

Fig 1: Case study: Subposterior means and 95% symmetric CIs for  $\alpha_a$  parameters for each subsample for ages  $a = 2, \dots, 4+$ .

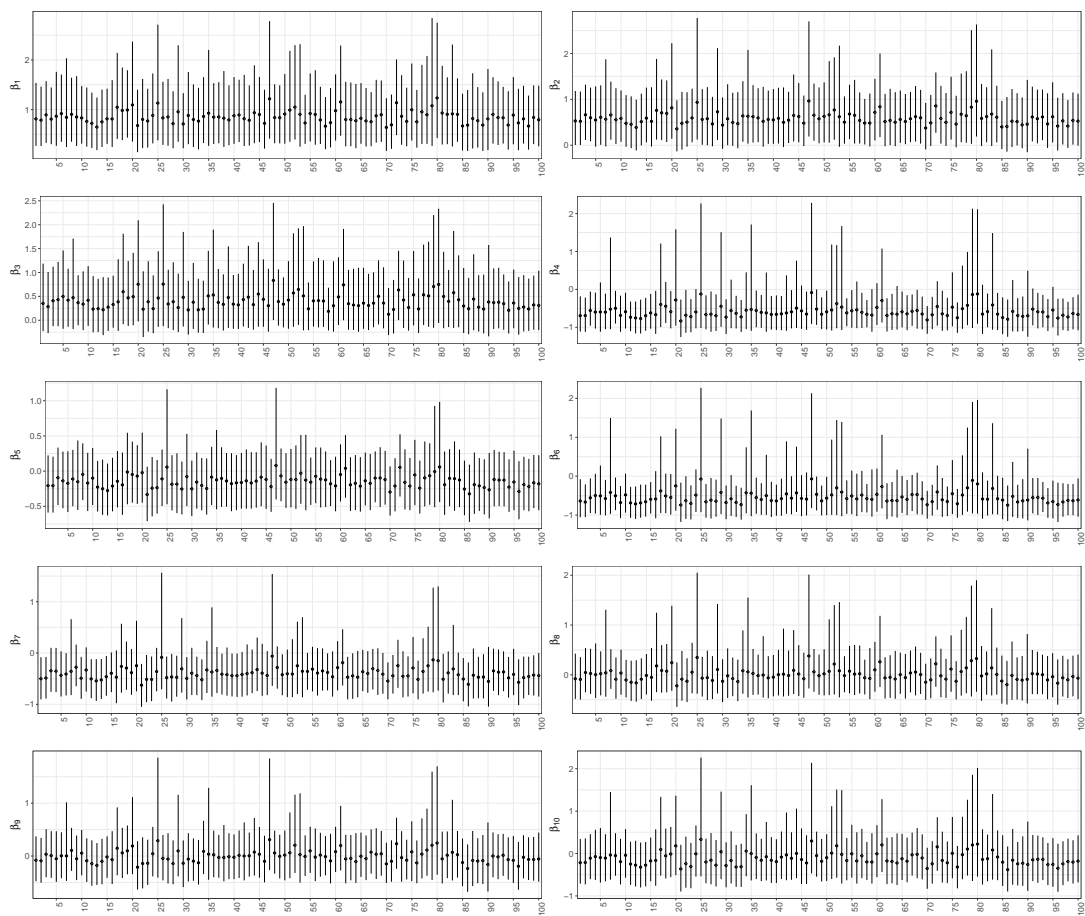


Fig 2: Case study: Subposterior means and 95% symmetric CIs for  $\beta_t$  parameters for each subsample for occasions  $t = 1, \dots, T - 1$ .

