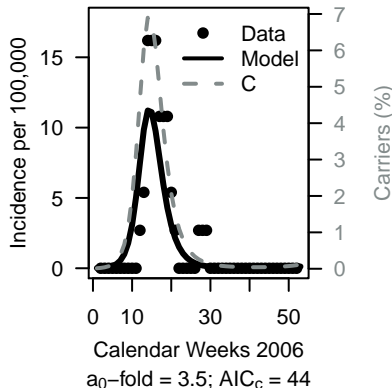
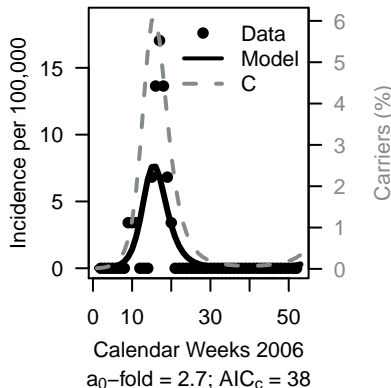
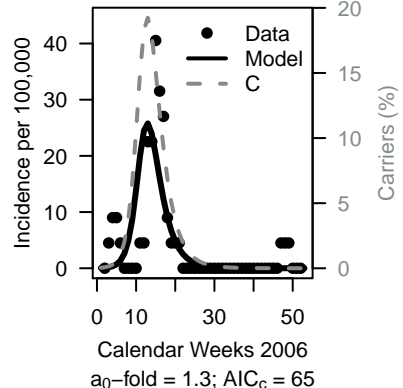
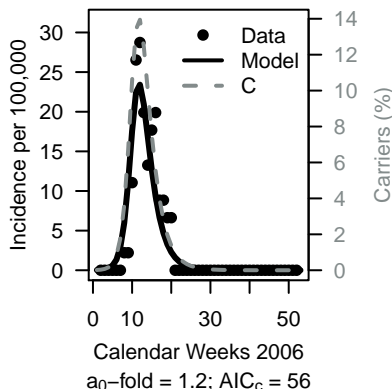
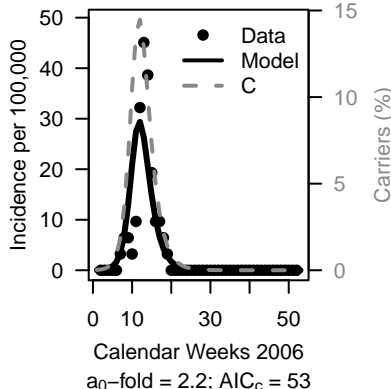
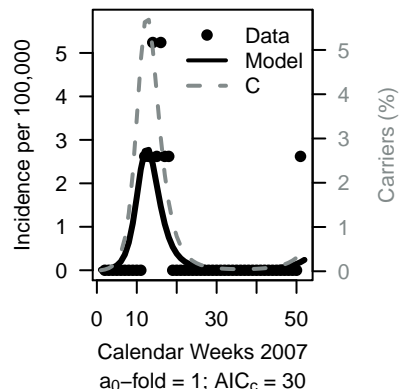
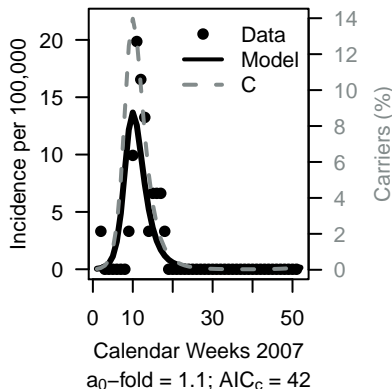
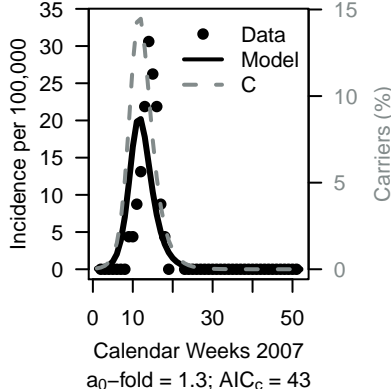
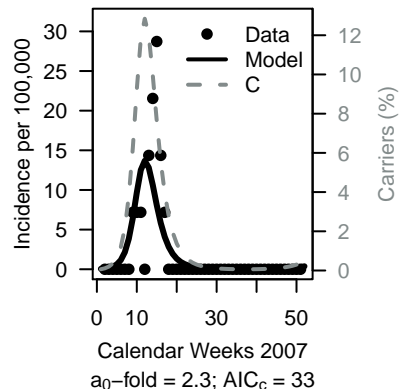
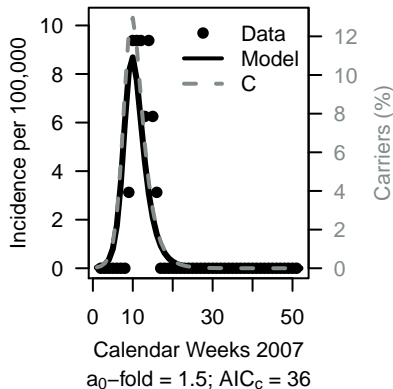
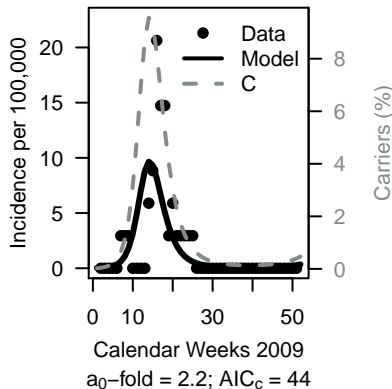
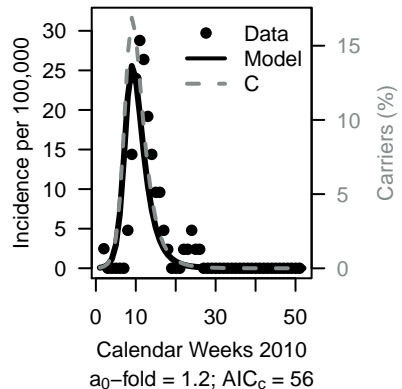
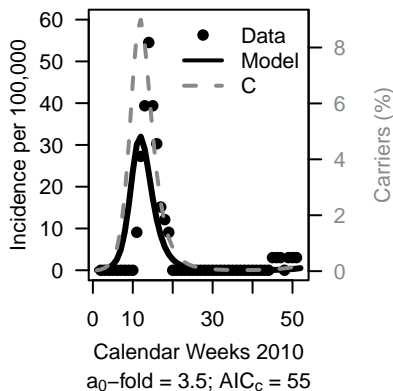
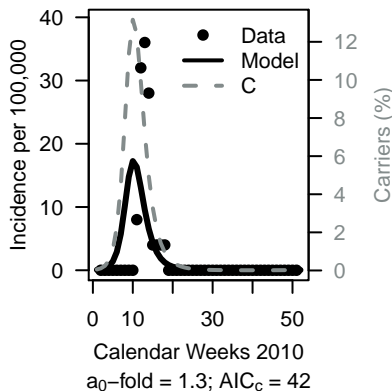
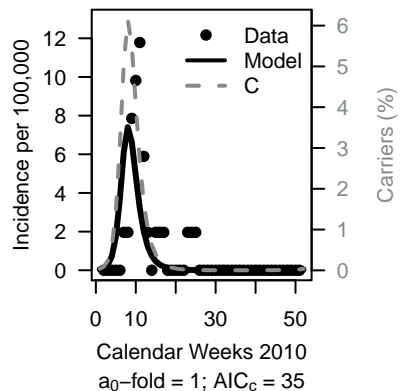
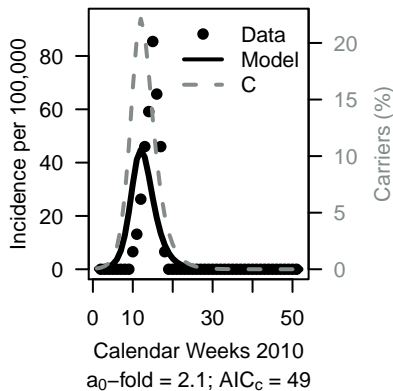
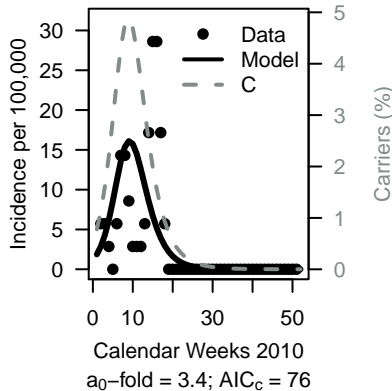
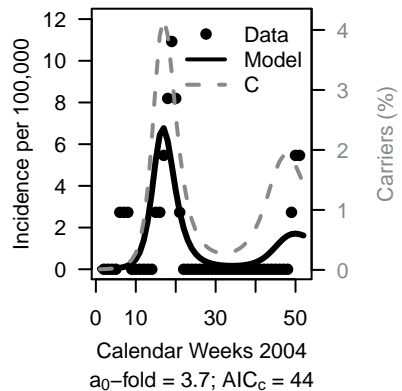
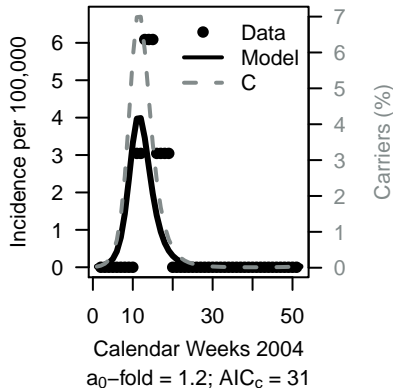
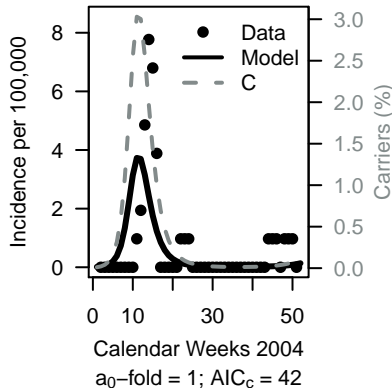
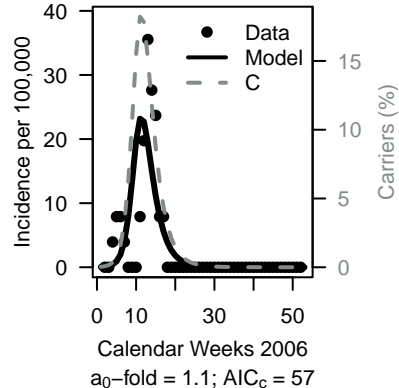
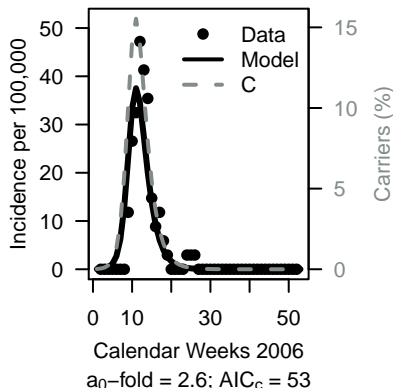
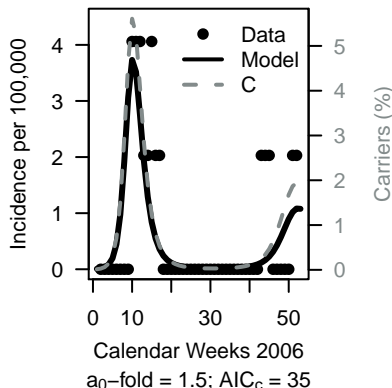
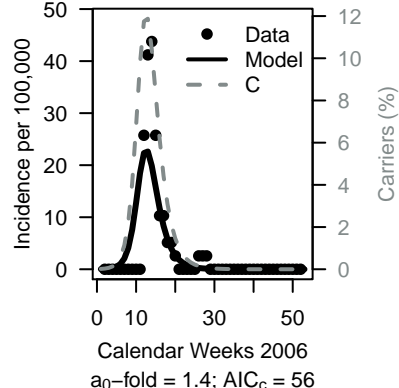
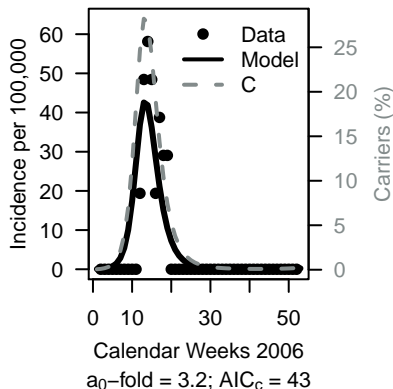
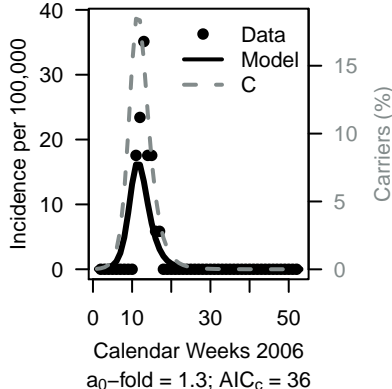
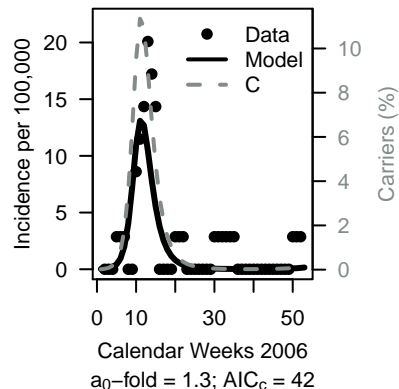


