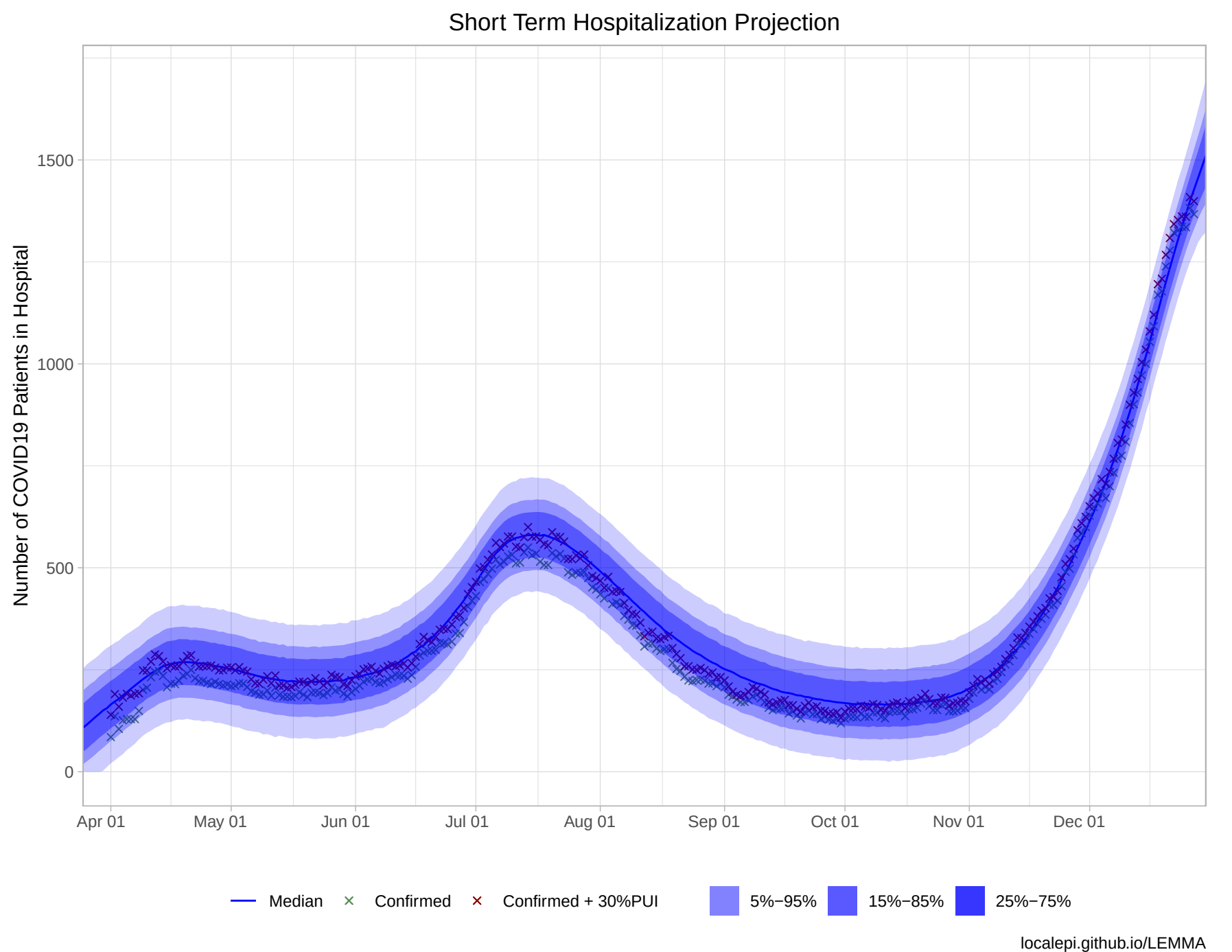
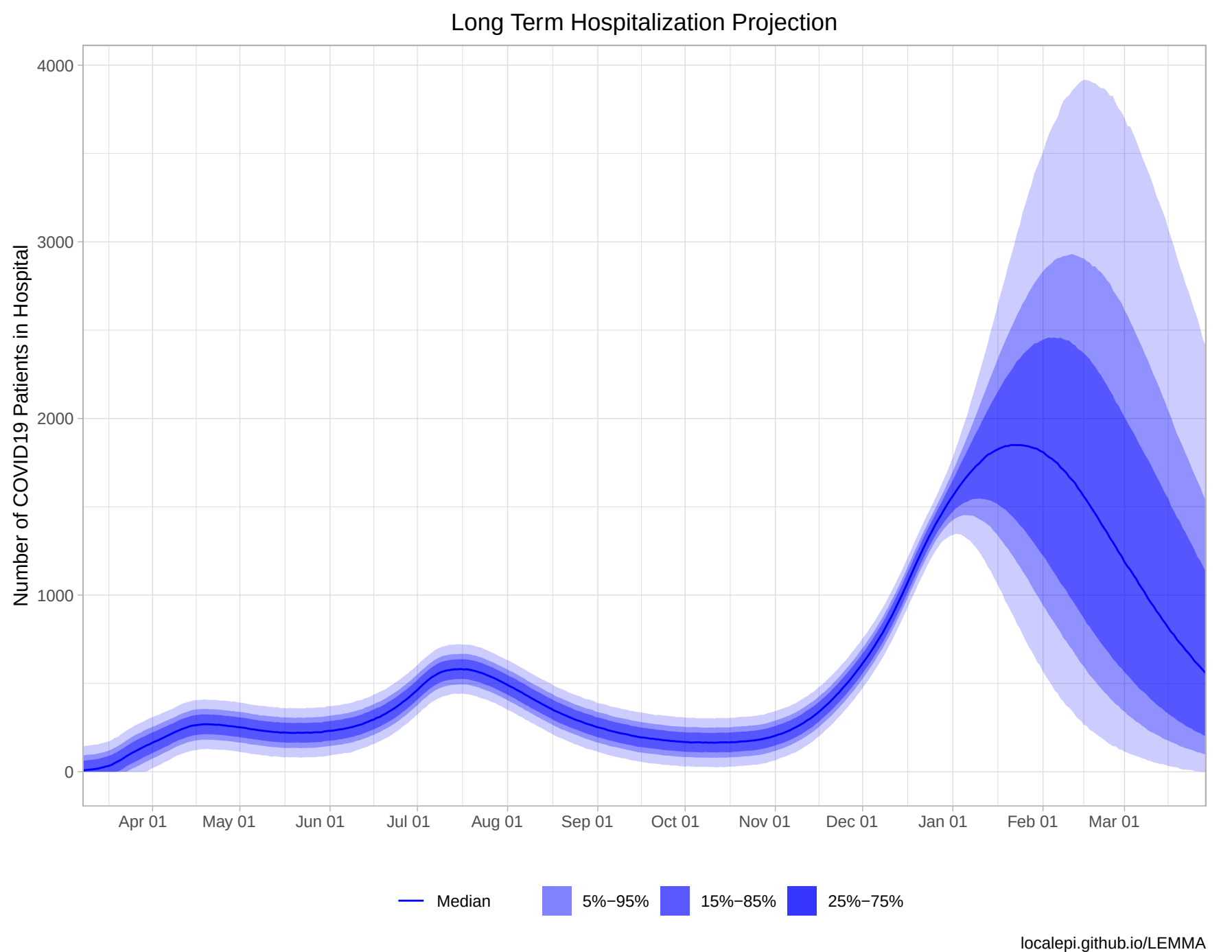
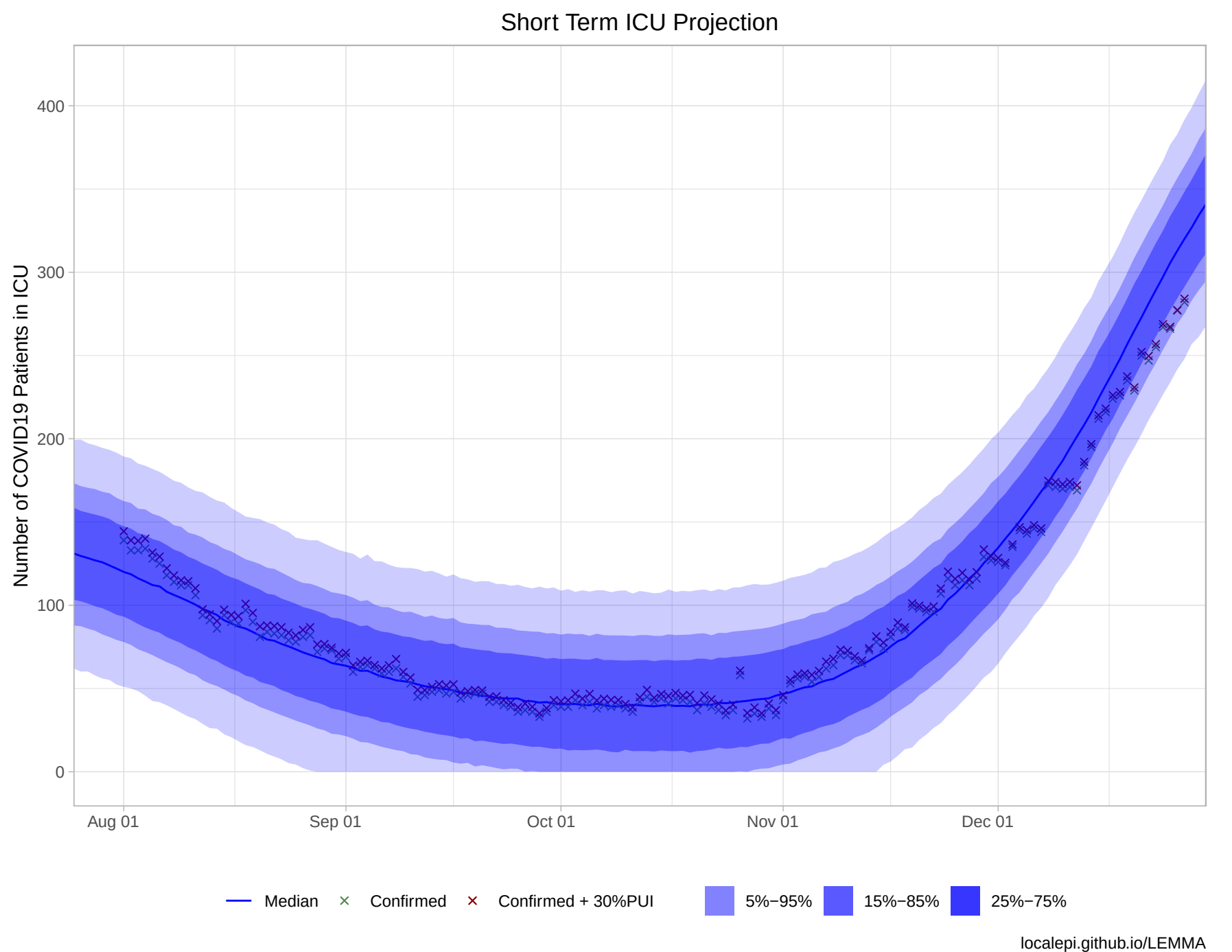
