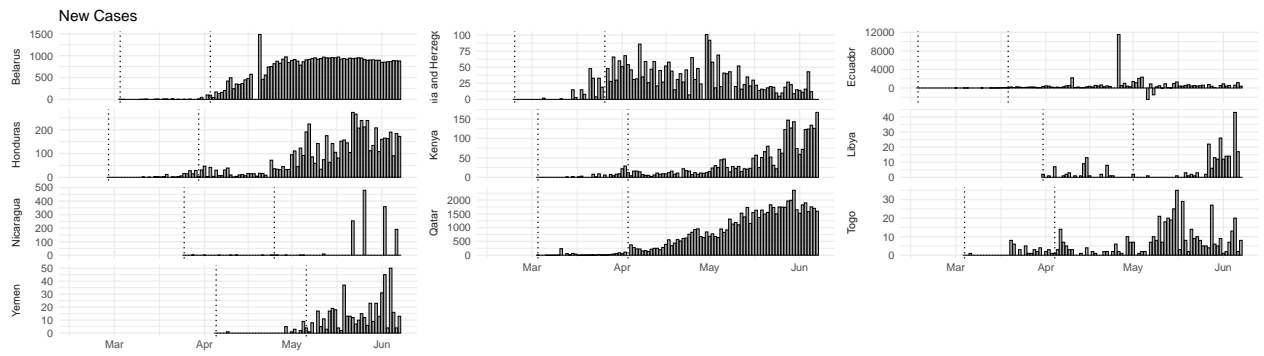


Multiple Countries

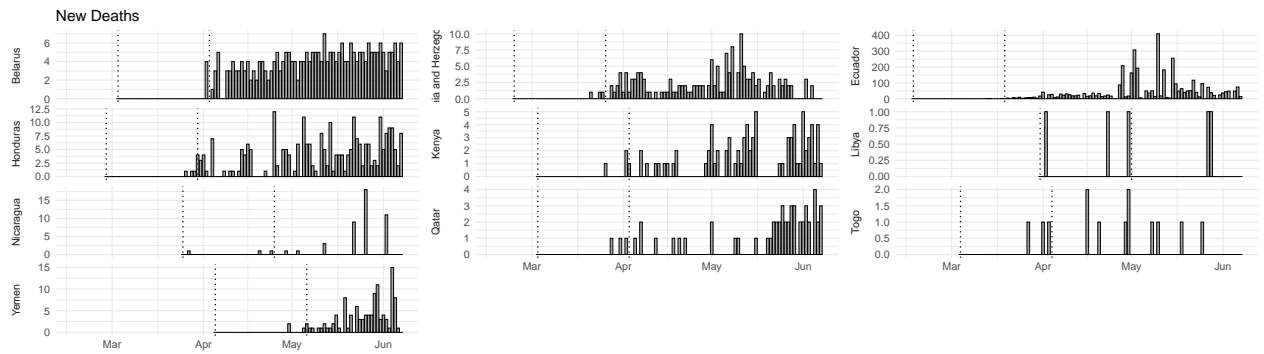
Countries:

- Bosnia and Herzegovina
- Belarus
- Ecuador
- Honduras
- Kenya
- Libya
- Nicaragua
- Qatar
- Togo
- Yemen

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.



