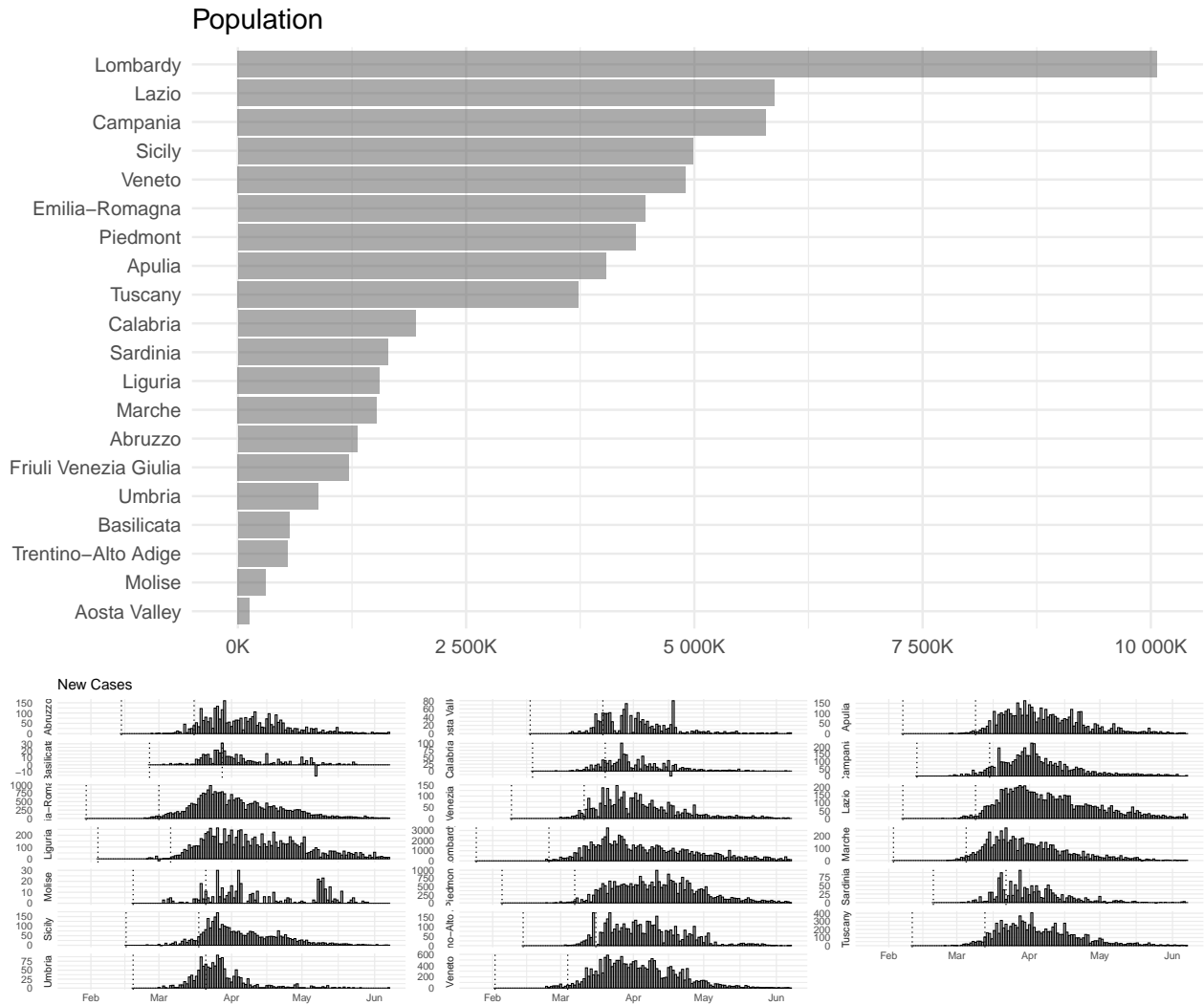
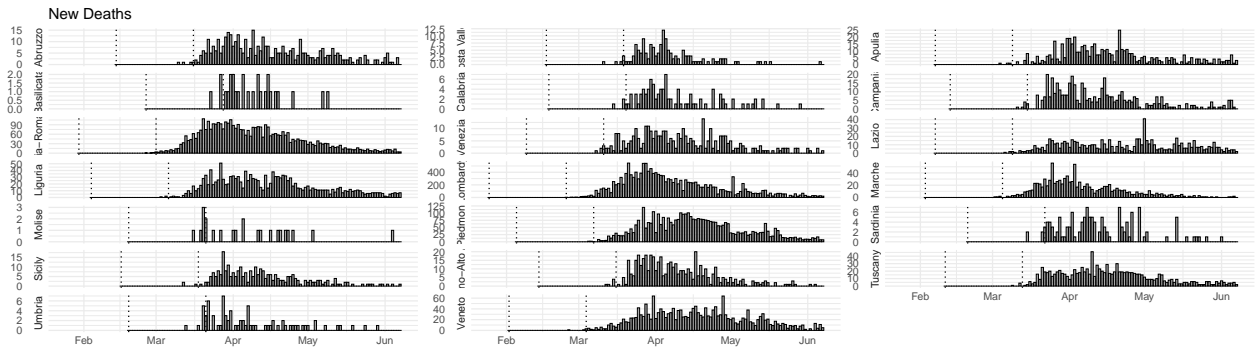