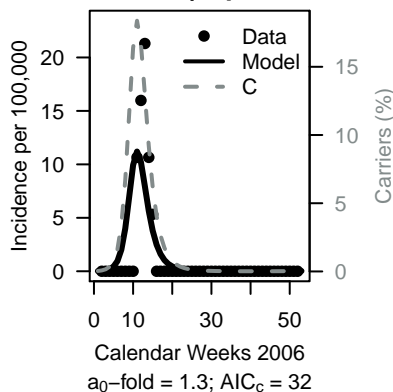
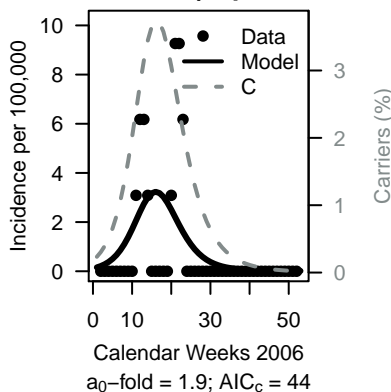
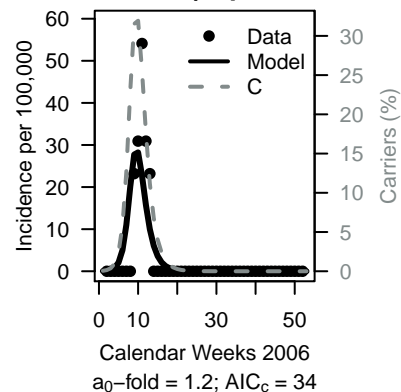
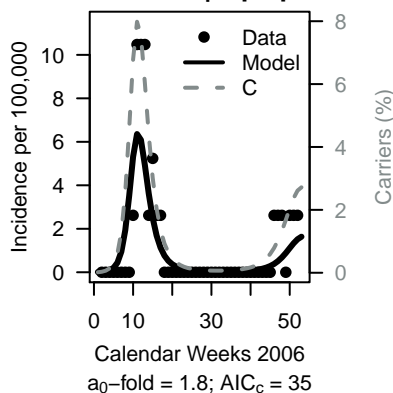
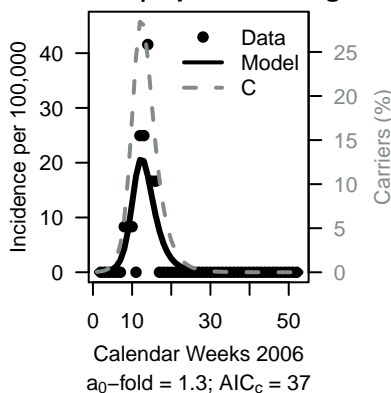
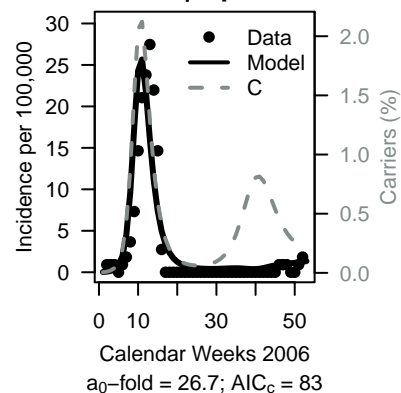
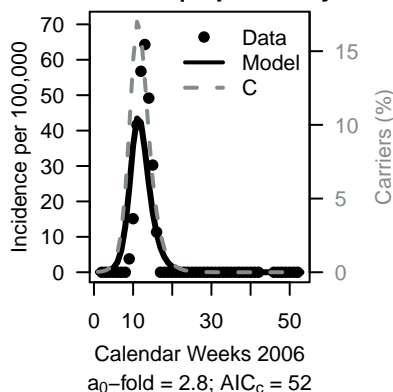
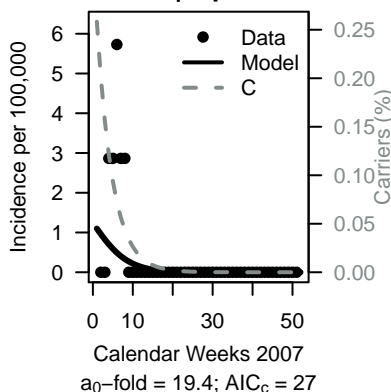
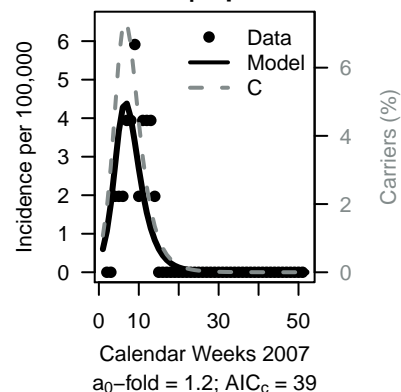
Results of model estimations using a poisson maximum likelihood approach.

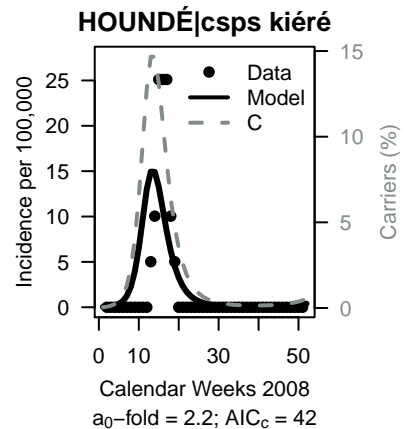
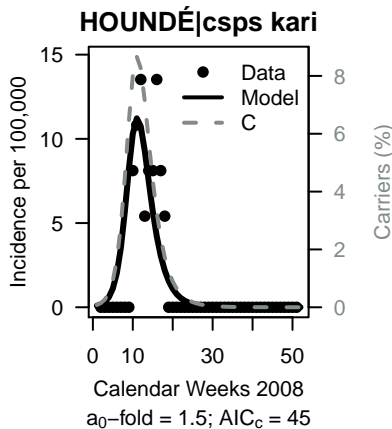
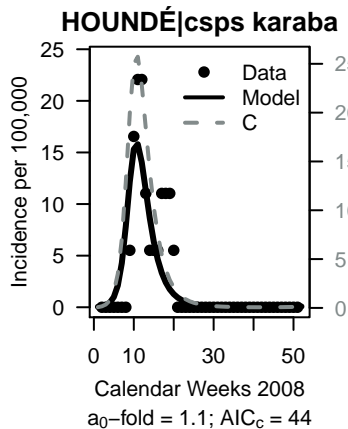
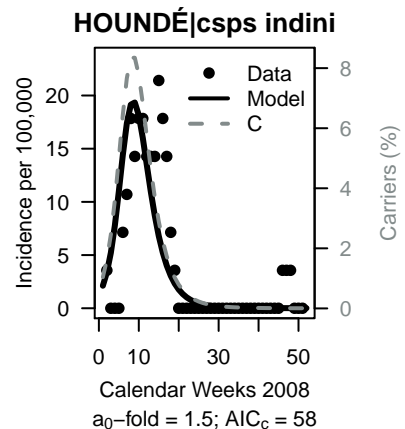
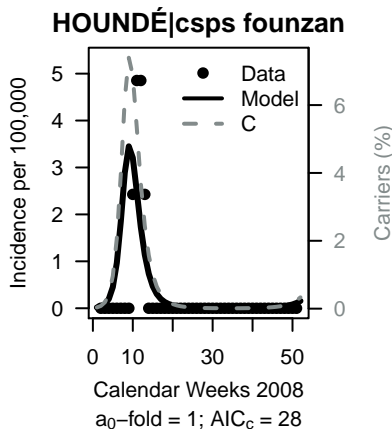
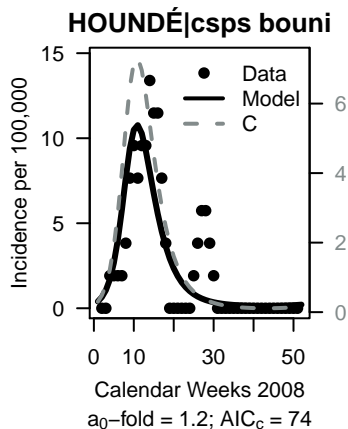
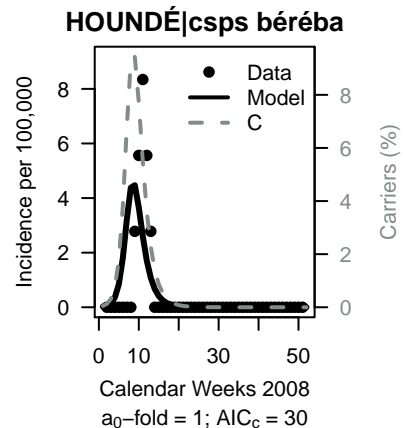
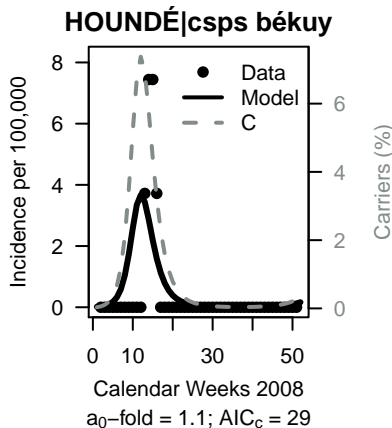
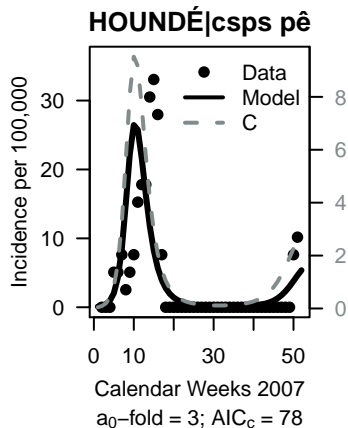
Figure 1. Model1—"inv" trajectories matching plots of simulated and observed (weekly) data, for 64 health center–years with complete data, across four health districts of Burkina faso (2004–2010).