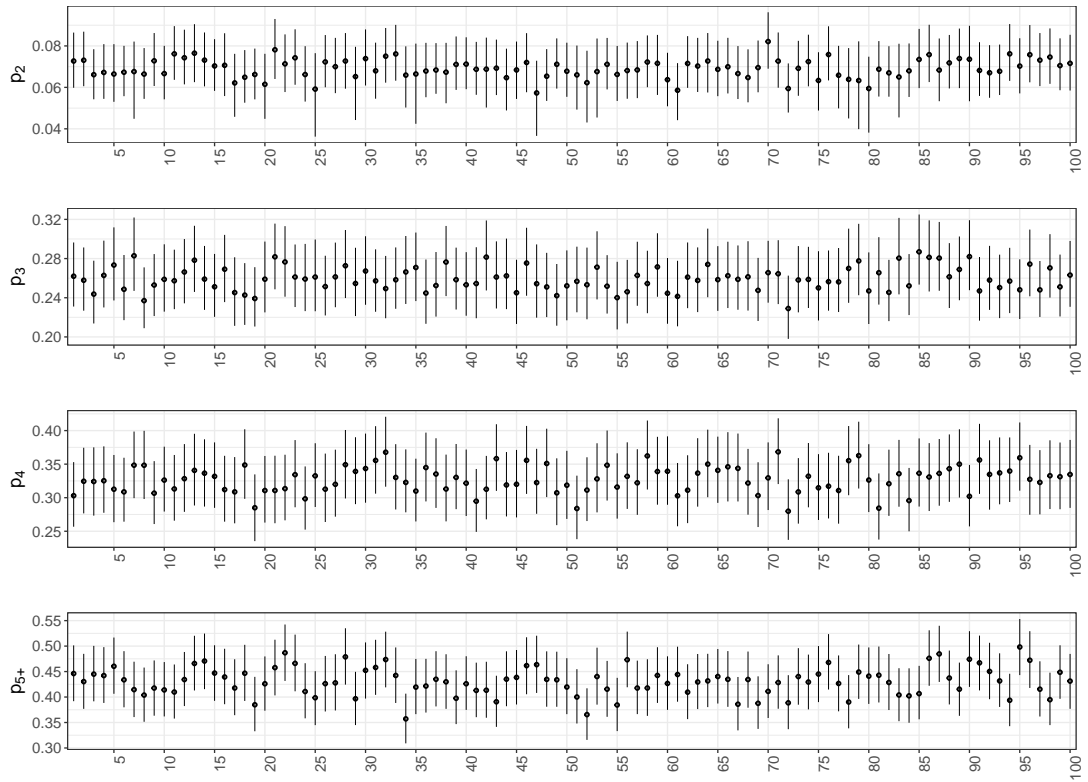


Fig 3: Case study: Subposterior means and 95% symmetric CIs for recapture probabilities ( $p_a$ ) for each subsample for ages  $a = 2, \dots, 5+$ .

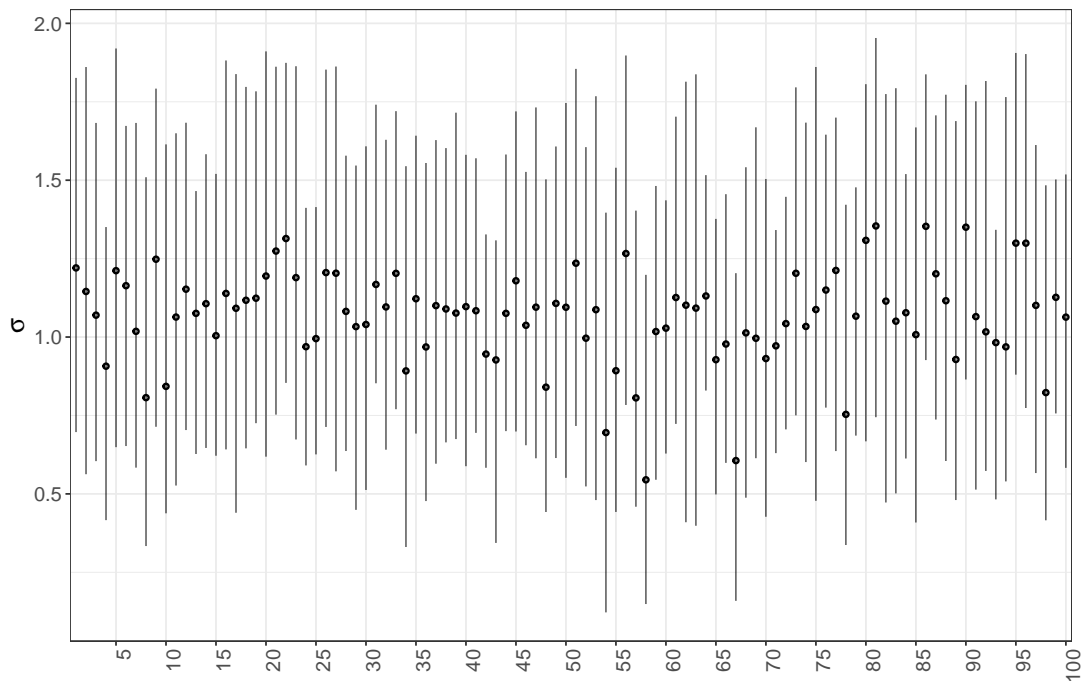


Fig 4: Case study: Subposterior means and 95% symmetric CIs for the variance of the individual random effects ( $\sigma$ ) for each subsample.