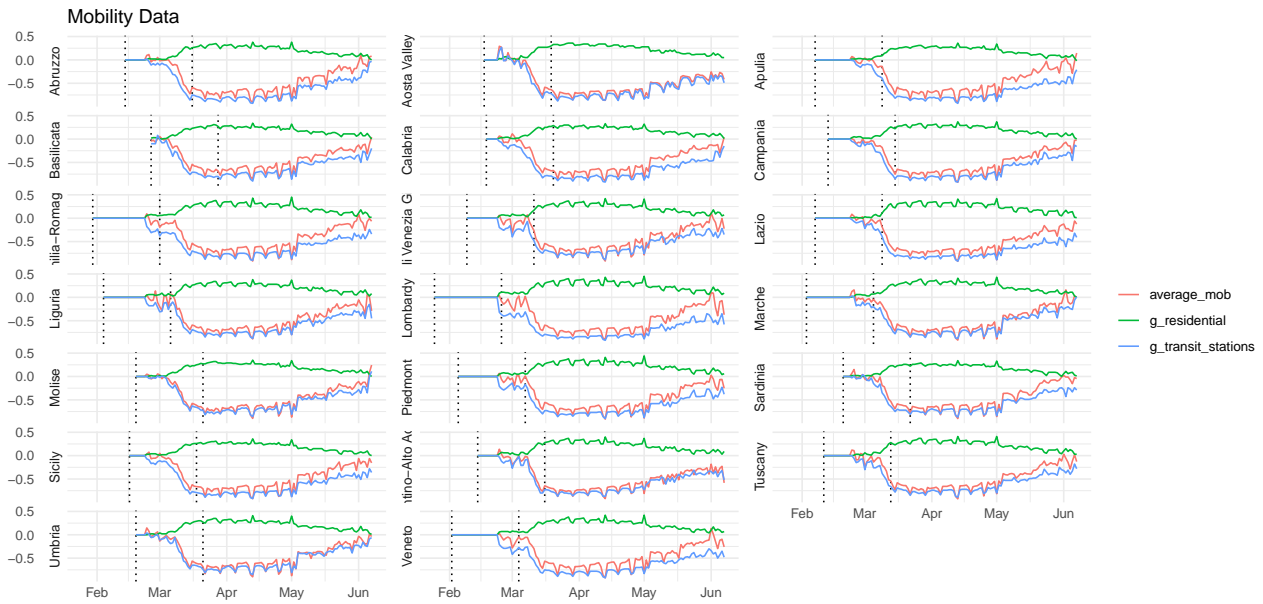
Italy

Data





Vertical dotted lines represent the first seeding day and the epidemic start date.



Vertical dotted lines represent the first seeding day and the epidemic start date.

