Lifetime risk, prevalence, and incidence estimates from ATN model after optimization

Tommy Gibson

5/5/2021

Lifetime Risks

Let's first look at lifetime risks for males and females.

Table 1: Lifetime risk of AD for women by age and disease state

Age	Normal	A	A+T	A+T+N	A+T+N+MCI	Т	T+N	N	A+N
60	17.8 %	30.07~%	54.75 %	58.37 %	95.63~%	38.8~%	27.26~%	10.06~%	28.69 %
65	16.49~%	28.4~%	51.96~%	56.18~%	93.57~%	36.72~%	24.09~%	9.46~%	26.7~%
70	14.66~%	25.9~%	47.92~%	52.79 %	90.06~%	33.63~%	20.32~%	8.57~%	23.97%
75	12.25~%	22.41~%	42.29~%	47.85~%	84.71 %	29.32~%	16.07~%	7.35~%	20.42~%
80	9.28~%	17.8~%	34.74~%	40.83~%	76.19~%	23.59 %	11.52~%	5.76~%	16.02~%
85	6.07~%	12.39 %	25.38~%	31.6~%	63.81 %	16.7~%	7.16~%	3.94~%	11.07~%
90	3.24~%	7.16~%	15.56 %	20.98~%	46.68 %	9.85~%	3.66~%	2.24~%	6.42~%

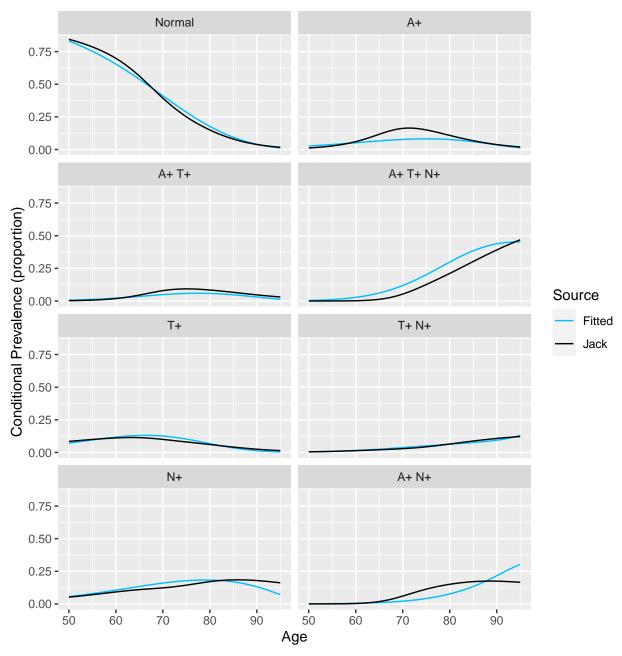
Table 2: Lifetime risk of AD for men by age and disease state

Age	Normal	A	A+T	A+T+N	A+T+N+MCI	Т	T+N	N	A+N
60	12.09 %	21.94~%	45.32~%	49.39 %	92.93~%	29.87~%	20.65~%	6.42~%	21.35 %
65	11.17~%	20.71~%	42.84~%	47.49~%	90.37~%	28.19~%	18.1~%	6.05~%	19.83 %
70	9.82~%	18.72~%	39.04~%	44.27~%	85.99 %	25.55~%	15.04~%	5.45~%	17.63~%
75	8.05~%	15.94~%	33.82~%	39.59~%	79.54~%	21.89~%	11.64~%	4.61~%	14.79 %
80	5.9~%	12.31~%	26.98~%	33.02~%	69.91 %	17.11~%	8.09~%	3.53 %	11.3~%
85	3.66~%	8.21~%	18.97~%	24.79 %	56.66~%	11.62~%	4.81~%	2.31~%	7.53~%
90	1.77~%	4.38~%	10.91~%	15.73~%	40.15 %	6.35~%	2.29~%	1.21~%	4.08 %

