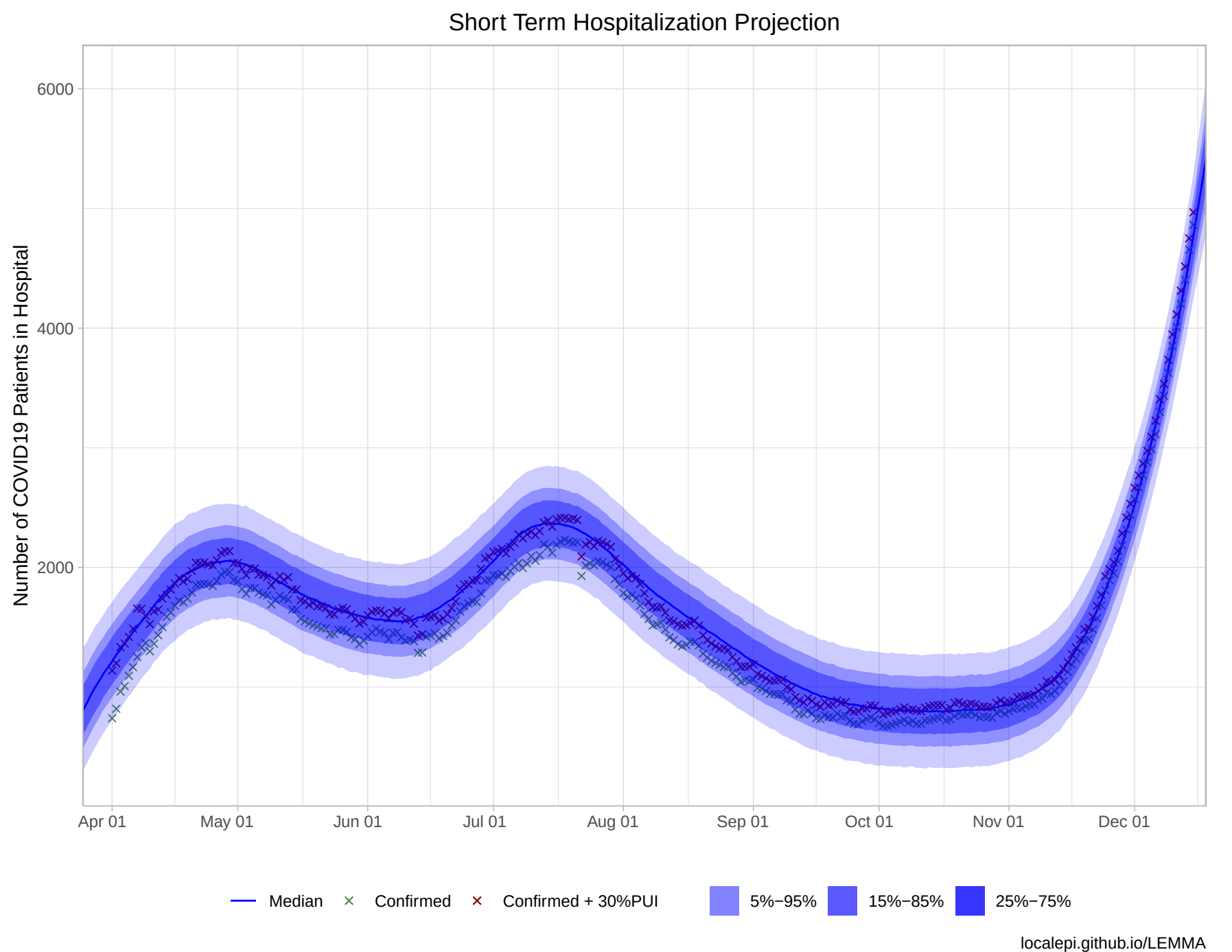
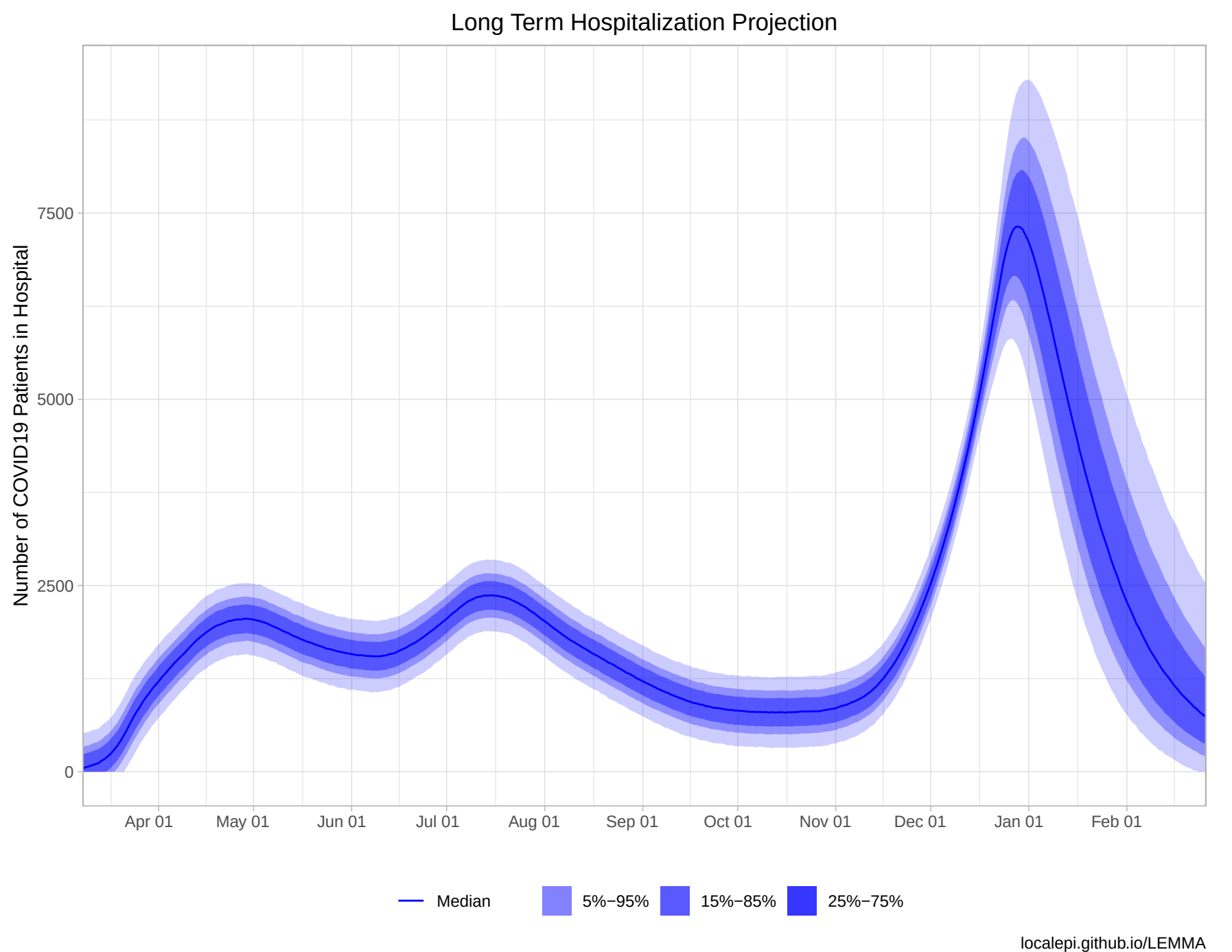
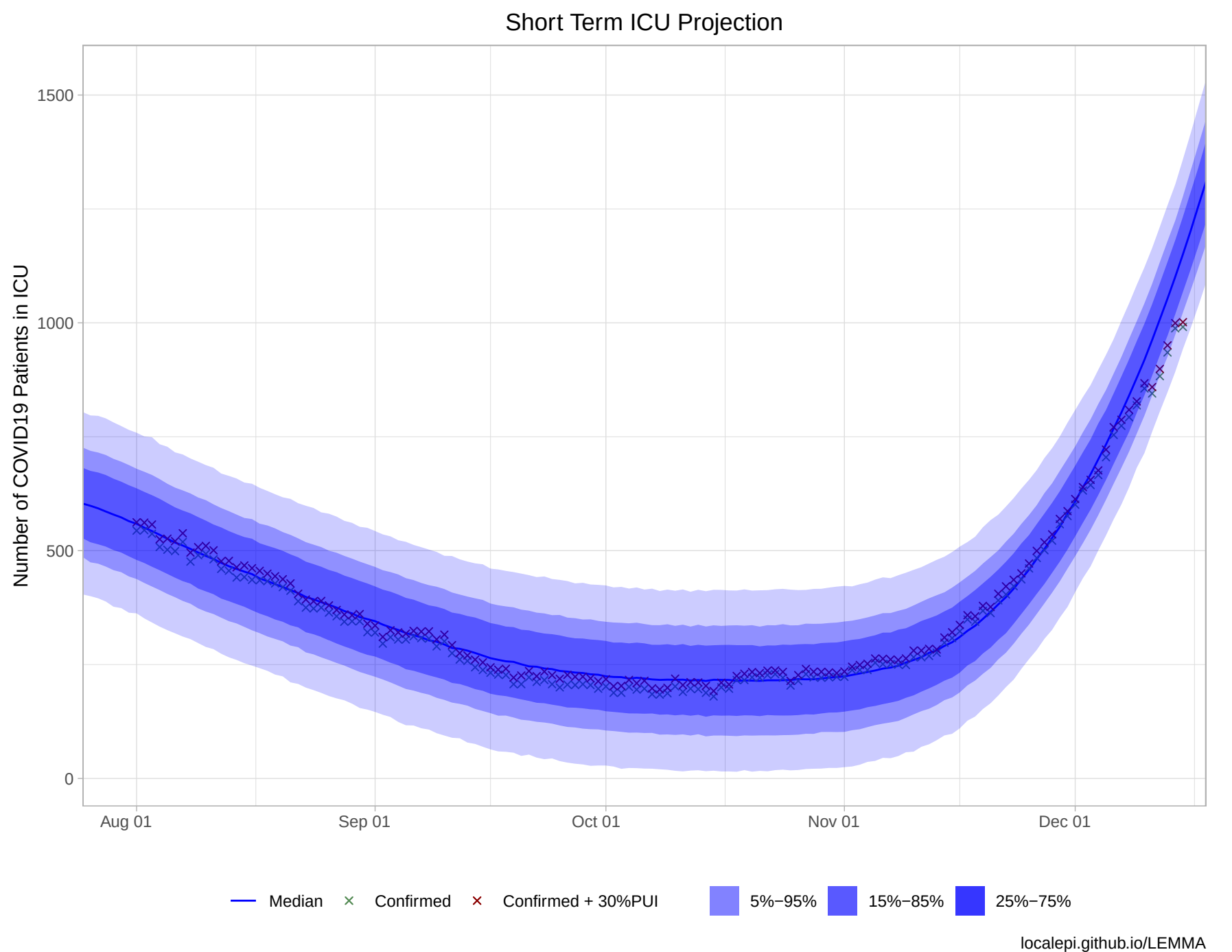
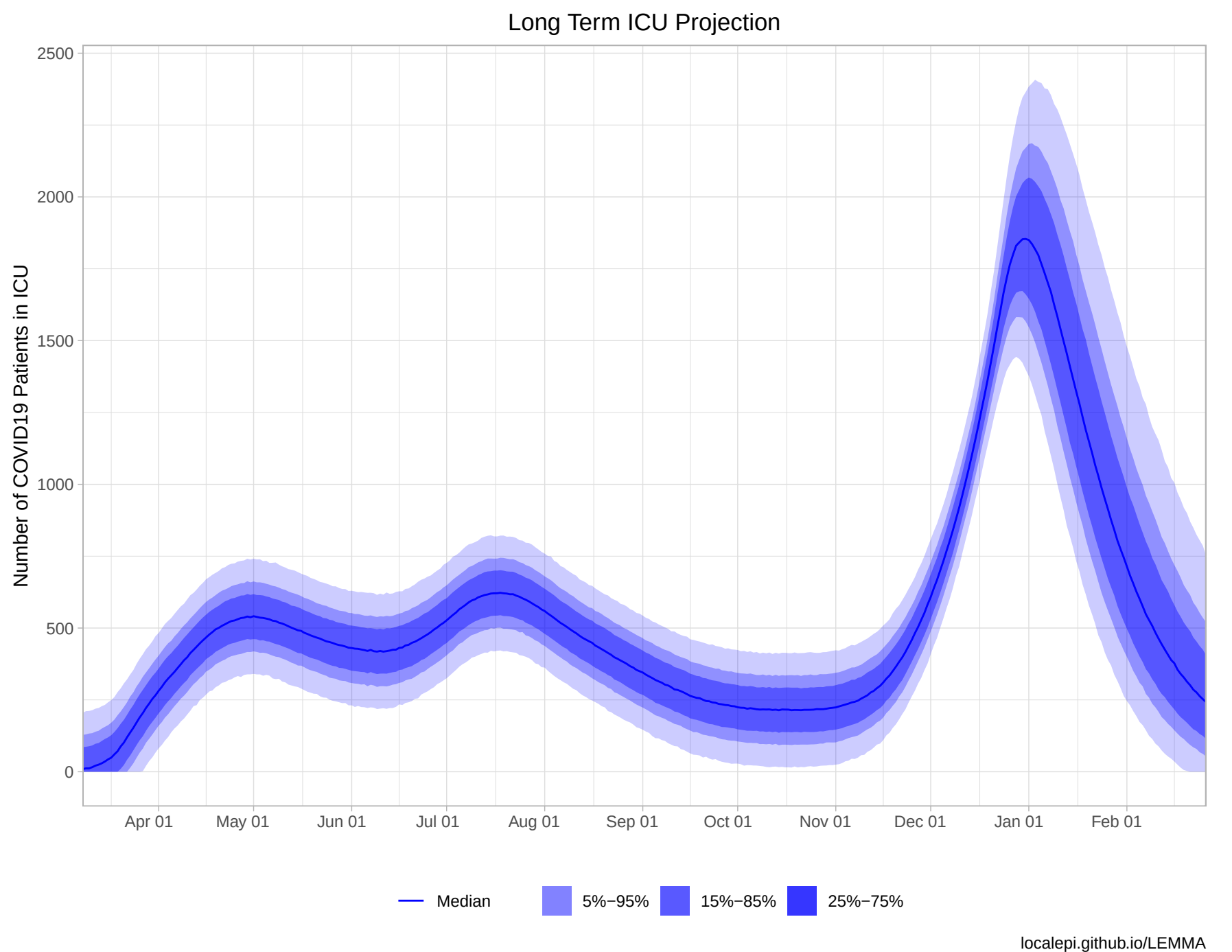