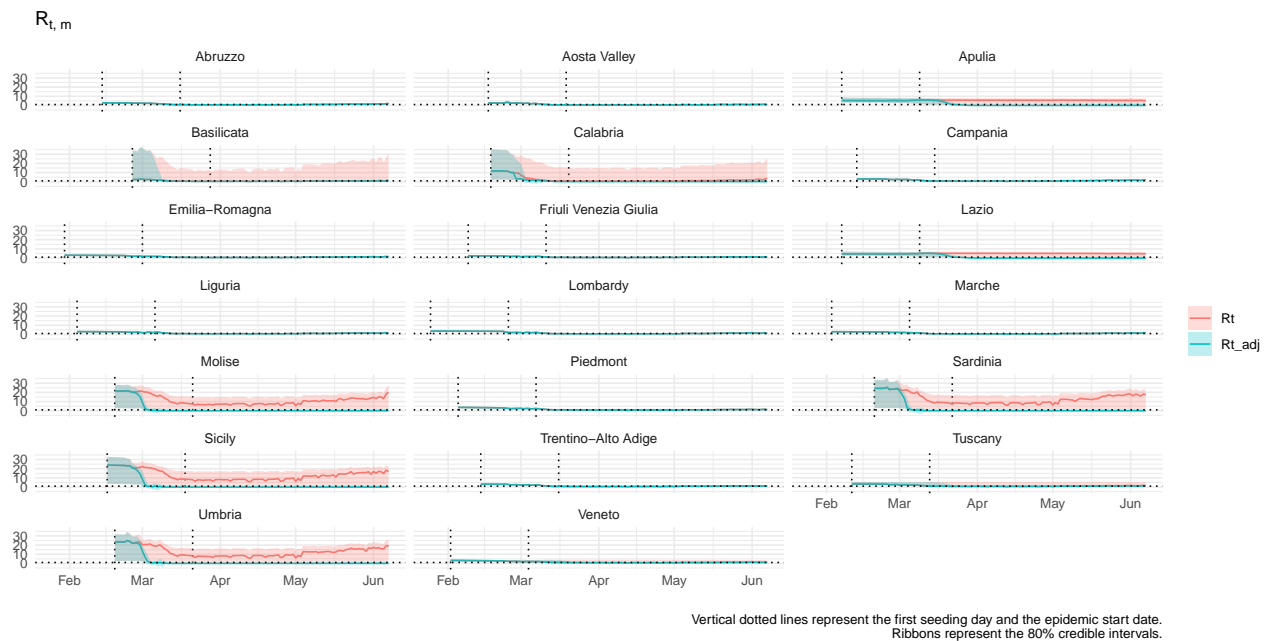
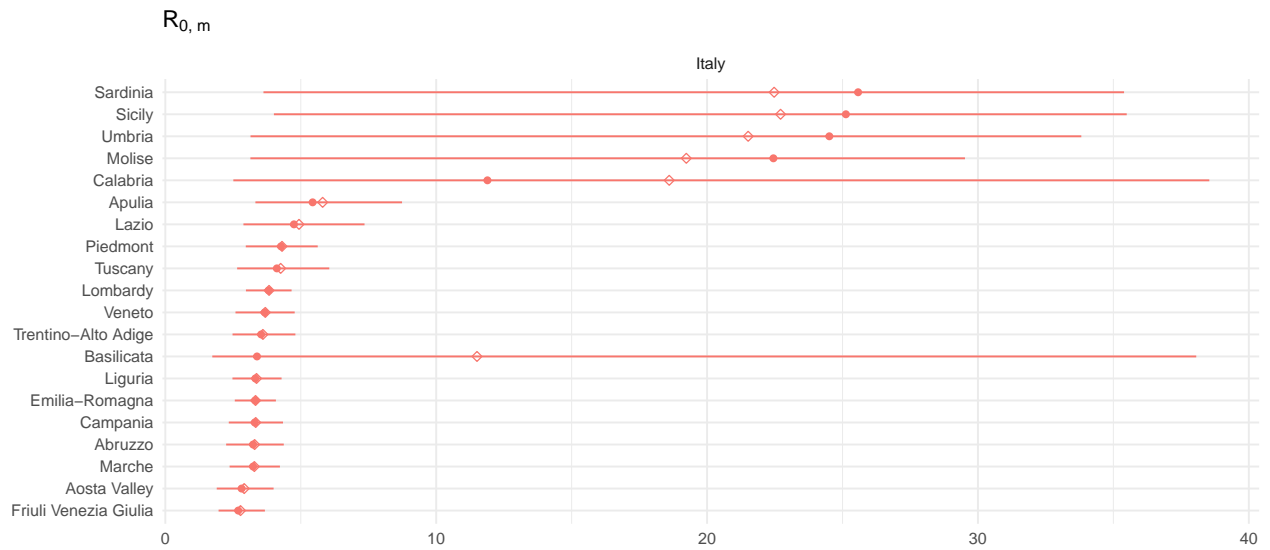
Analysis

Number of divergent transitions = 851

Maximum $\hat{R} = 2.726167$

Minimum Bulk ESS = 4.6847038

Minimum Tail ESS = 4.918776



Contact rate function:

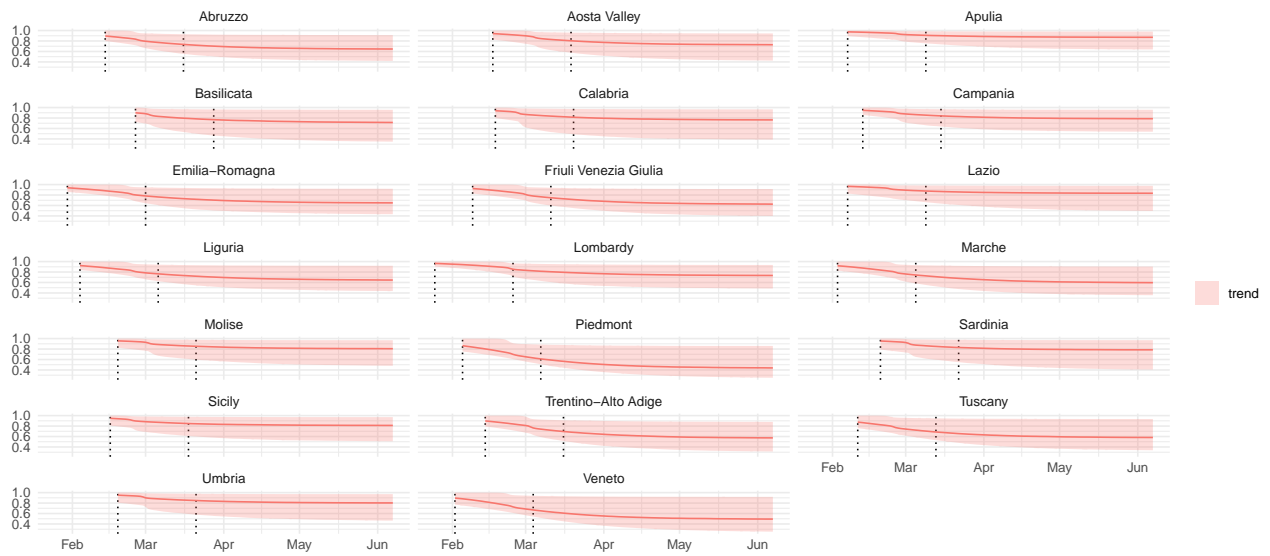
$$cr(t; t^*, \lambda_j, \kappa) = \lambda_j + \frac{1 - \lambda_j}{1 + \exp(\kappa(t - t^*))}$$