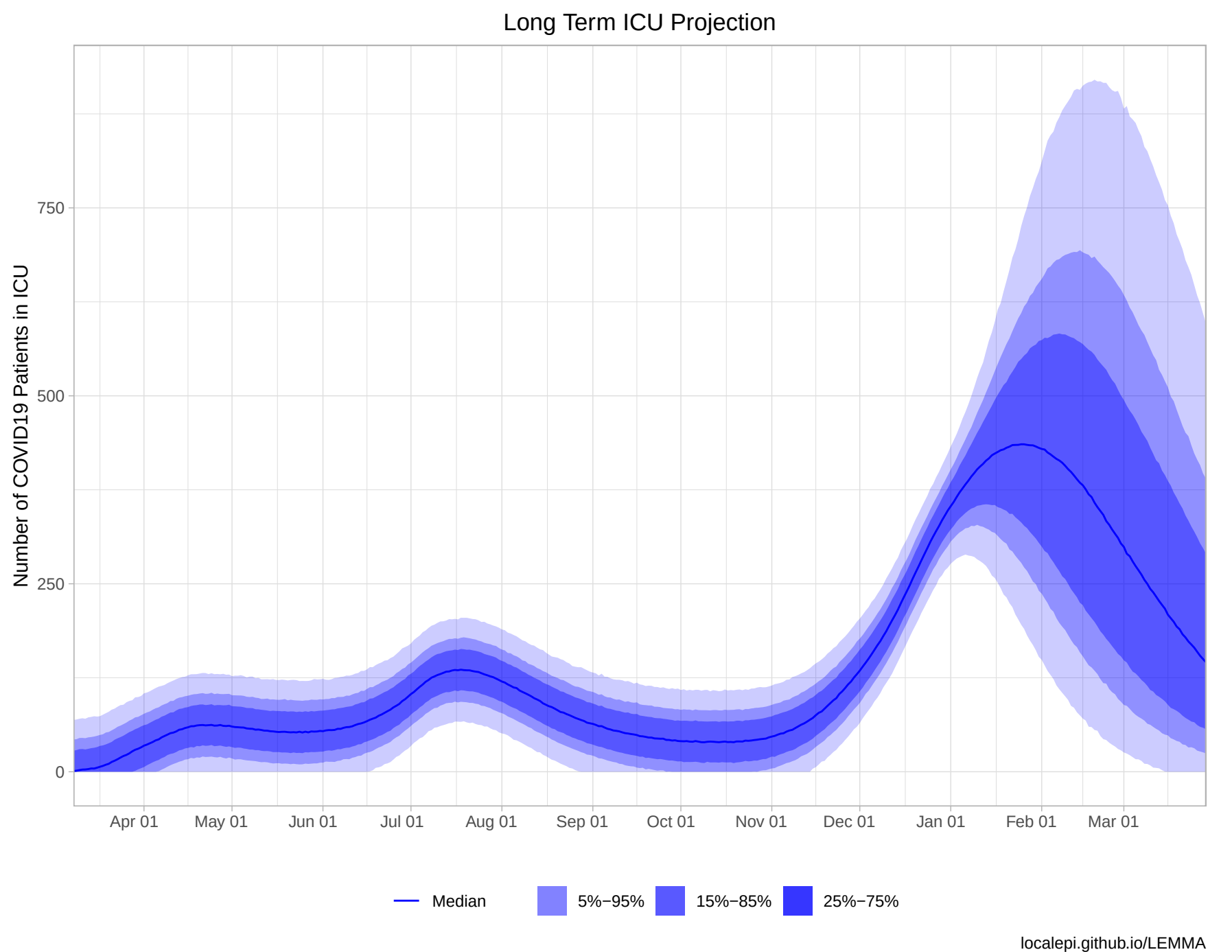
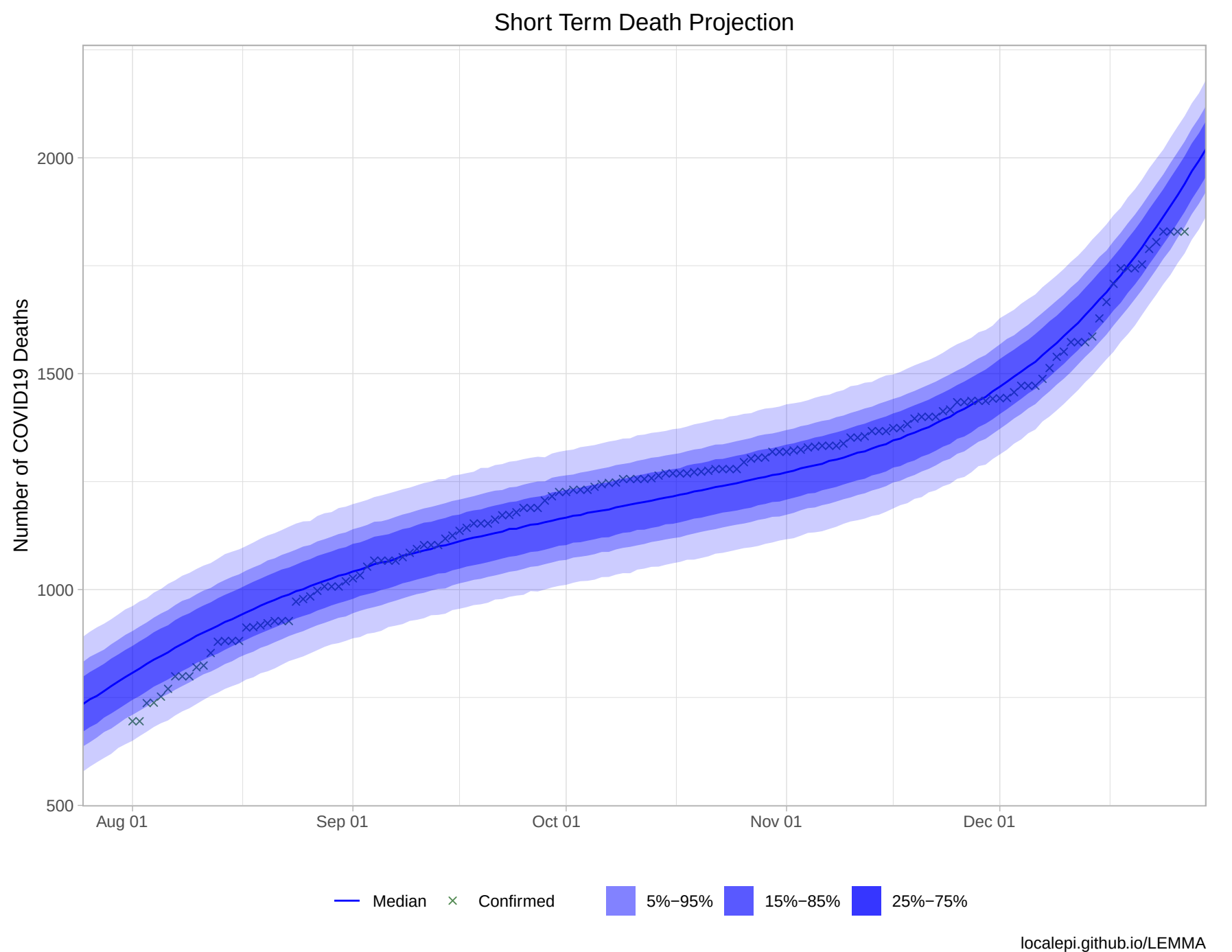
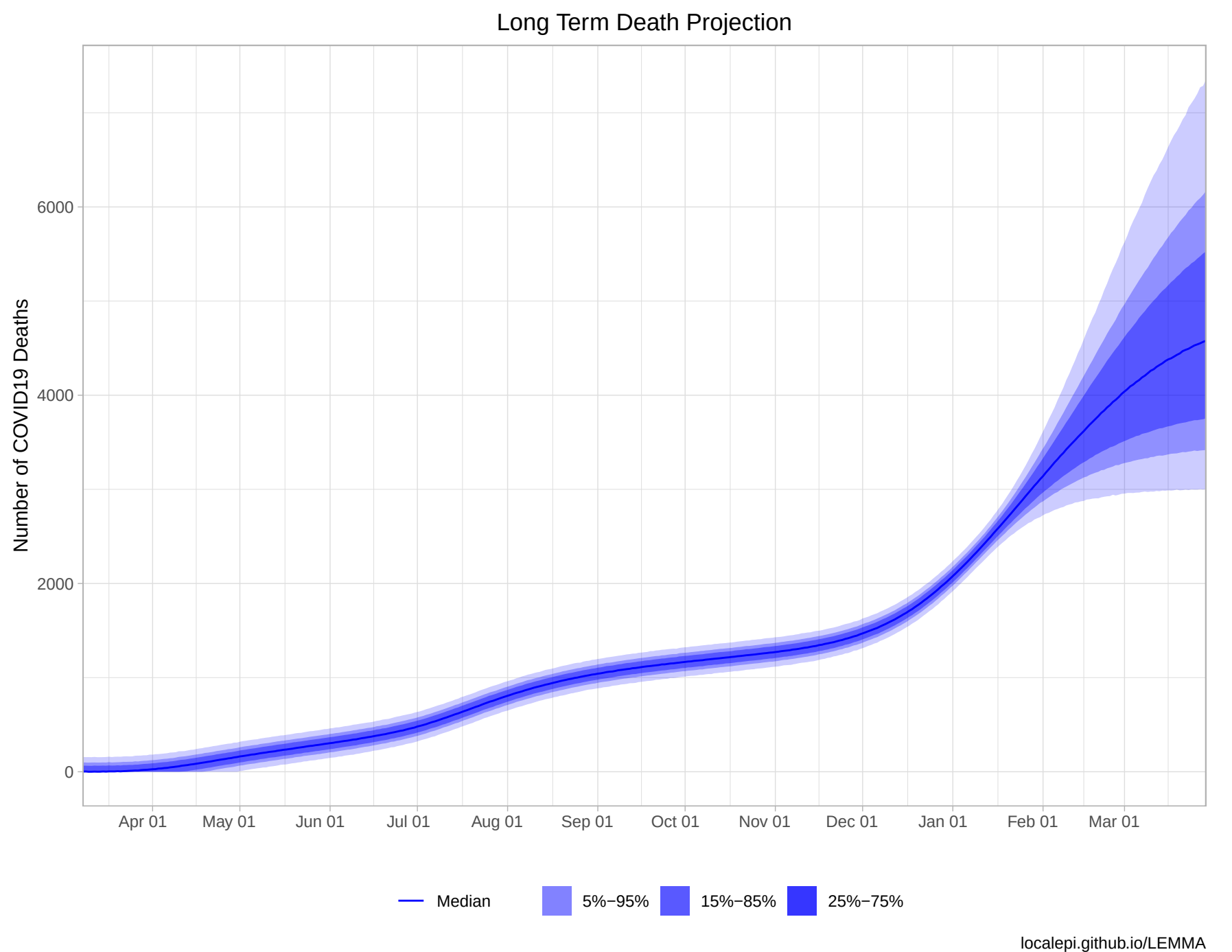