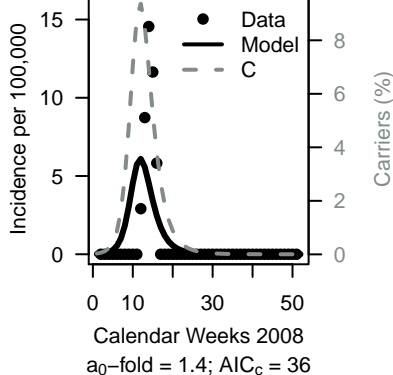
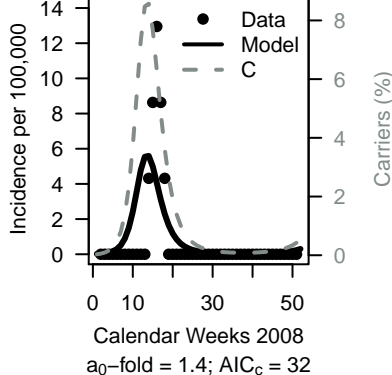
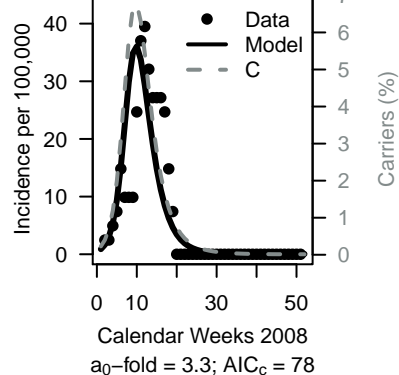
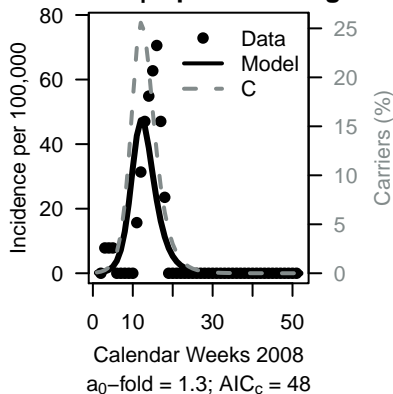
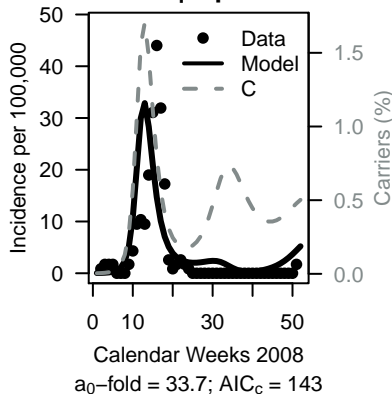
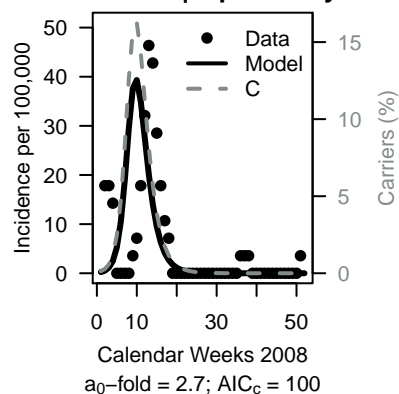
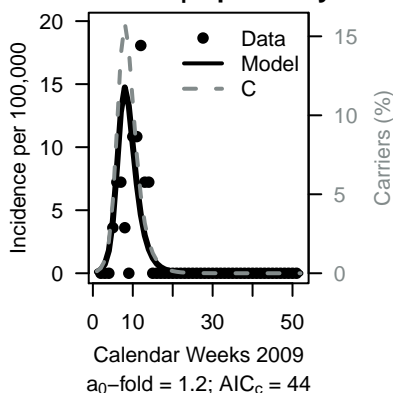
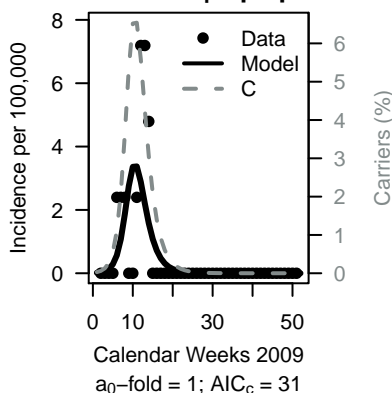
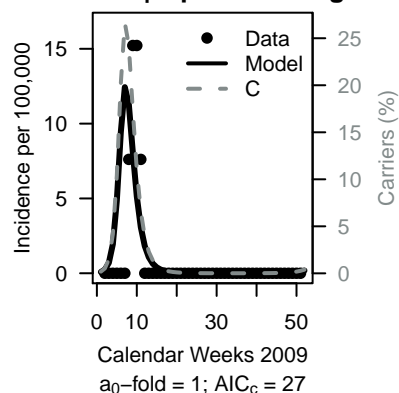
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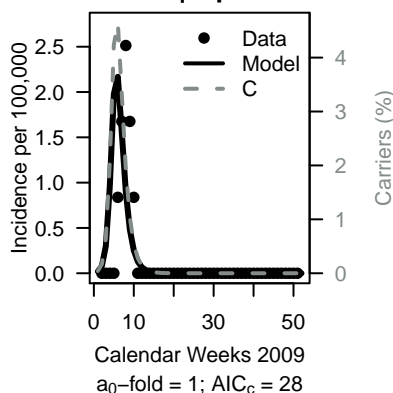
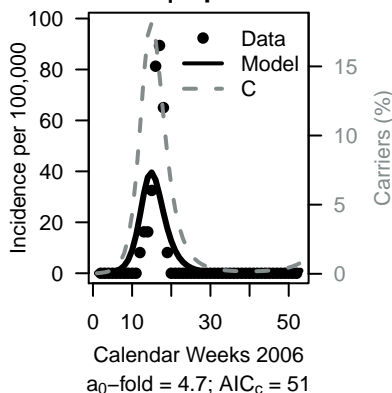
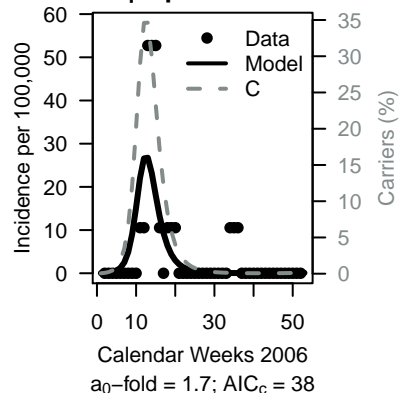
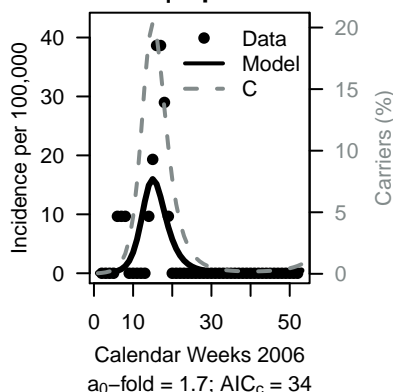
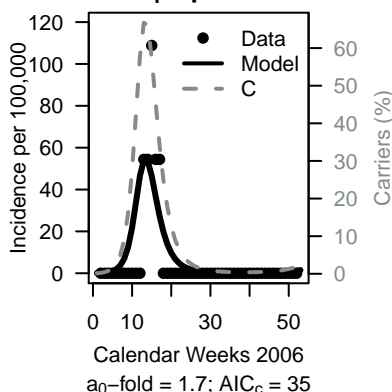
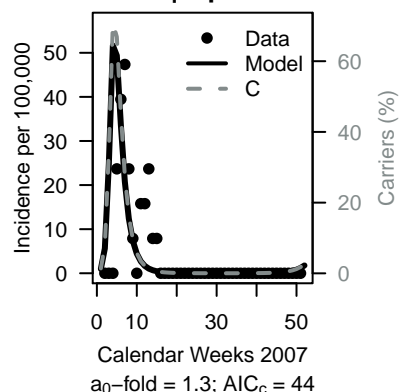
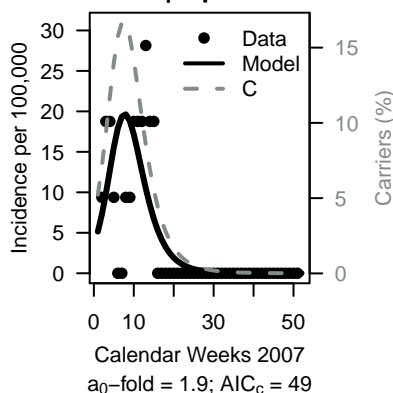
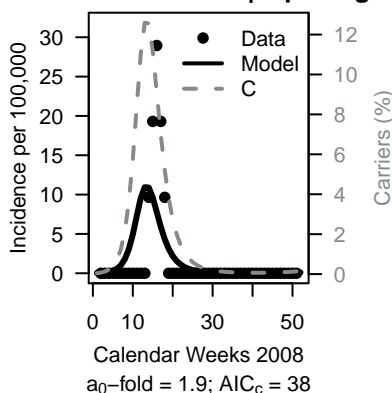
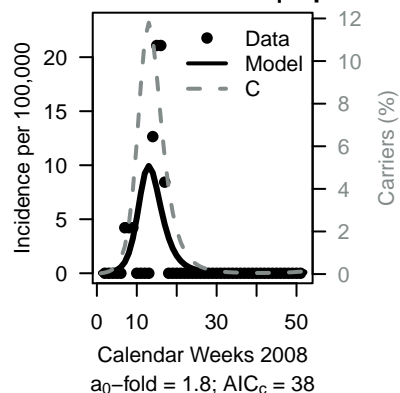
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HOUNDÉ|csps kari**HOUNDÉ|csps urbain****HOUNDÉ|csps békuy****HOUNDÉ|csps béréba****HOUNDÉ|csps bouni****HOUNDÉ|csps founzan****HOUNDÉ|csps gombéléDougou****HOUNDÉ|csps karaba****HOUNDÉ|csps kari**

HOUNDÉ|csps kiéré**HOUNDÉ|csps koti****HOUNDÉ|csps maro****HOUNDÉ|csps pê****HOUNDÉ|csps sebedougou****HOUNDÉ|csps urbain****HOUNDÉ|csps wakuy****HOUNDÉ|csps béréba****HOUNDÉ|csps bouni**



HOUNDÉ|csps koti**HOUNDÉ|csps kouloho****HOUNDÉ|csps pê****HOUNDÉ|csps sebedougou****HOUNDÉ|csps urbain****HOUNDÉ|csps wakuy****HOUNDÉ|csps békuy****HOUNDÉ|csps pê****HOUNDÉ|csps sebedougou**

HOUNDÉ|csps urbain**LENA|csps balla****LENA|csps kwekwesso****LENA|csps sissa****LENA|csps tiarako****LENA|csps balla****LENA|csps sissa****KARANGASSO VIGUE|csps deguel****KARANGASSO VIGUE|csps wara**

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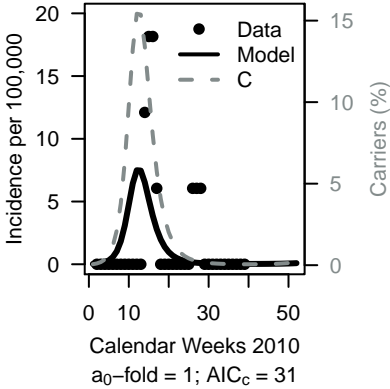
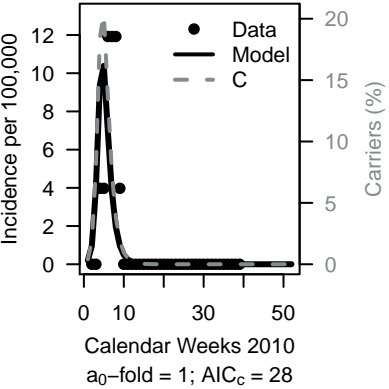
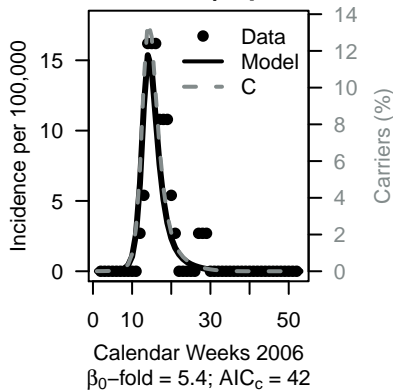
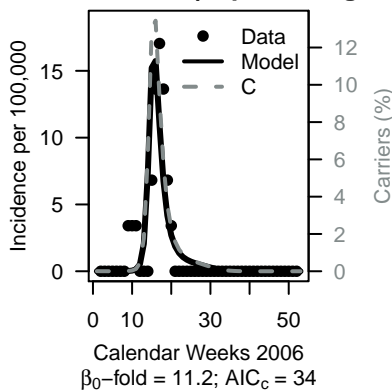
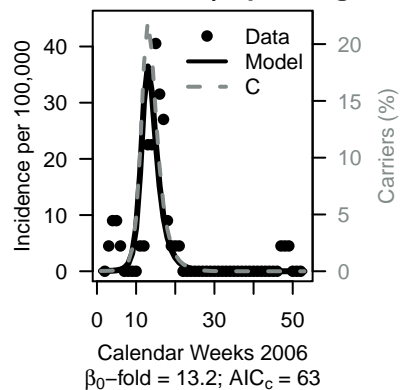
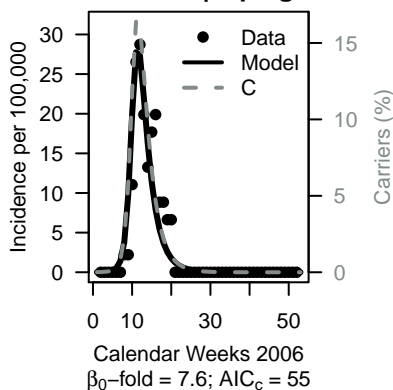
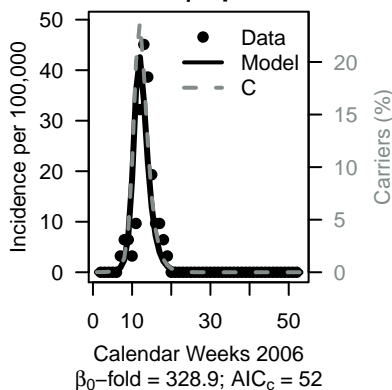
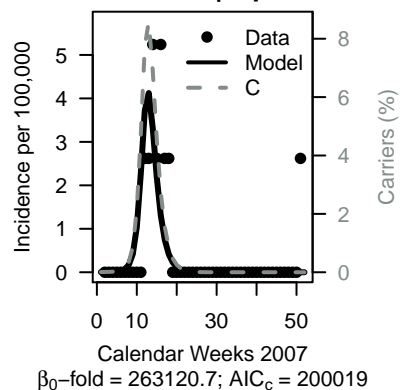
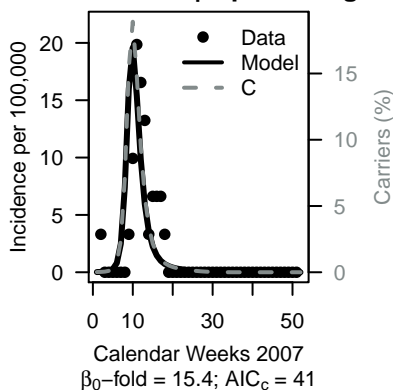
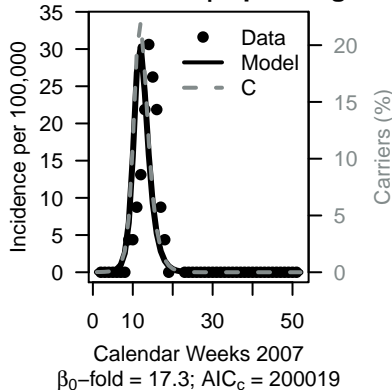
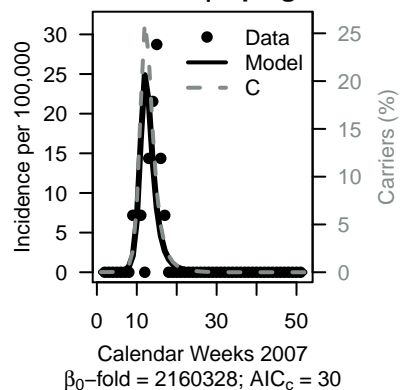
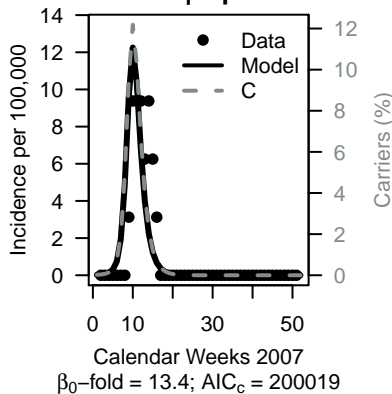
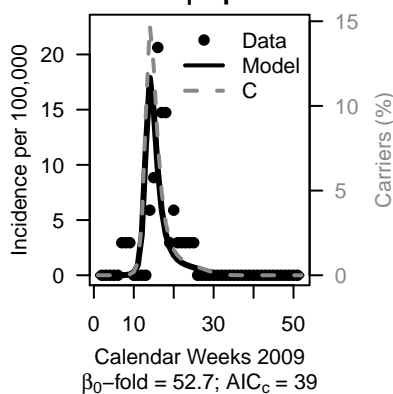
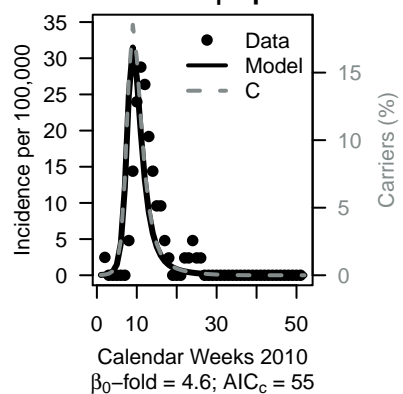
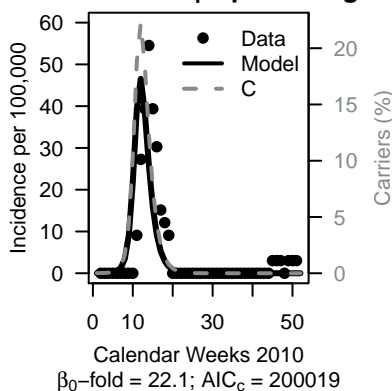
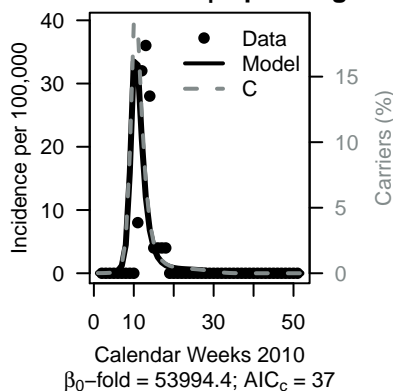
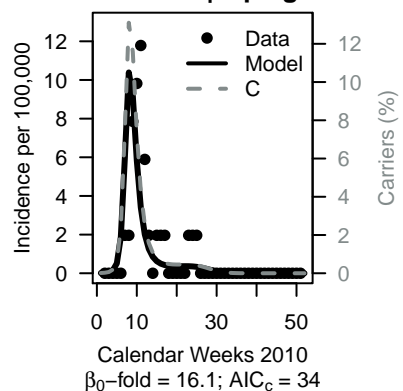
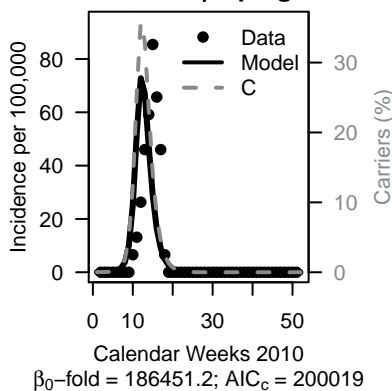
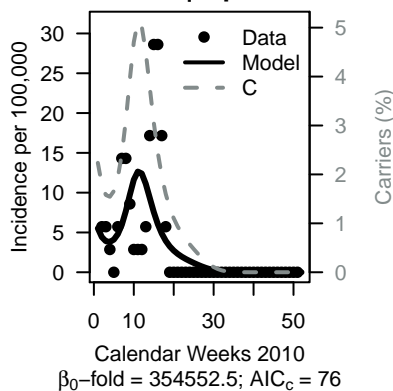
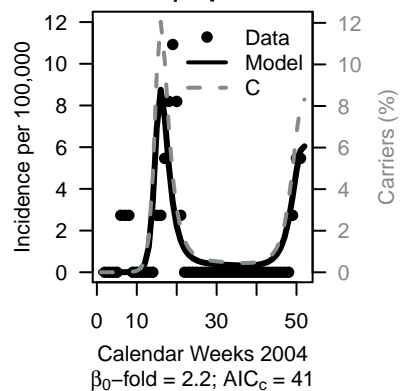
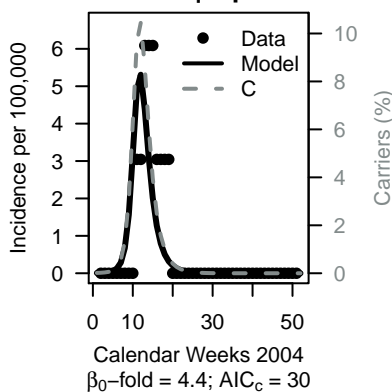
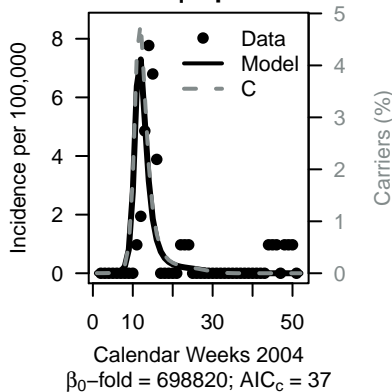
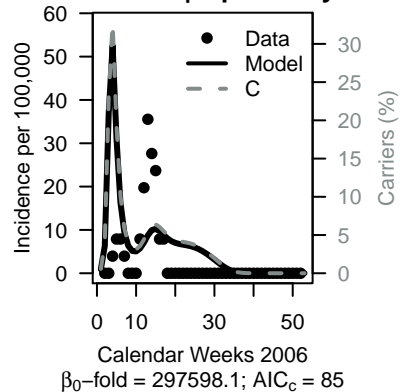
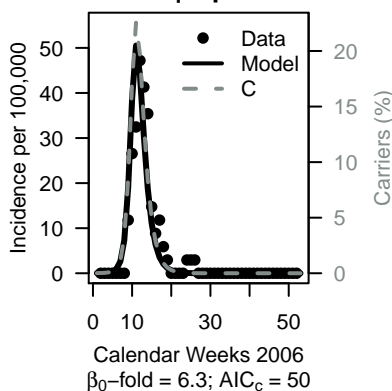
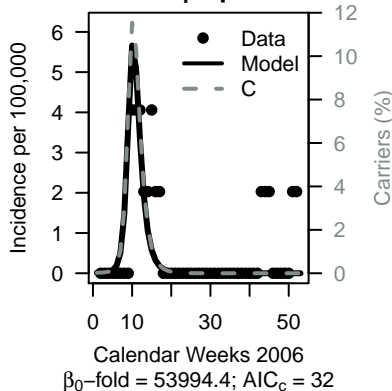
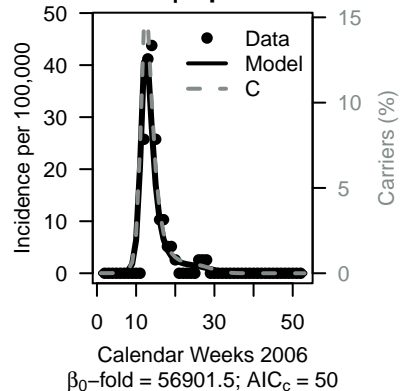
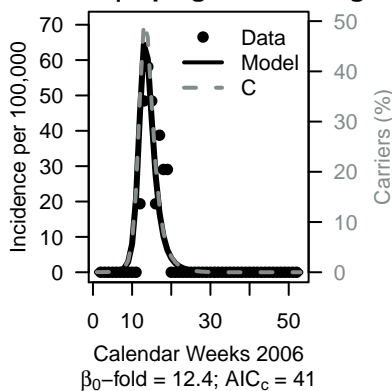
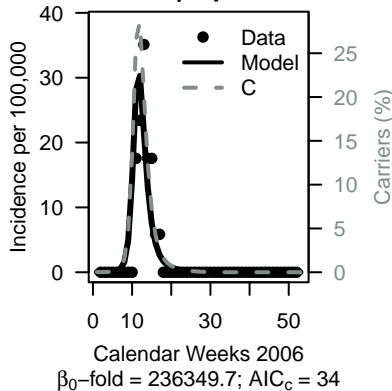
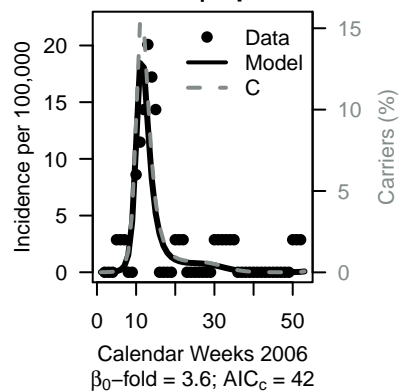
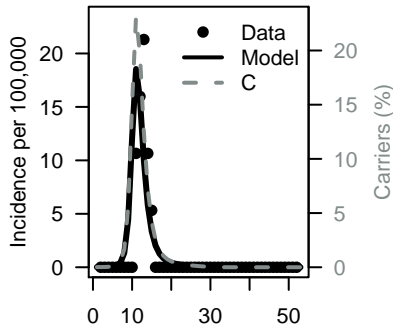