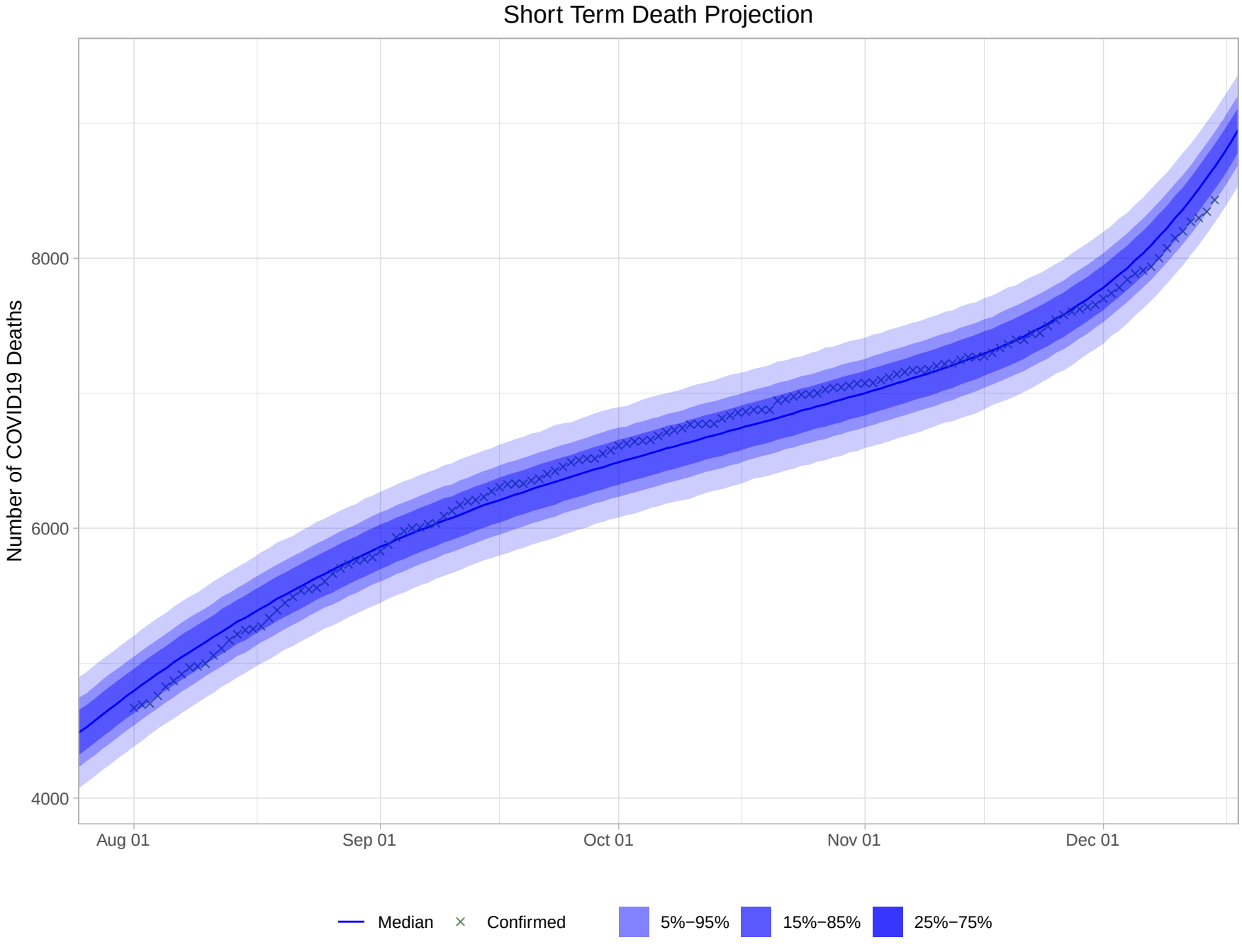
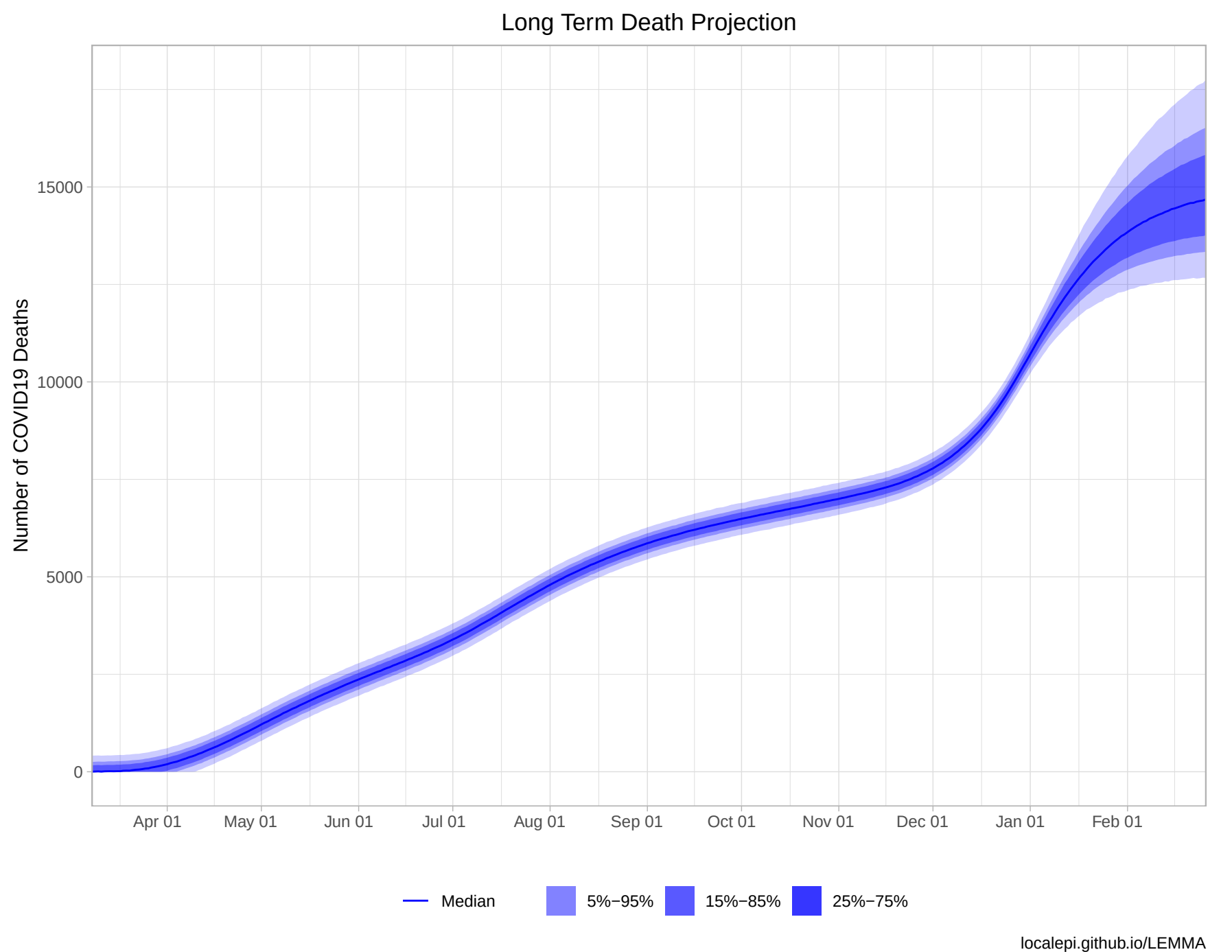

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
6000
4000
2000
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