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
1500
1000
500
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

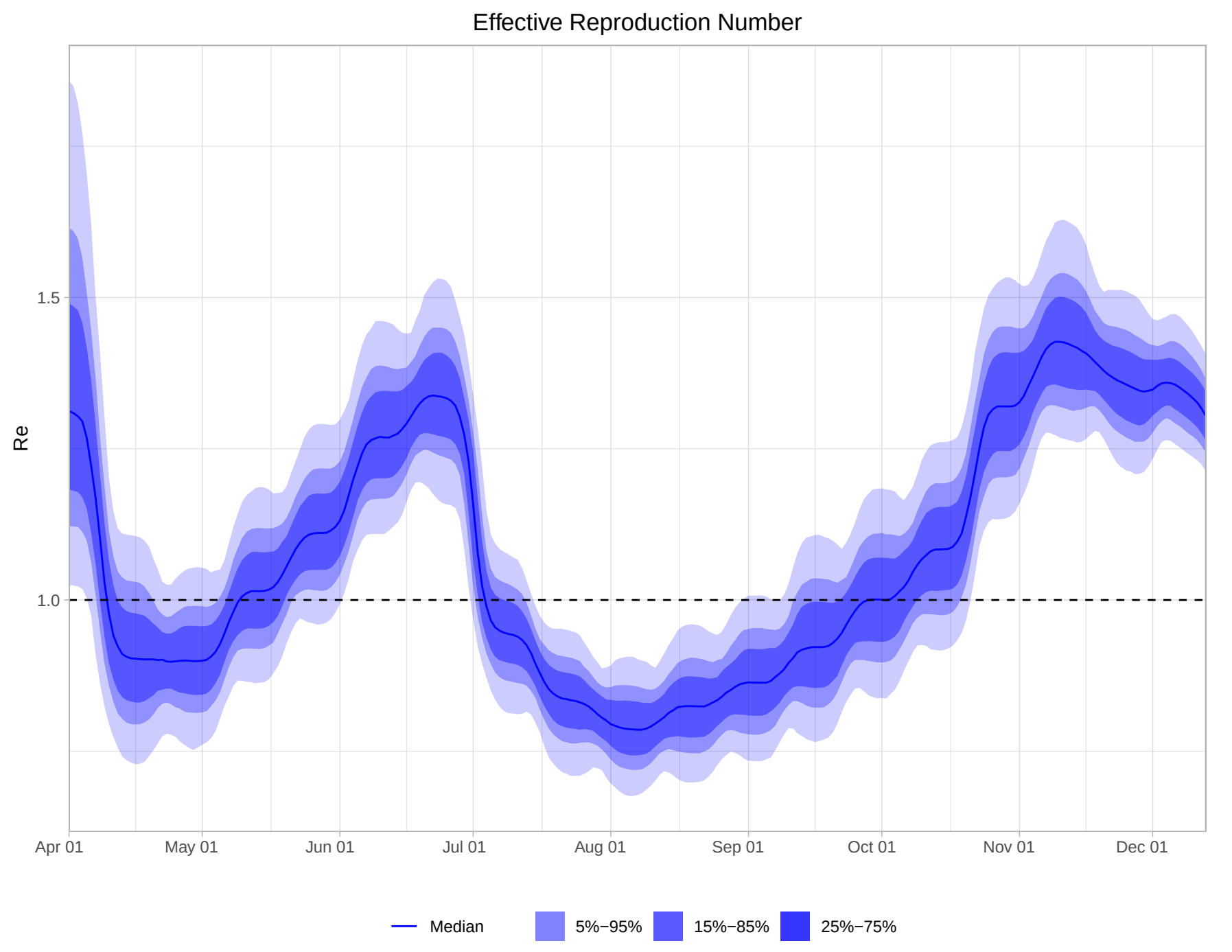

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
4000
3000
2000
1000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
400
300
200
100
0
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Long Term ICU Projection
Number of COVID19 Patients in ICU
750
500
250
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

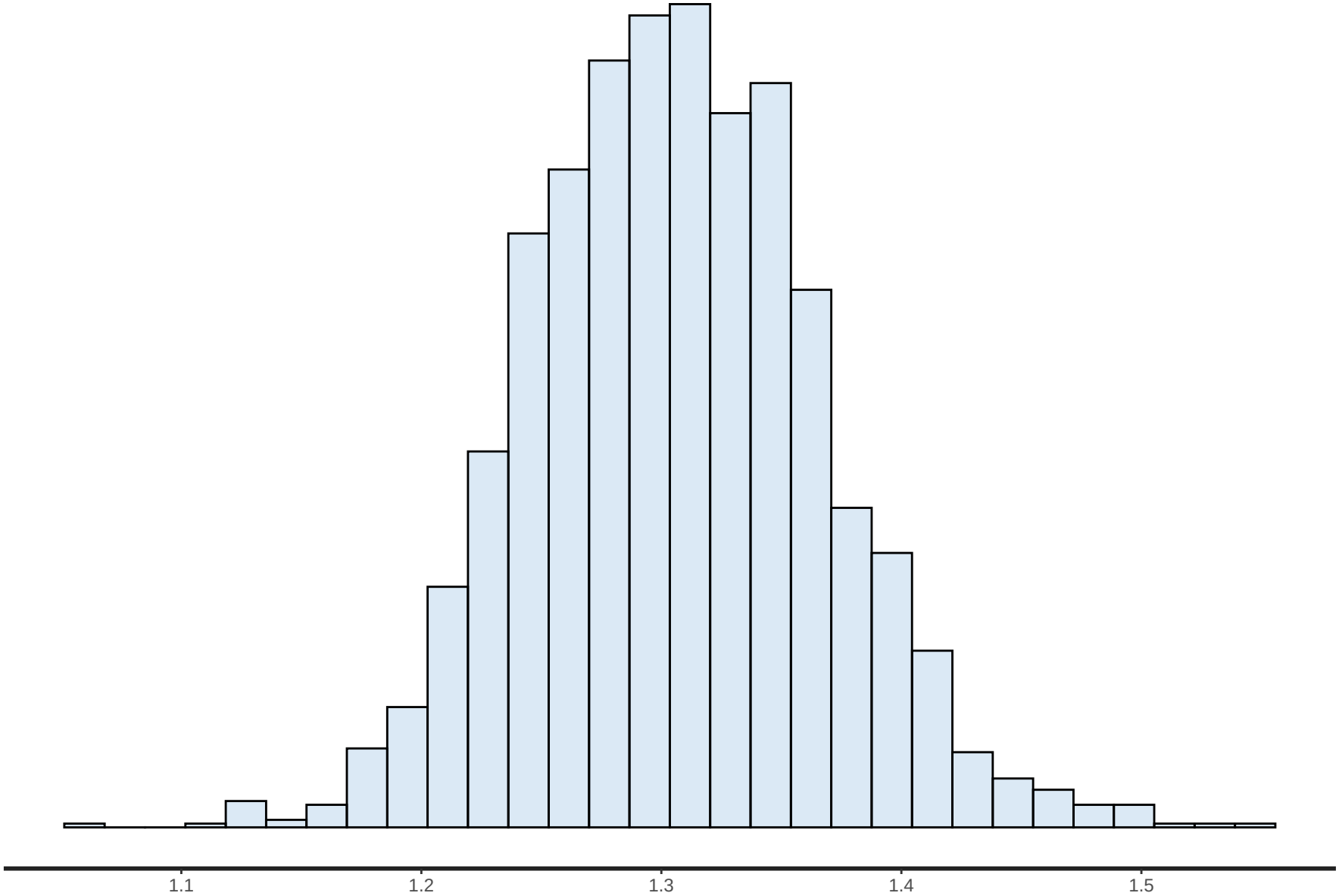

Short Term Death Projection
Number of COVID19 Deaths
2000
1500
1000
500
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

