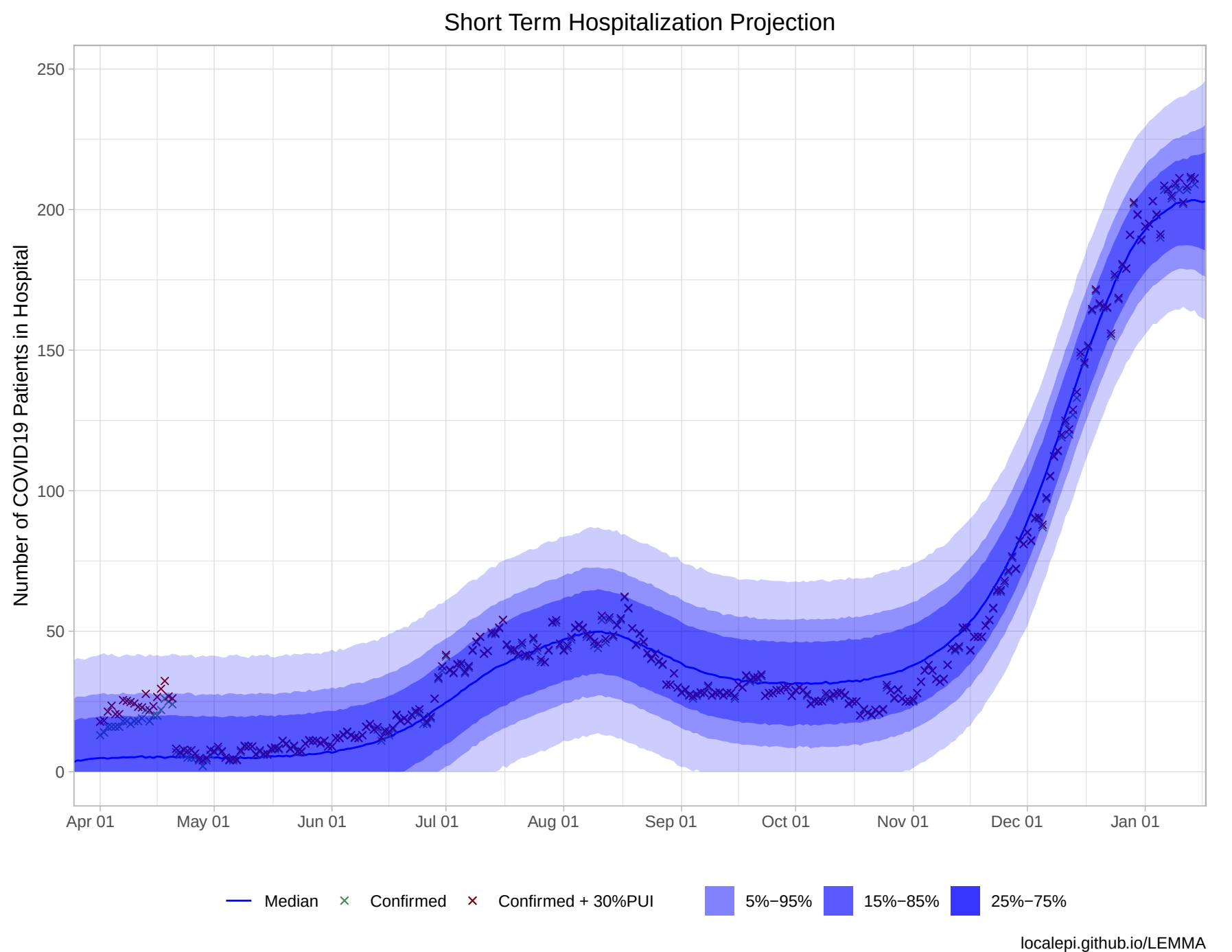
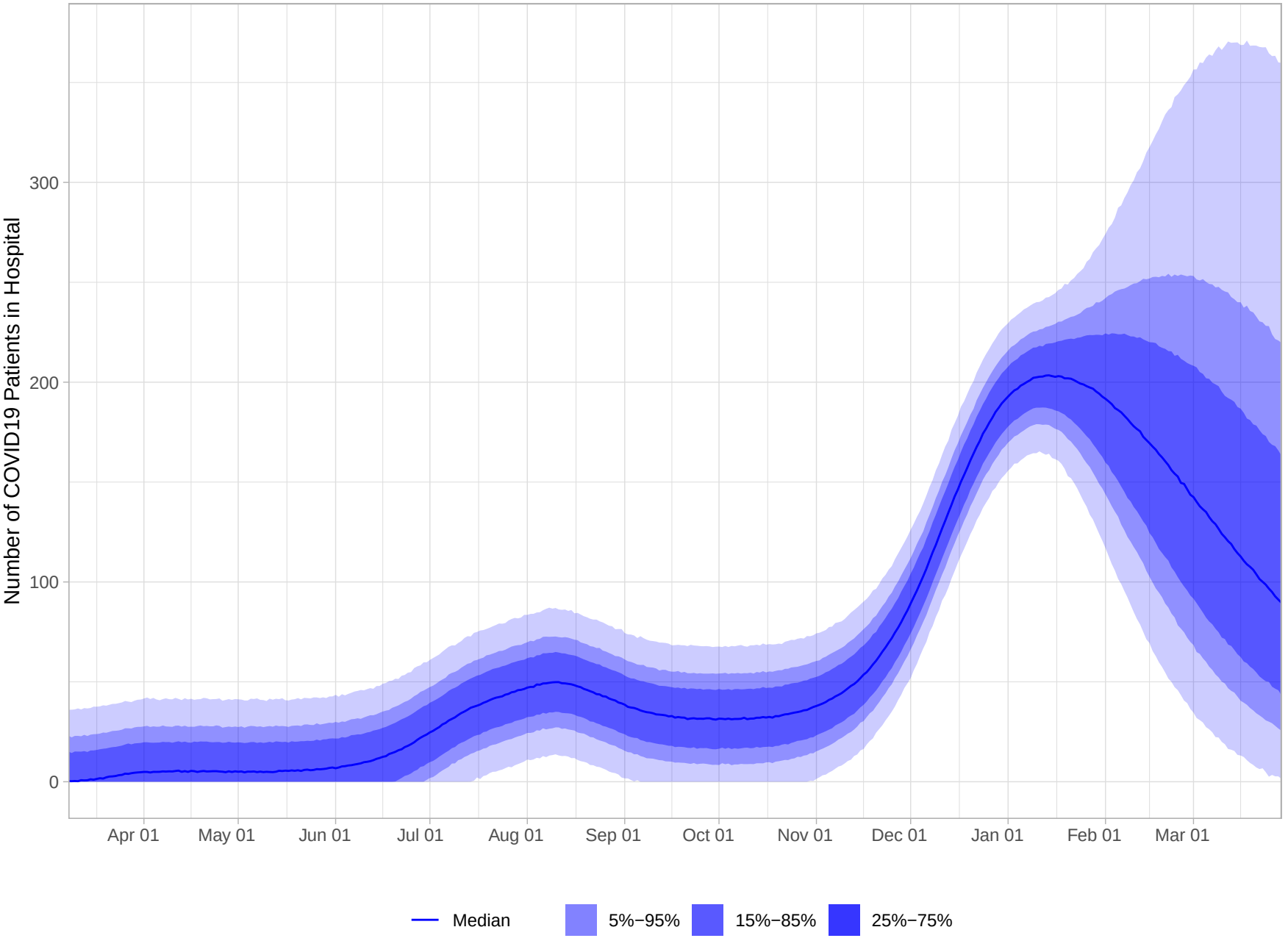
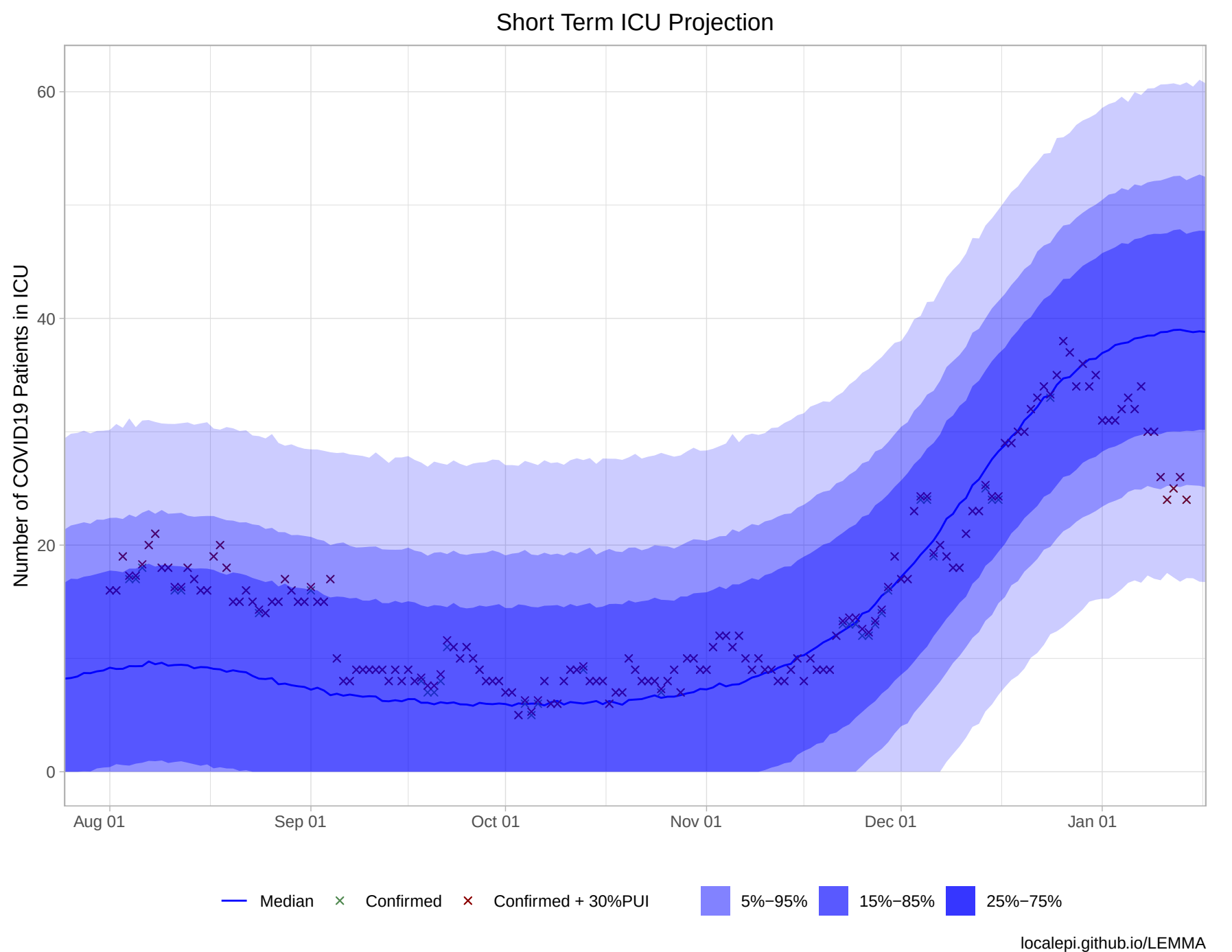