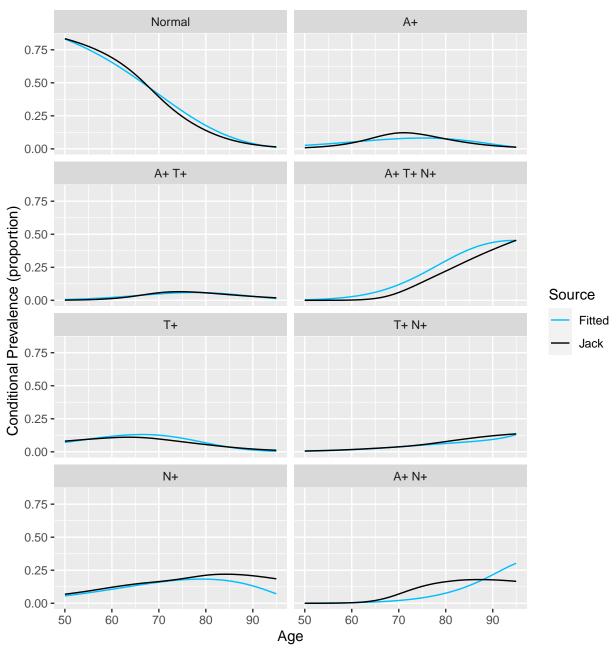
Conditional Prevalence

Female and male prevalence rates, conditional on being alive and in a preclinical state.

Female Cross-sectional and Fitted Conditional Prevalence



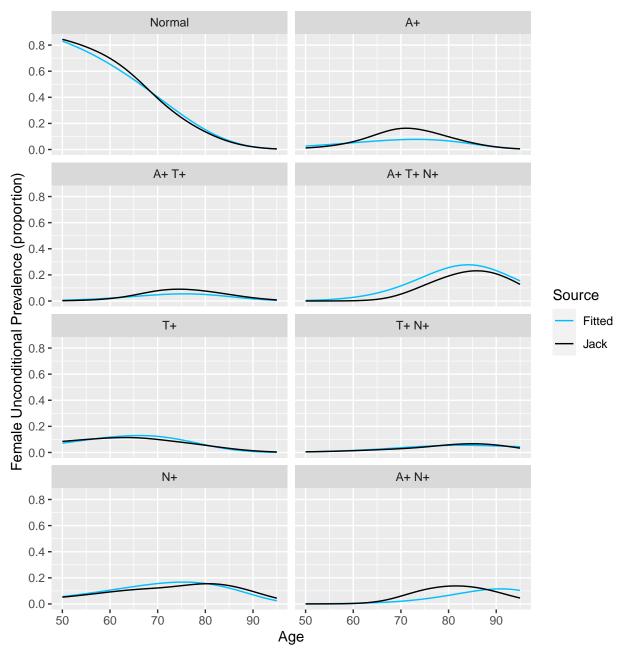
Male Cross-sectional and Fitted Conditional Prevalence



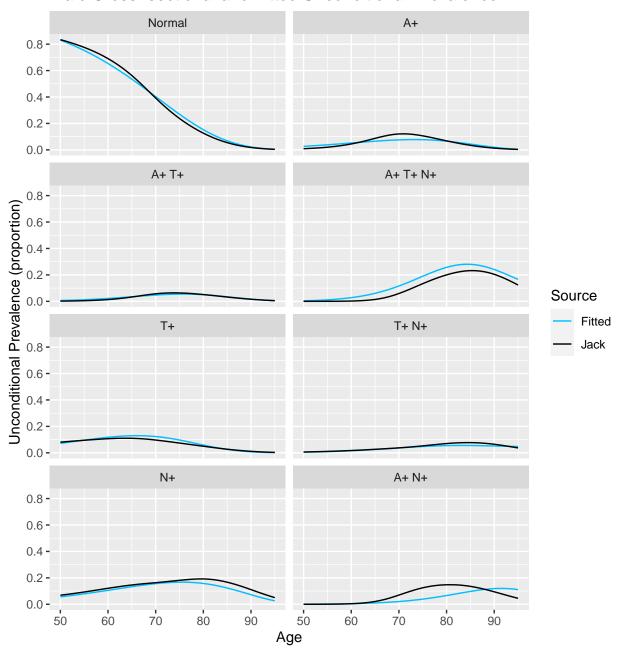
Unconditional prevalence

Female and male prevalence rates, conditional only on being alive.

Female Cross-sectional and Fitted Unconditional Prevalence



Male Cross-sectional and Fitted Unconditional Prevalence



Incidence of AD

Female and male incidence rates as compared with the empirically estimated rate. Note that the empirical rate is the same in each plot, as it is sex-agnostic.

Female Empirical and Fitted Incidence of AD Dementia