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

Analysis

Number of divergent transitions =

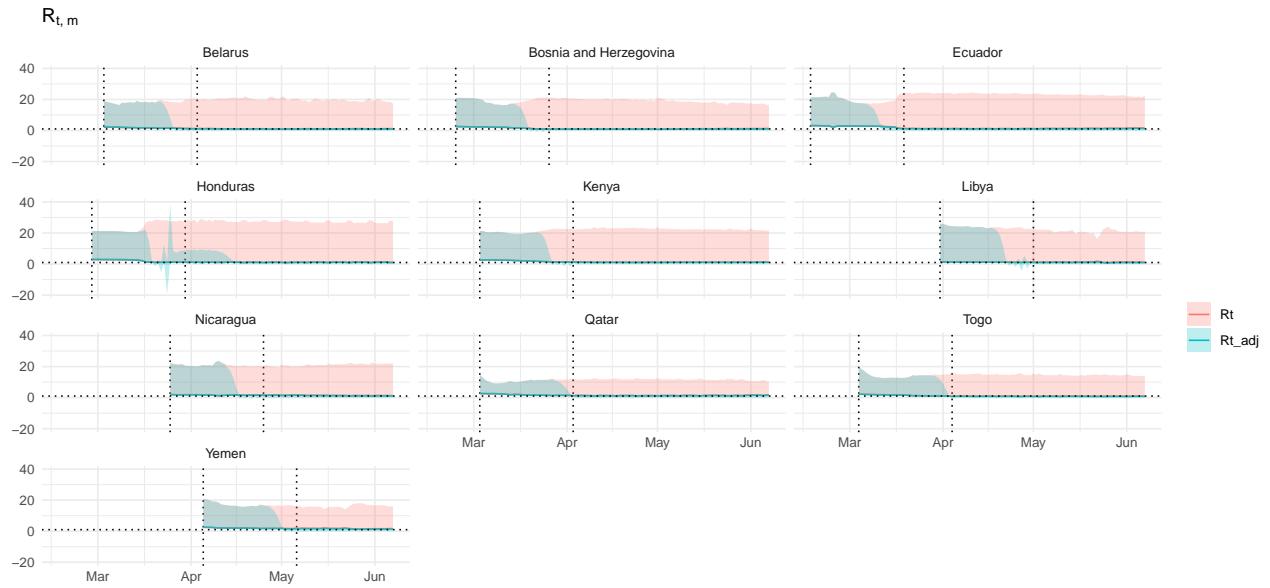
Maximum $\hat{R} = 1.7457845$

Minimum Bulk ESS = 6.1084041

Minimum Tail ESS = 4.3842331

$R_{0,m}$





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

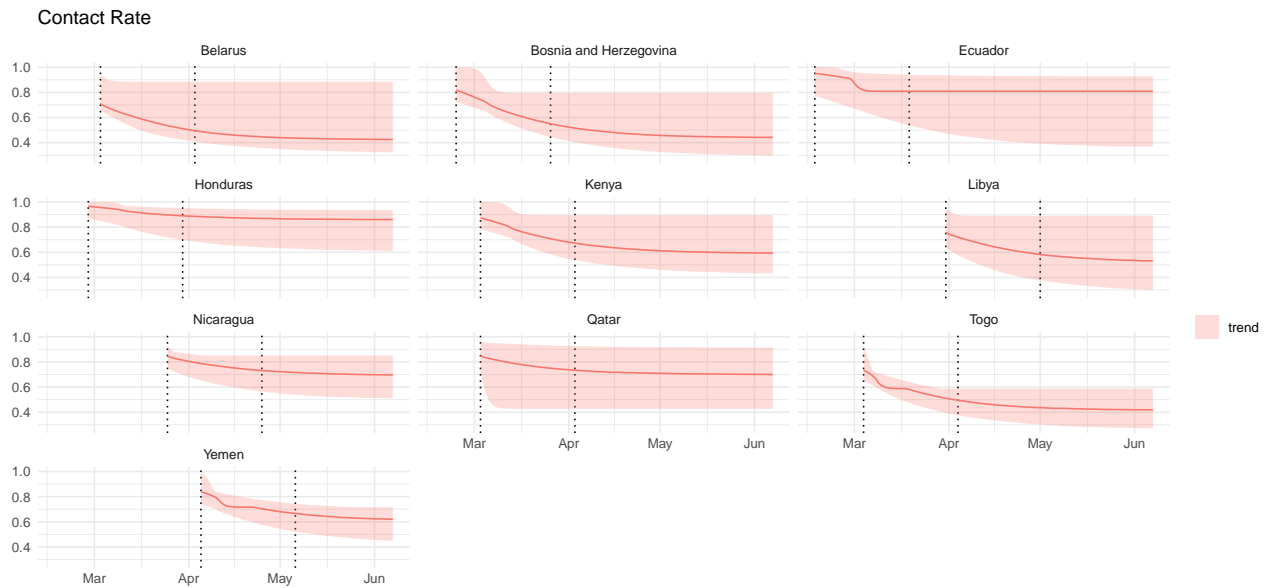
Contact rate function:

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

where

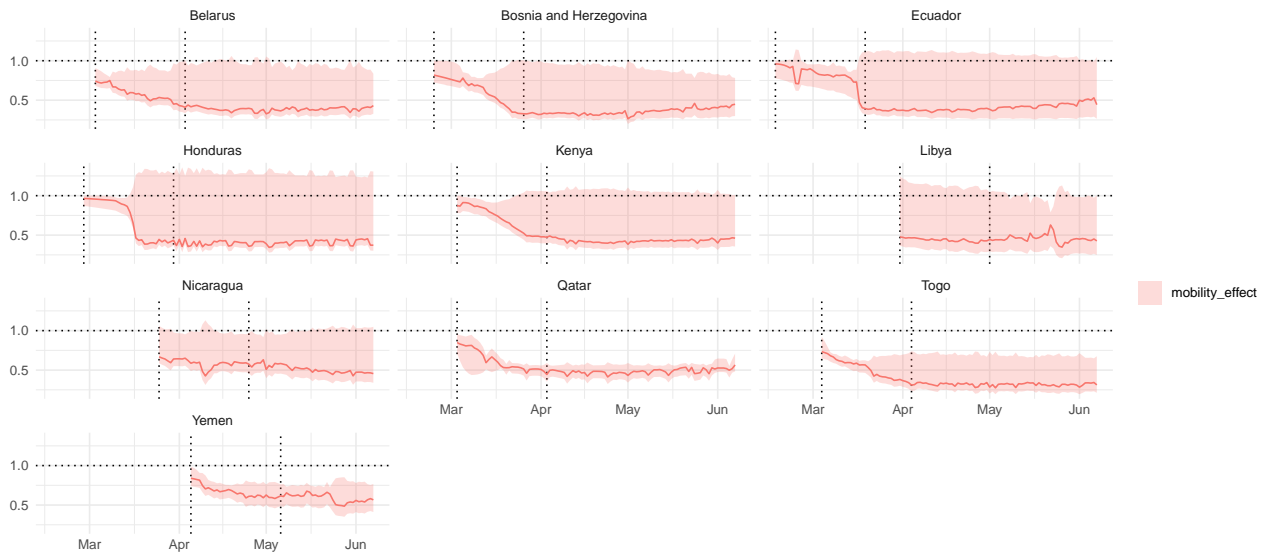
$$\lambda_j \sim \text{Beta}(3, 1)$$

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



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.