Figure 2. Model2—"transm" trajectories matching plots of simulated and observed (weekly) data, for 64 health center–years with complete data, across four health districts of Burkina faso (2004–2010).

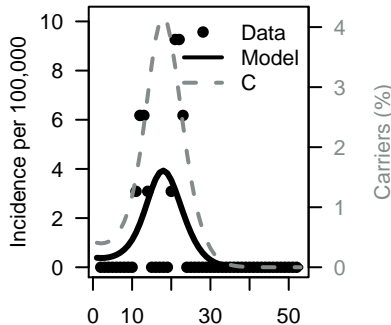
SEGUENEGA|csps bema**SEGUENEGA|csps berenga****SEGUENEGA|csps bouga****SEGUENEGA|csps gambo****SEGUENEGA|csps kossouka****SEGUENEGA|csps bema****SEGUENEGA|csps berenga****SEGUENEGA|csps bouga****SEGUENEGA|csps goubré**

SEGUENEGA|csps kossouka**SEGUENEGA|csps kossouka****SEGUENEGA|csps bema****SEGUENEGA|csps berenga****SEGUENEGA|csps bouga****SEGUENEGA|csps gambo****SEGUENEGA|csps goubré****SEGUENEGA|csps kossouka****HOUNDÉ|csps founzan**

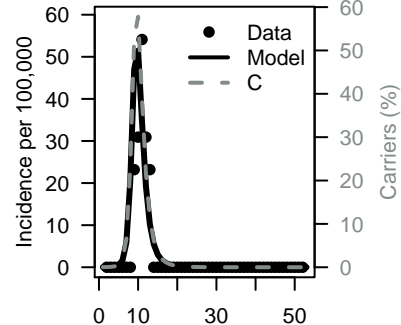
HOUNDÉ|csps kari**HOUNDÉ|csps urbain****HOUNDÉ|csps békuy****HOUNDÉ|csps béréba****HOUNDÉ|csps bouni****HOUNDÉ|csps founzan****HOUNDÉ|csps gombéléDougou****HOUNDÉ|csps karaba****HOUNDÉ|csps kari**

HOUNDÉ|csps kiéré

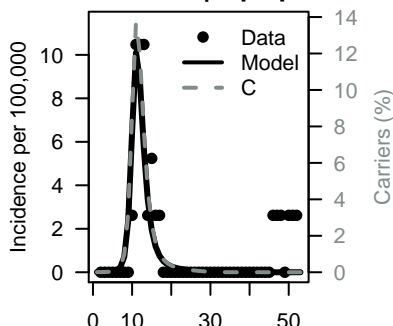
Calendar Weeks 2006
 β_0 -fold = 364853.3; AIC_c = 30

HOUNDÉ|csps koti

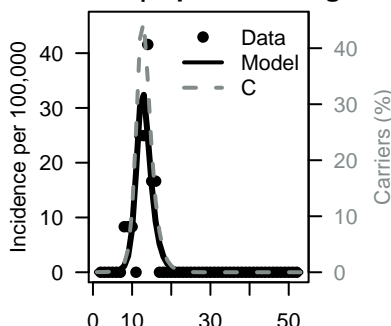
Calendar Weeks 2006
 β_0 -fold = 3.3; AIC_c = 44

HOUNDÉ|csps maro

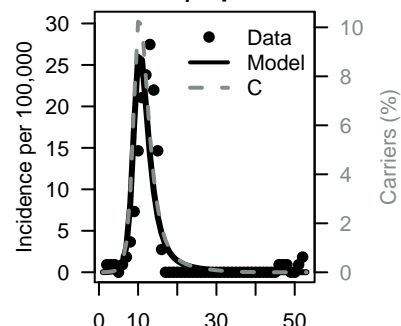
Calendar Weeks 2006
 β_0 -fold = 287847.9; AIC_c = 200019

HOUNDÉ|csps pê

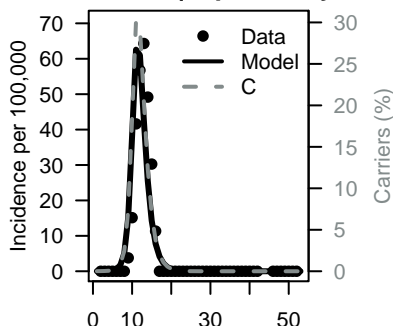
Calendar Weeks 2006
 β_0 -fold = 149578.8; AIC_c = 32

HOUNDÉ|csps sebedougou

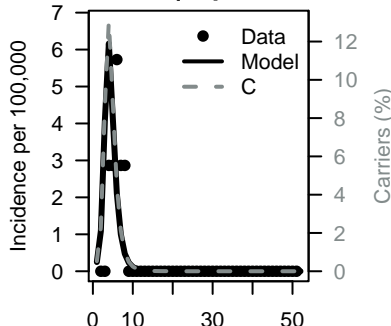
Calendar Weeks 2006
 β_0 -fold = 13.5; AIC_c = 33

HOUNDÉ|csps urbain

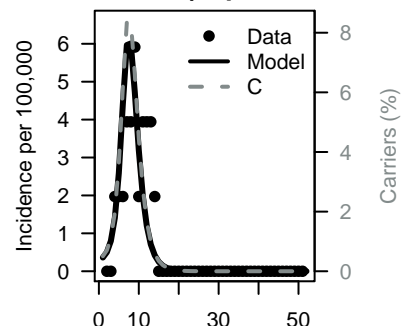
Calendar Weeks 2006
 β_0 -fold = 3.3; AIC_c = 84