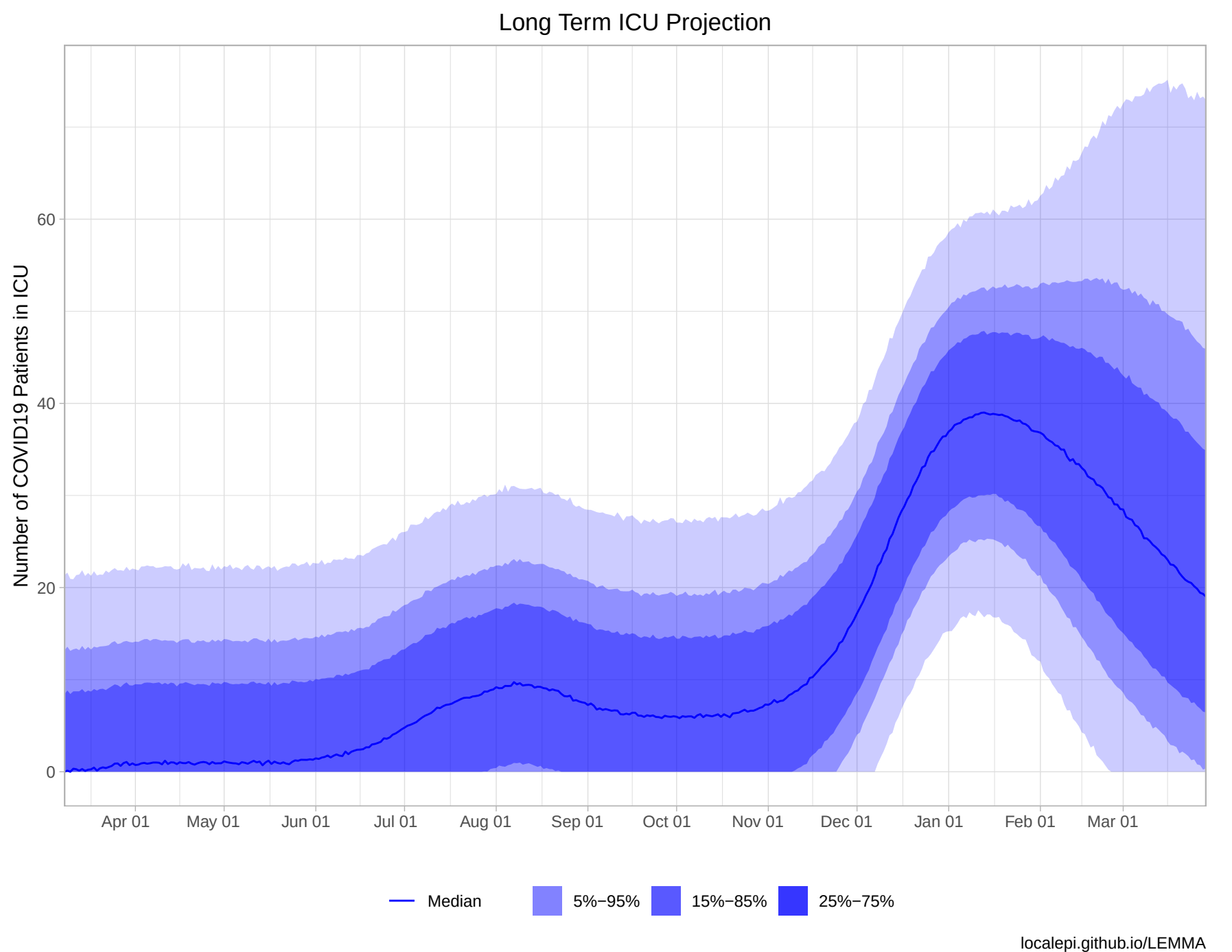
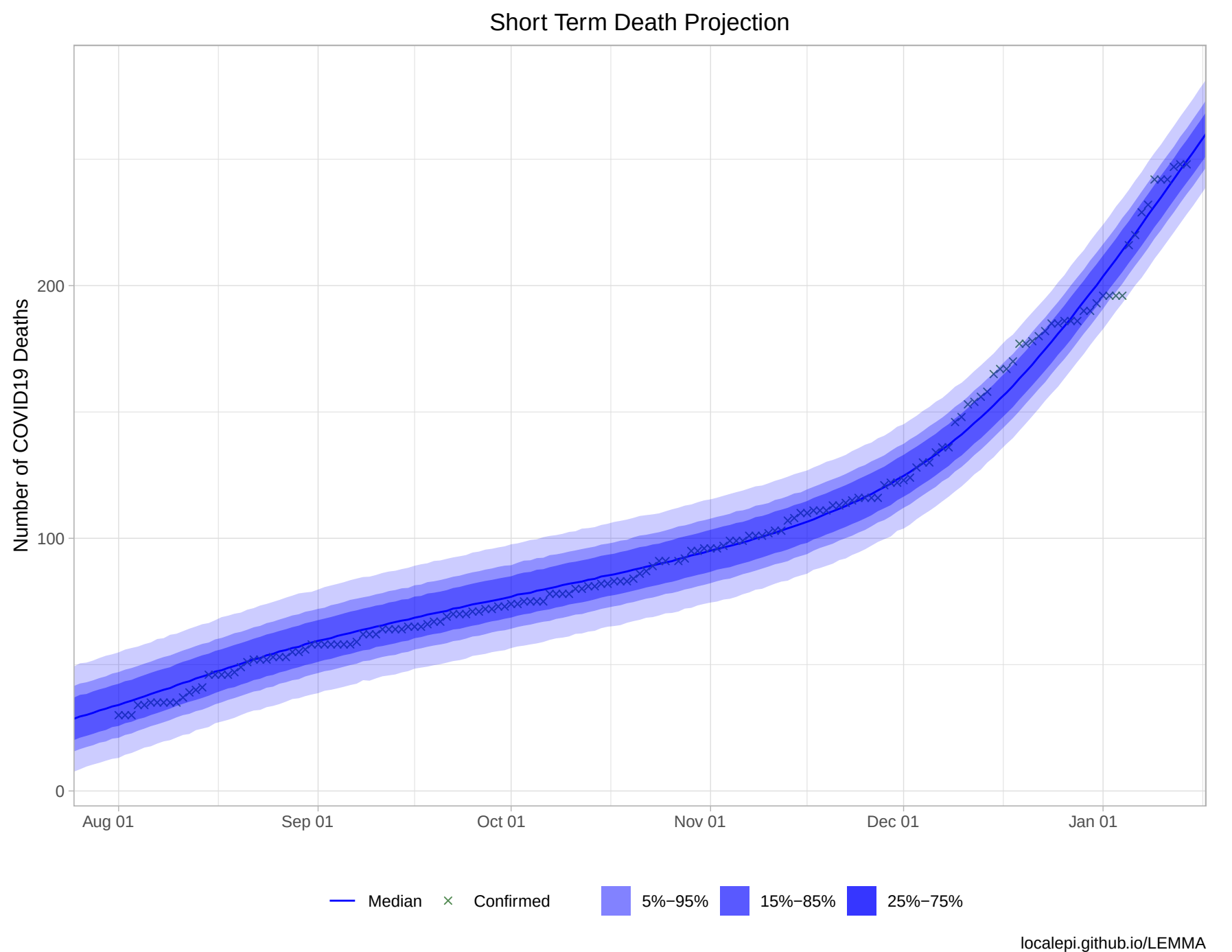
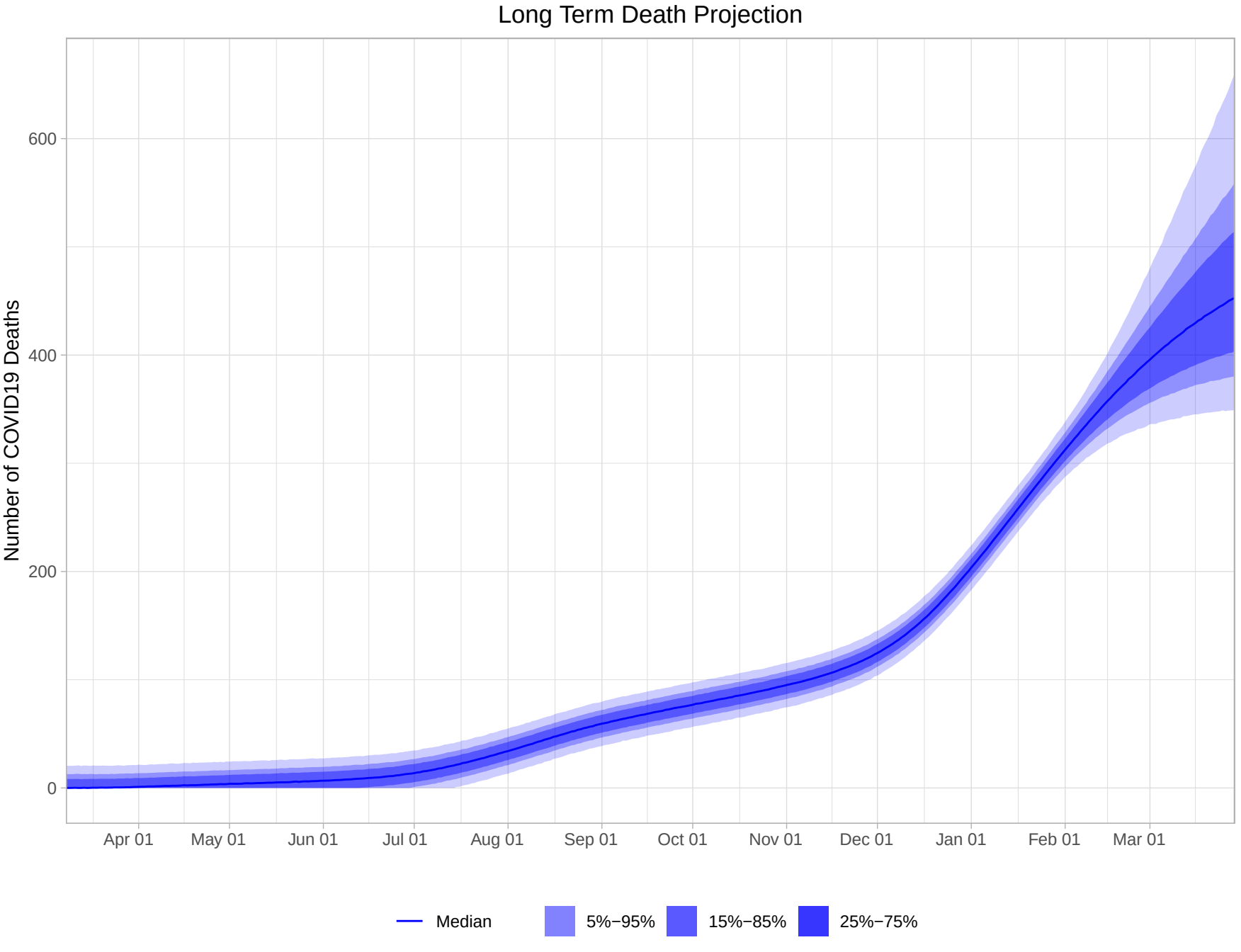