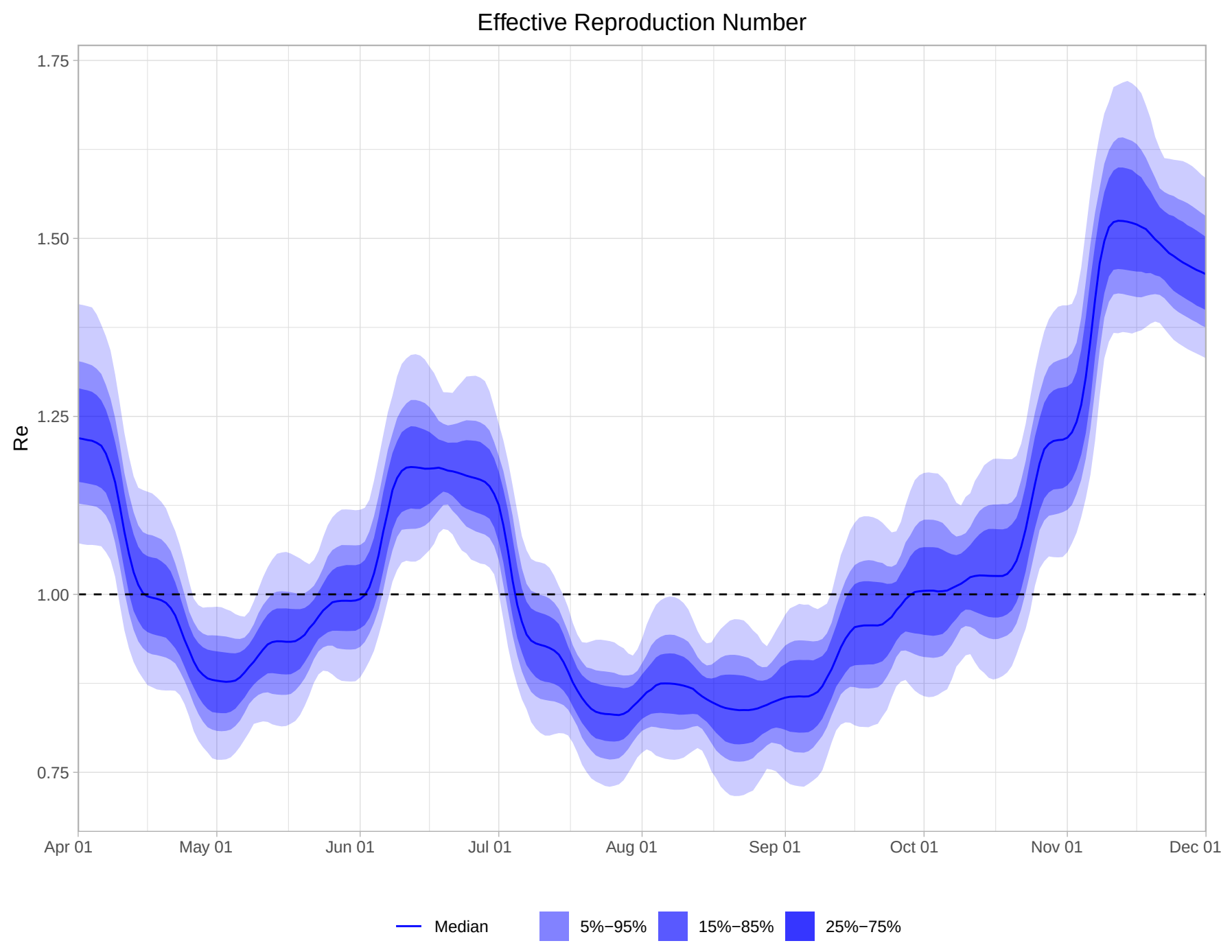

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
7500
5000
2500
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
1500
1000
