | 84.29 % | 56.29 % |
| 75 | 8.74 % | 16.28 % | 14.5 % | 27.31 % | 77.3 % | 46.59 % |
| 80 | 6.33 % | 12.81 % | 11.11 % | 23.16 % | 67.15 % | 35.95 % |
| 85 | 4.07 % | 8.84 % | 7.6 % | 17.68 % | 53.64 % | 25.31 % |
| 90 | 2.19 % | 5 % | 4.35 % | 11.45 % | 37.4 % | 15.59 % |
| 95 | 0.94 % | 2.21 % | 1.98 % | 5.99 % | 21.9 % | 8.23 % |

Table 20: Lifetime risks of AD dementia if Aducanumab has an RR of 0.75 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 12.19 % | 20.54 % | 21.41 % | 30.62 % | 91.44 % | 71.73 % |
| 65 | 11.25 % | 19.26 % | 19.07 % | 29.7 % | 88.38 % | 64.87 % |
| 70 | 9.78 % | 17.32 % | 16.38 % | 27.91 % | 83.44 % | 56.29 % |
| 75 | 7.87 % | 14.71 % | 13.38 % | 25.11 % | 76.48 % | 46.59 % |
| 80 | 5.64 % | 11.42 % | 10.08 % | 21.06 % | 66.7 % | 35.95 % |
| 85 | 3.57 % | 7.75 % | 6.77 % | 15.96 % | 53.95 % | 25.31 % |
| 90 | 1.9 % | 4.31 % | 3.79 % | 10.41 % | 38.58 % | 15.59 % |
| 95 | 0.8 % | 1.88 % | 1.7 % | 5.65 % | 23.38 % | 8.23 % |

Table 21: Lifetime risks of AD dementia if Aducanumab has an RR of 0.75 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|---------|---------|---------|------------|----------|
| 60 | 12.19 % | 20.54 % | 21.41 % | 30.61 % | 90.1 % | 71.73 % |
| 65 | 11.25 % | 19.26 % | 19.07 % | 29.69 % | 86.56 % | 64.87 % |
| 70 | 9.78 % | 17.32 % | 16.38 % | 27.87 % | 80.9 % | 56.29 % |
| 75 | 7.87 % | 14.71 % | 13.38 % | 25.04 % | 73.01 % | 46.59 % |
| 80 | 5.64 % | 11.42 % | 10.08 % | 20.91 % | 62.11 % | 35.95 % |
| 85 | 3.57 % | 7.75 % | 6.77 % | 15.67 % | 48.4 % | 25.31 % |
| 90 | 1.9 % | 4.31 % | 3.79 % | 9.94 % | 32.86 % | 15.59 % |
| 95 | 0.8 % | 1.88 % | 1.7 % | 5.11 % | 18.79 % | 8.23 % |

Ten-year risks: males

Below are tables of male ten-year risks of AD dementia for each RR in descending order.

Table 22: Ten-year risks of AD dementia if Aducanumab has an RR of 1

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.19 % | 1.19 % | 3.42 % | 6.74 % | 91.07 % | 54.86 % |
| 65 | 0.44 % | 2.32 % | 4.03 % | 10.06 % | 88.84 % | 52.55 % |
| 70 | 0.96 % | 4.2 % | 5.01 % | 14.21 % | 84.91 % | 48.67 % |
| 75 | 1.87 % | 6.75 % | 6.35 % | 18.37 % | 78.95 % | 42.99 % |
| 80 | 2.87 % | 8.85 % | 7.5 % | 20.4 % | 69.72 % | 34.92 % |
| 85 | 3.26 % | 8.42 % | 7.08 % | 18.13 % | 56.64 % | 25.19 % |
| 90 | 2.28 % | 5.37 % | 4.62 % | 12.35 % | 40.15 % | 15.59 % |
| 95 | 1.03 % | 2.43 % | 2.16 % | 6.56 % | 23.87 % | 8.23 % |

Table 23: Ten-year risks of AD dementia if Aducanumab has an RR of 0.95 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.18 % | 1.16 % | 3.4 % | 6.57 % | 90.51 % | 54.86 % |
| 65 | 0.43 % | 2.25 % | 4 % | 9.81 % | 88.27 % | 52.55 % |
| 70 | 0.94 % | 4.07 % | 4.94 % | 13.85 % | 84.33 % | 48.67 % |
| 75 | 1.81 % | 6.53 % | 6.21 % | 17.89 % | 78.36 % | 42.99 % |
| 80 | 2.78 % | 8.56 % | 7.3 % | 19.85 % | 69.13 % | 34.92 % |
| 85 | 3.14 % | 8.12 % | 6.86 % | 17.61 % | 56.14 % | 25.19 % |
| 90 | 2.19 % | 5.15 % | 4.45 % | 11.97 % | 39.86 % | 15.59 % |
| 95 | 0.99 % | 2.32 % | 2.07 % | 6.38 % | 23.78 % | 8.23 % |