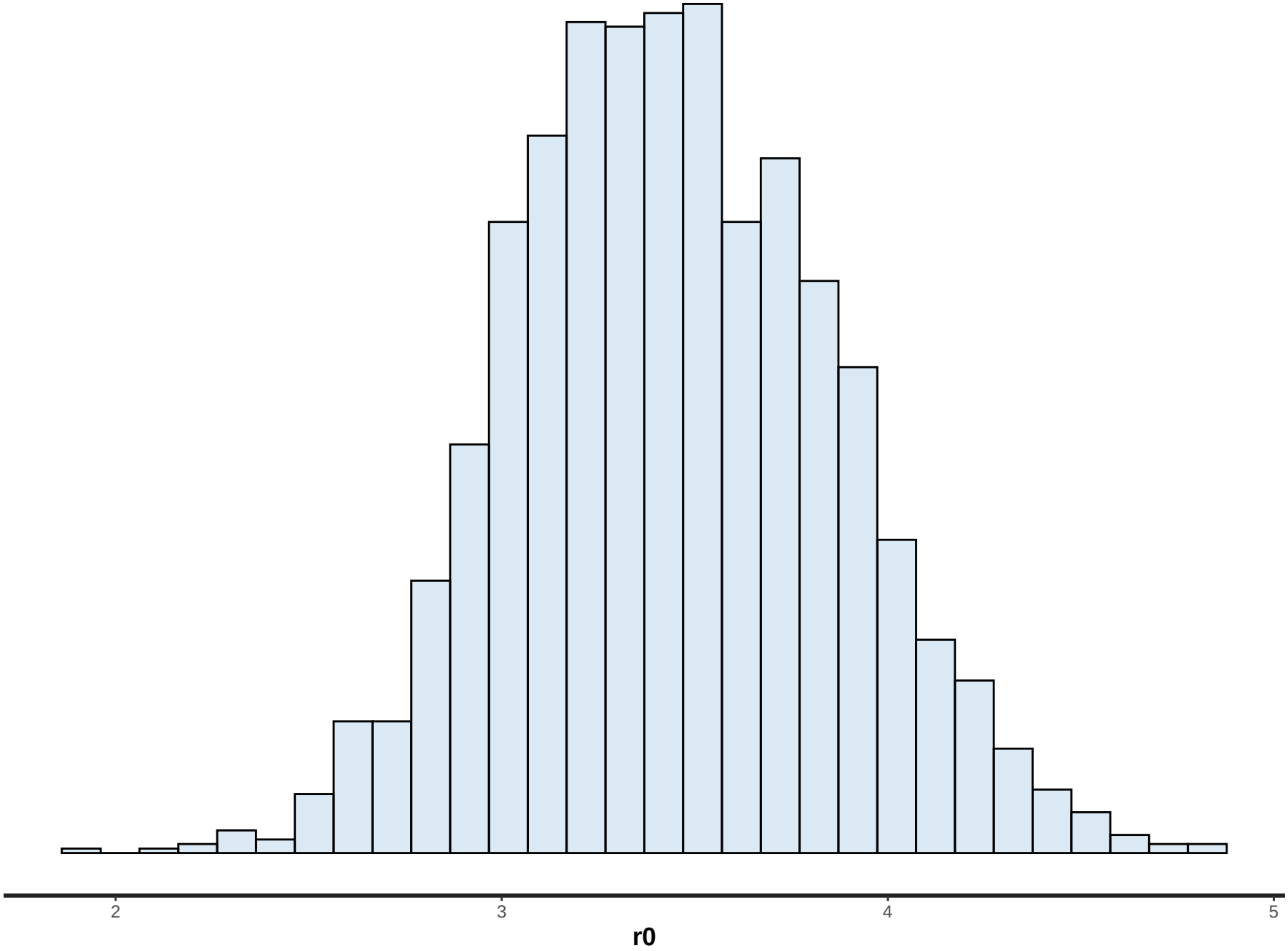

Long Term Death Projection
Number of COVID19 Deaths
6000
4000
2000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

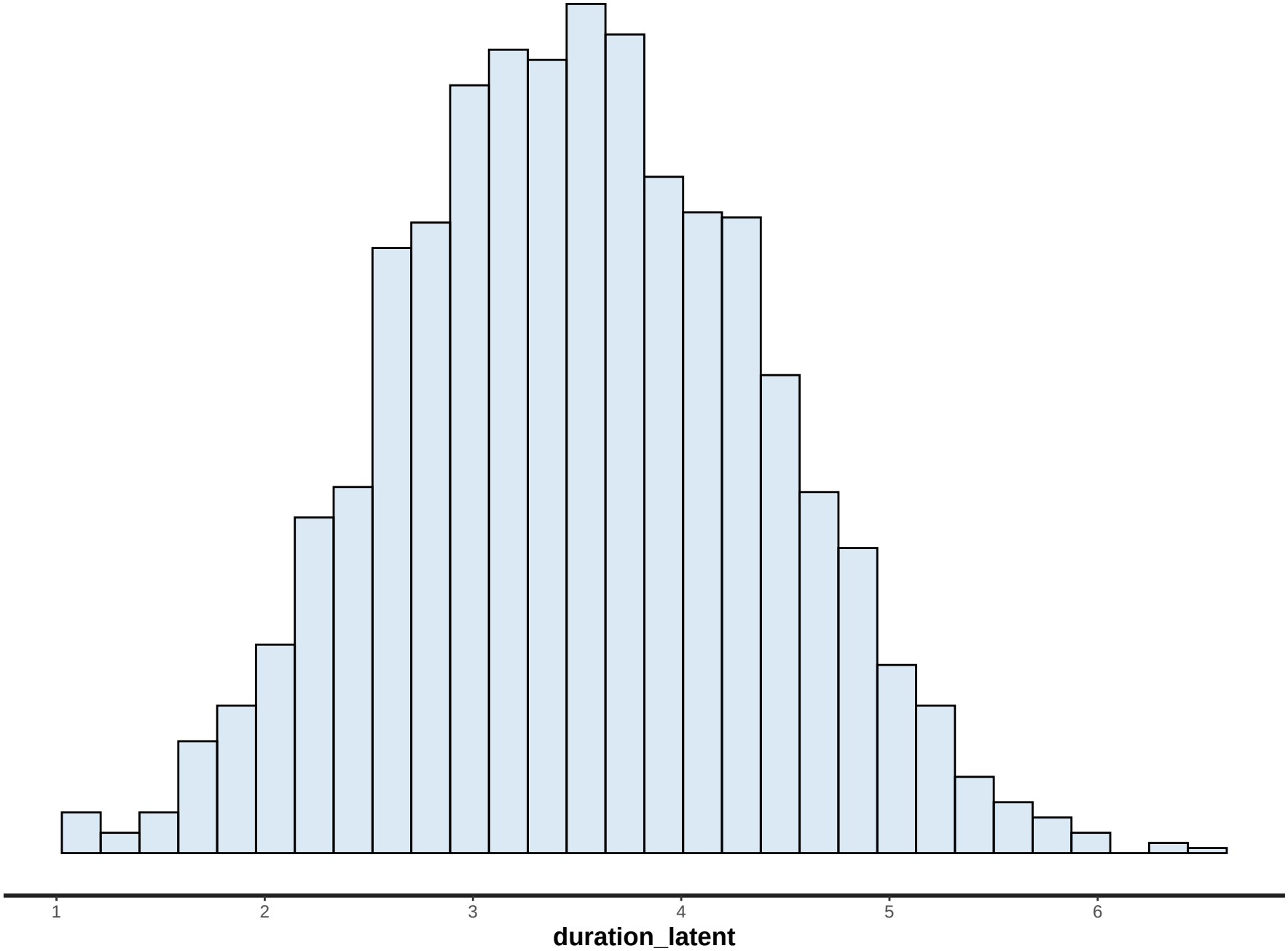

Effective Reproduction Number
Re
1.5
1.0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
5%−95%
15%−85%
25%−75%