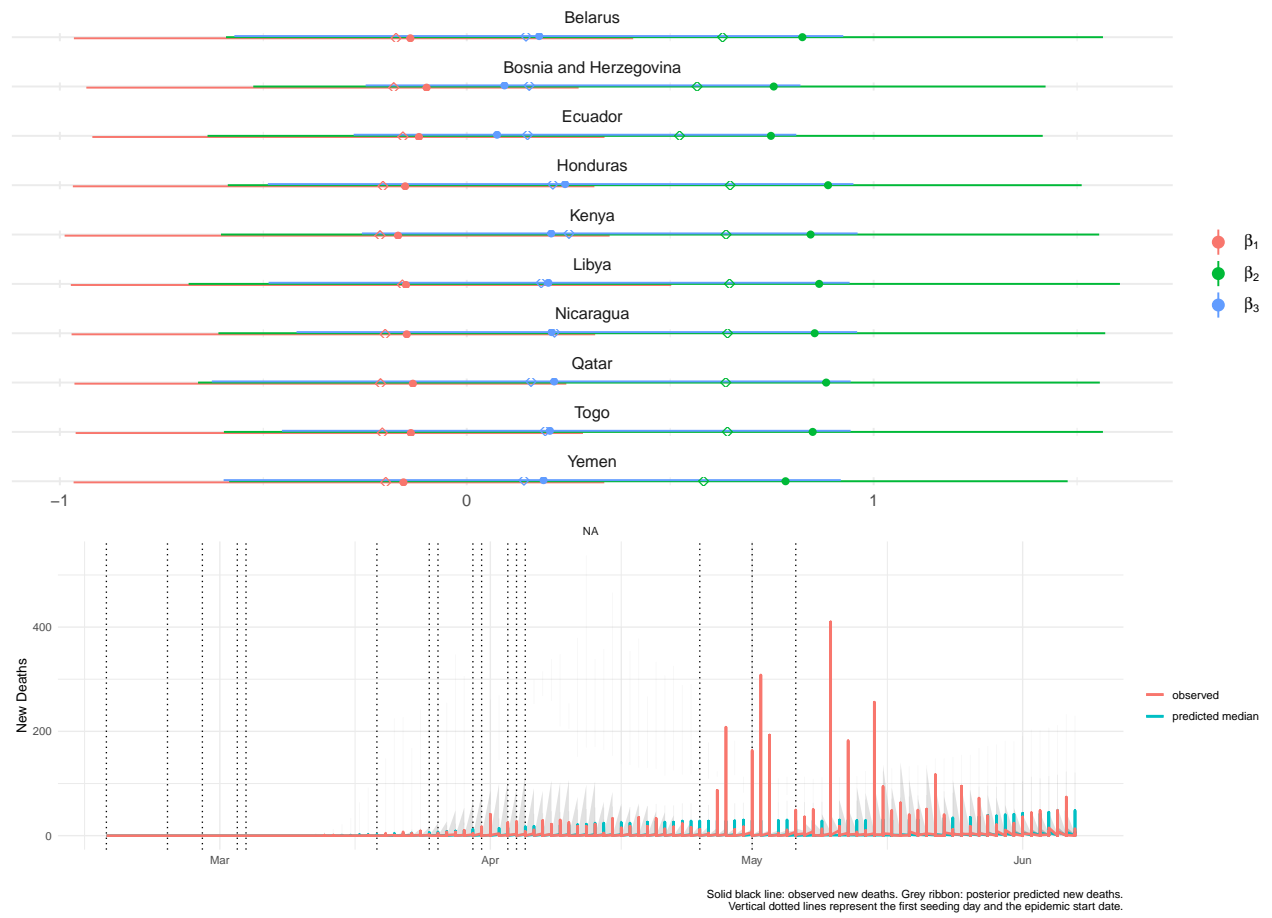
$S_{t,m}$



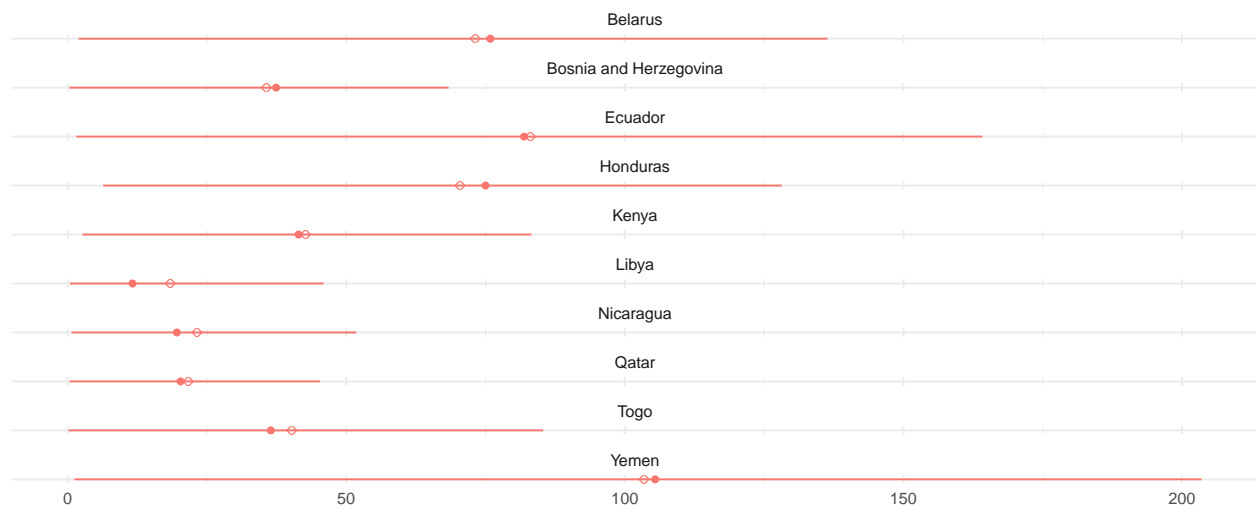
Vertical dotted lines represent the first seeding day and the epidemic start date.
Ribbons represent the 80% credible intervals.