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
250
200
150
100
50
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

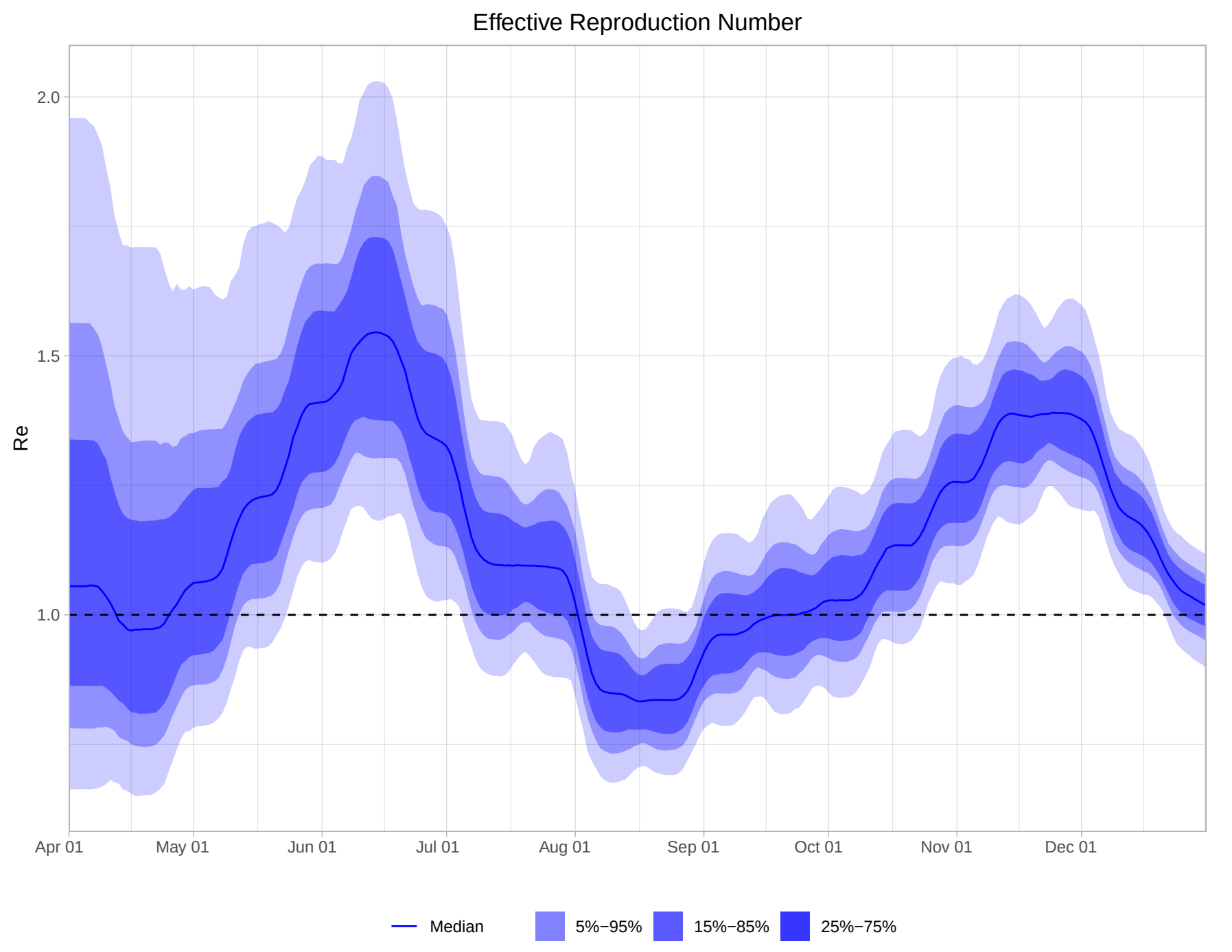

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
0
100
200
300
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
60
40
20
0
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 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
0
20
40
60
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

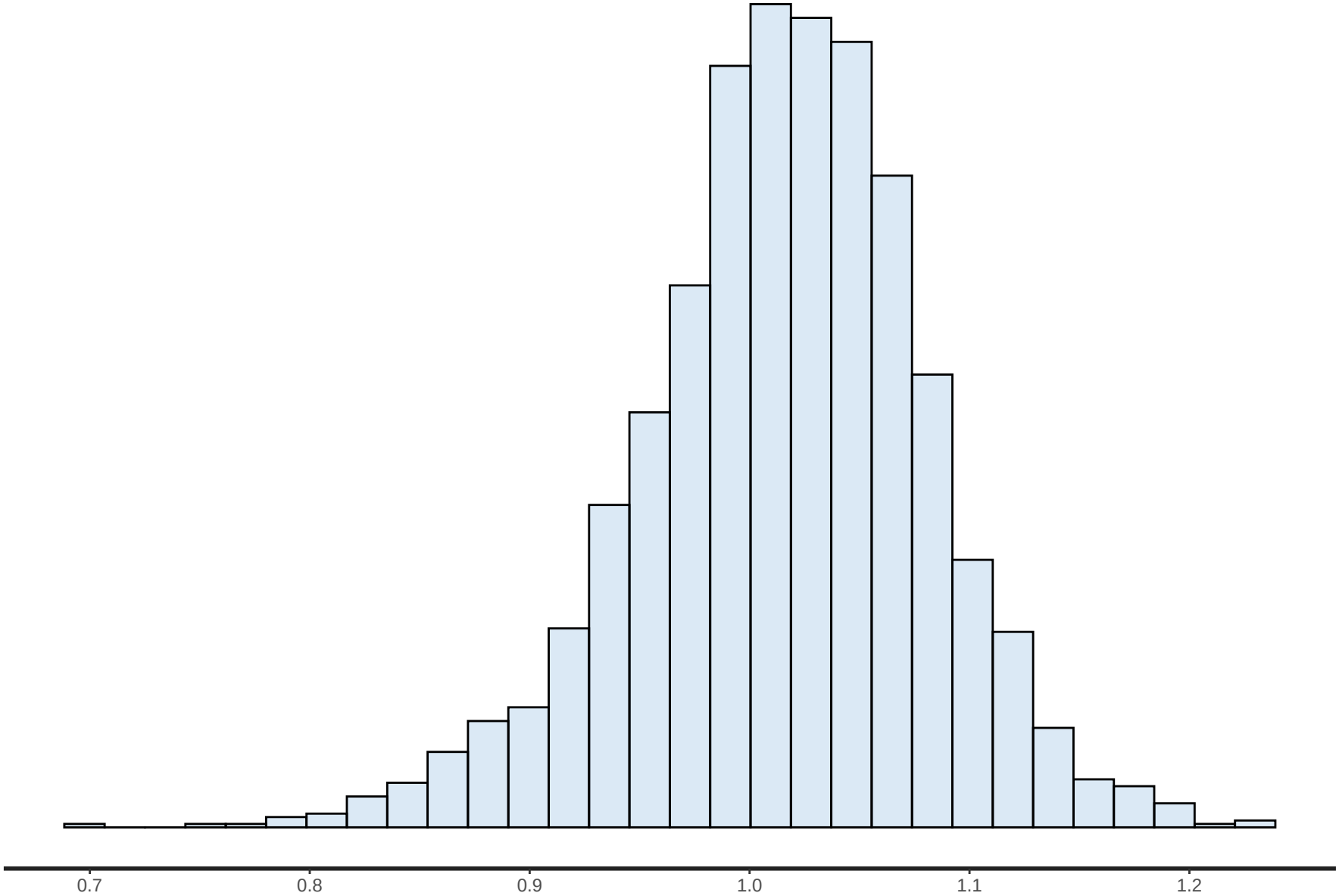

Short Term Death Projection
Number of COVID19 Deaths
200
100
0
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