where

$$\lambda_j \sim \text{Beta}(3, 1)$$

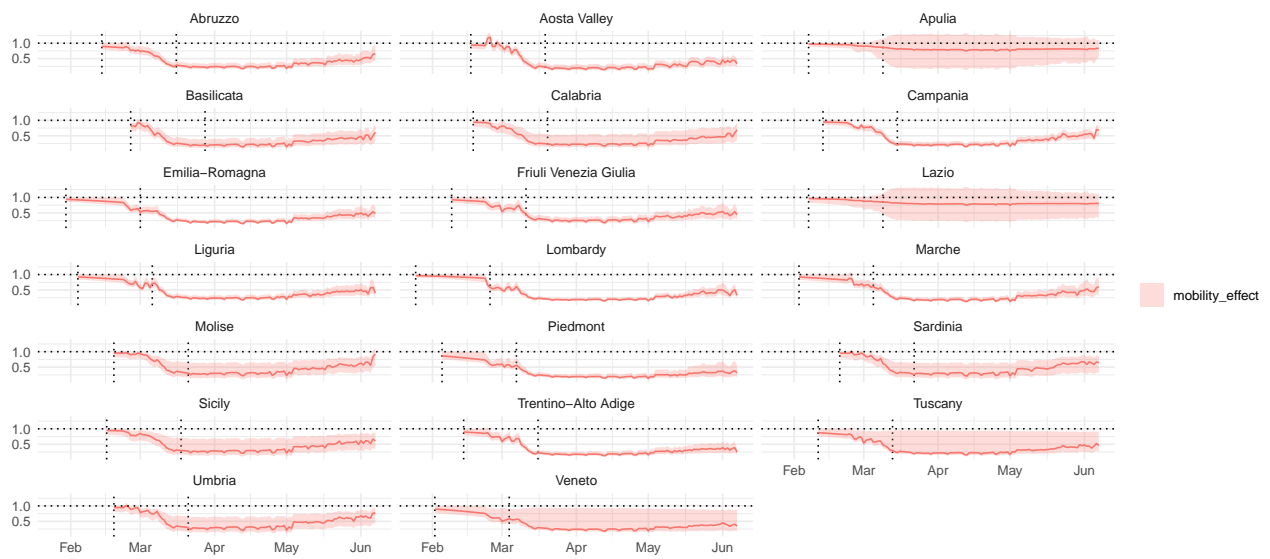
$$\kappa \sim \text{NegHalfNormal}(0, 1).$$

Contact Rate

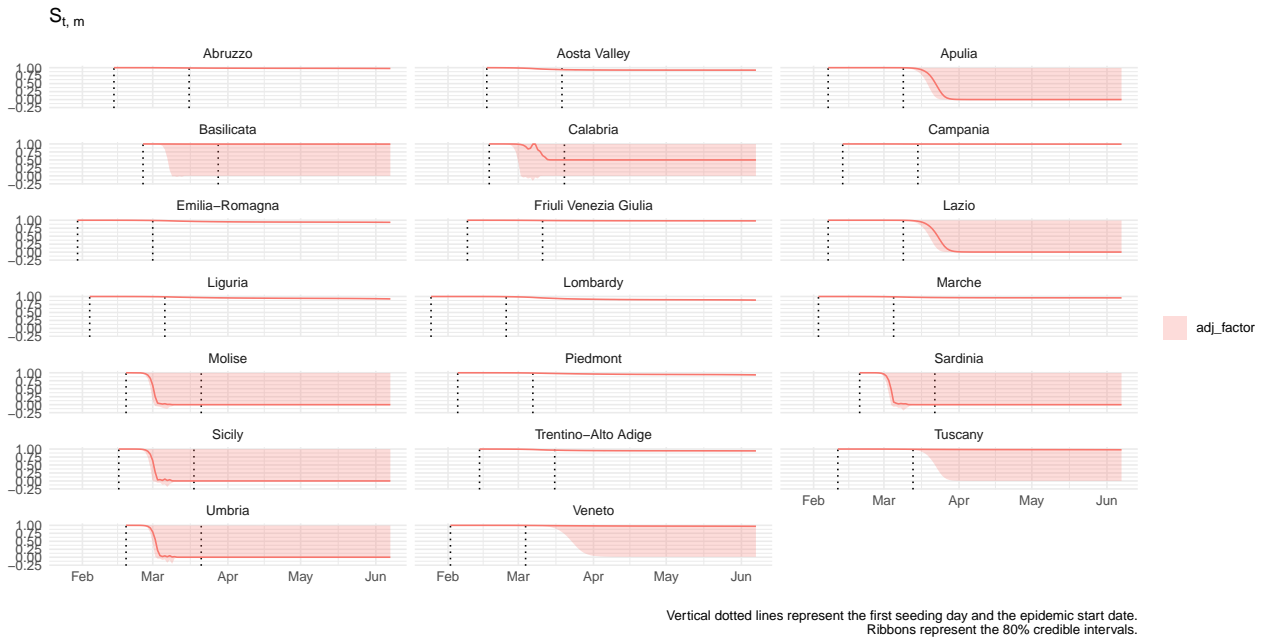


Vertical dotted lines represent the first seeding day and the epidemic start date.
Ribbons represent the 80% credible intervals.