500
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
2500
2000
1500
1000
500
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

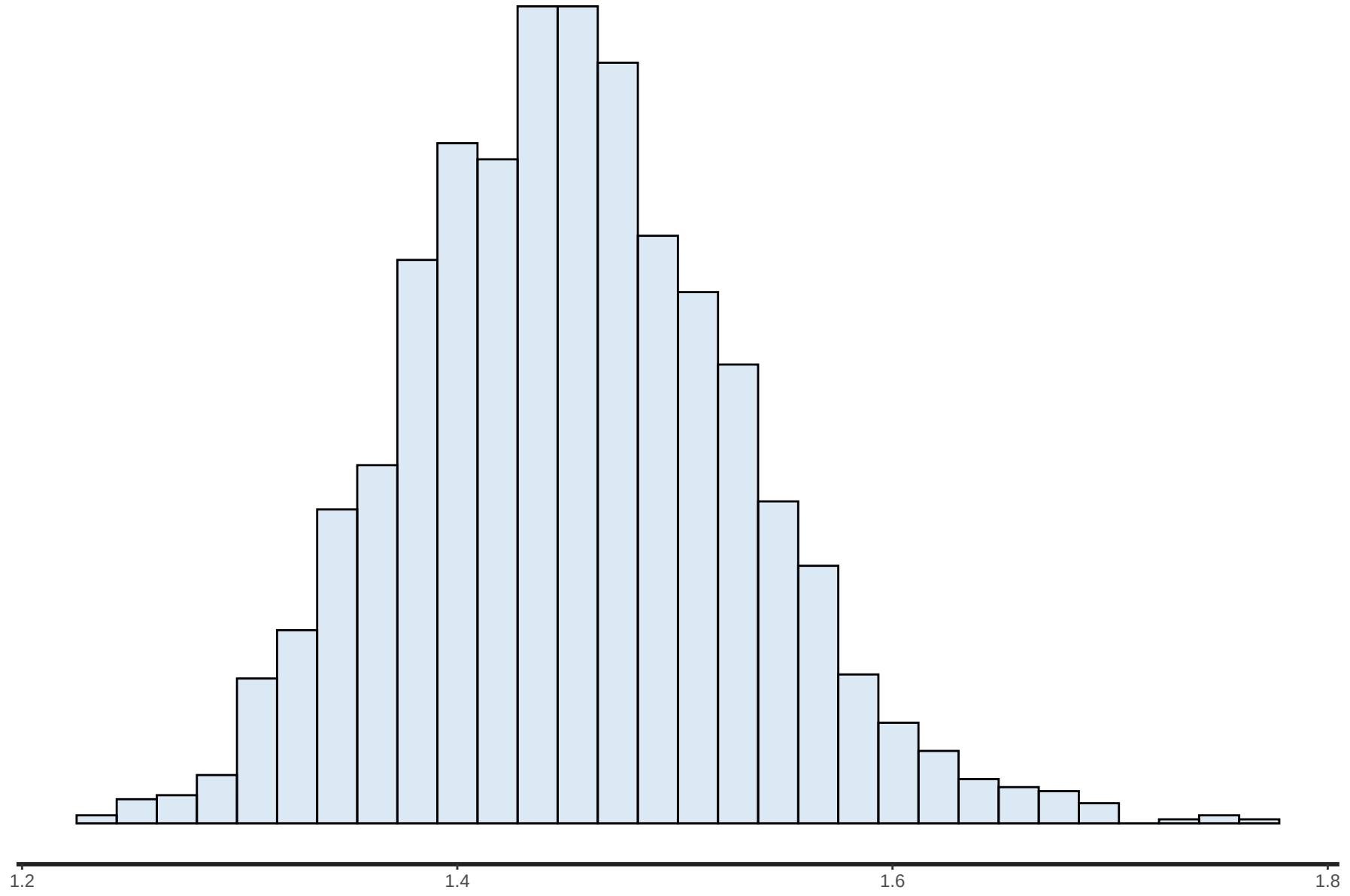