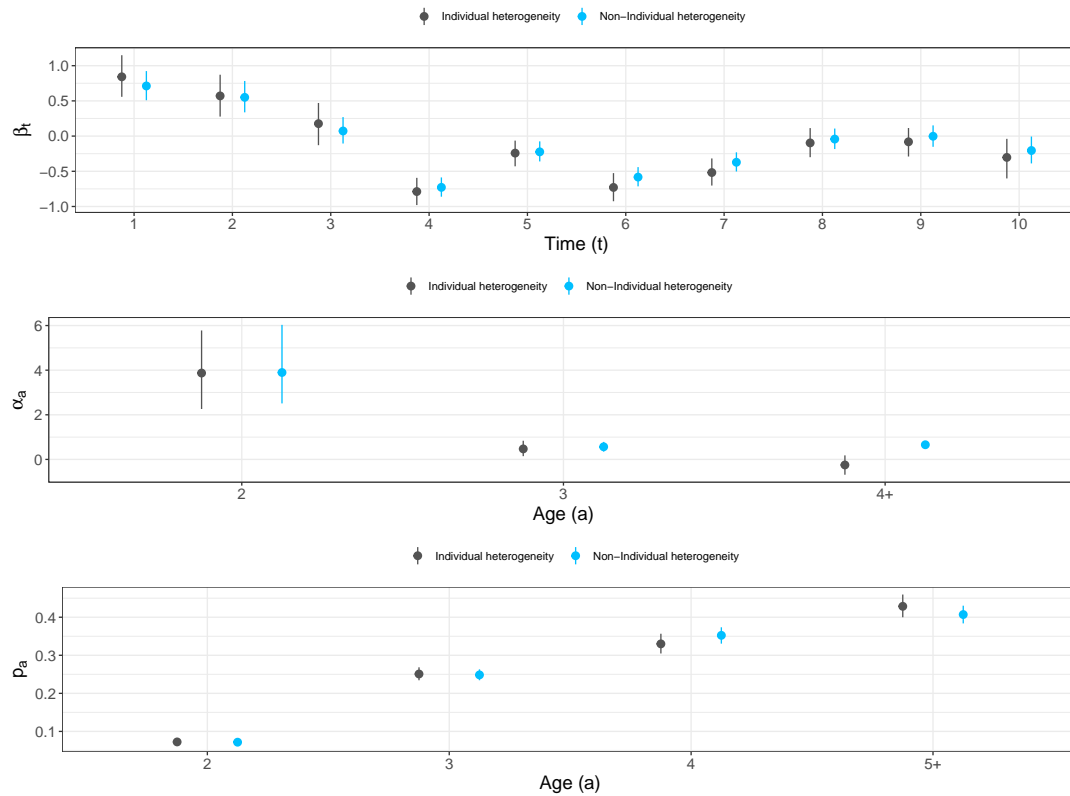


Fig 5: Case study: Posterior means and 95% CIs for model parameters for the model with individual heterogeneity (black) and previous model where individual heterogeneity was not considered (blue).

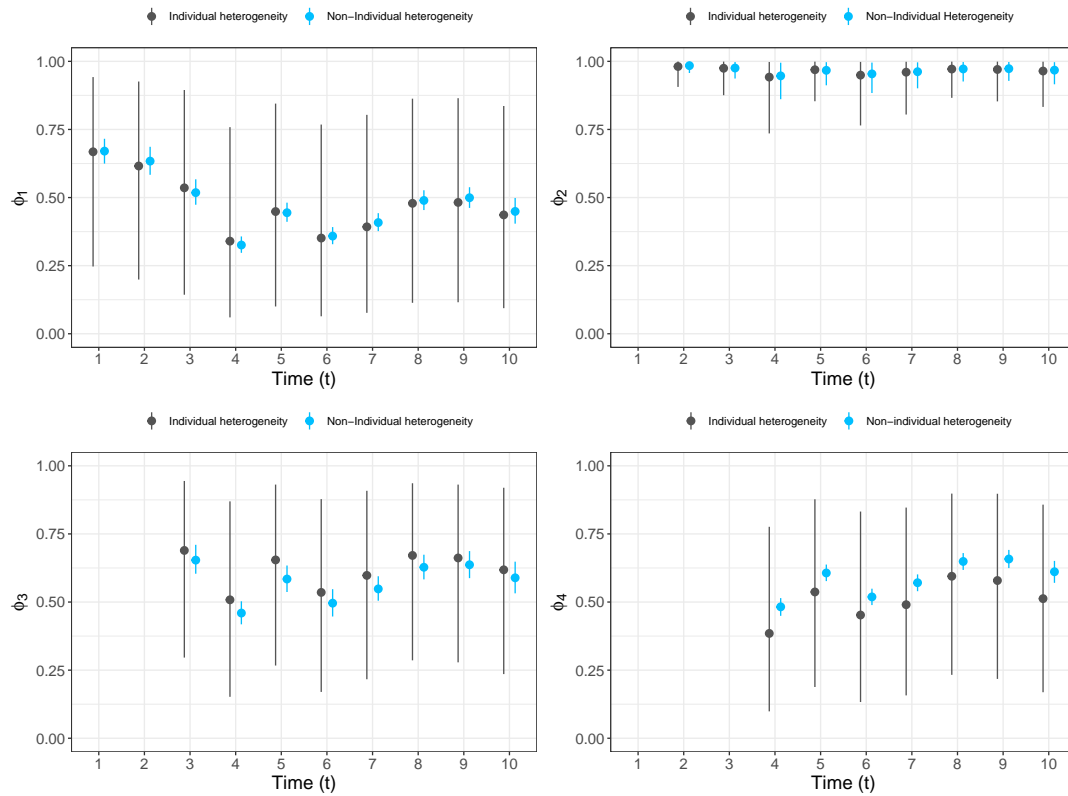


Fig 6: Case study: Posterior means and 95% CIs for age and time dependent survival probabilities for the model with individual heterogeneity (black) and previous model where individual heterogeneity was not considered (blue).