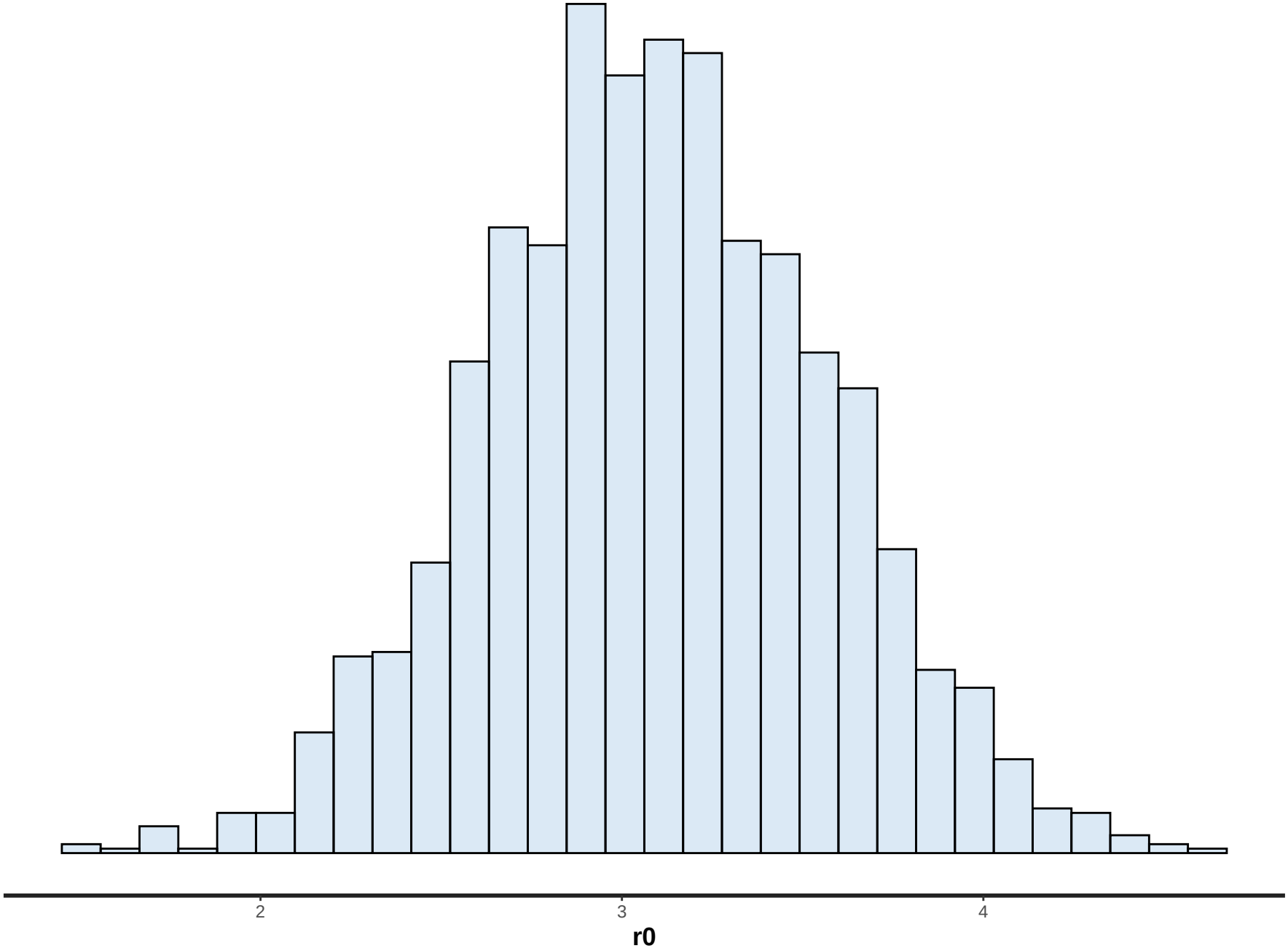

Long Term Death Projection
Number of COVID19 Deaths
600
400
200
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

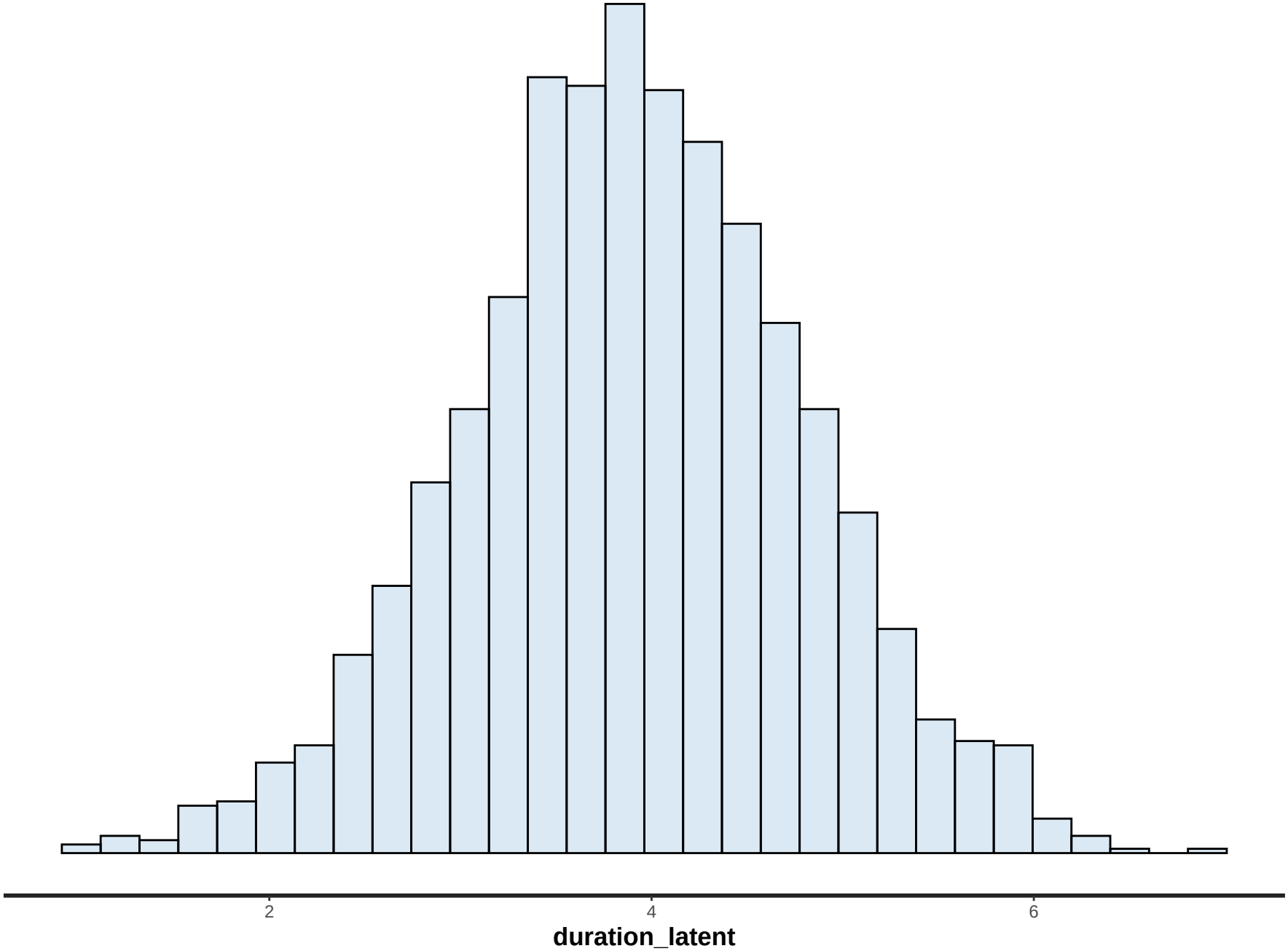

Effective Reproduction Number
Re
2.0
1.5
1.0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
5%−95%
15%−85%
25%−75%