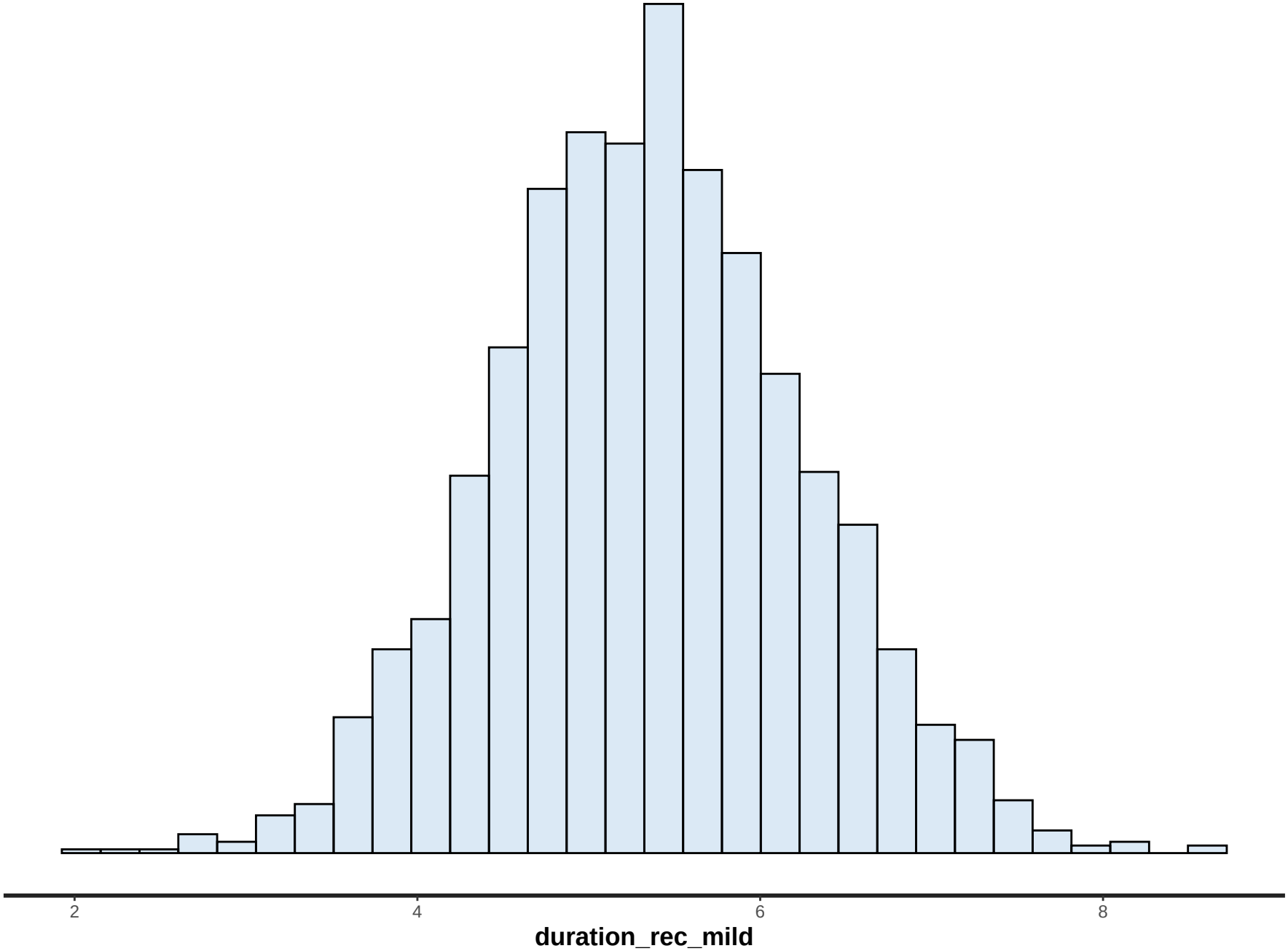
Rt as of 2020−12−13

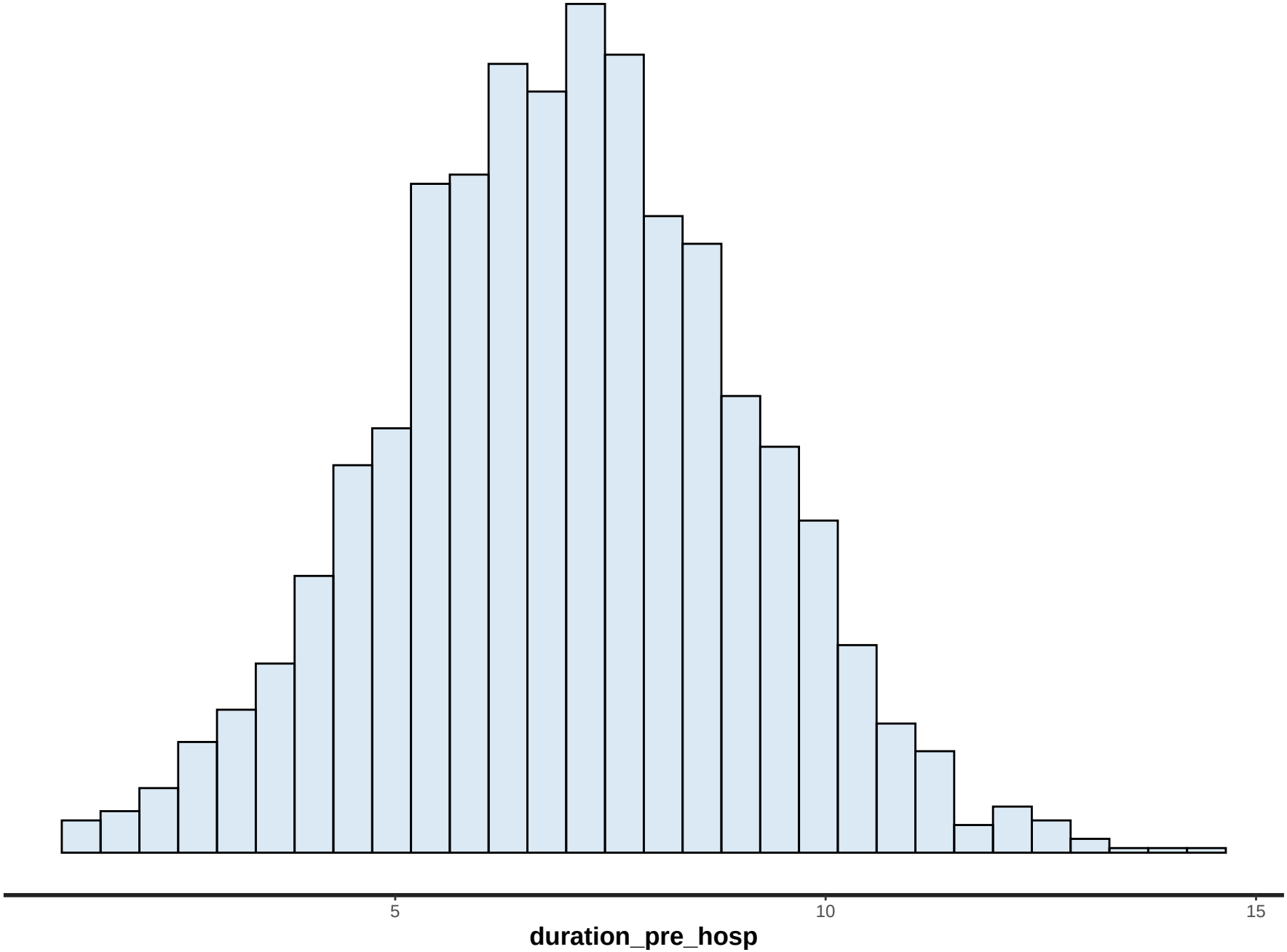
5%	10%	25%	50%	75%	90%	95%
1.21	1.23	1.26	1.30	1.34	1.38	1.41

