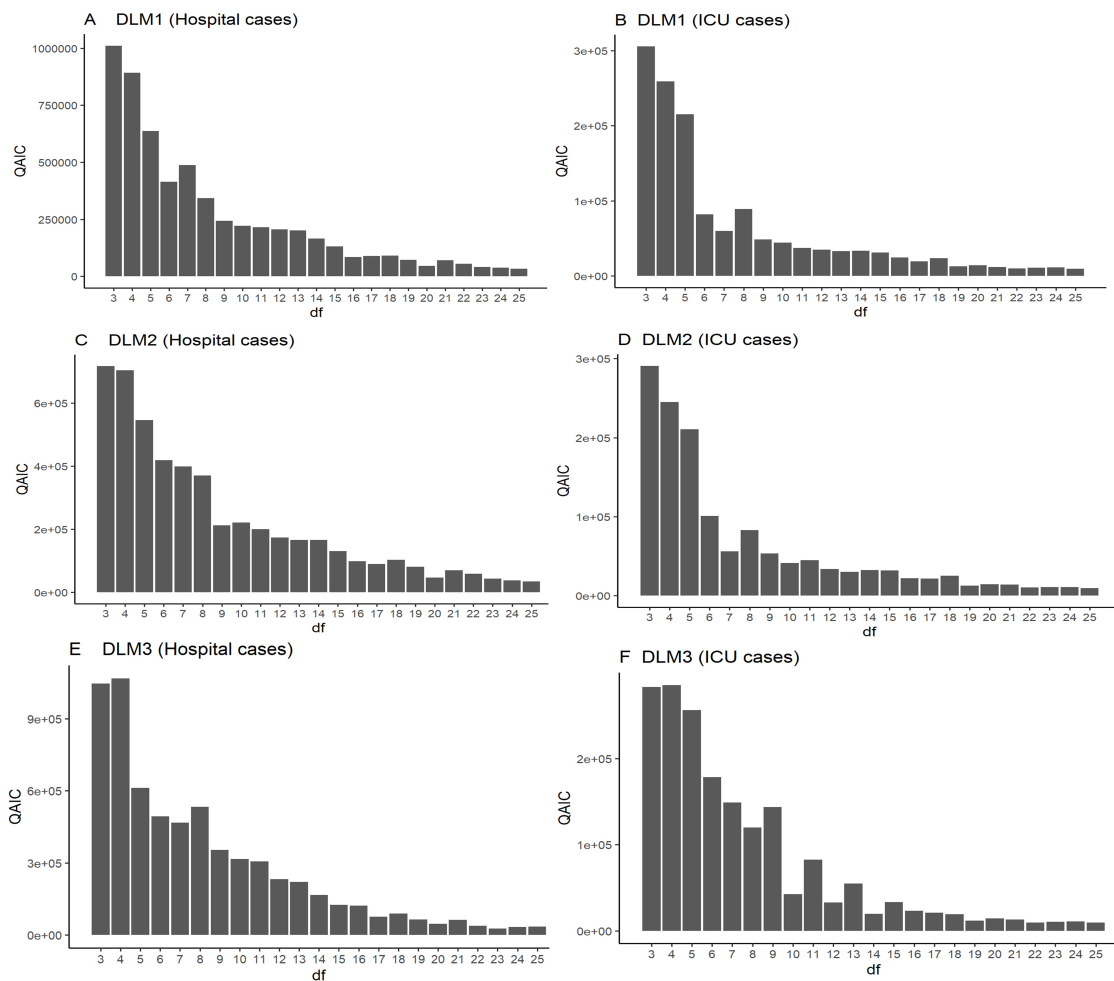
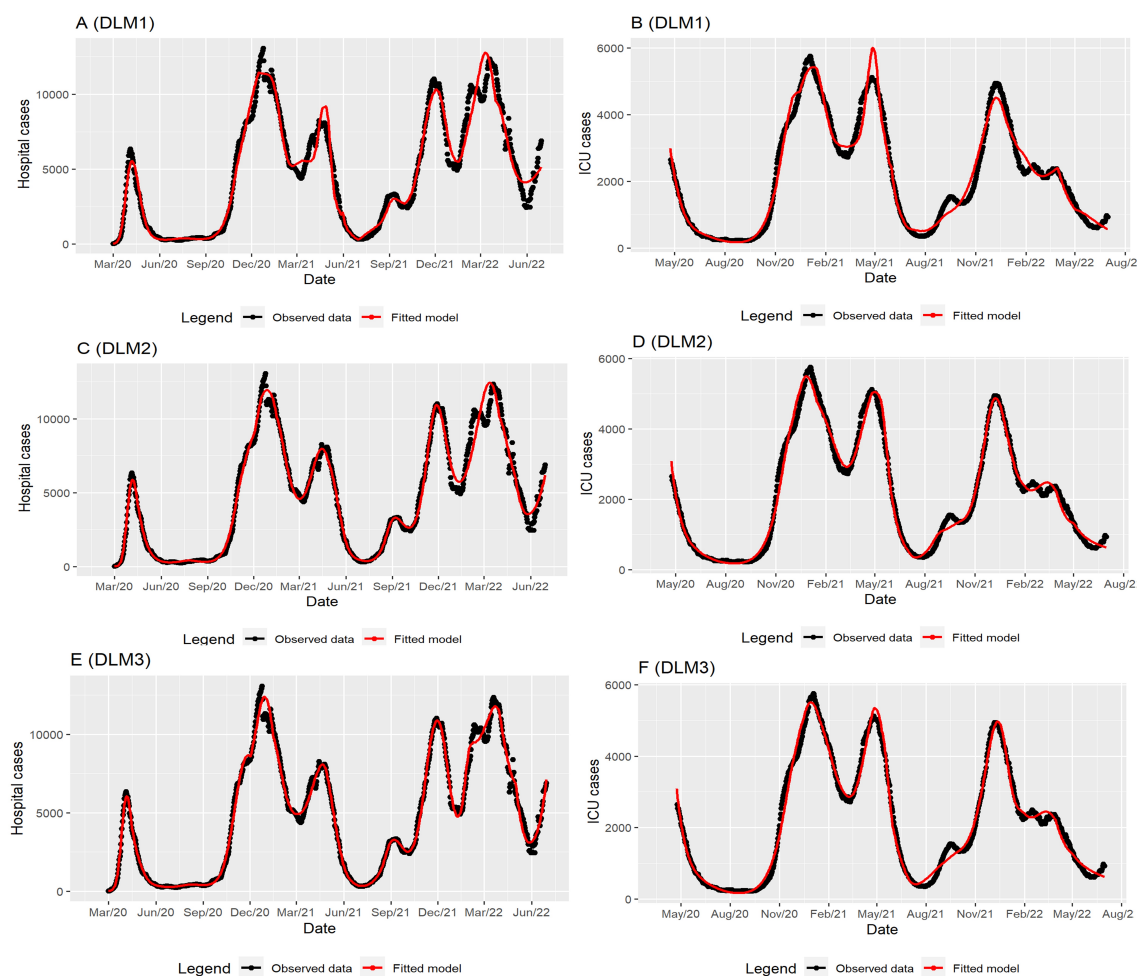


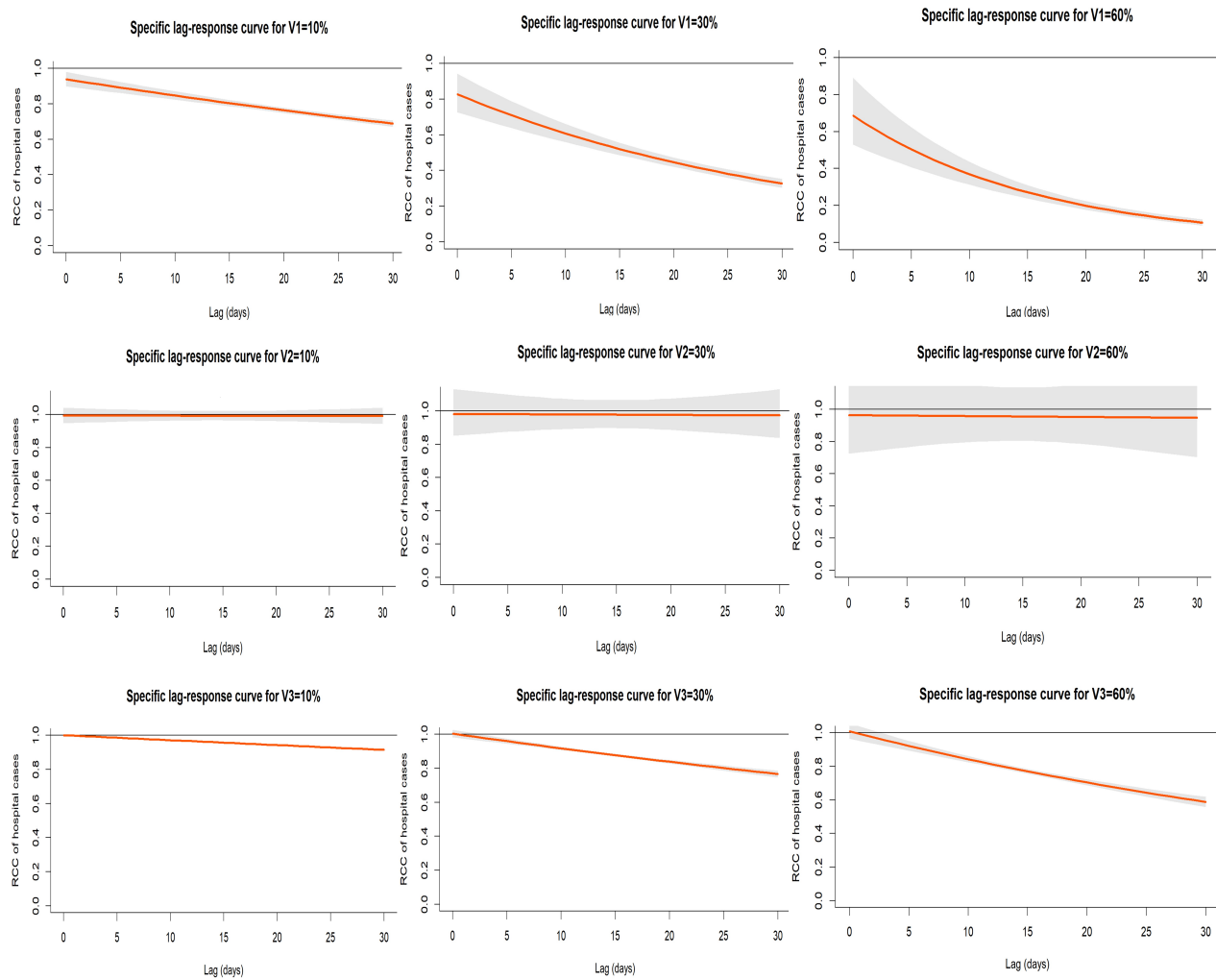
## Supplementary Material



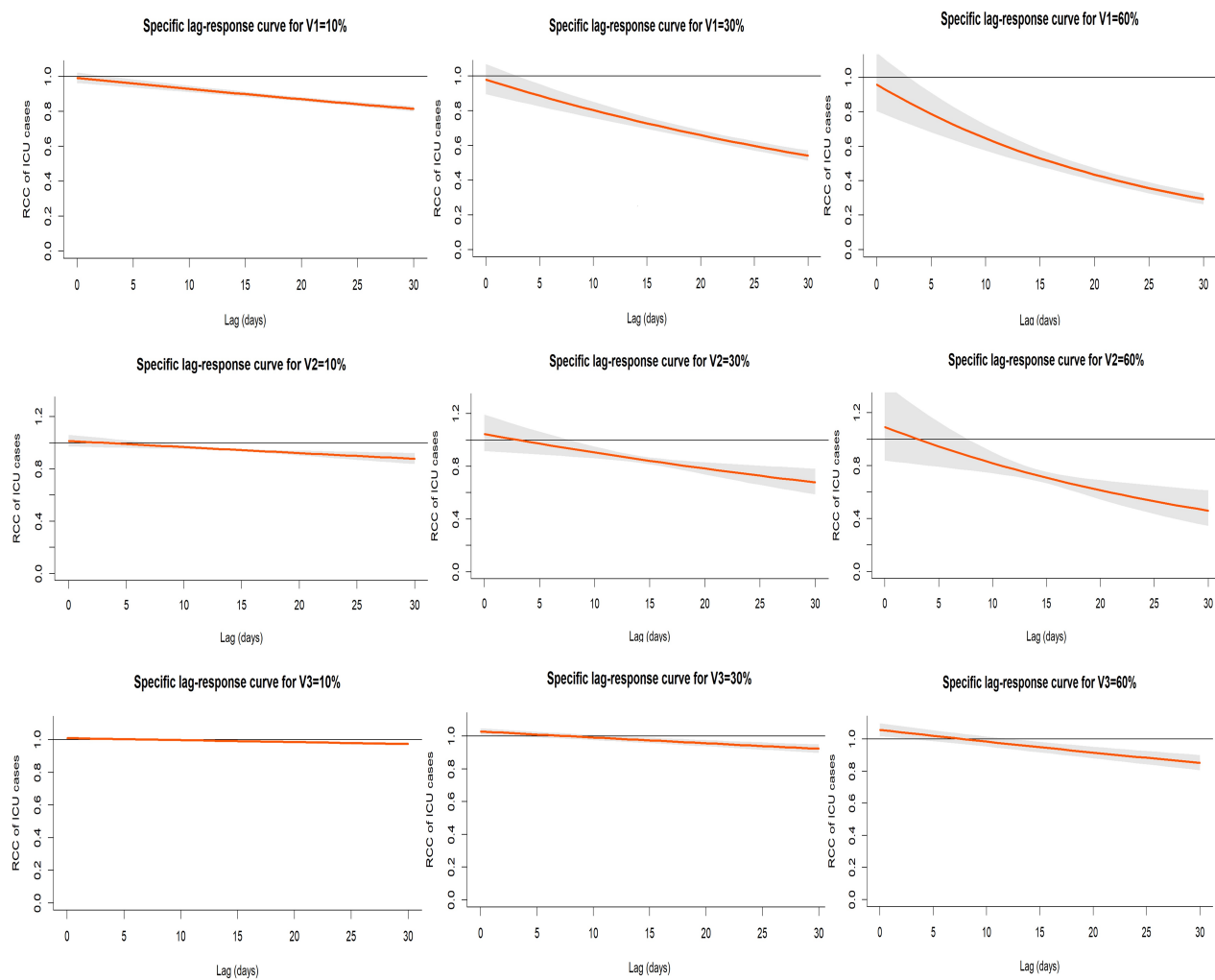
**Figure S1.** The quasi-Akaike Information Criterion (QAIC) values in function of the number of degrees of freedom (dfs) for adjusting for long-term trends of the variable time in the models. **(A)** QAIC and dfs for the model with