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

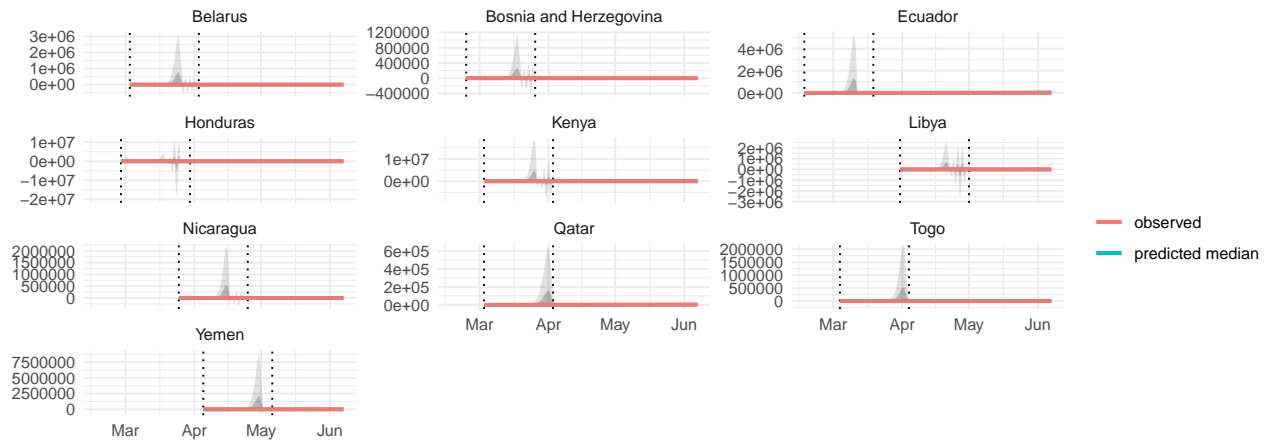
β



Imputed Cases

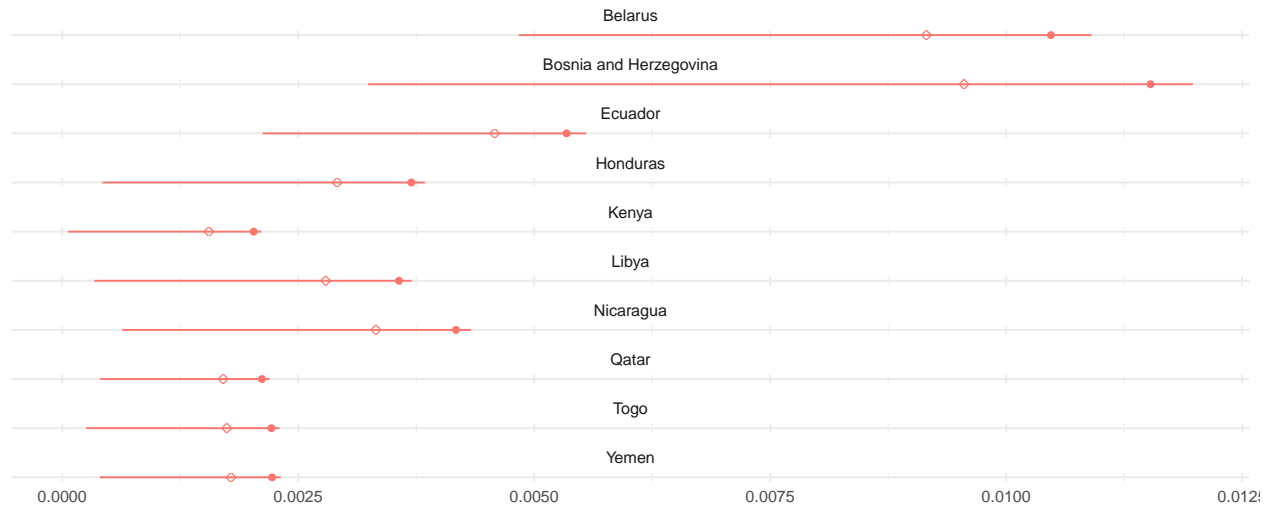


New Cases
predicted vs observed



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



Diagnostics