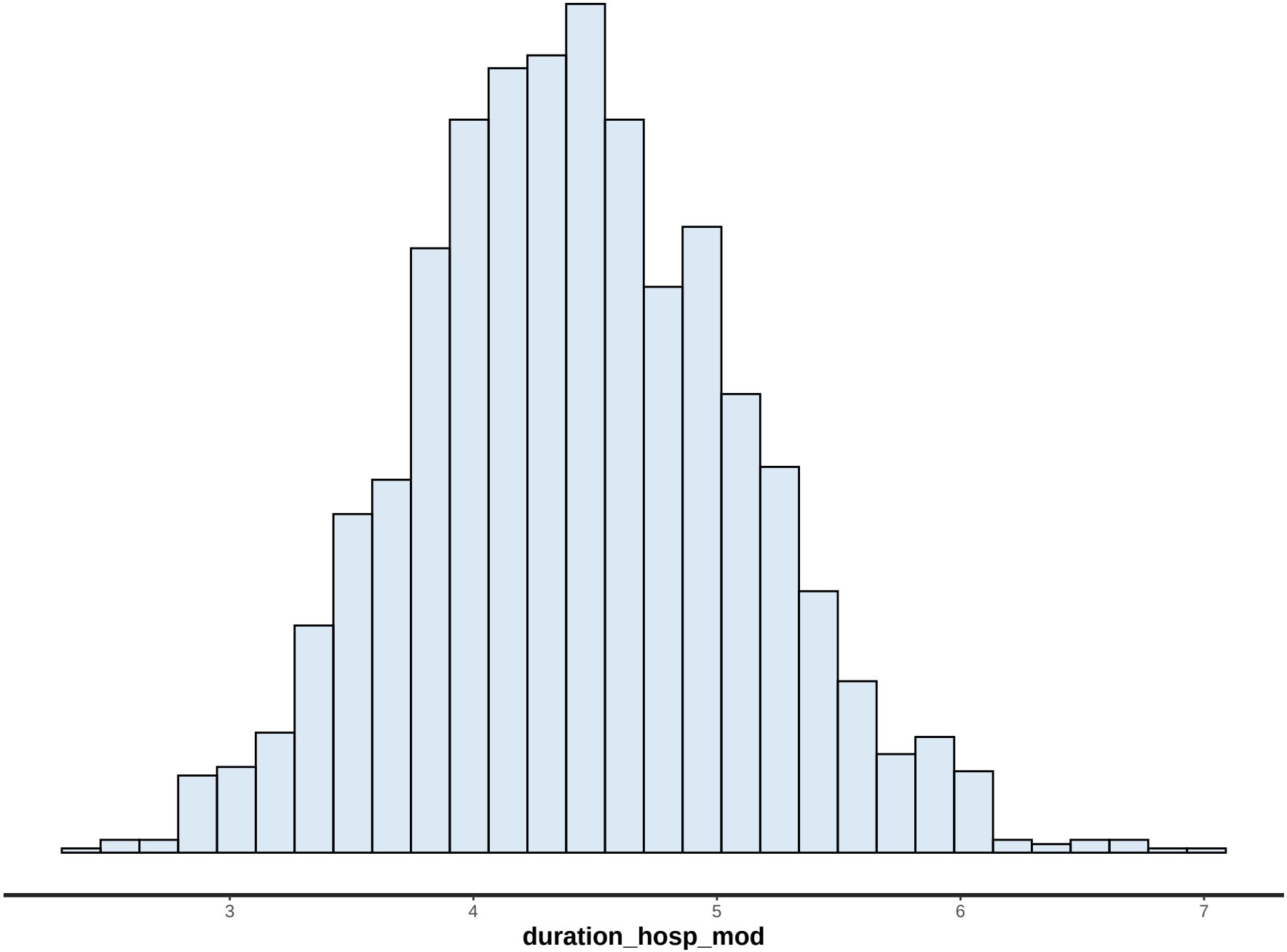


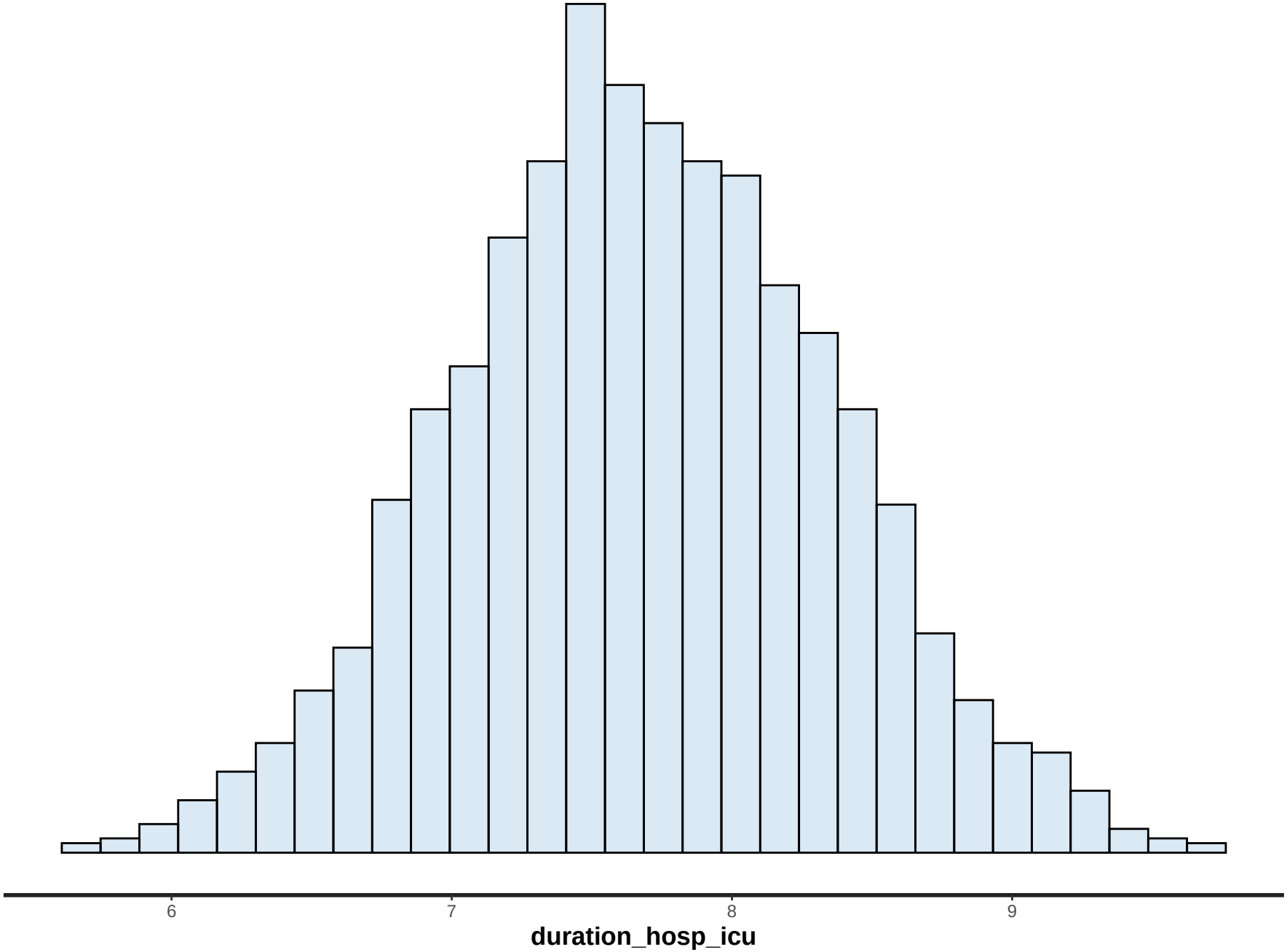

2
3
4
5
r0

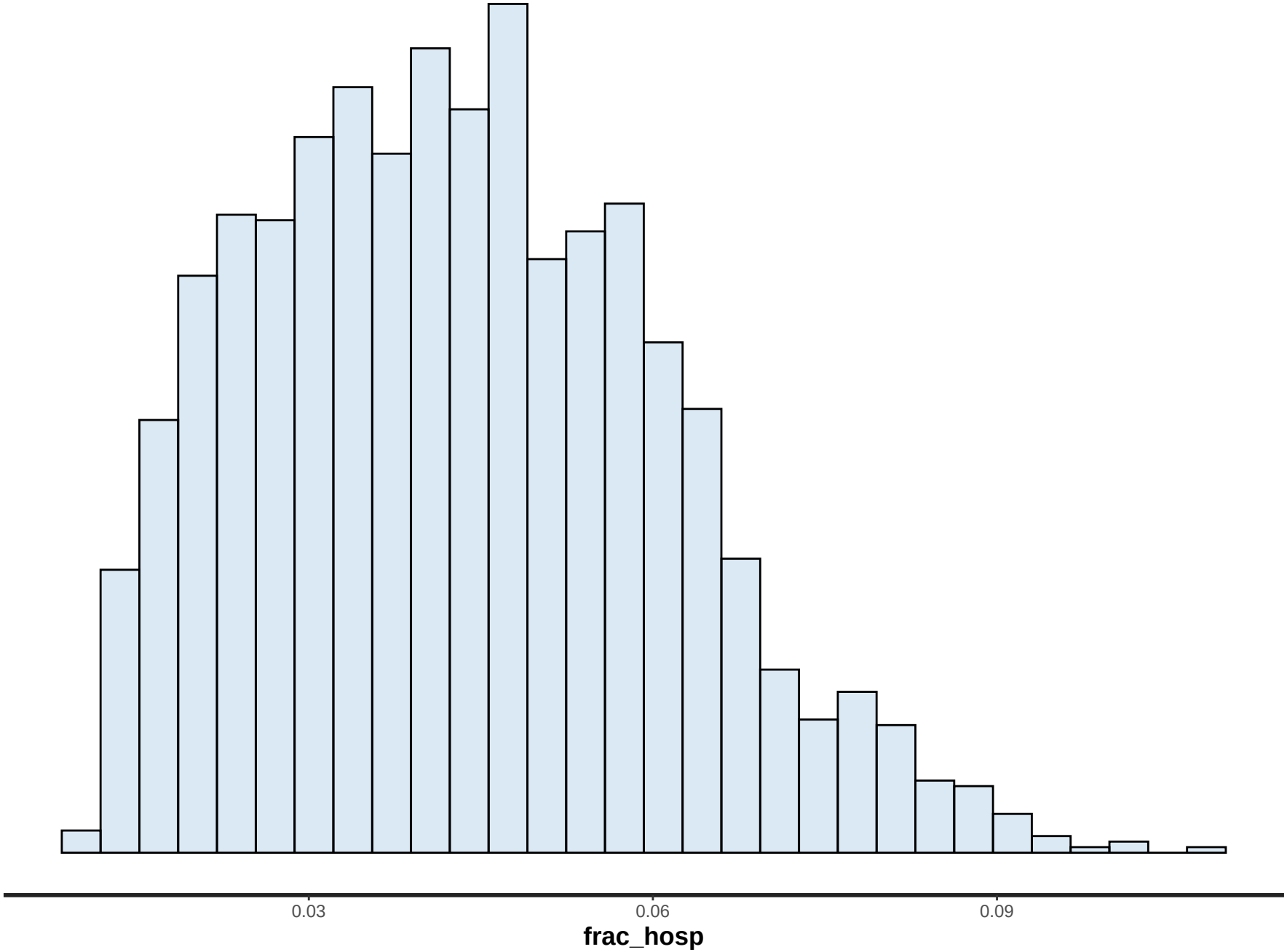

1
2
3
4
5
6
duration_latent

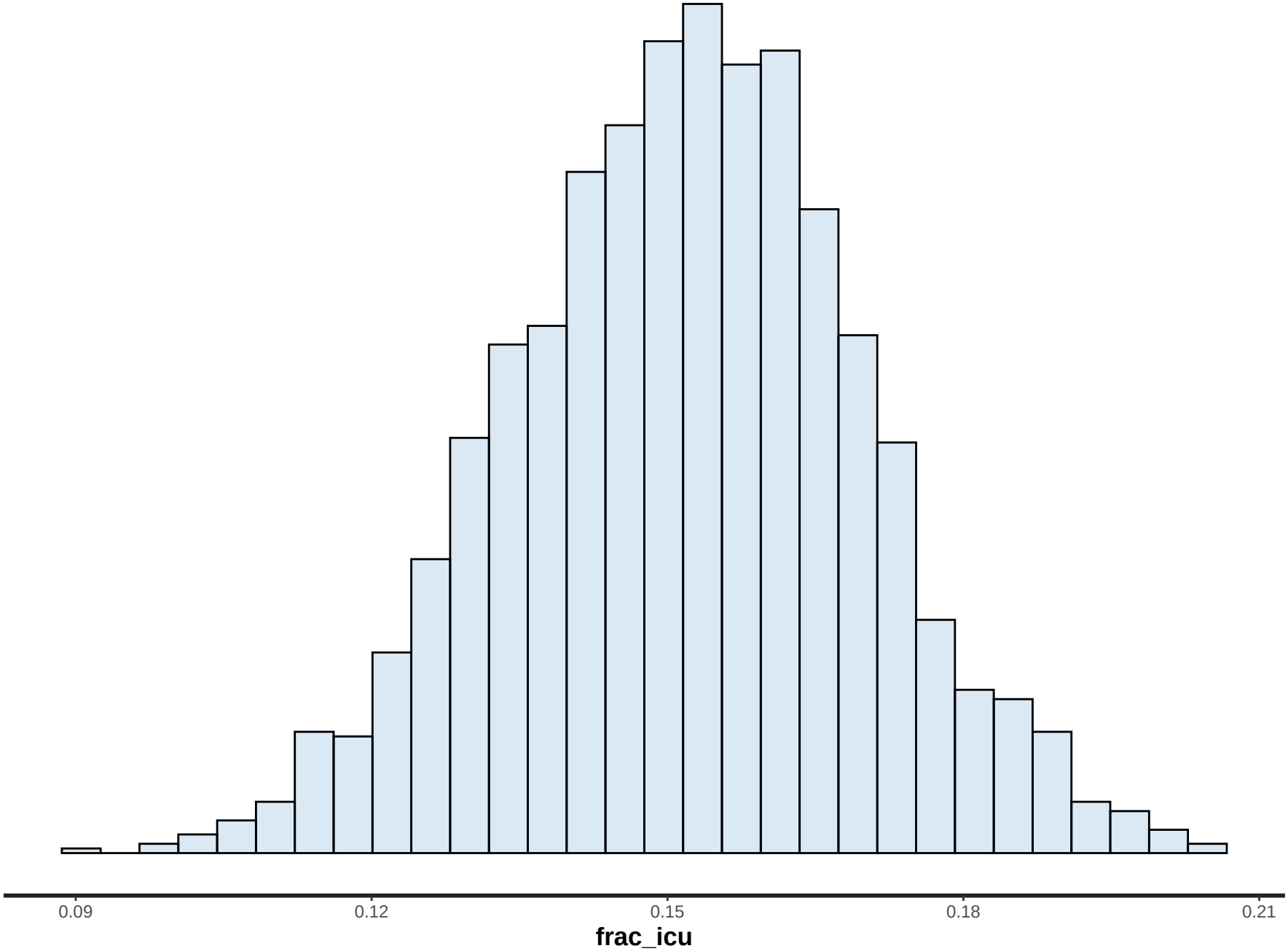

2
4
6
8
duration_rec_mild

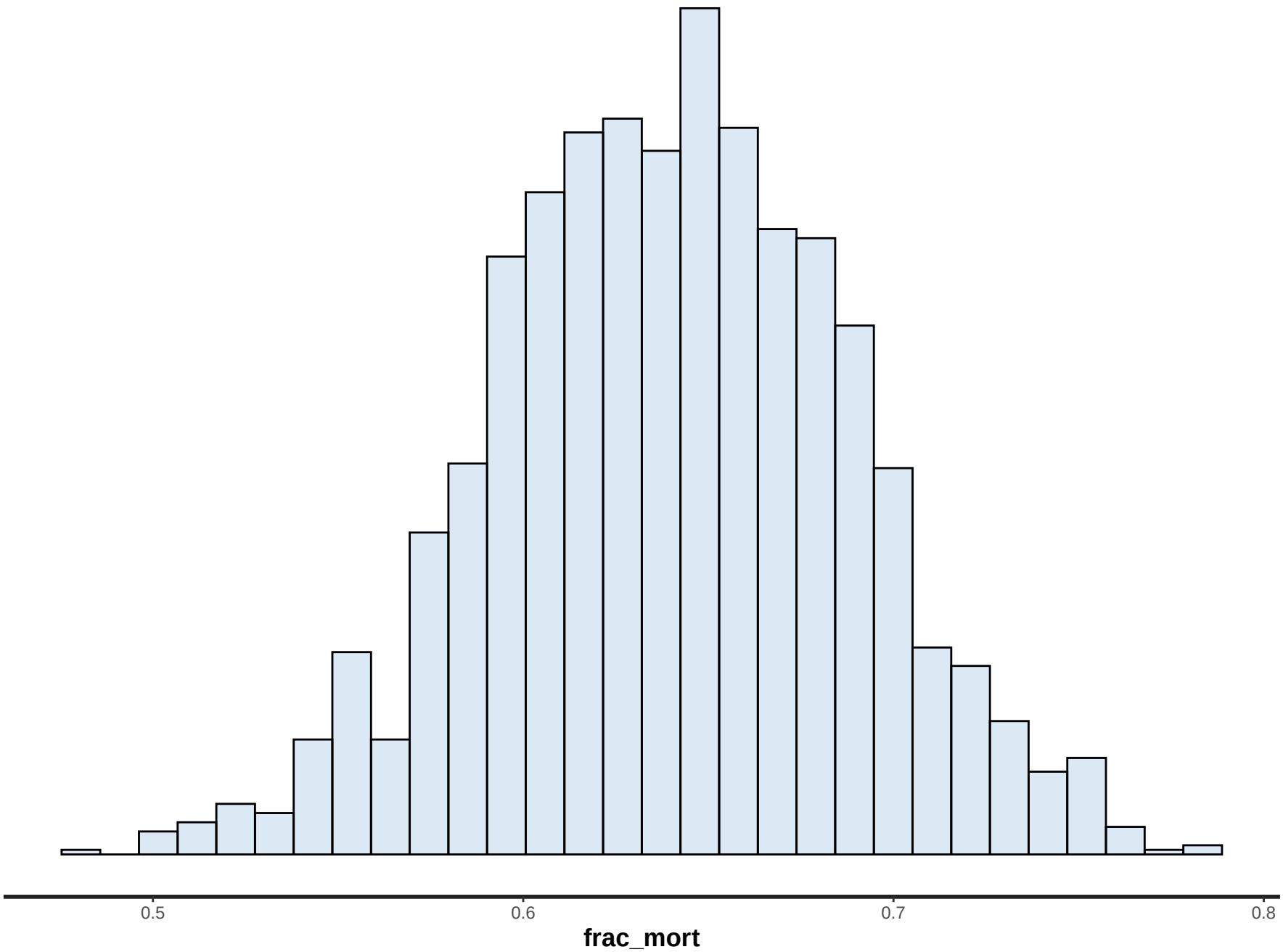

5
10
15
duration_pre_hosp

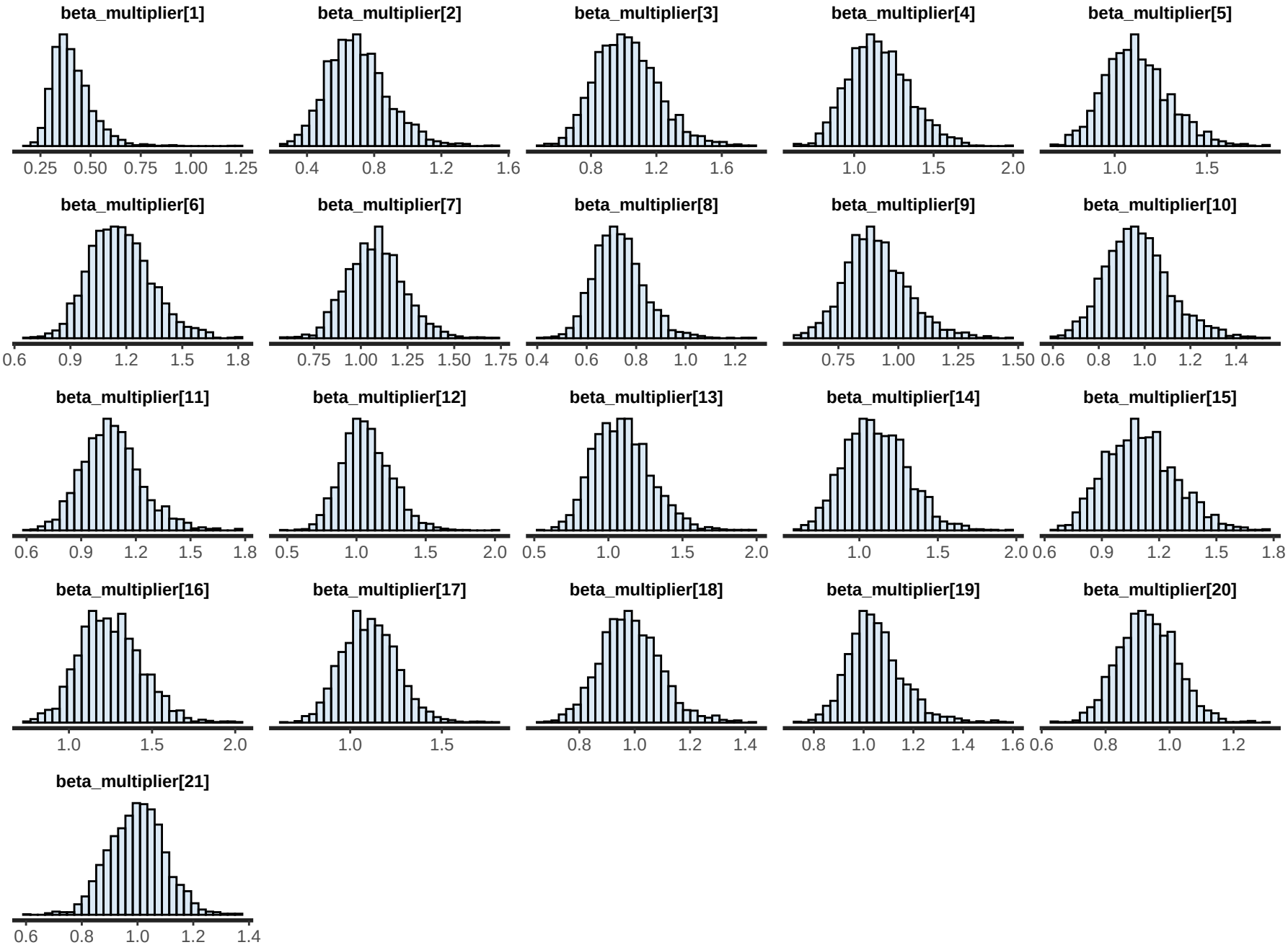

3
4
5
6
7
duration_hosp_mod

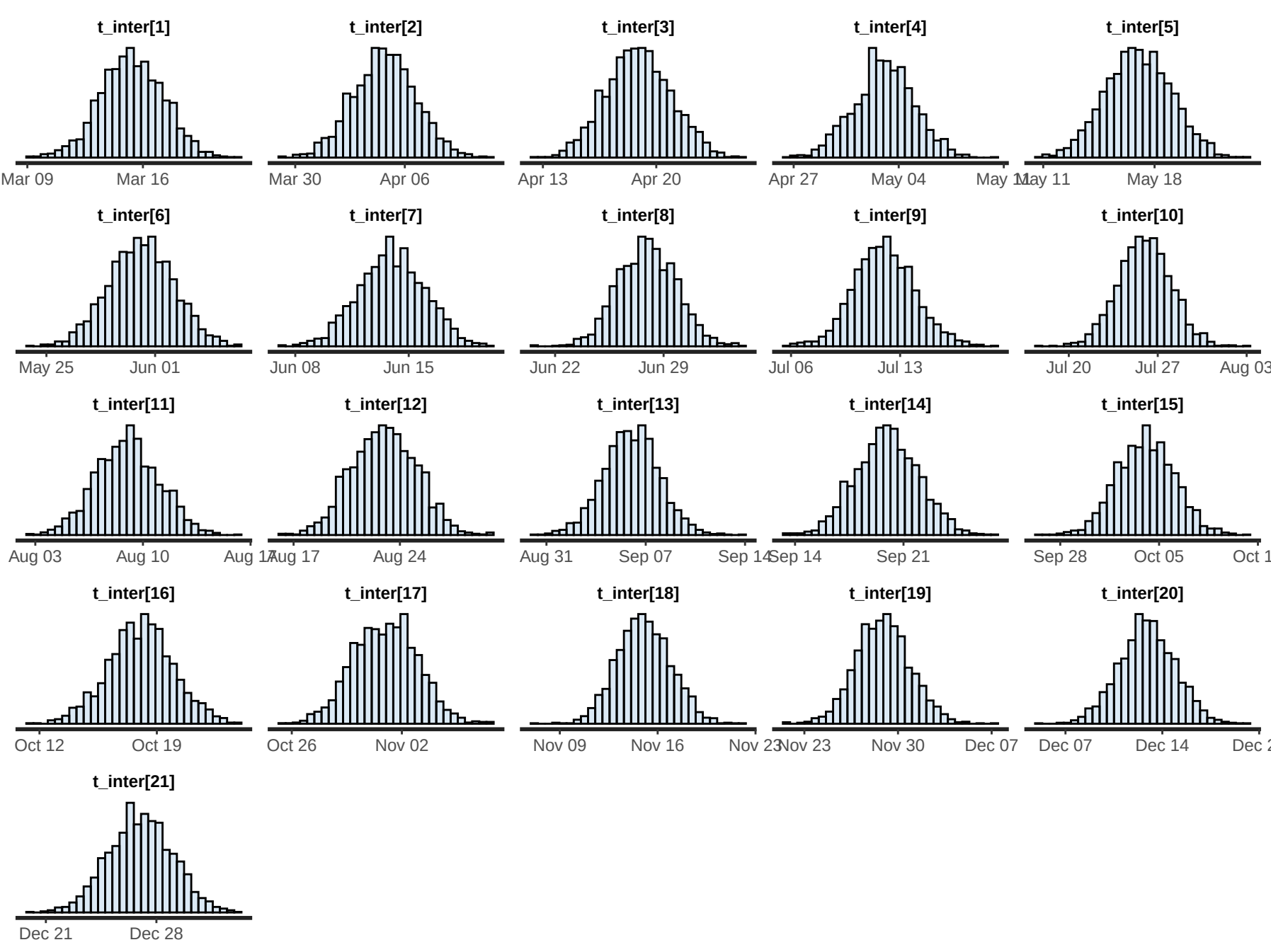

6
7
8
9
duration_hosp_icu

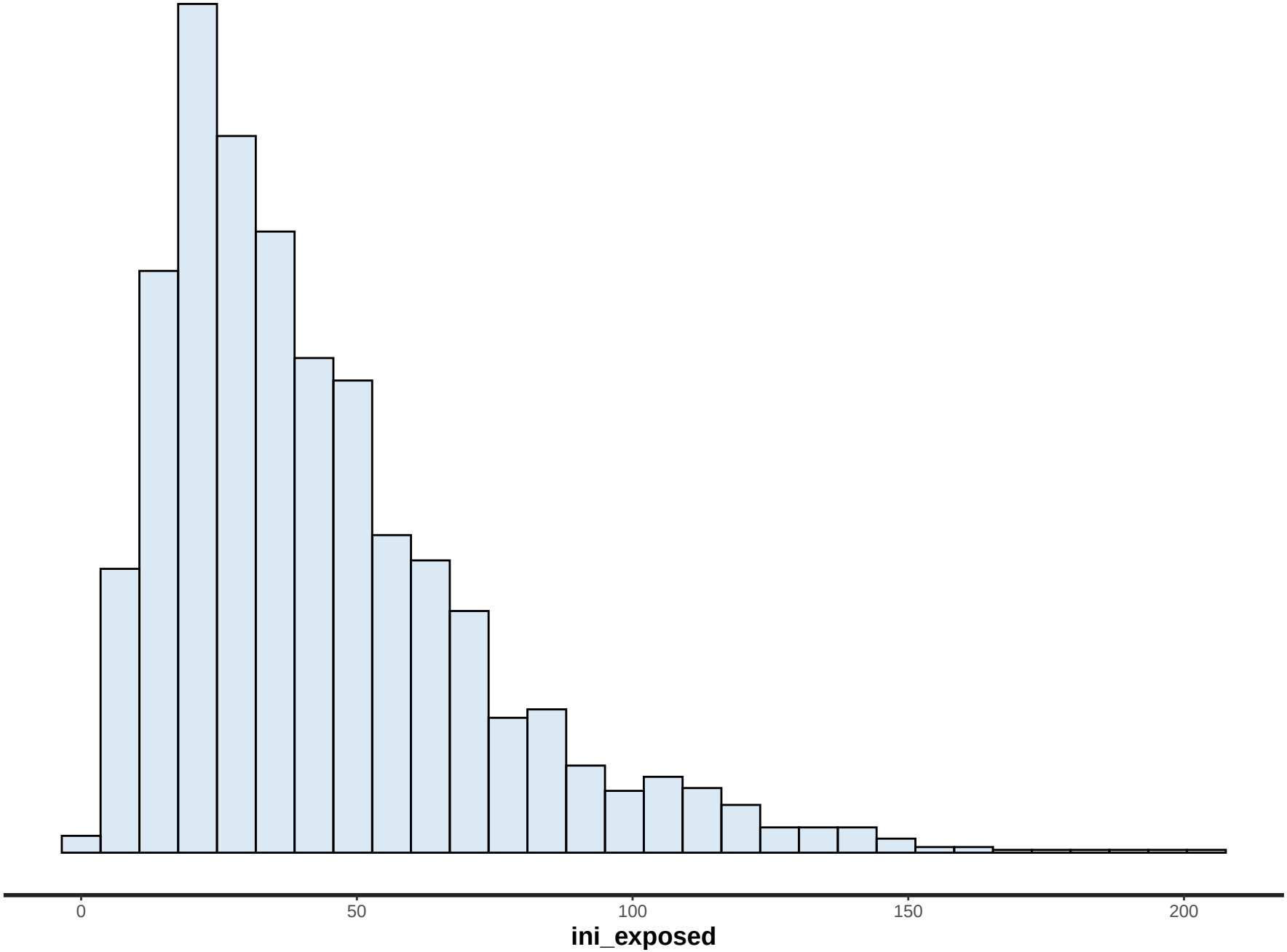

0.03
0.06
0.09
frac_hosp

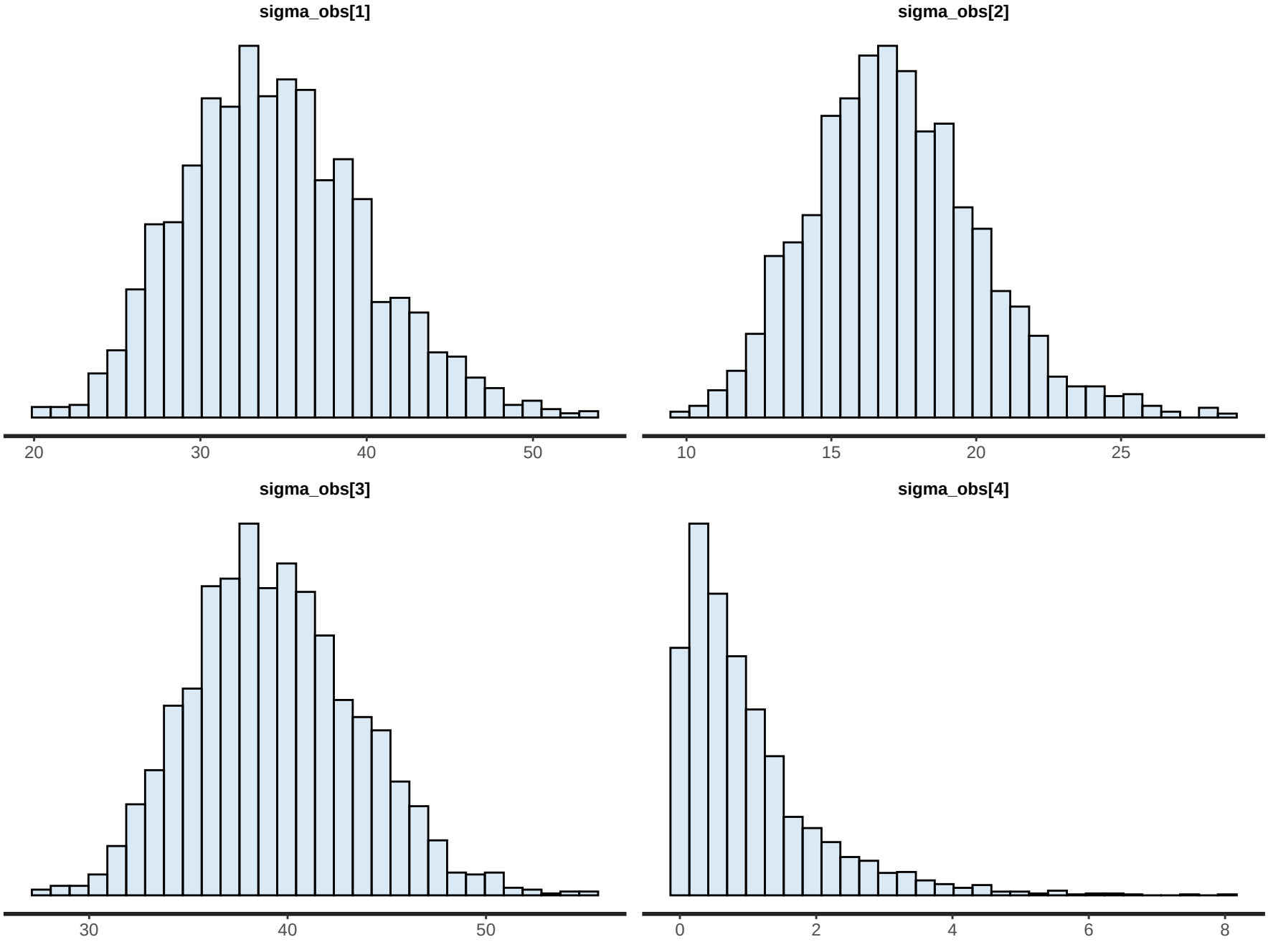

0.09
0.12
0.15
0.18
0.21
frac_icu


0.5
0.6
0.7
0.8
frac_mort


beta_multiplier[1]
0.25 0.50 0.75 1.00 1.25
beta_multiplier[2]
0.4 0.8 1.2 1.6