HOUNDÉ|csps wakuy

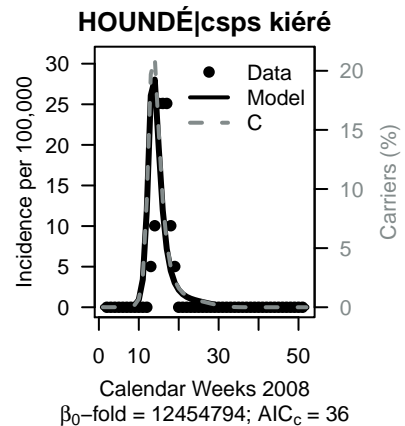
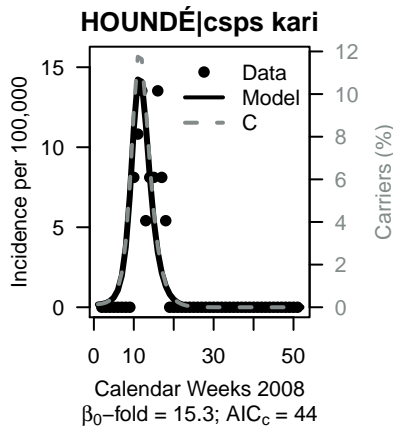
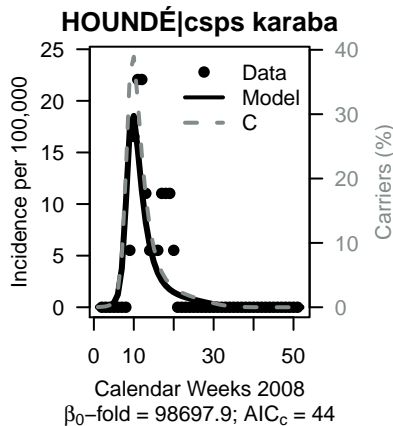
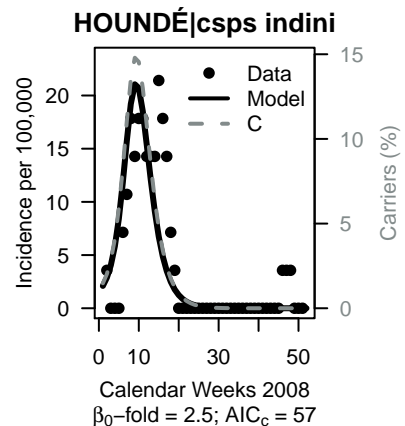
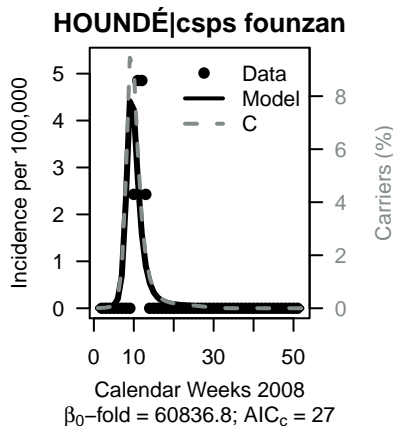
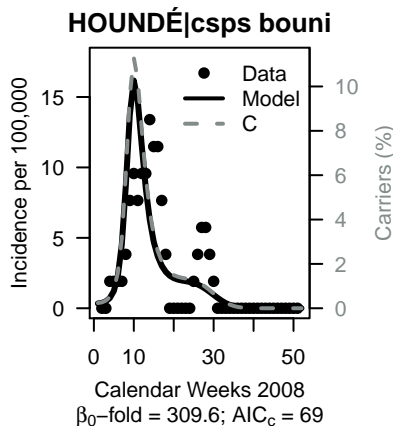
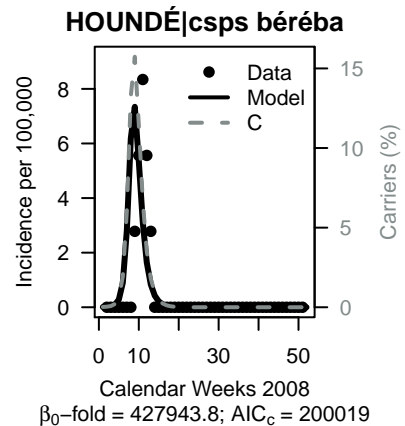
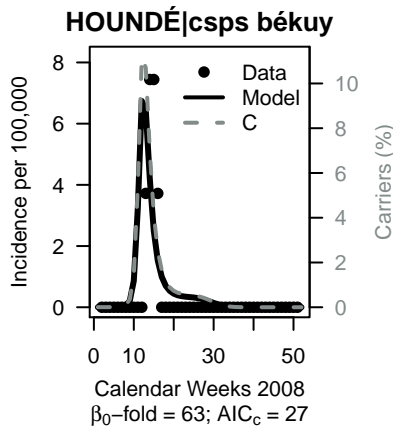
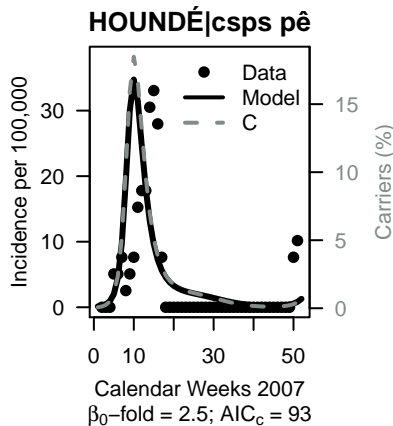
Calendar Weeks 2006
 β_0 -fold = 39.1; AIC_c = 45

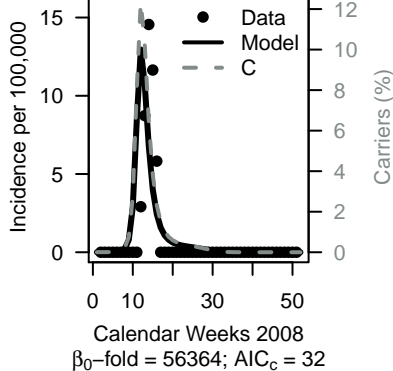
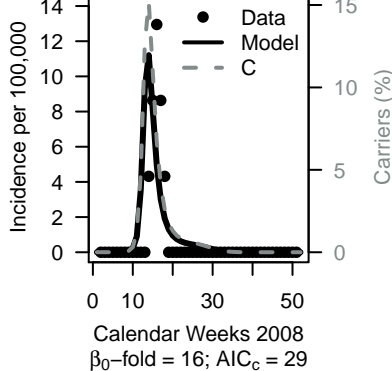
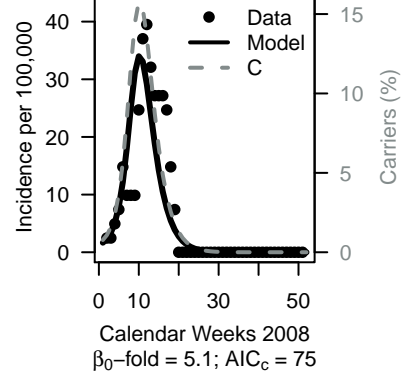
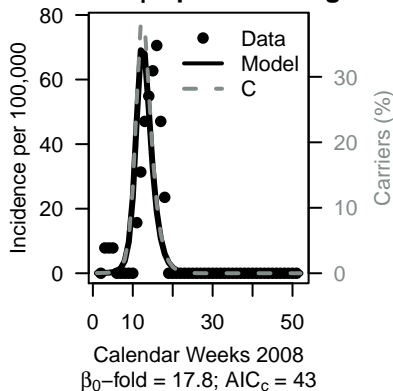
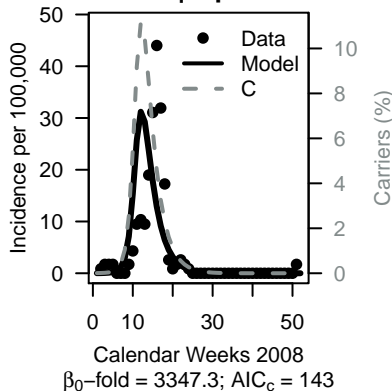
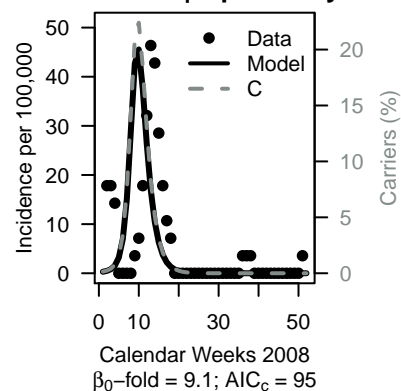
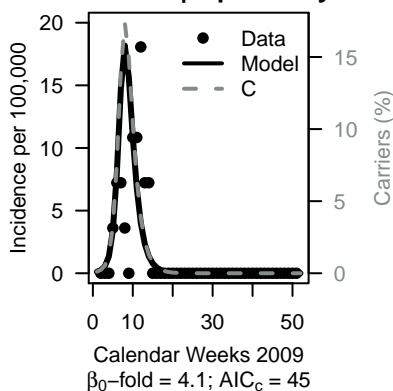
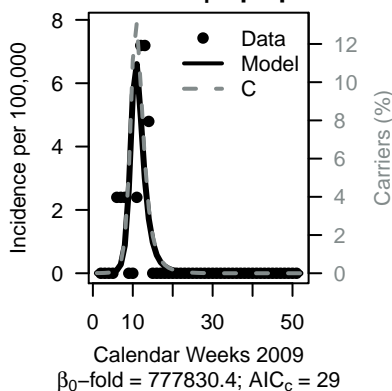
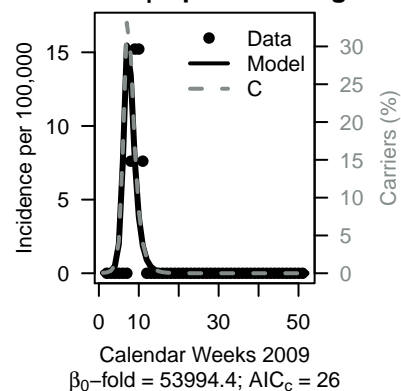
HOUNDÉ|csps béréba

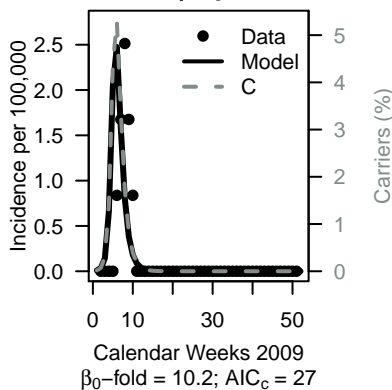
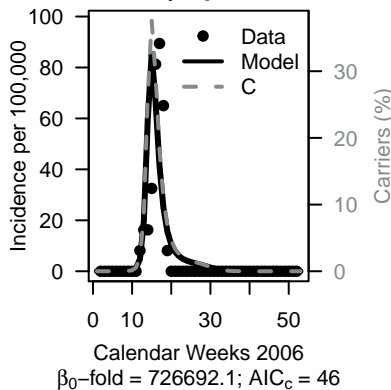
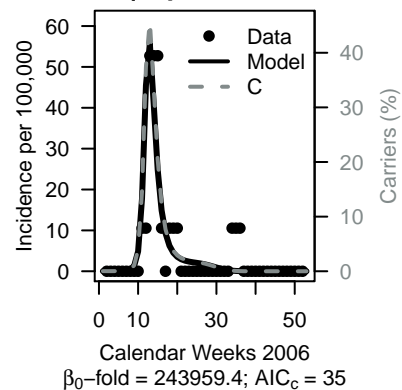
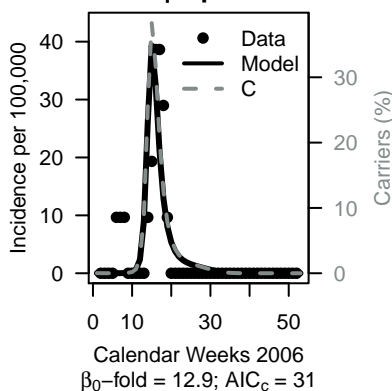
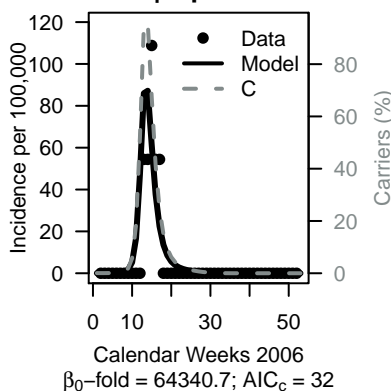
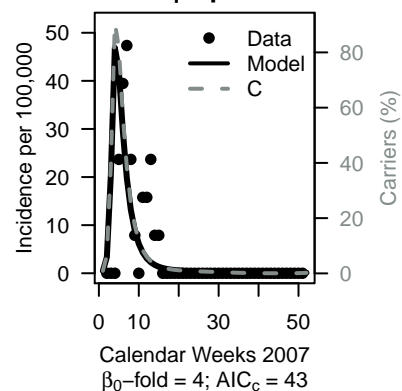
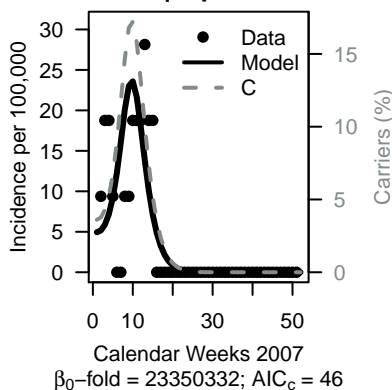
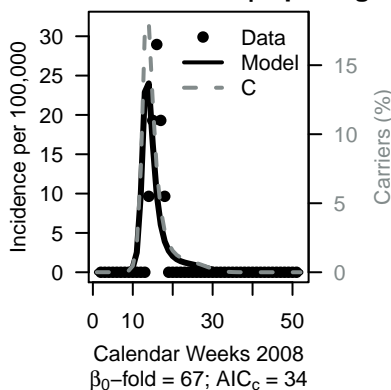
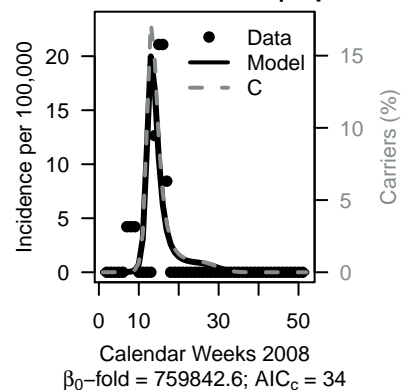
Calendar Weeks 2007
 β_0 -fold = 1650972; AIC_c = 25

HOUNDÉ|csps bouni

Calendar Weeks 2007
 β_0 -fold = 53994.4; AIC_c = 37



HOUNDÉ|csps koti**HOUNDÉ|csps kouloho****HOUNDÉ|csps pè****HOUNDÉ|csps sebedougou****HOUNDÉ|csps urbain****HOUNDÉ|csps wakuy****HOUNDÉ|csps békuy****HOUNDÉ|csps pè****HOUNDÉ|csps sebedougou**

HOUNDÉ|csps urbain**LENA|csps balla****LENA|csps kwekwesso****LENA|csps sissa****LENA|csps tiarako****LENA|csps balla****LENA|csps sissa****KARANGASSO VIGUE|csps deguel****KARANGASSO VIGUE|csps wara**