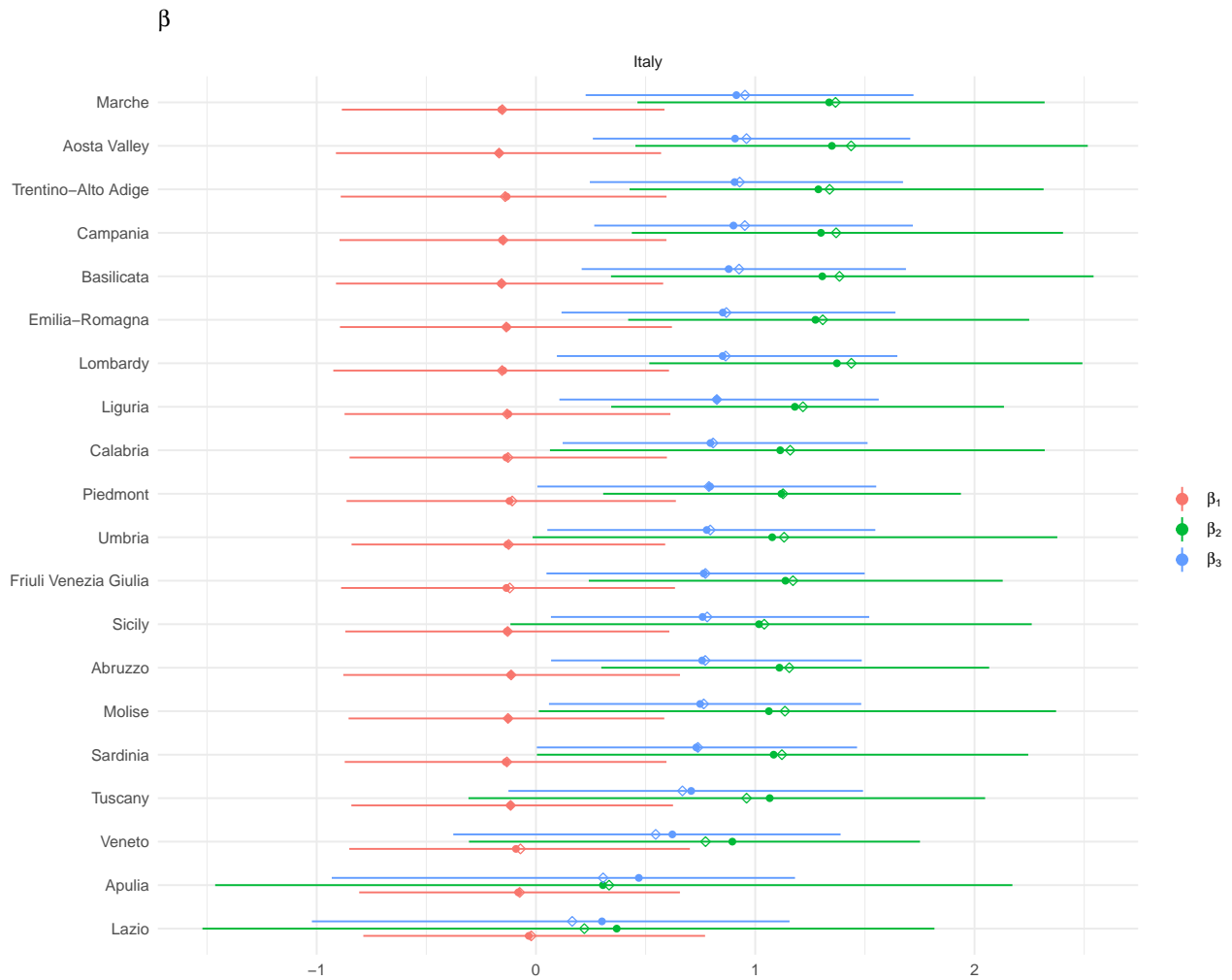
Mobility effect

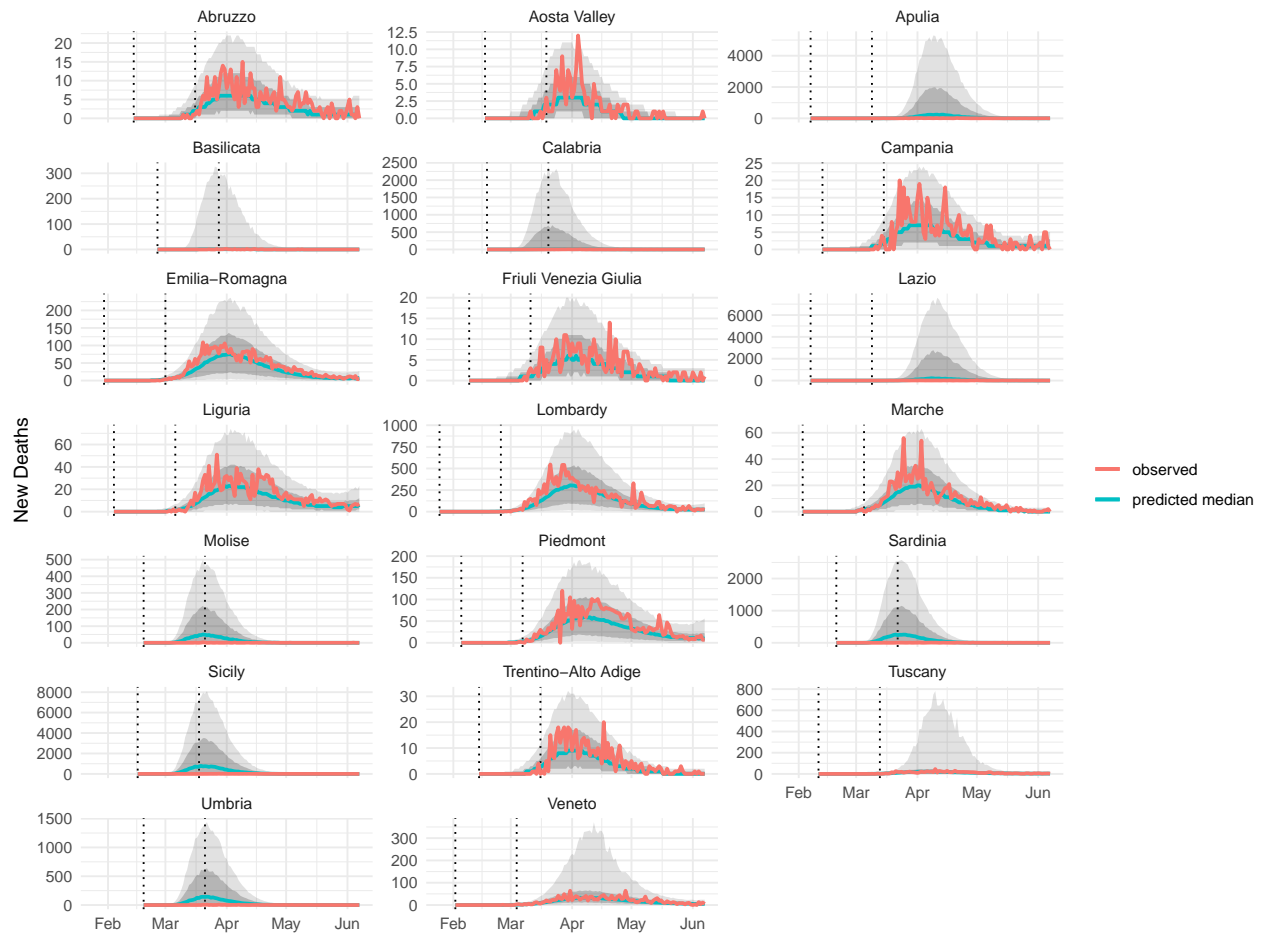


Vertical dotted lines represent the first seeding day and the epidemic start date.