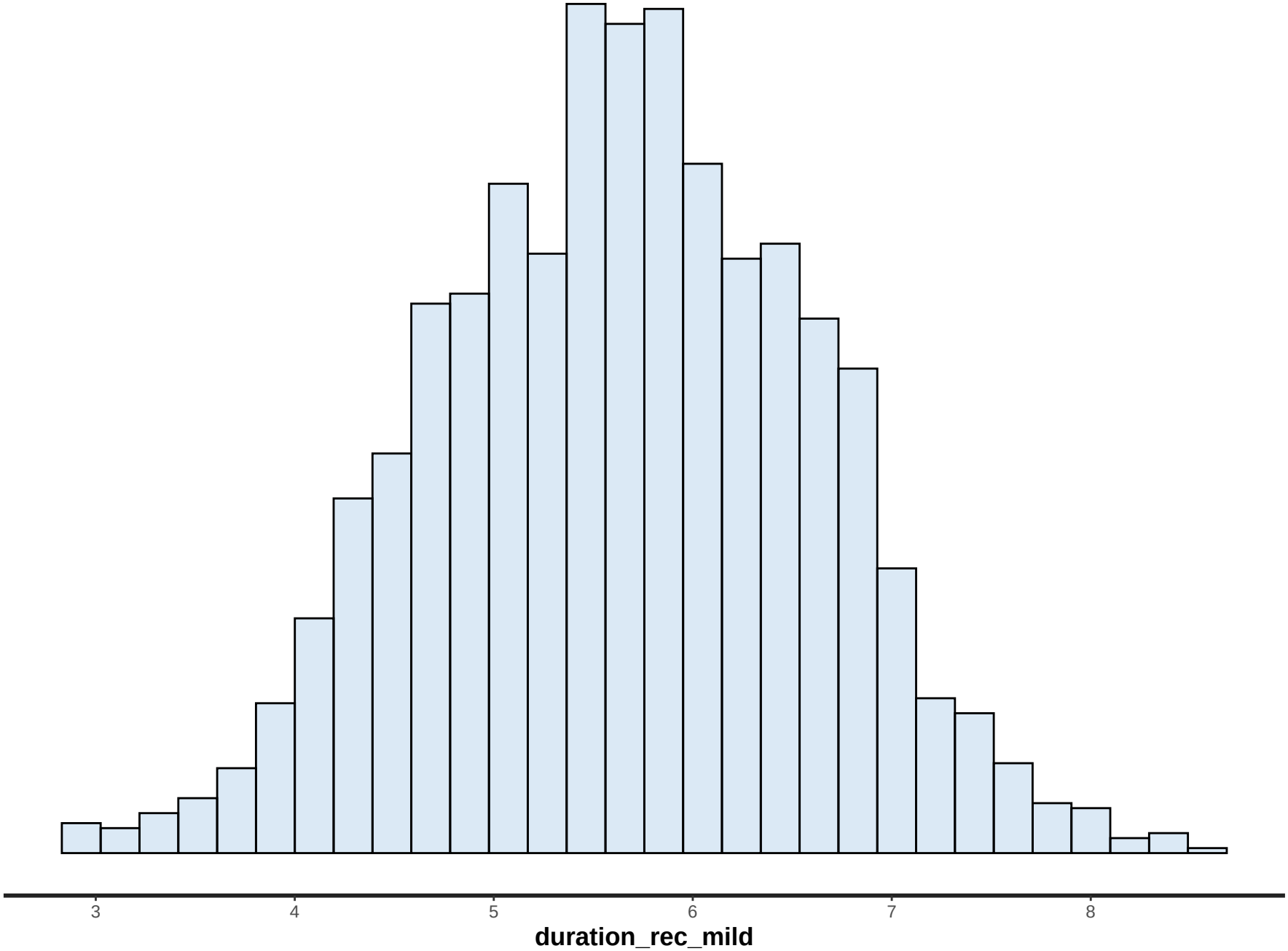
Rt as of 2020−12−31

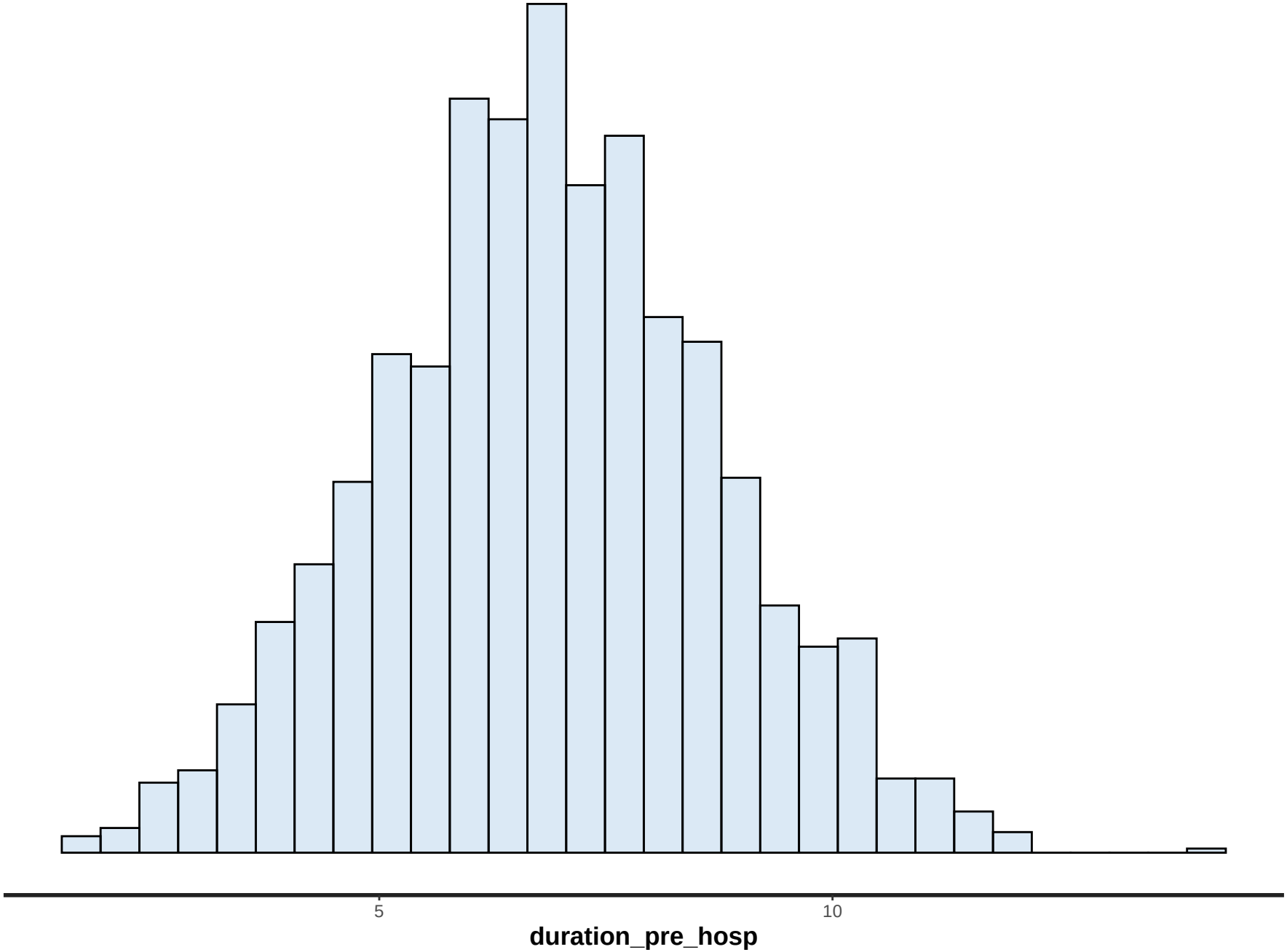
5%	10%	25%	50%	75%	90%	95%
0.90	0.93	0.98	1.02	1.06	1.09	1.12