KARANGASSO VIGUE|csps wara KARANGASSO VIGUE|dispe dioss

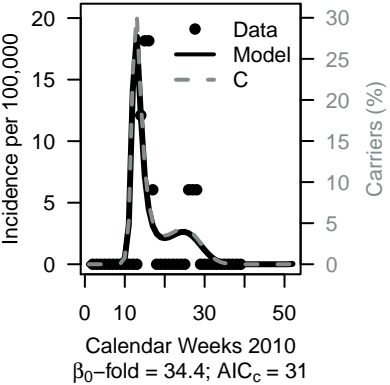
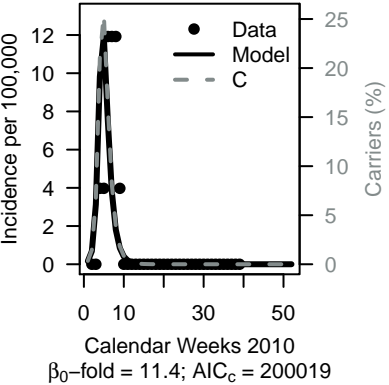
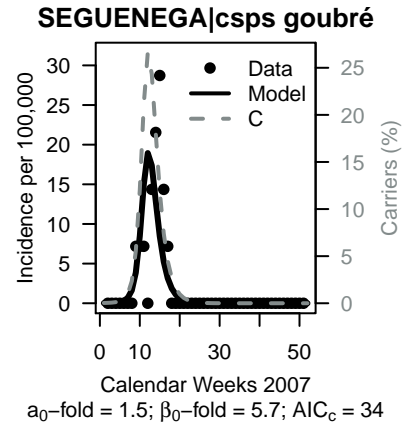
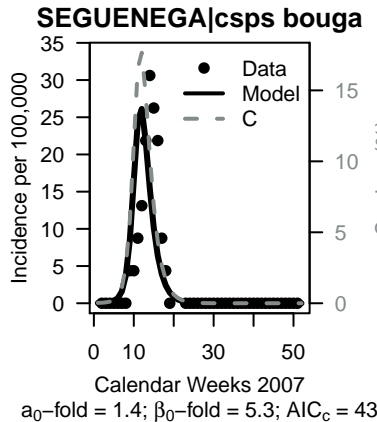
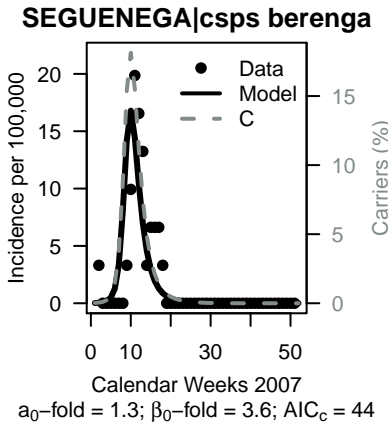
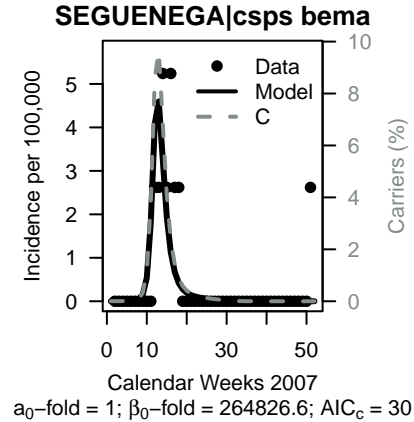
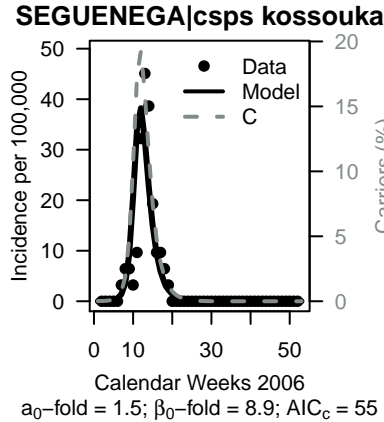
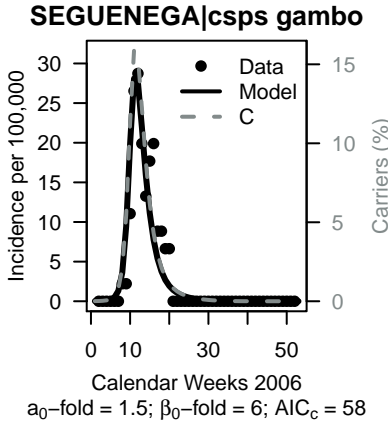
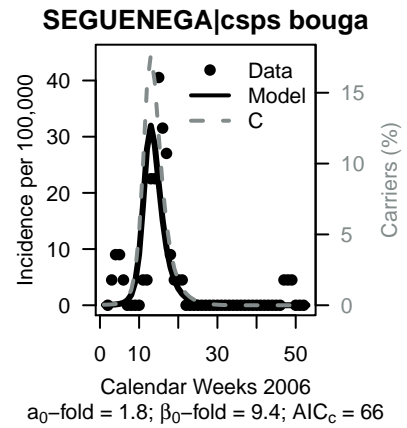
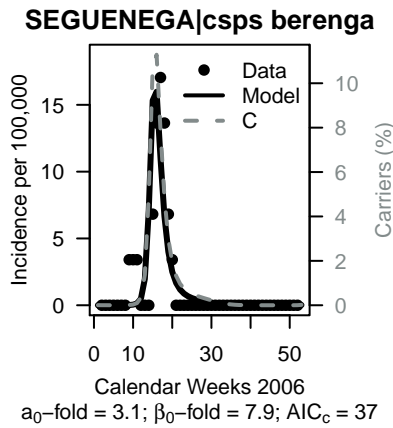
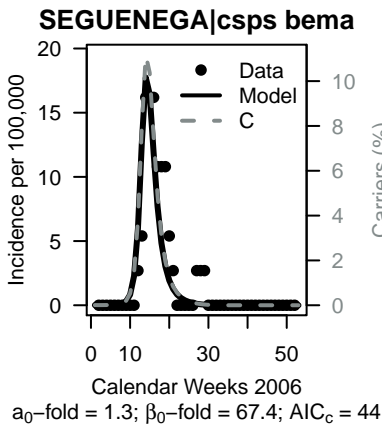
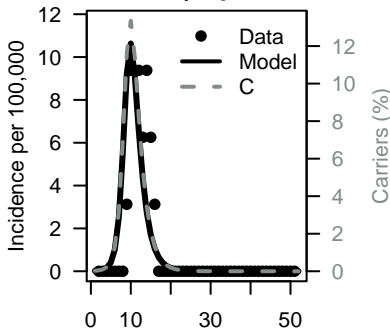
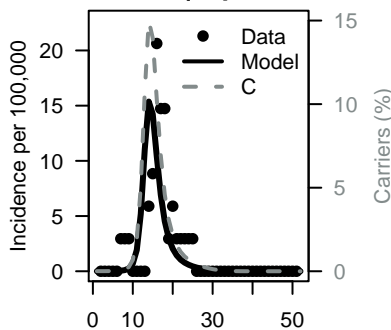


Figure 3. Model3—"inv-transm" trajectories matching plots of simulated and observed (weekly) data, for 64 health center-years with complete data, across four health districts of Burkina faso (2004–2010).

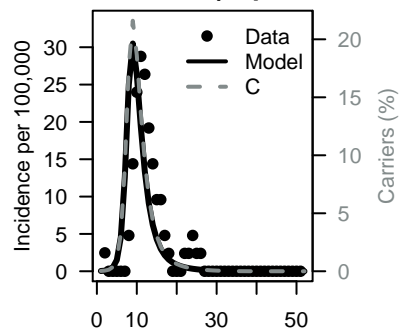


SEGUENEGA|csps kossouka

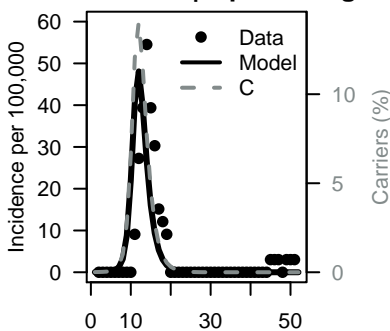
Calendar Weeks 2007
 a_0 -fold = 1.2; β_0 -fold = 3.5; $AIC_c = 38$

SEGUENEGA|csps kossouka

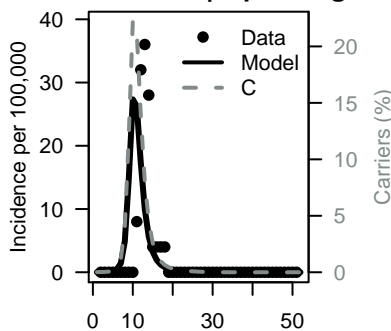
Calendar Weeks 2009
 a_0 -fold = 1.8; β_0 -fold = 6.7; $AIC_c = 42$

SEGUENEGA|csps bema

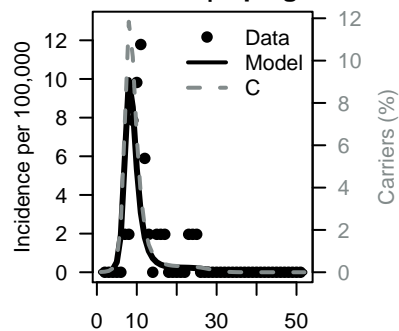
Calendar Weeks 2010
 a_0 -fold = 1; β_0 -fold = 5.4; $AIC_c = 58$

SEGUENEGA|csps berenga

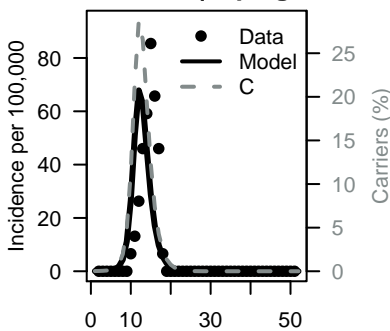
Calendar Weeks 2010
 a_0 -fold = 4; β_0 -fold = 68.8; $AIC_c = 50$

SEGUENEGA|csps bouga

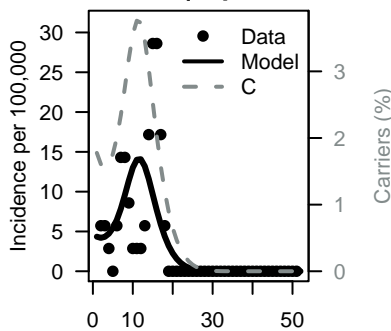
Calendar Weeks 2010
 a_0 -fold = 1.2; β_0 -fold = 109731.3; $AIC_c = 39$

SEGUENEGA|csps gambo

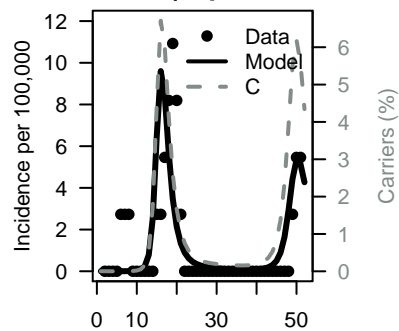
Calendar Weeks 2010
 a_0 -fold = 1; β_0 -fold = 13.6; $AIC_c = 36$

SEGUENEGA|csps goubré

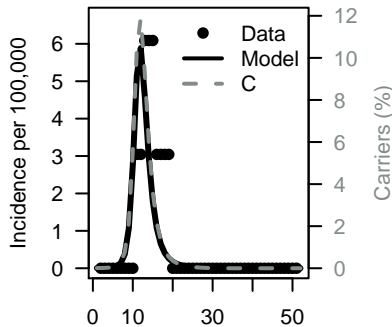
Calendar Weeks 2010
 a_0 -fold = 2.6; β_0 -fold = 124560.3; $AIC_c = 47$

SEGUENEGA|csps kossouka

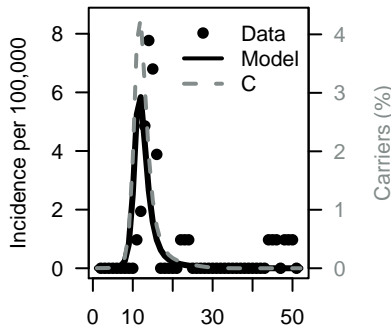
Calendar Weeks 2010
 a_0 -fold = 3.6; β_0 -fold = 13.5; $AIC_c = 74$

HOUNDÉ|csps founzan

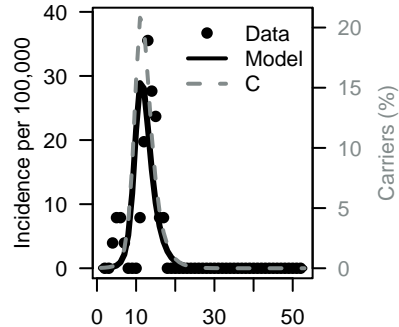
Calendar Weeks 2004
 a_0 -fold = 3.2; β_0 -fold = 2.4; $AIC_c = 41$

HOUNDÉ|csps kari

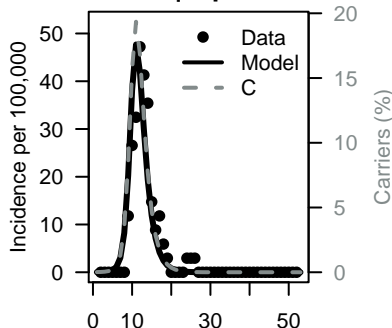
a_0 -fold = 1.1; β_0 -fold = 9; $AIC_c = 32$

HOUNDÉ|csps urbain

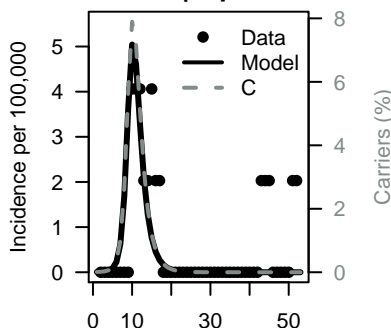
a_0 -fold = 1.4; β_0 -fold = 1627949; $AIC_c = 39$