Short Term Death Projection
Number of COVID19 Deaths
8000
6000
4000
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

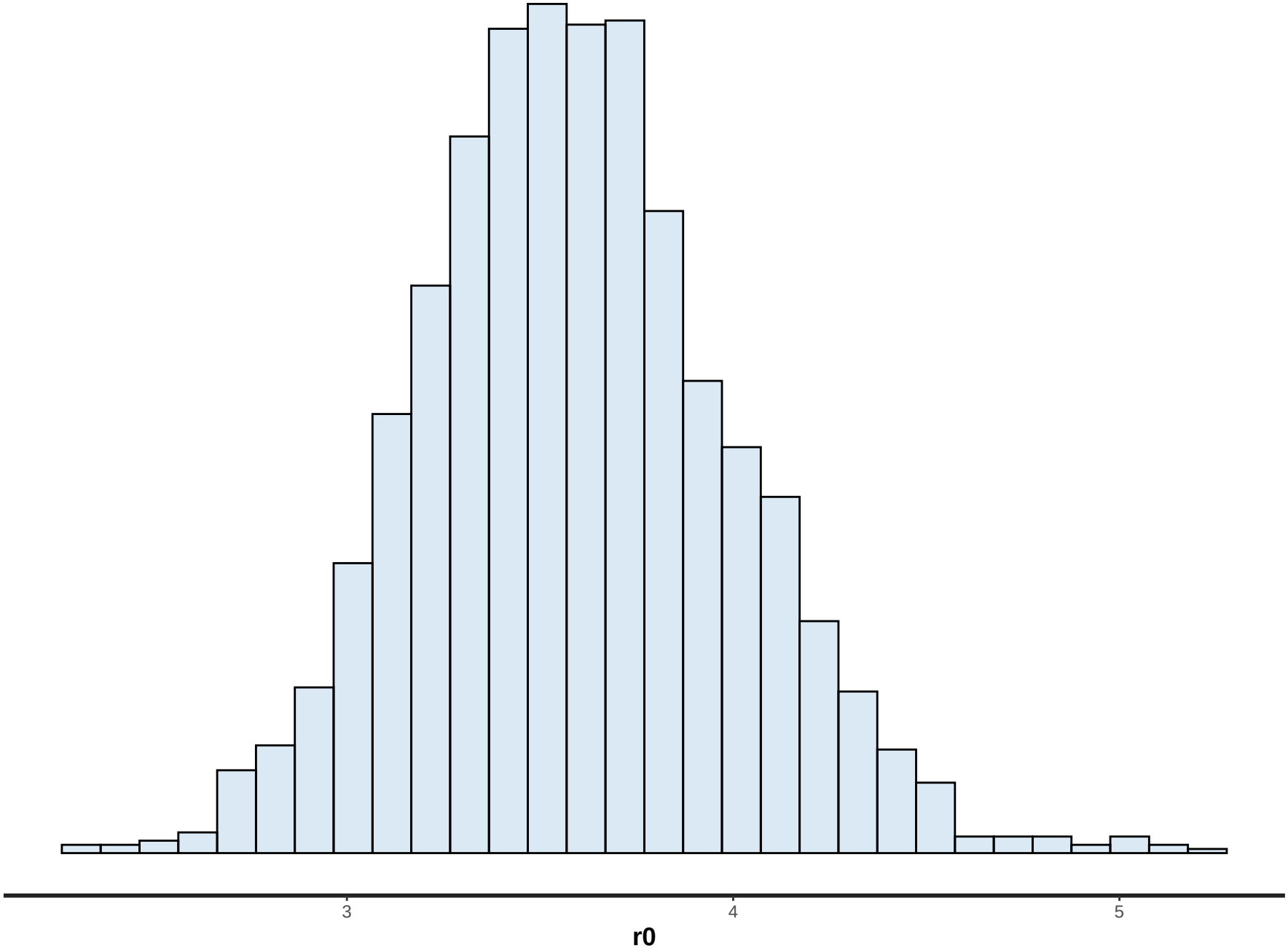

Long Term Death Projection