Ribbons represent the 80% credible intervals.



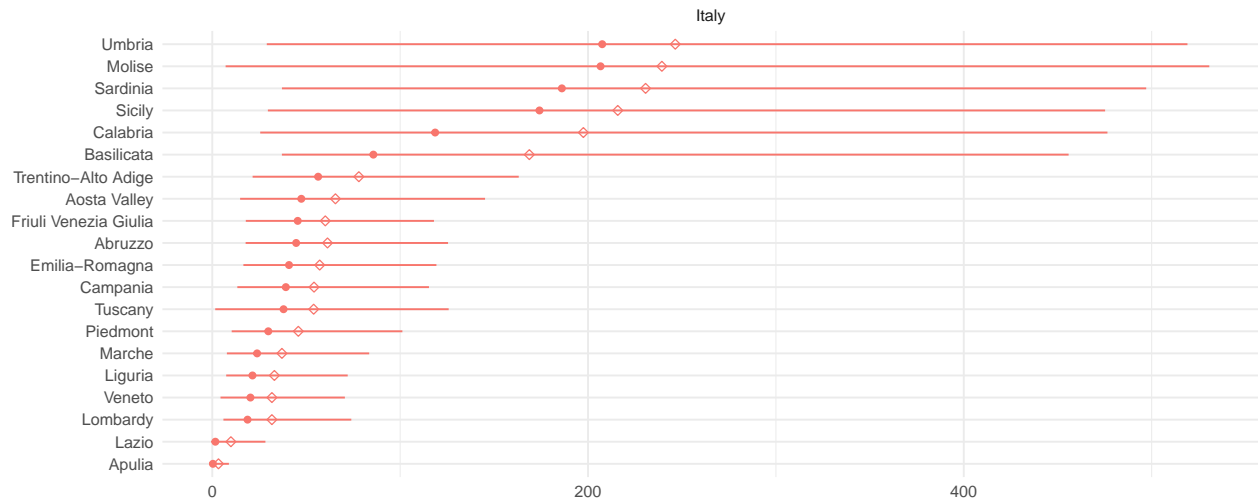
Mobility linear model: $\beta_1 \cdot X_{\text{residential}} + \beta_2 \cdot X_{\text{transit}} + \beta_3 \cdot X_{\text{average}}$.