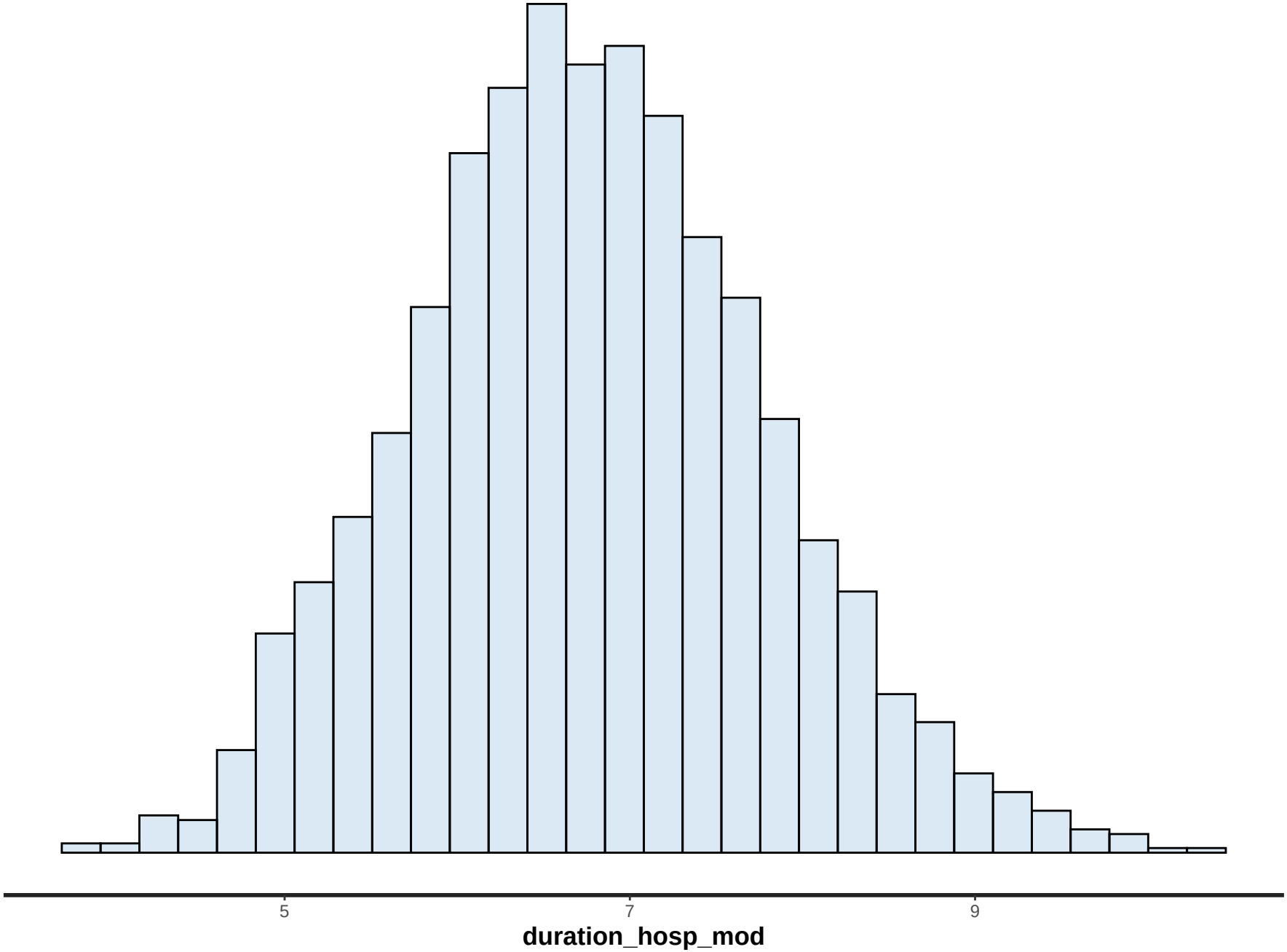


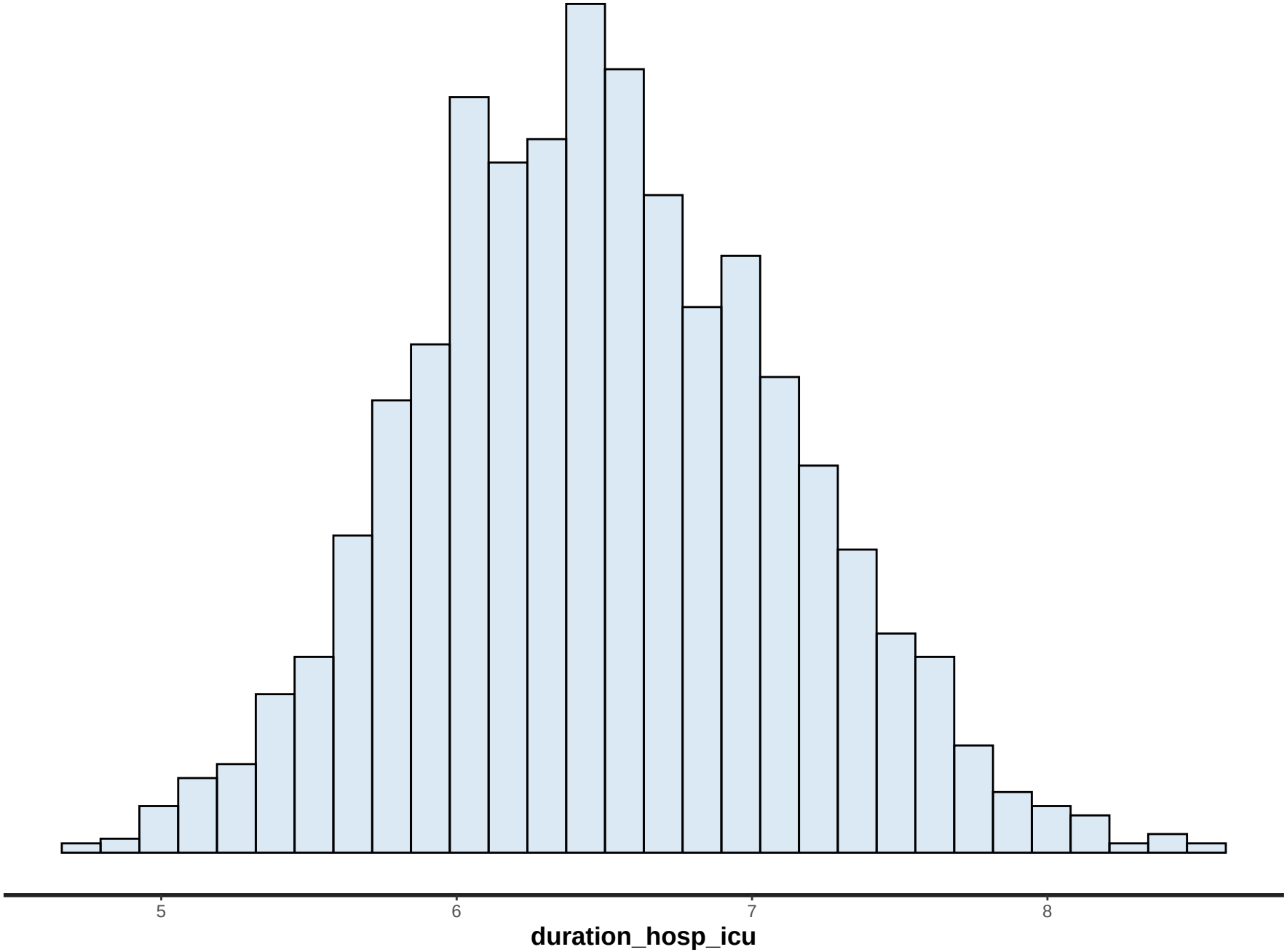

2
3
4
r0

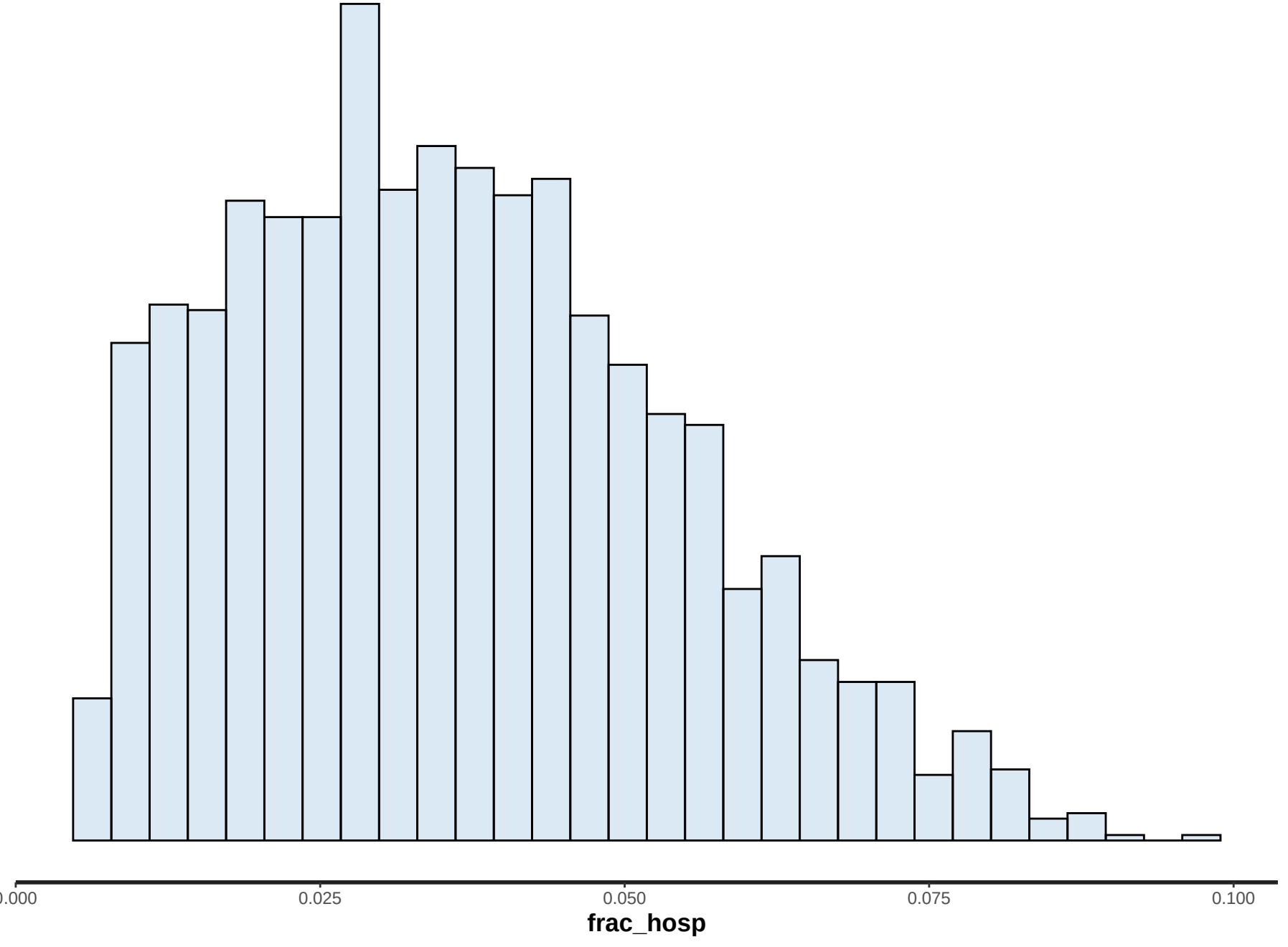

2
4
6
duration_latent

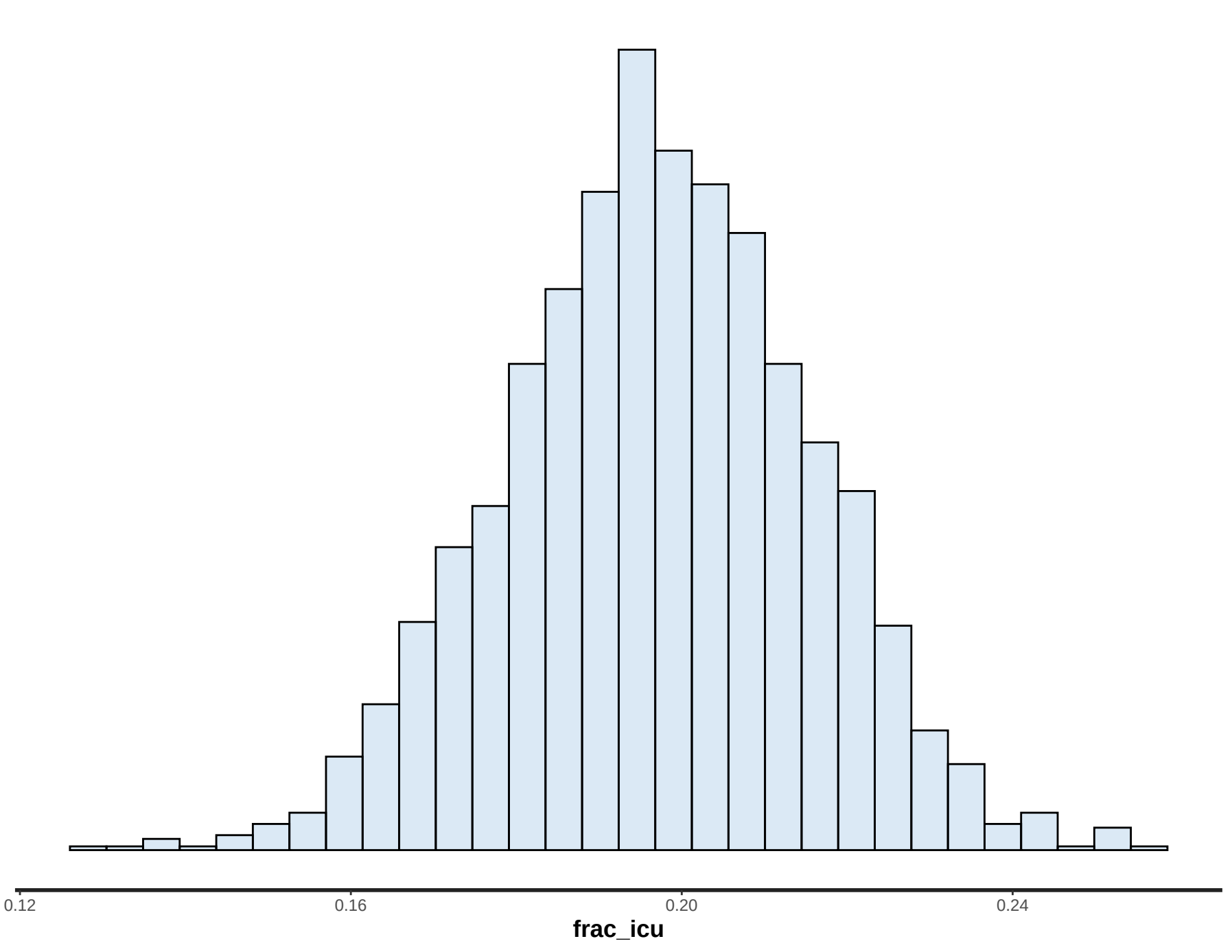

3
4
5
6
7
8
duration_rec_mild

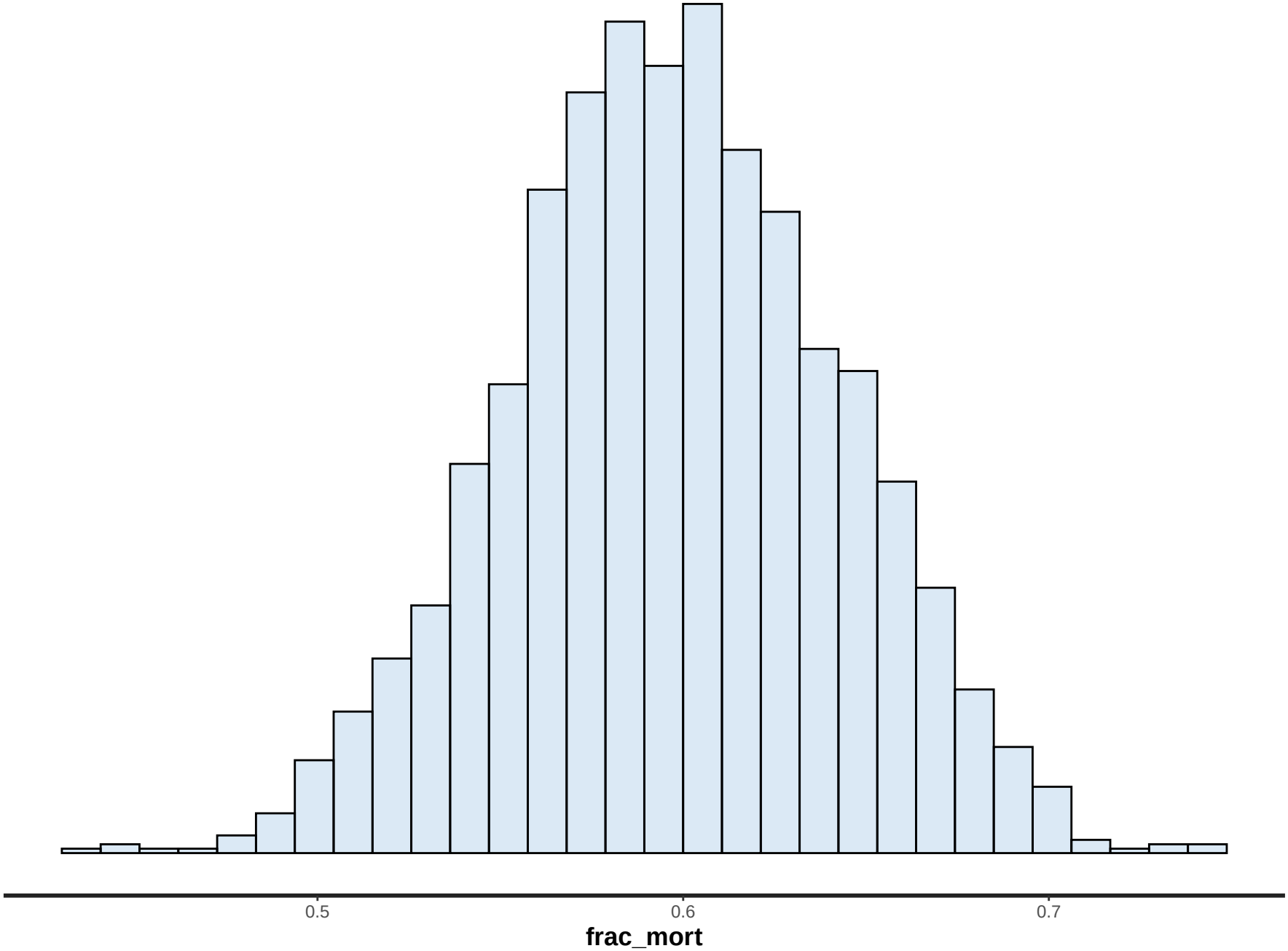

5
10
duration_pre_hosp

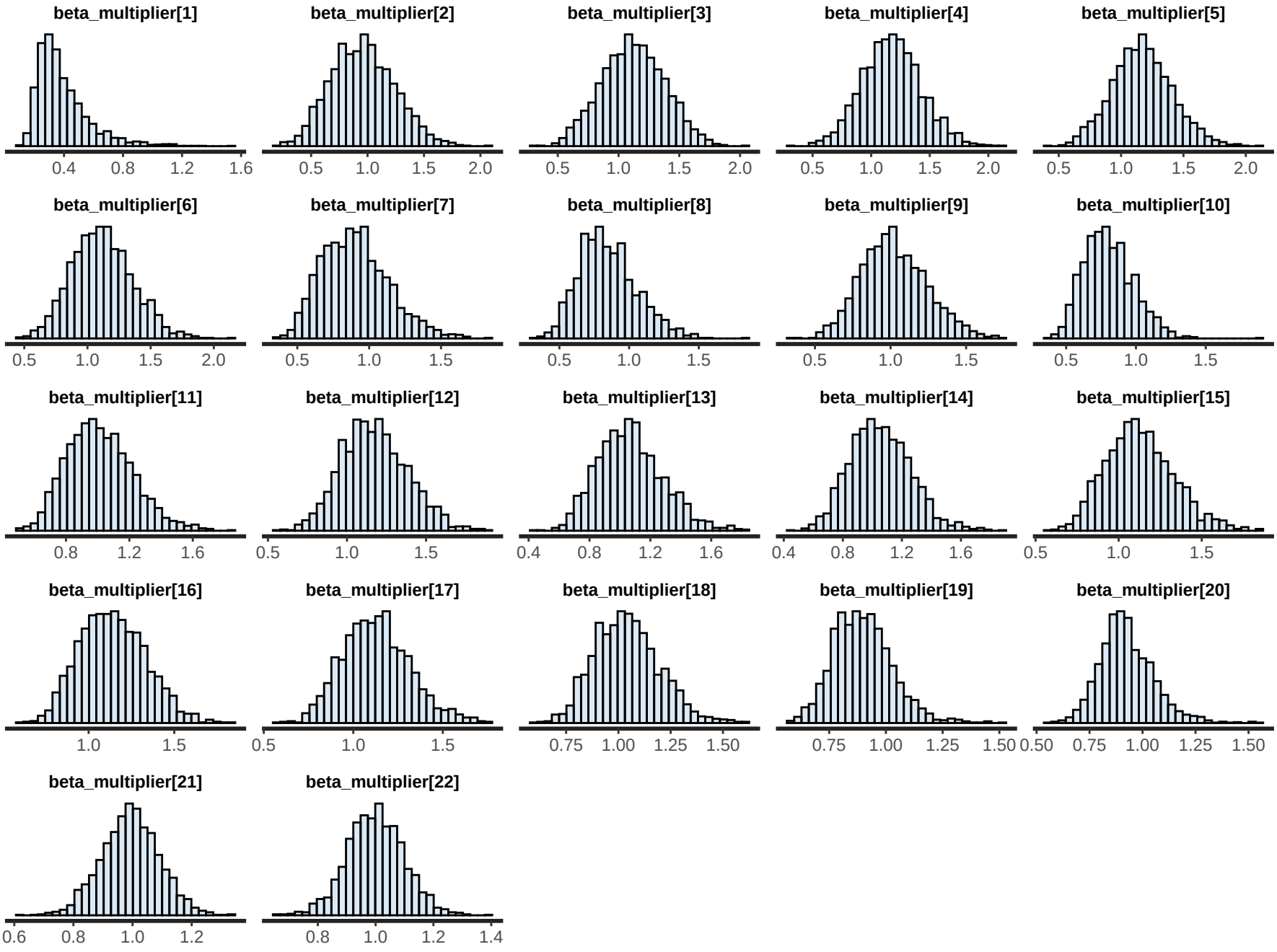

5
7
9
duration_hosp_mod

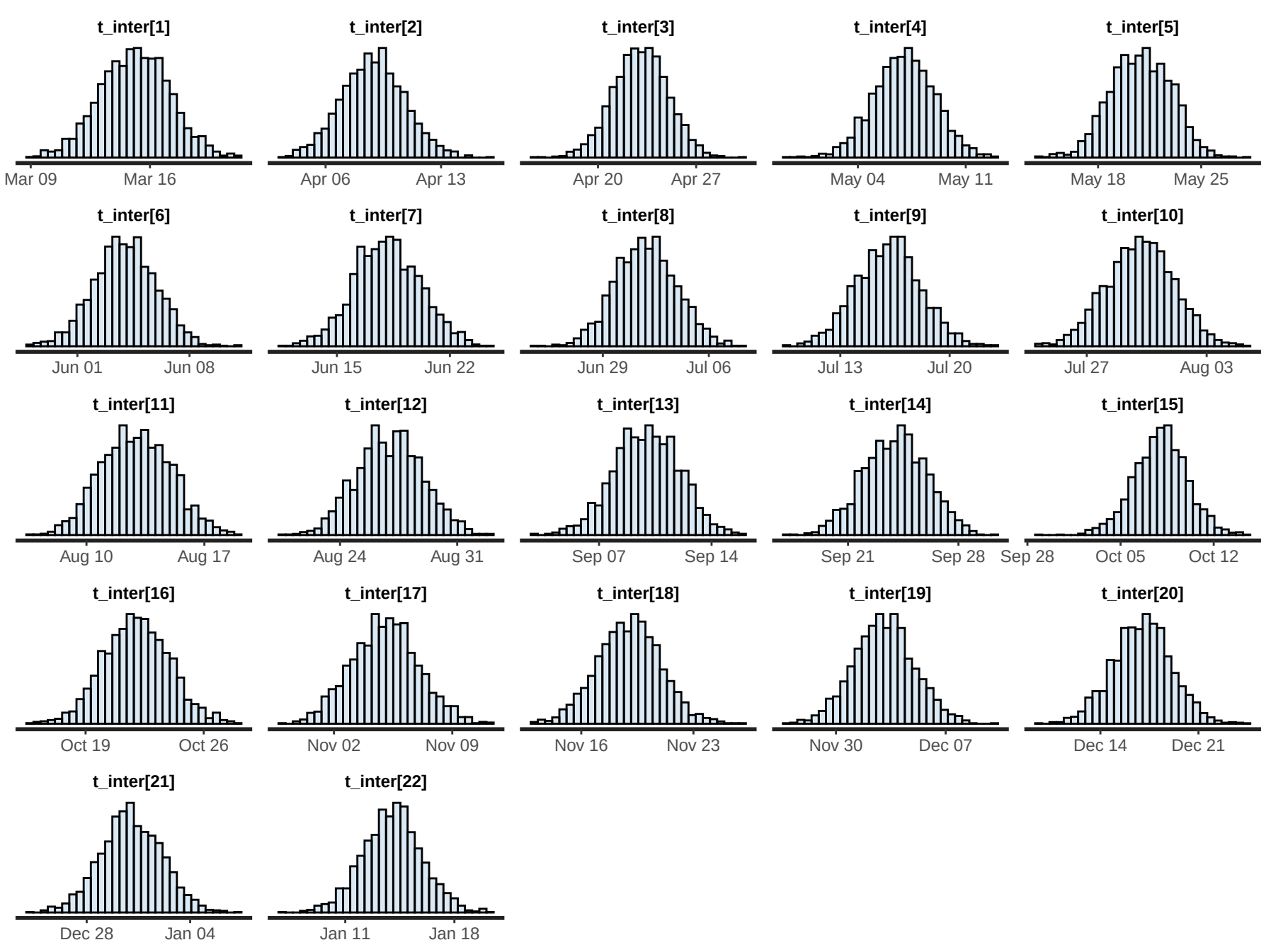

5
6
7
8
duration_hosp_icu

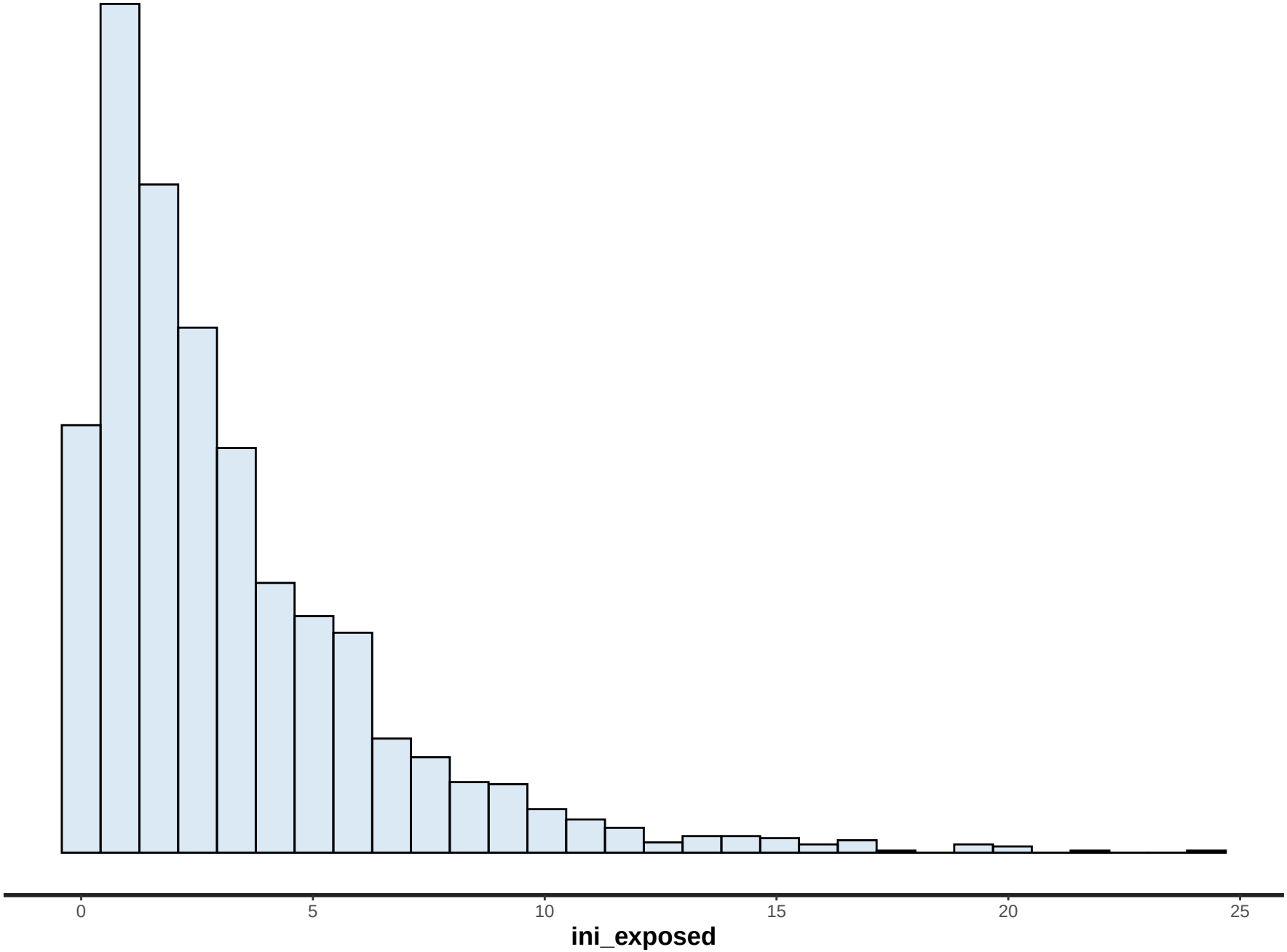

0.000
0.025
0.050
0.075
0.100
frac_hosp