Number of COVID19 Deaths
15000
10000
5000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

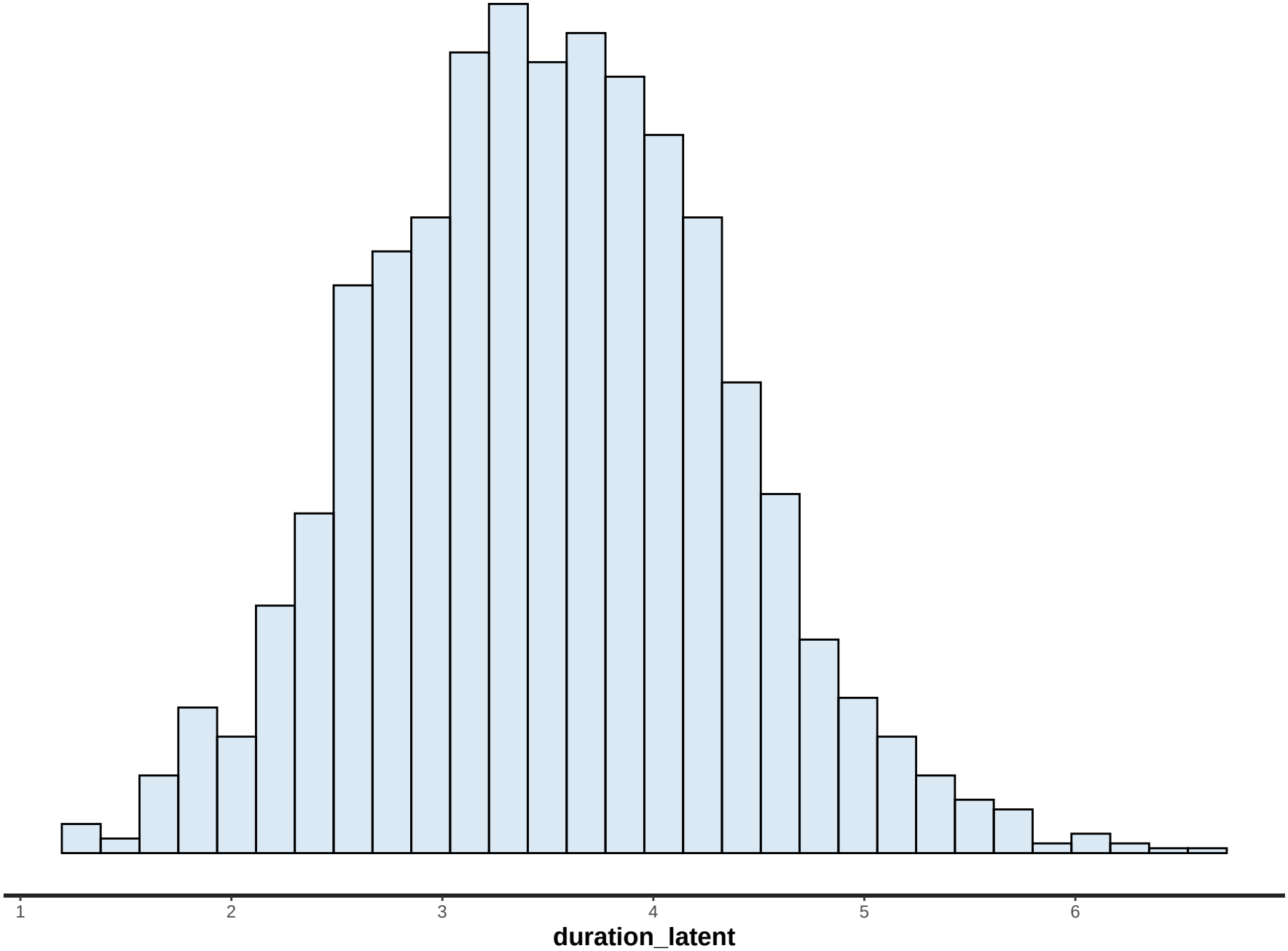

Effective Reproduction Number
Re