beta_multiplier[3]
0.8 1.2 1.6
beta_multiplier[4]
1.0 1.5 2.0
beta_multiplier[5]
1.0 1.5
beta_multiplier[6]
0.6 0.9 1.2 1.5 1.8
beta_multiplier[7]
0.75 1.00 1.25 1.50 1.75
beta_multiplier[8]
0.4 0.6 0.8 1.0 1.2
beta_multiplier[9]
0.75 1.00 1.25 1.50
beta_multiplier[10]
0.6 0.8 1.0 1.2 1.4
beta_multiplier[11]
0.6 0.9 1.2 1.5 1.8
beta_multiplier[12]
0.5 1.0 1.5 2.0
beta_multiplier[13]
0.5 1.0 1.5 2.0
beta_multiplier[14]
1.0 1.5 2.0
beta_multiplier[15]
0.6 0.9 1.2 1.5 1.8
beta_multiplier[16]
1.0 1.5 2.0
beta_multiplier[17]
1.0 1.5
beta_multiplier[18]
0.8 1.0 1.2 1.4
beta_multiplier[19]
0.8 1.0 1.2 1.4 1.6
beta_multiplier[20]
0.6 0.8 1.0 1.2
beta_multiplier[21]
0.6 0.8 1.0 1.2 1.4


t_inter[1]
Mar 09