HOUNDÉ|csps békuy

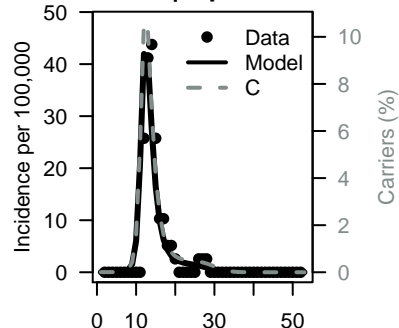
a_0 -fold = 1.3; β_0 -fold = 5; $AIC_c = 61$

HOUNDÉ|csps béréba

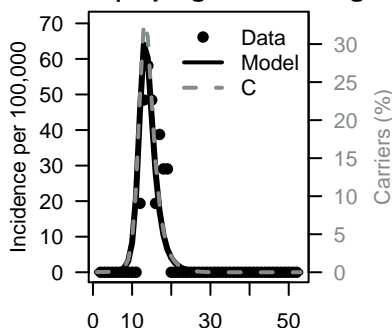
a_0 -fold = 2.1; β_0 -fold = 4.6; $AIC_c = 53$

HOUNDÉ|csps bouni

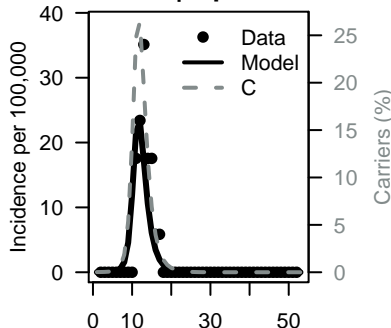
a_0 -fold = 1.2; β_0 -fold = 12.1; $AIC_c = 35$

HOUNDÉ|csps founzan

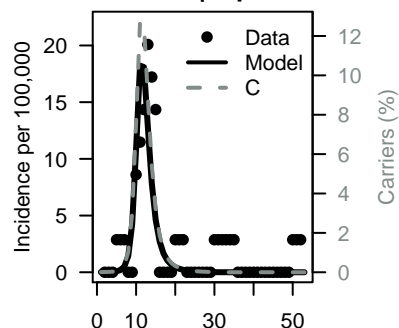
a_0 -fold = 3.7; β_0 -fold = 42.8; $AIC_c = 52$

HOUNDÉ|csps gombéléDougou

a_0 -fold = 1; β_0 -fold = 35389.6; $AIC_c = 44$

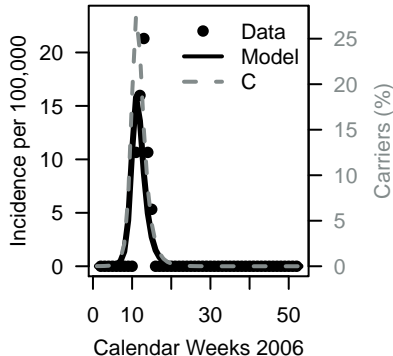
HOUNDÉ|csps karaba

a_0 -fold = 1.5; β_0 -fold = 19.7; $AIC_c = 36$

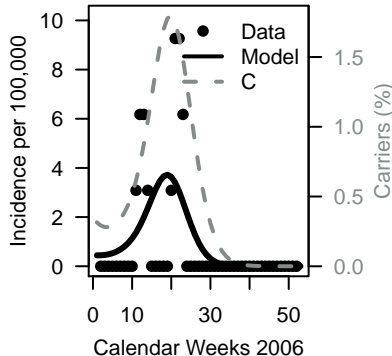
HOUNDÉ|csps kari

a_0 -fold = 1.3; β_0 -fold = 10; $AIC_c = 42$

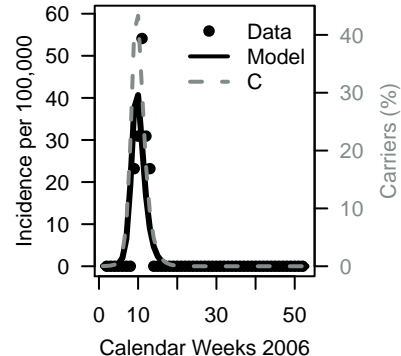
HOUNDÉ|csps kiéré



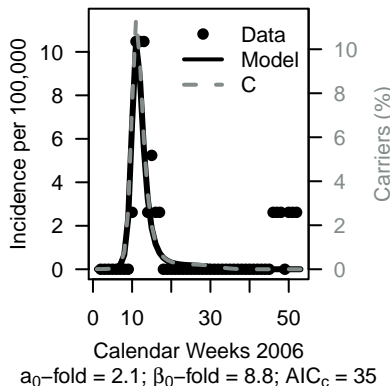
HOUNDÉ|csps koti



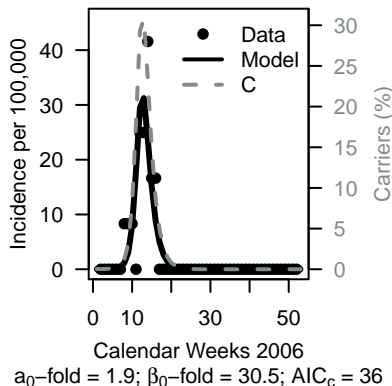
HOUNDÉ|csps maro



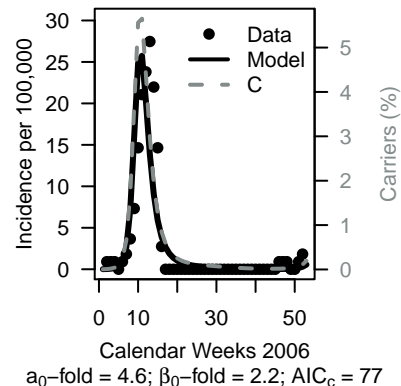
HOUNDÉ|csps pê



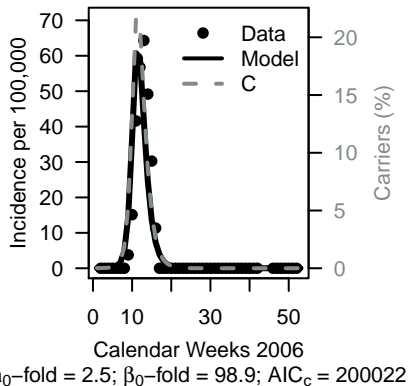
HOUNDÉ|csps sebedougou



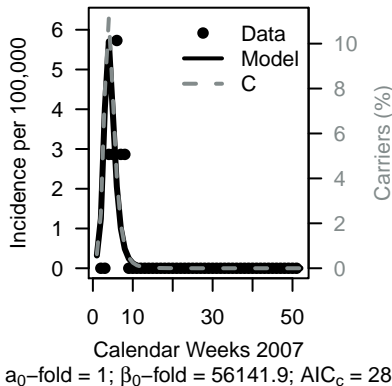
HOUNDÉ|csps urbain



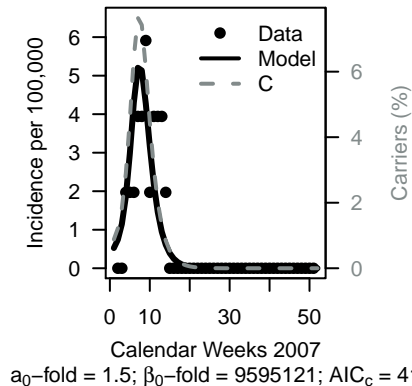
HOUNDÉ|csps wakuy

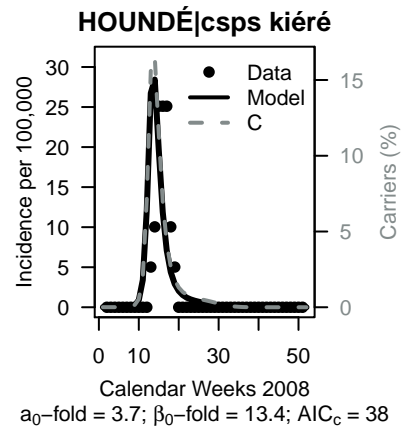
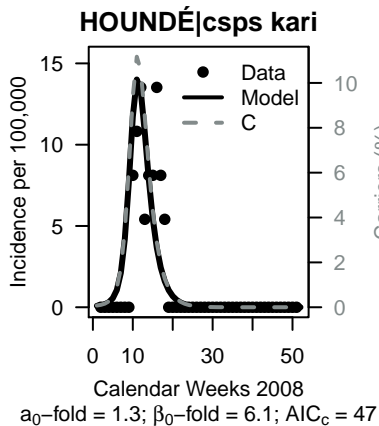
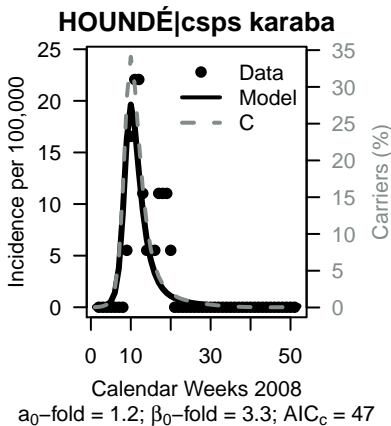
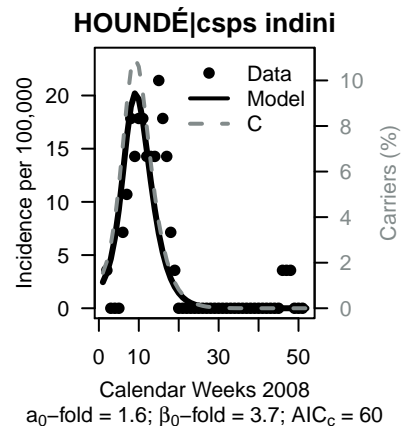
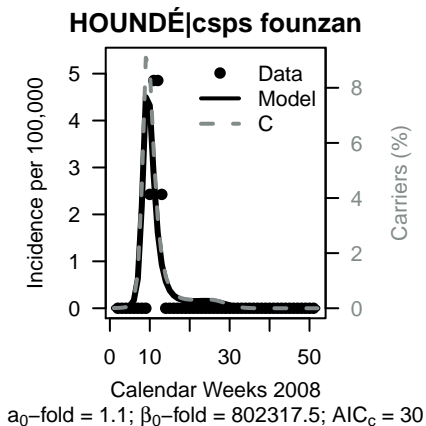
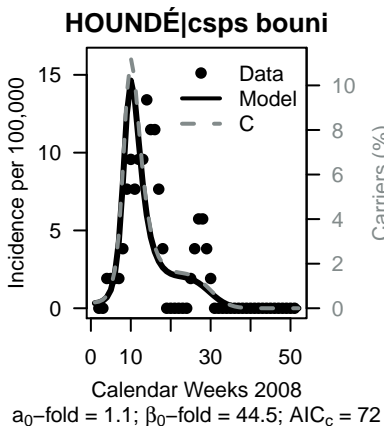
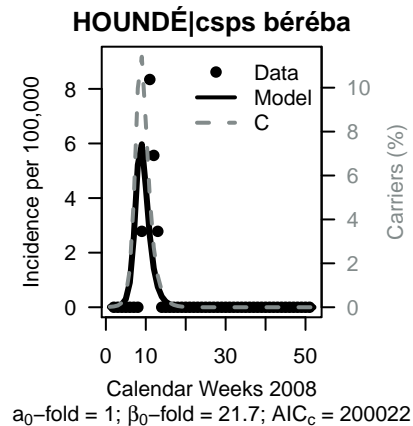
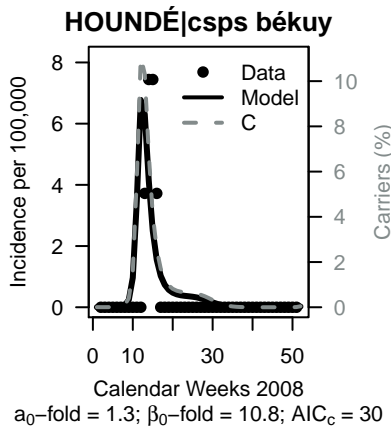
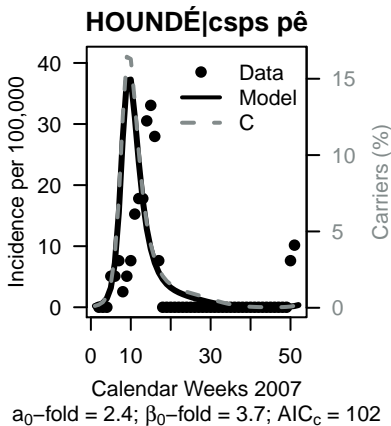


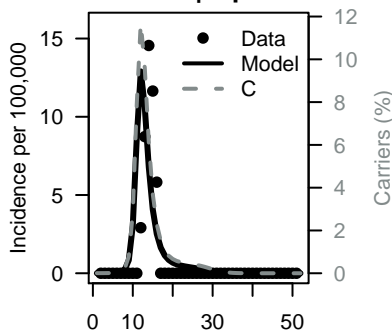
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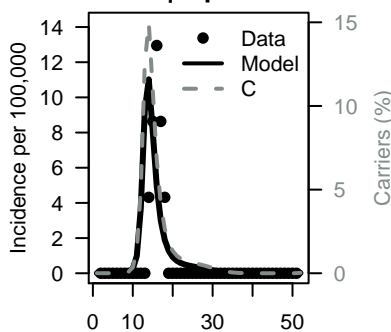
HOUNDÉ|csps bouni



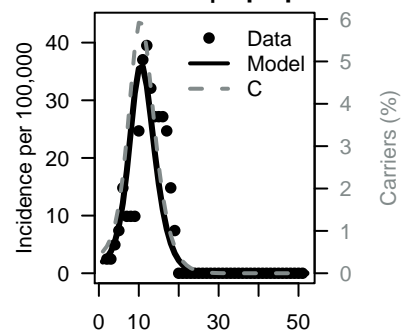


HOUNDÉ|csps koti

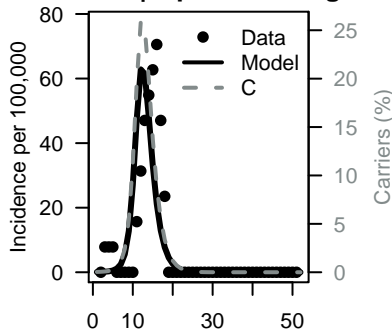
Calendar Weeks 2008
 $a_0\text{-fold} = 2.4$; $\beta_0\text{-fold} = 13$; $AIC_c = 35$