1.75
1.50
1.25
1.00
0.75
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
5%−95%
15%−85%
25%−75%

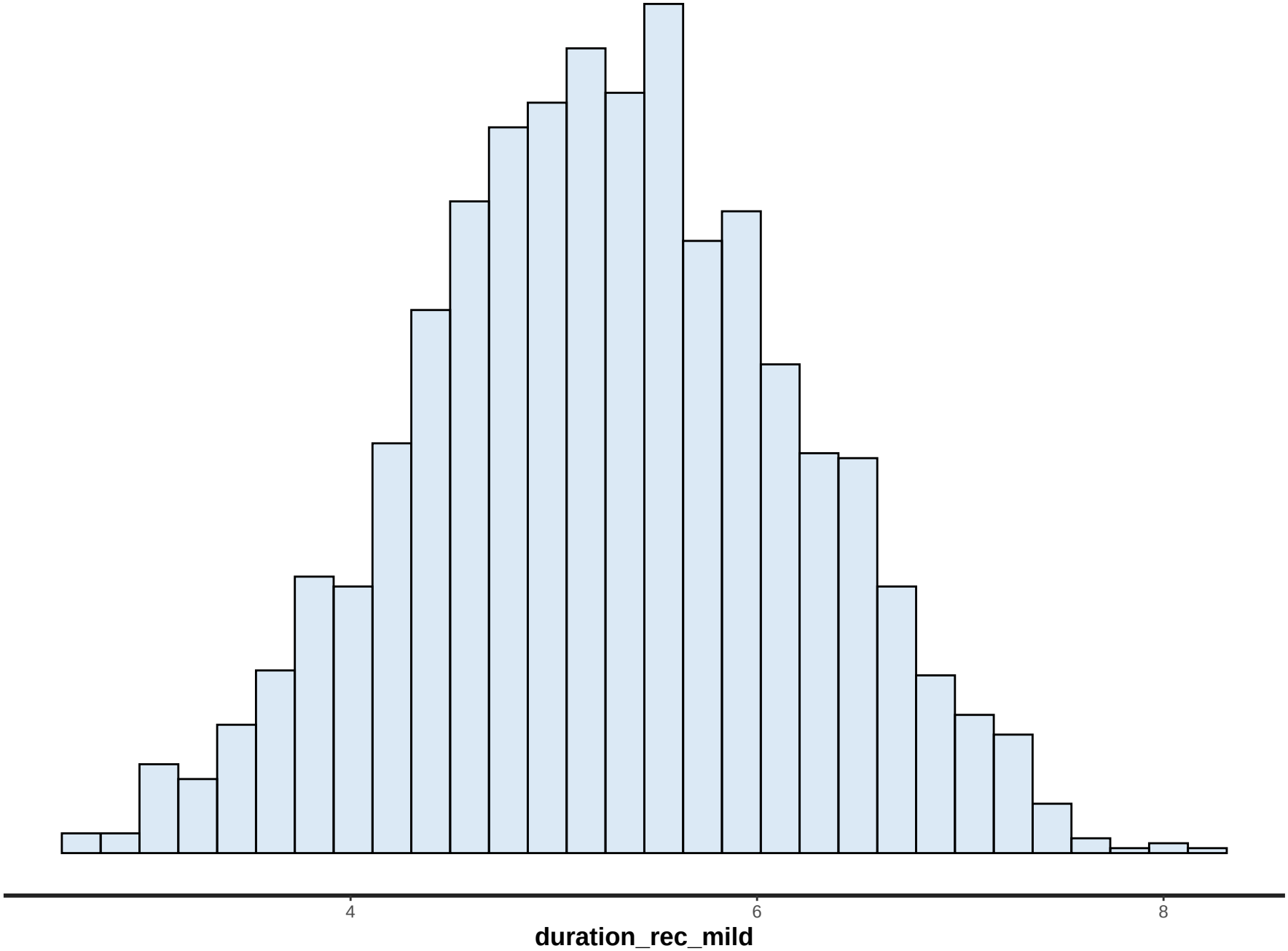
Rt as of 2020−12−01