Mar 16
t_inter[2]
Mar 30
Apr 06
t_inter[3]
Apr 13
Apr 20
t_inter[4]
Apr 27
May 04
May 11
t_inter[5]
May 11
May 18
t_inter[6]
May 25
Jun 01
t_inter[7]
Jun 08
Jun 15
t_inter[8]
Jun 22
Jun 29
t_inter[9]
Jul 06
Jul 13
t_inter[10]
Jul 20
Jul 27
Aug 03
t_inter[11]
Aug 03
Aug 10
Aug 17
t_inter[12]
Aug 17
Aug 24
t_inter[13]
Aug 31
Sep 07
Sep 14
t_inter[14]
Sep 14
Sep 21
t_inter[15]
Sep 28
Oct 05
Oct 1
t_inter[16]
Oct 12
Oct 19
t_inter[17]
Oct 26
Nov 02
t_inter[18]
Nov 09
Nov 16
Nov 23
t_inter[19]
Nov 23
Nov 30
Dec 07
t_inter[20]
Dec 07
Dec 14
Dec 2
t_inter[21]
Dec 21
Dec 28


0
50
100
150
200
ini_exposed


sigma_obs[1]
20
30
40
50
sigma_obs[2]
10
15
20
25
sigma_obs[3]
30
40
50
sigma_obs[4]
0
2
4
6
8