

Age	α	γ	δ	$\log(\psi)$	$\log(\tau)$	$\log(\lambda)$	$\log(\phi)$
<5	-2.282	-0.317	-0.037	2.513	-13.847	2.182	1.291
5 – 14	-4.422	-0.369	-0.037	1.590	-3.262	2.283	1.364
15 – 44	-4.035	-0.477	-0.037	3.024	-1.629	3.729	4.093
45 – 64	-2.776	-0.342	-0.037	3.173	-2.150	3.479	3.610
65+	-1.938	-0.464	-0.037	3.188	-6.714	3.423	4.246

S2 Table . Model I: Coefficient estimates for the age-specific model of IPD including Flu. Since Flu coefficients $\tau_{<5}$ and τ_{65+} were very small, we refitted the model fixing them to 0, to make sure the other parameter estimates were not sensitive to such an assumption.