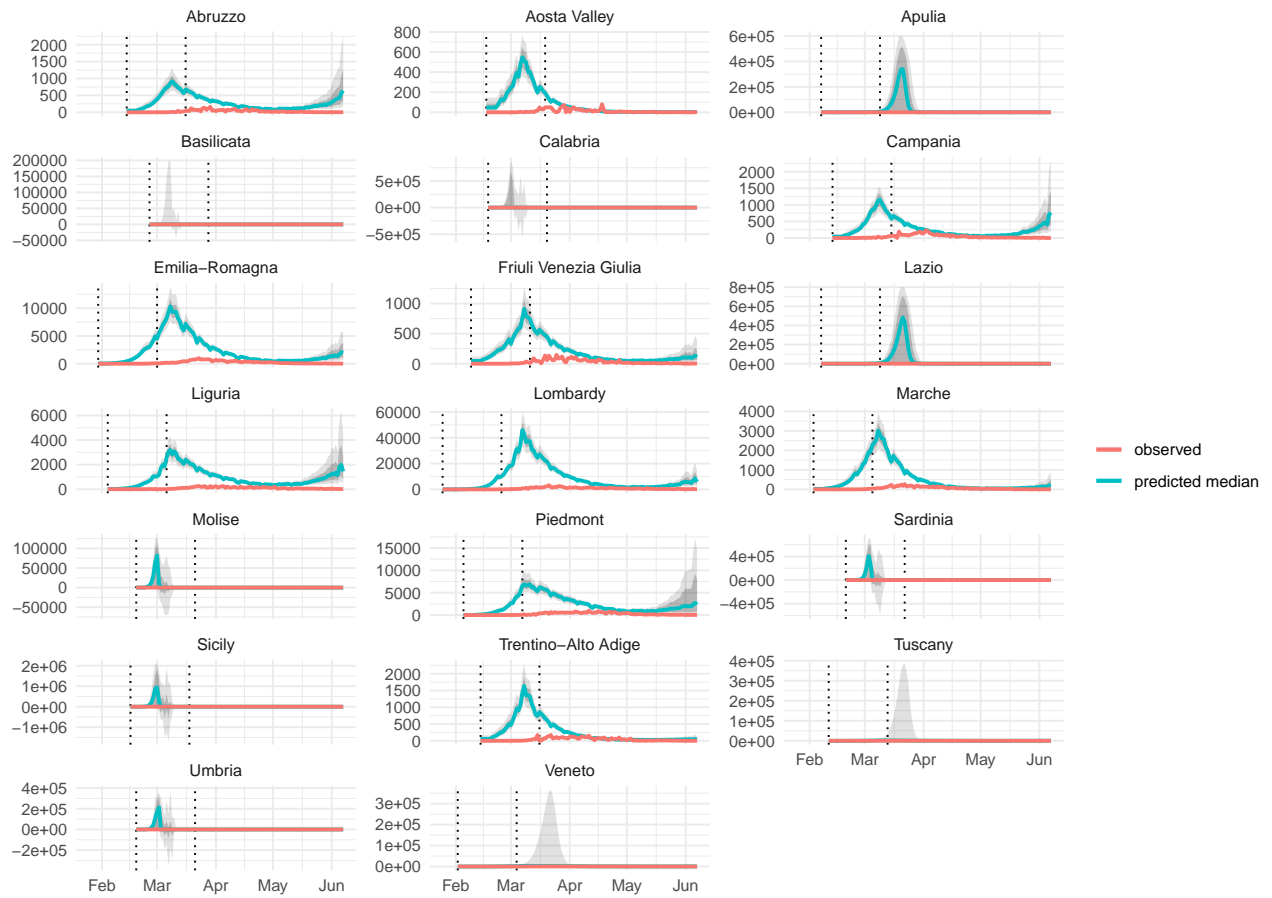


Solid black line: observed new deaths. Grey ribbon: posterior predicted new deaths. Vertical dotted lines represent the first seeding day and the epidemic start date.