Table 24: Ten-year risks of AD dementia if Aducanumab has an RR of 0.95 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.18 % | 1.16 % | 3.4 % | 6.57 % | 90.21 % | 54.86 % |
| 65 | 0.43 % | 2.25 % | 4 % | 9.81 % | 87.92 % | 52.55 % |
| 70 | 0.94 % | 4.07 % | 4.94 % | 13.84 % | 83.88 % | 48.67 % |
| 75 | 1.81 % | 6.53 % | 6.21 % | 17.88 % | 77.77 % | 42.99 % |
| 80 | 2.78 % | 8.56 % | 7.3 % | 19.83 % | 68.35 % | 34.92 % |
| 85 | 3.14 % | 8.12 % | 6.86 % | 17.56 % | 55.16 % | 25.19 % |
| 90 | 2.19 % | 5.15 % | 4.45 % | 11.89 % | 38.8 % | 15.59 % |
| 95 | 0.99 % | 2.32 % | 2.07 % | 6.28 % | 22.9 % | 8.23 % |

Table 25: Ten-year risks of AD dementia if Aducanumab has an RR of 0.9 with 2-year delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.18 % | 1.11 % | 3.38 % | 6.39 % | 89.89 % | 54.86 % |
| 65 | 0.42 % | 2.17 % | 3.96 % | 9.55 % | 87.64 % | 52.55 % |
| 70 | 0.91 % | 3.92 % | 4.86 % | 13.47 % | 83.68 % | 48.67 % |
| 75 | 1.75 % | 6.3 % | 6.07 % | 17.4 % | 77.7 % | 42.99 % |
| 80 | 2.68 % | 8.25 % | 7.09 % | 19.28 % | 68.51 % | 34.92 % |
| 85 | 3.02 % | 7.81 % | 6.63 % | 17.06 % | 55.62 % | 25.19 % |
| 90 | 2.1 % | 4.94 % | 4.28 % | 11.59 % | 39.55 % | 15.59 % |
| 95 | 0.94 % | 2.21 % | 1.98 % | 6.2 % | 23.68 % | 8.23 % |

Table 26: Ten-year risks of AD dementia if Aducanumab has an RR of 0.9 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.18 % | 1.11 % | 3.38 % | 6.39 % | 89.23 % | 54.86 % |
| 65 | 0.42 % | 2.17 % | 3.96 % | 9.54 % | 86.86 % | 52.55 % |
| 70 | 0.91 % | 3.92 % | 4.86 % | 13.46 % | 82.72 % | 48.67 % |
| 75 | 1.75 % | 6.3 % | 6.07 % | 17.37 % | 76.46 % | 42.99 % |
| 80 | 2.68 % | 8.25 % | 7.09 % | 19.22 % | 66.88 % | 34.92 % |
| 85 | 3.02 % | 7.81 % | 6.63 % | 16.96 % | 53.61 % | 25.19 % |
| 90 | 2.1 % | 4.94 % | 4.28 % | 11.41 % | 37.4 % | 15.59 % |
| 95 | 0.94 % | 2.21 % | 1.98 % | 5.99 % | 21.9 % | 8.23 % |

Table 27: Ten-year risks of AD dementia if Aducanumab has an RR of 0.75

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.17 % | 0.98 % | 3.33 % | 5.79 % | 87.47 % | 54.86 % |
| 65 | 0.38 % | 1.92 % | 3.84 % | 8.65 % | 85.21 % | 52.55 % |
| 70 | 0.82 % | 3.46 % | 4.61 % | 12.19 % | 81.28 % | 48.67 % |
| 75 | 1.57 % | 5.56 % | 5.62 % | 15.72 % | 75.36 % | 42.99 % |
| 80 | 2.37 % | 7.26 % | 6.42 % | 17.36 % | 66.34 % | 34.92 % |
| 85 | 2.64 % | 6.82 % | 5.89 % | 15.29 % | 53.9 % | 25.19 % |
| 90 | 1.82 % | 4.25 % | 3.73 % | 10.38 % | 38.58 % | 15.59 % |
| 95 | 0.8 % | 1.88 % | 1.7 % | 5.65 % | 23.38 % | 8.23 % |

Table 28: Ten-year risks of AD dementia if Aducanumab has an RR of 0.75 with no delay

| Age | Normal[1] | A[2] | N[3] | A+N[4] | A+N+MCI[5] | N+MCI[6] |
|-----|-----------|--------|--------|---------|------------|----------|
| 60 | 0.17 % | 0.98 % | 3.33 % | 5.78 % | 85.23 % | 54.86 % |
| 65 | 0.38 % | 1.92 % | 3.84 % | 8.63 % | 82.68 % | 52.55 % |
| 70 | 0.82 % | 3.46 % | 4.61 % | 12.15 % | 78.25 % | 48.67 % |
| 75 | 1.57 % | 5.56 % | 5.62 % | 15.64 % | 71.63 % | 42.99 % |
| 80 | 2.37 % | 7.26 % | 6.42 % | 17.2 % | 61.67 % | 34.92 % |
| 85 | 2.64 % | 6.82 % | 5.89 % | 14.99 % | 48.34 % | 25.19 % |
| 90 | 1.82 % | 4.25 % | 3.73 % | 9.91 % | 32.86 % | 15.59 % |
| 95 | 0.8 % | 1.88 % | 1.7 % | 5.11 % | 18.79 % | 8.23 % |

The effect of Aducanumab on lifetime and ten-year risks of AD dementia seems to be pretty small even under the most liberal assumption of $RR = 0.75$.