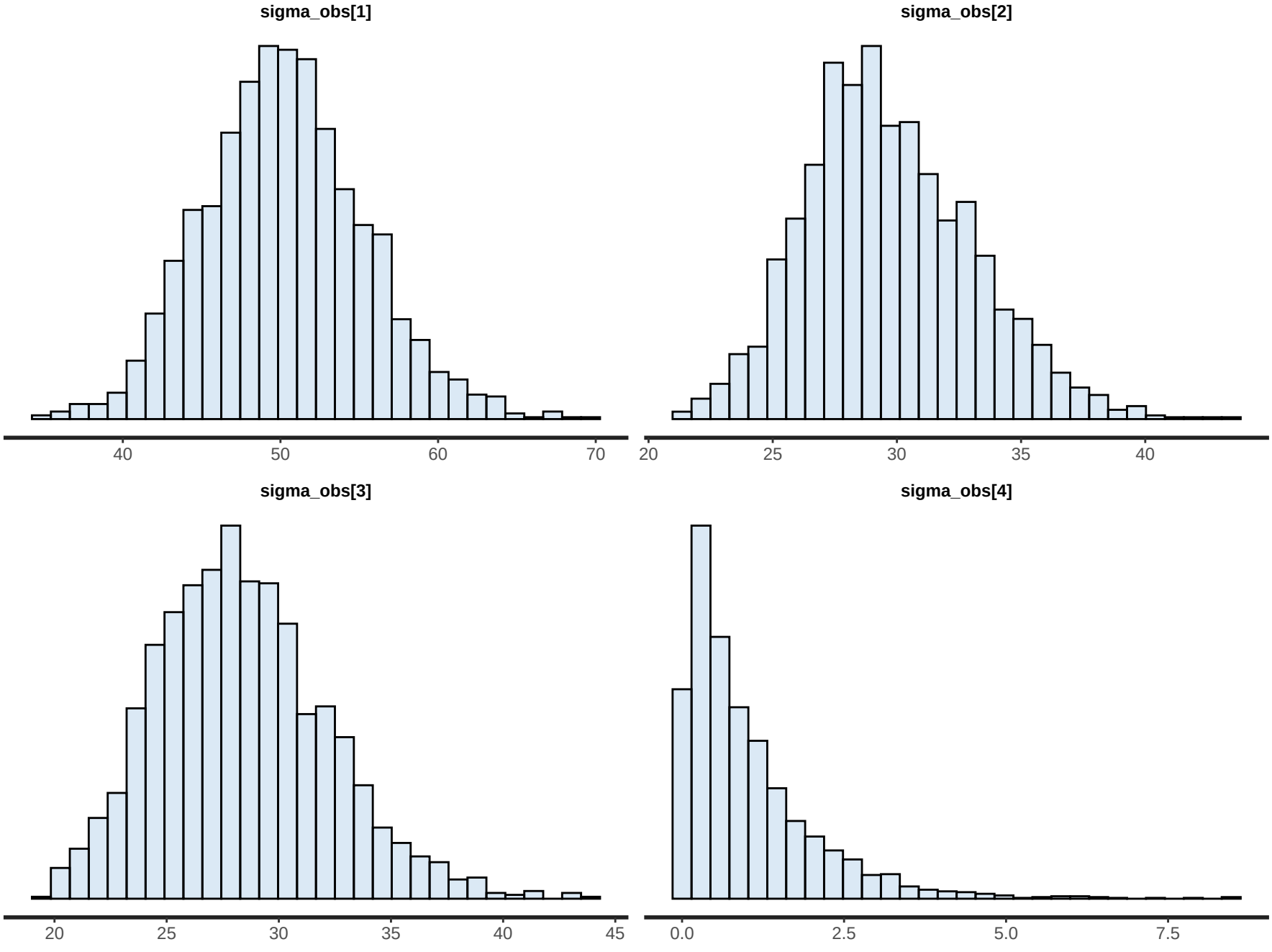

0.12
0.16
0.20
0.24
frac_icu


0.5
0.6
0.7
frac_mort


beta_multiplier[1]
0.4 0.8 1.2 1.6
beta_multiplier[2]
0.5 1.0 1.5 2.0
beta_multiplier[3]
0.5 1.0 1.5 2.0
beta_multiplier[4]
0.5 1.0 1.5 2.0
beta_multiplier[5]
0.5 1.0 1.5 2.0
beta_multiplier[6]
0.5 1.0 1.5 2.0
beta_multiplier[7]
0.5 1.0 1.5
beta_multiplier[8]
0.5 1.0 1.5
beta_multiplier[9]
0.5 1.0 1.5
beta_multiplier[10]
0.5 1.0 1.5
beta_multiplier[11]
0.8 1.2 1.6
beta_multiplier[12]
0.5 1.0 1.5
beta_multiplier[13]
0.4 0.8 1.2 1.6
beta_multiplier[14]
0.4 0.8 1.2 1.6
beta_multiplier[15]
0.5 1.0 1.5
beta_multiplier[16]
1.0 1.5
beta_multiplier[17]
0.5 1.0 1.5
beta_multiplier[18]
0.75 1.00 1.25 1.50
beta_multiplier[19]
0.75 1.00 1.25 1.50
beta_multiplier[20]
0.50 0.75 1.00 1.25 1.50
beta_multiplier[21]
0.6 0.8 1.0 1.2
beta_multiplier[22]
0.8 1.0 1.2 1.4


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


0
5
10
15
20
25
ini_exposed


sigma_obs[1]
40
50
60
70
sigma_obs[2]
20
25
30
35
40
sigma_obs[3]
20
25
30
35
40
45
sigma_obs[4]
0.0
2.5
5.0
7.5