the first dose  $V_1$  and Hospital cases. **(B)** QAIC and dfs for the model with the first dose  $V_1$  and ICU cases. **(C)** QAIC and dfs for the model with the second dose  $V_2$  and Hospital cases. **(D)** QAIC and dfs for the model with the second dose  $V_2$  and ICU cases. **(E)** QAIC and dfs for the model with the third dose  $V_3$  and Hospital cases. **(F)** QAIC and dfs for the model with the third dose  $V_3$  and ICU cases. DLM1, DLM2, and DLM3 represent the distributed lag models for the first, second and third doses.



**Figure S2.** Models fitting with the optimal number of degrees of freedom. (A) Model fitted with  $df=16$  (hospital cases). (B) Model fitted with  $df=15$  (ICU cases). (C) Model fitted with  $df=20$  (hospital cases). (D) Model fitted with  $df=16$  (ICU cases). (E) Model fitted with  $df=23$  (hospital cases). (F) Model fitted with  $df=16$  (ICU cases).



**Figure S3.** Specific lag-response curves showing RCC point estimates and their confidence intervals for vaccination coverages  $V1$ ,  $V2$  and  $V3$  in the cases of hospital patients.



**Figure S4.** Specific lag-response curves showing RCC point estimates and their confidence intervals for vaccination coverages V1, V2 and V3 in the cases of ICU patients.