Imputed Cases

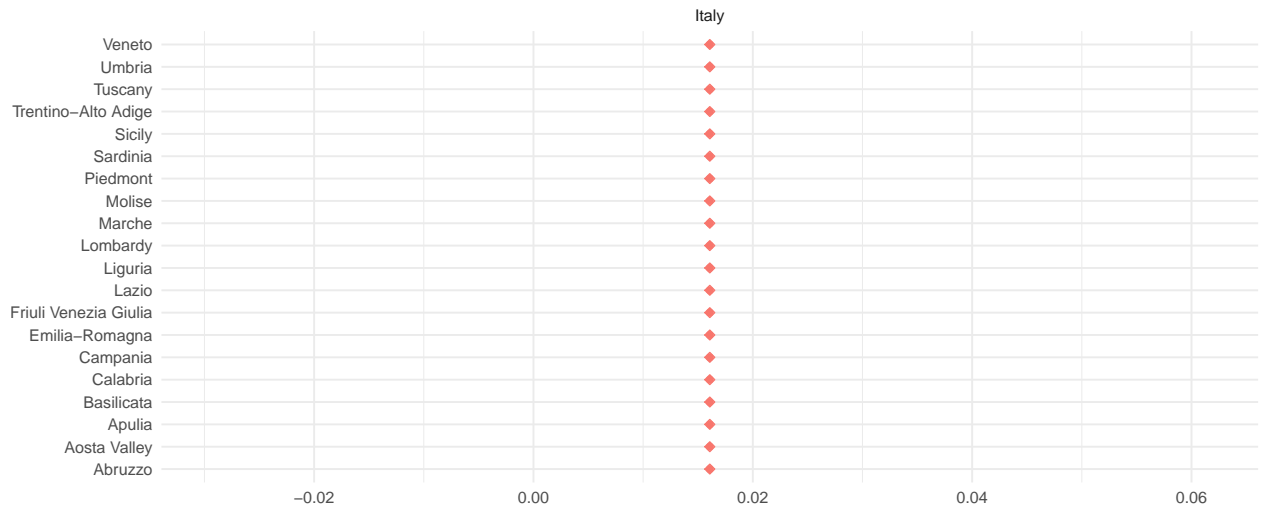


New Cases
predicted vs observed



Solid black line: observed new deaths. Grey ribbon: posterior predicted new deaths.
Vertical dotted lines represent the first seeding day and the epidemic start date.

IFR



Prior Prediction

Not Available.

Diagnostics

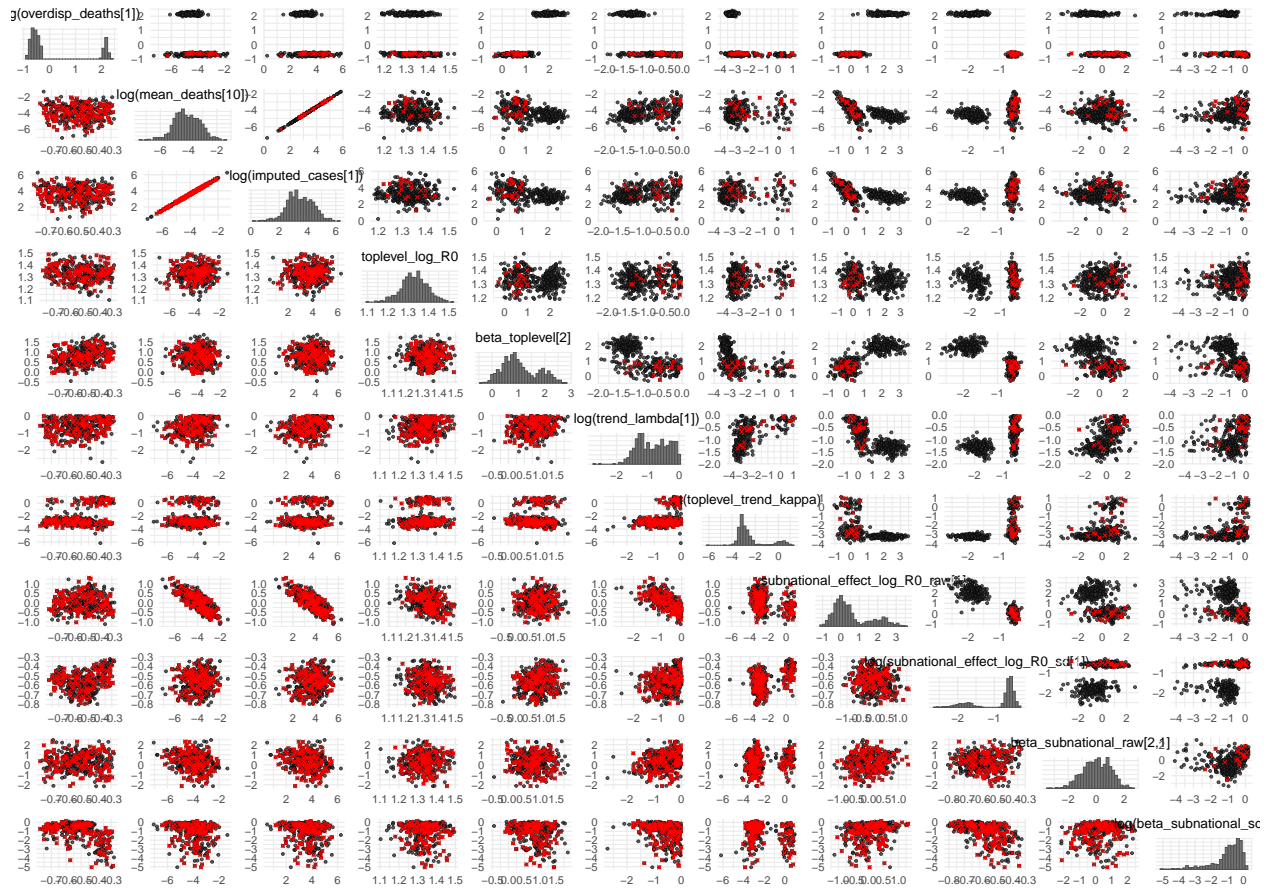
This is bayesplot version 1.7.2

- Online documentation and vignettes at mc-stan.org/bayesplot

- bayesplot theme set to bayesplot::theme_default()

* Does `_not_` affect other ggplot2 plots

* See `?bayesplot_theme_set` for details on theme setting



Posterior distribution of parameters