HOUNDÉ|csps kouloho

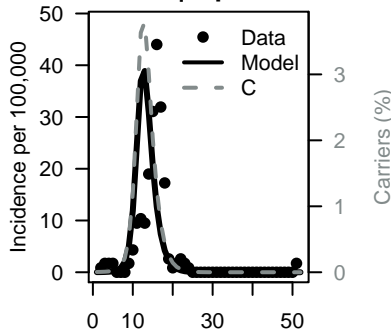
Calendar Weeks 2008
 $a_0\text{-fold} = 1.6$; $\beta_0\text{-fold} = 7.8$; $AIC_c = 32$

HOUNDÉ|csps pê

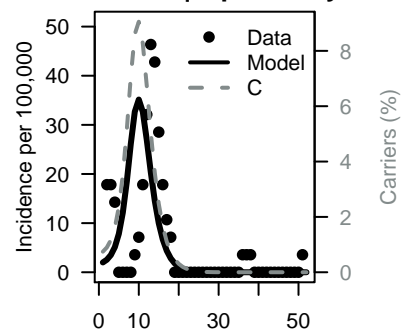
Calendar Weeks 2008
 $a_0\text{-fold} = 5.4$; $\beta_0\text{-fold} = 4$; $AIC_c = 76$

HOUNDÉ|csps sebedougou

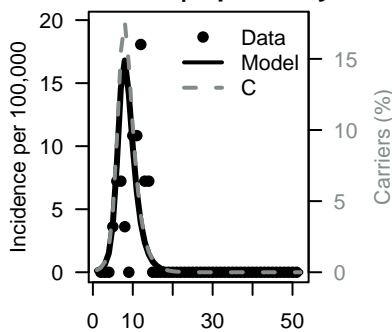
Calendar Weeks 2008
 $a_0\text{-fold} = 2.1$; $\beta_0\text{-fold} = 7.4$; $AIC_c = 47$

HOUNDÉ|csps urbain

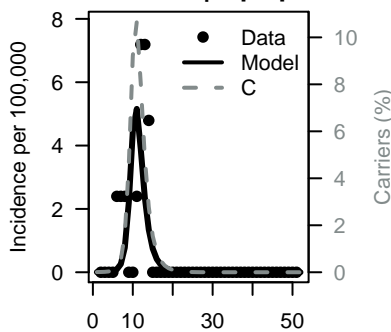
Calendar Weeks 2008
 $a_0\text{-fold} = 6.8$; $\beta_0\text{-fold} = 67$; $AIC_c = 162$

HOUNDÉ|csps wakuy

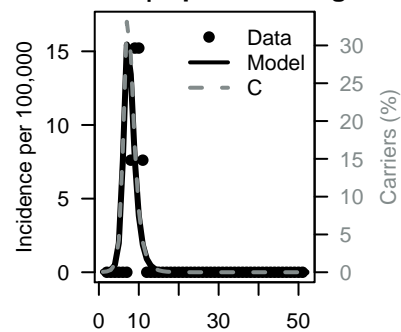
Calendar Weeks 2008
 $a_0\text{-fold} = 3$; $\beta_0\text{-fold} = 6.3$; $AIC_c = 82$

HOUNDÉ|csps békuy

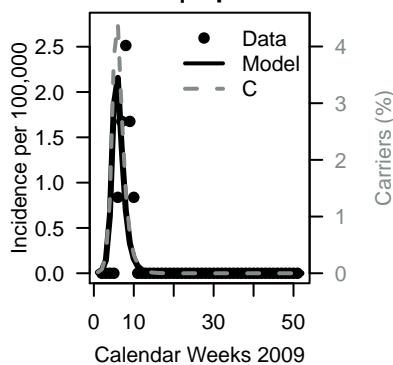
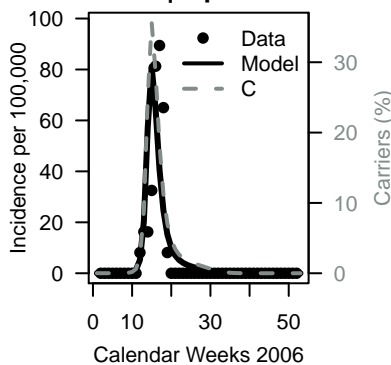
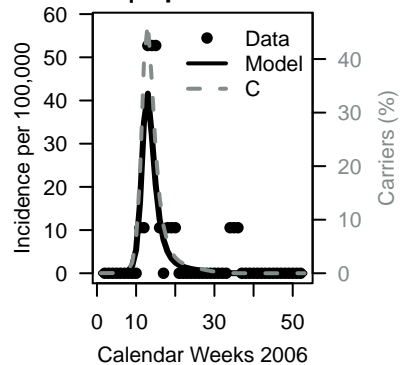
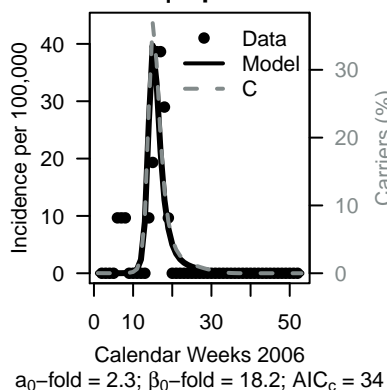
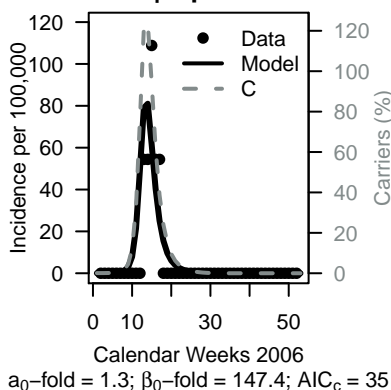
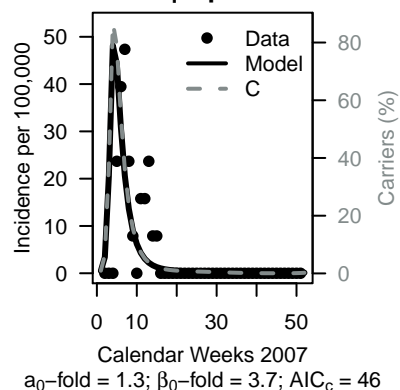
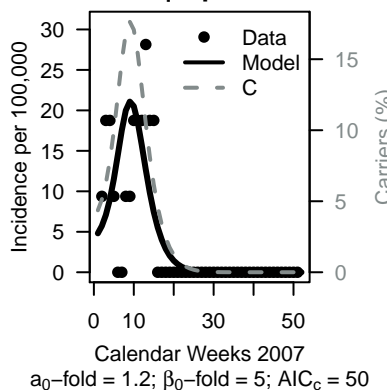
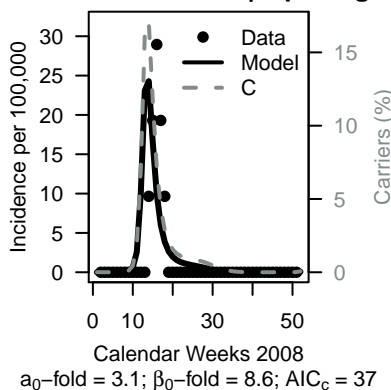
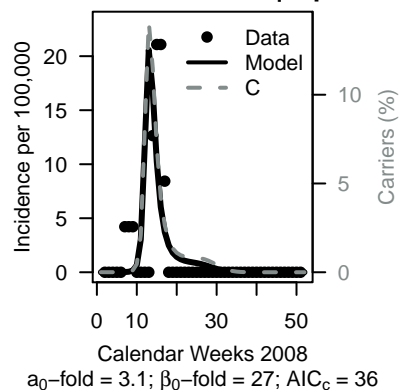
Calendar Weeks 2009
 $a_0\text{-fold} = 1.6$; $\beta_0\text{-fold} = 3.8$; $AIC_c = 48$

HOUNDÉ|csps pê

Calendar Weeks 2009
 $a_0\text{-fold} = 1$; $\beta_0\text{-fold} = 513.4$; $AIC_c = 200022$

HOUNDÉ|csps sebedougou

Calendar Weeks 2009
 $a_0\text{-fold} = 1$; $\beta_0\text{-fold} = 53994.4$; $AIC_c = 29$

HOUNDÉ|csps urbain**LENA|csps balla****LENA|csps kwekwesso****LENA|csps sissa****LENA|csps tiarako****LENA|csps balla****LENA|csps sissa****KARANGASSO VIGUE|csps deguel****KARANGASSO VIGUE|csps wara**

KARANGASSO VIGUE|csps wara KARANGASSO VIGUE|dispe dioss

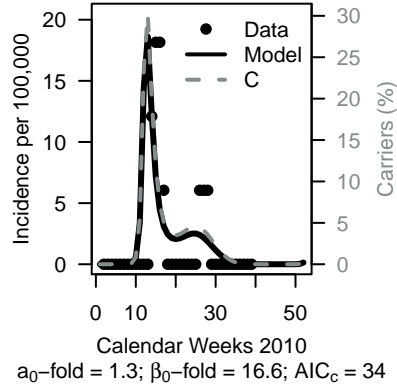
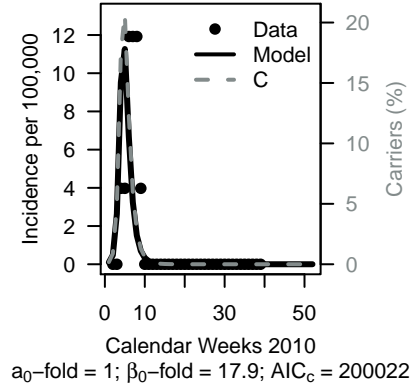
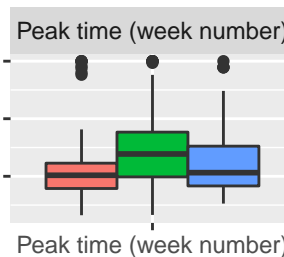
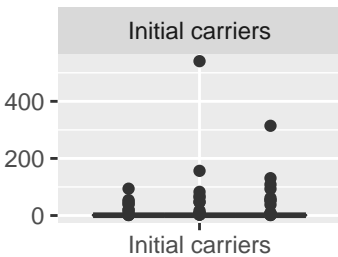
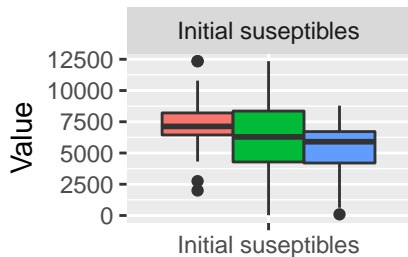
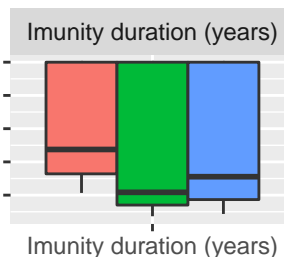
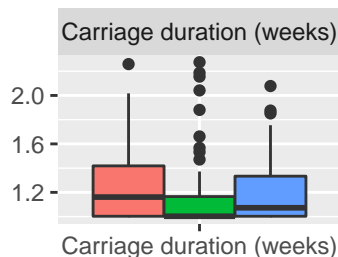
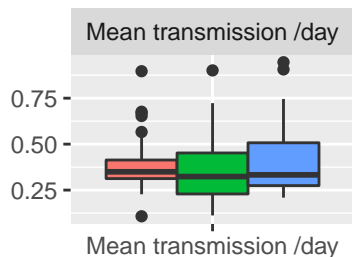
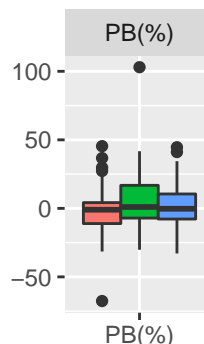
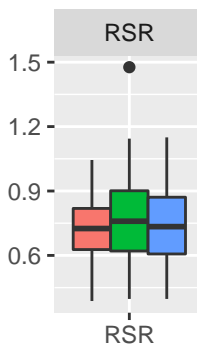
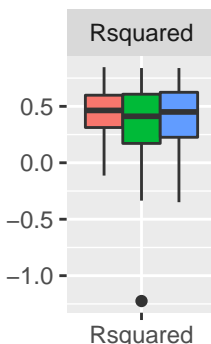
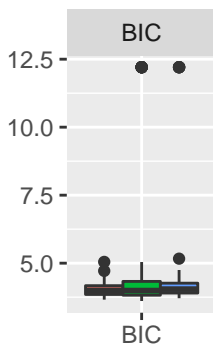
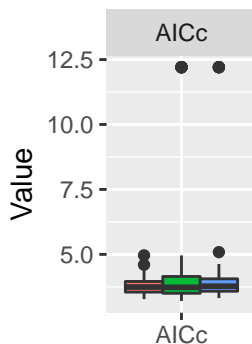
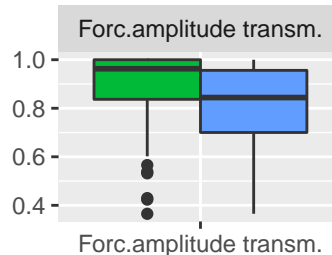
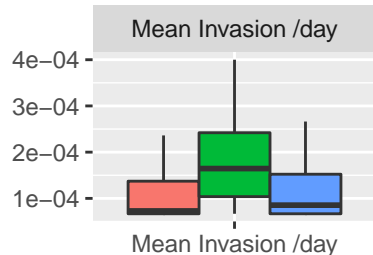
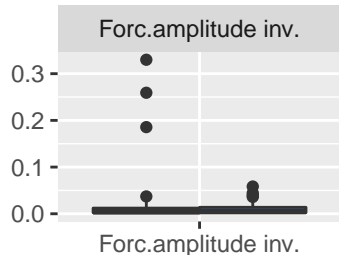


Figure 4. Distribution of parameters estimates and models performance stats, for 64 health center–years with complete data, across four health districts of Burkina faso (2004–2010).



Models

- model1
- model2
- model3



Models

- model1
- model2
- model3