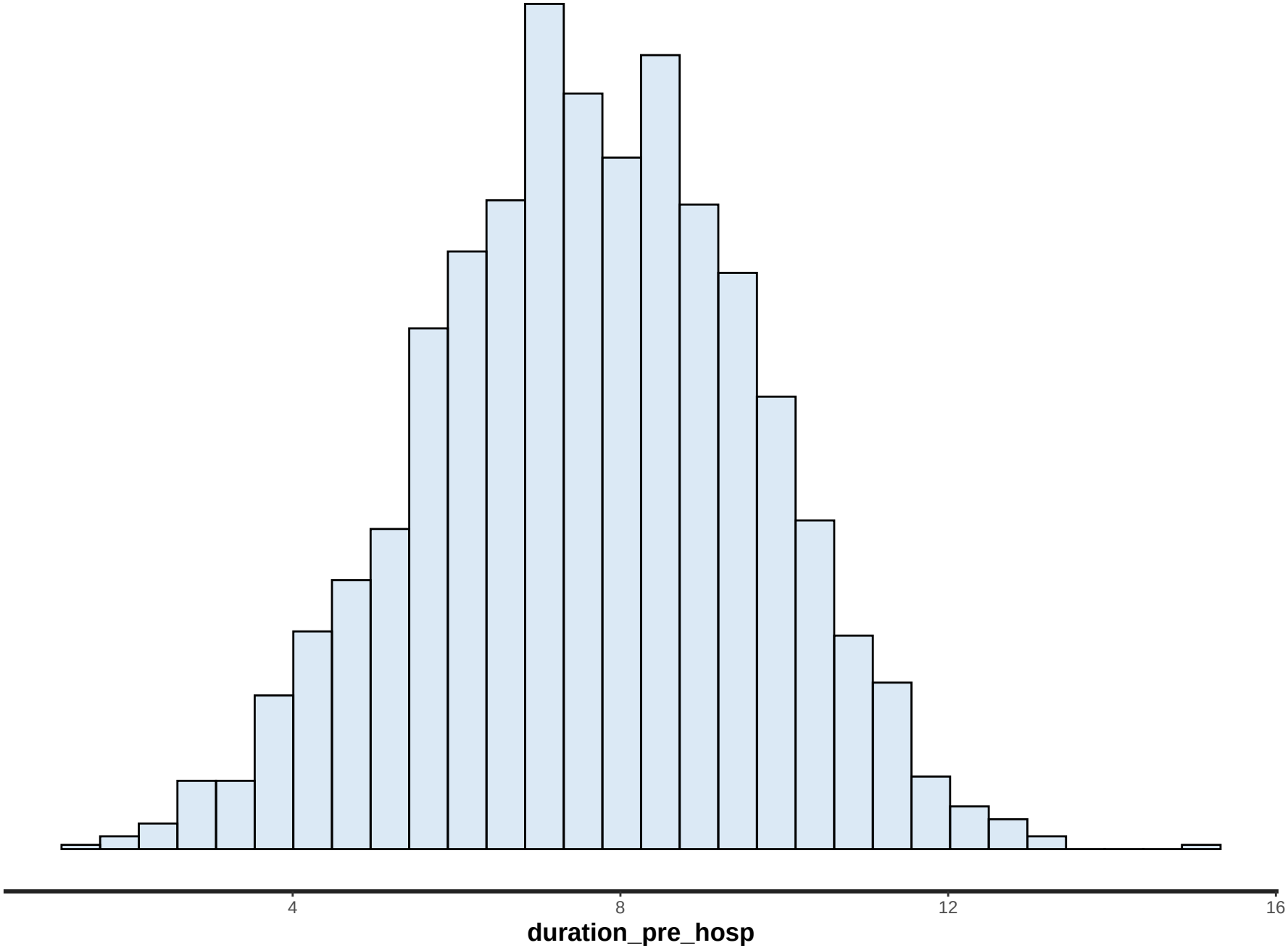
5%	10%	25%	50%	75%	90%	95%
1.33	1.36	1.40	1.45	1.50	1.55	1.58

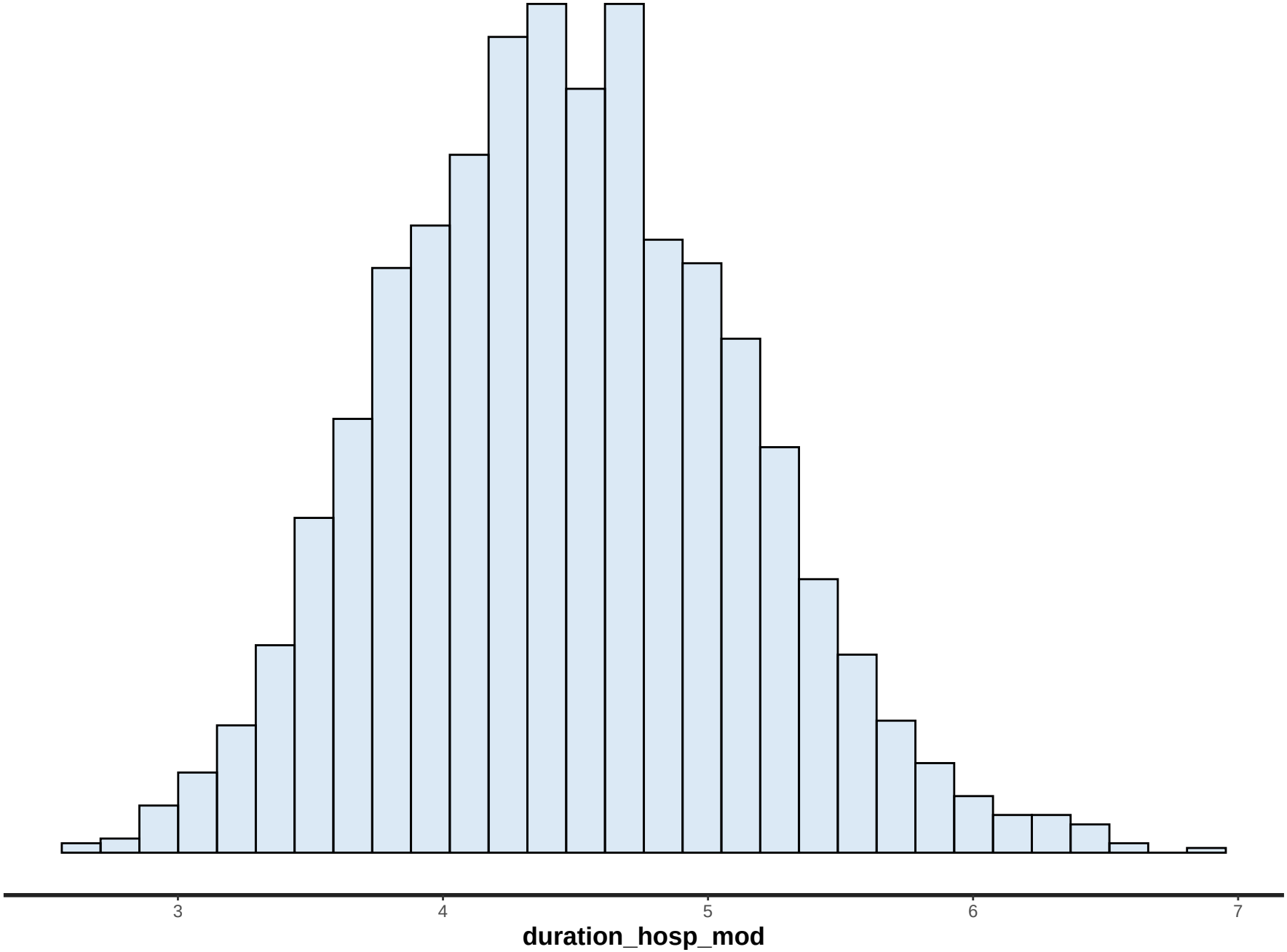


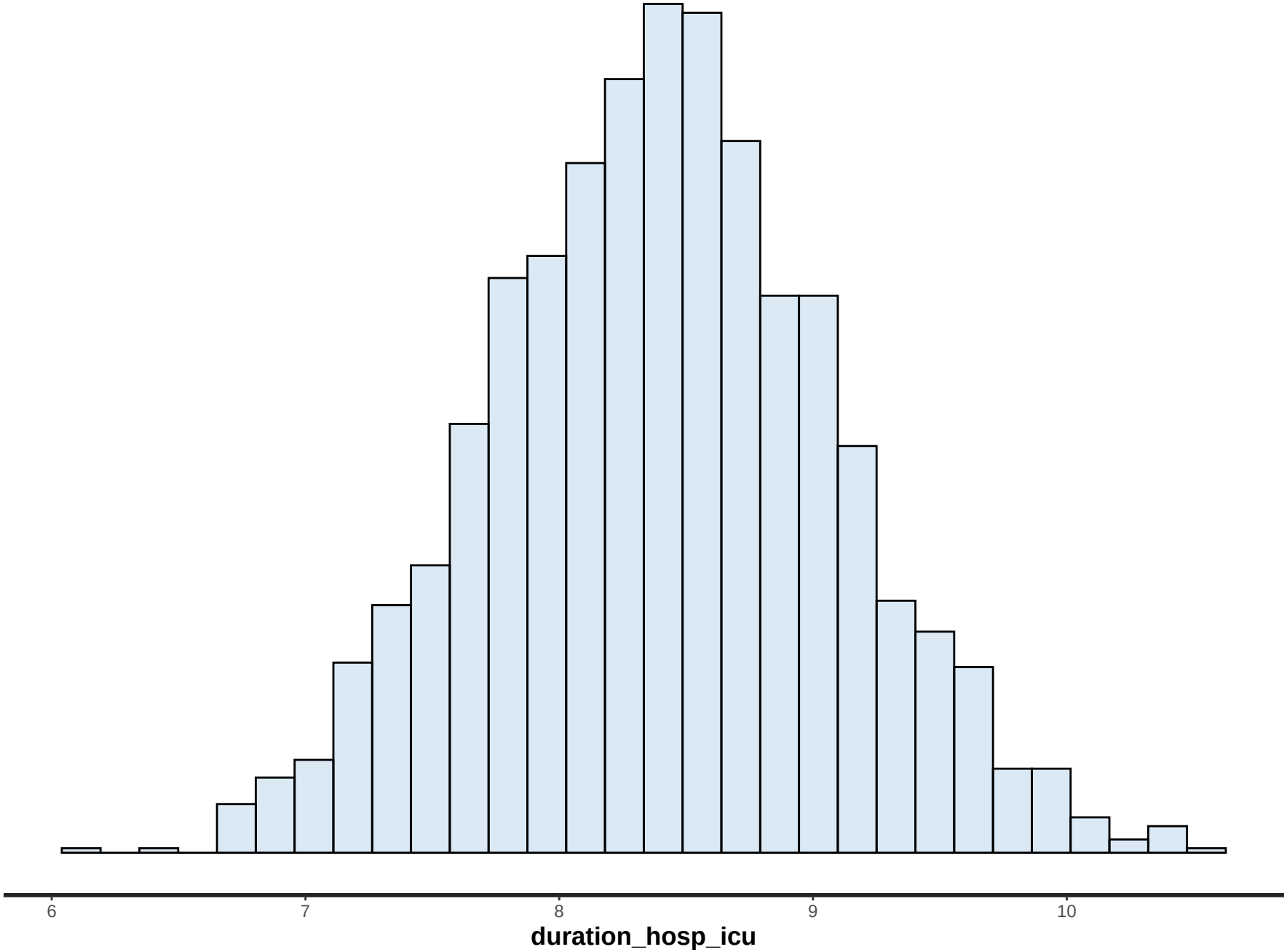

3
4
5
r0

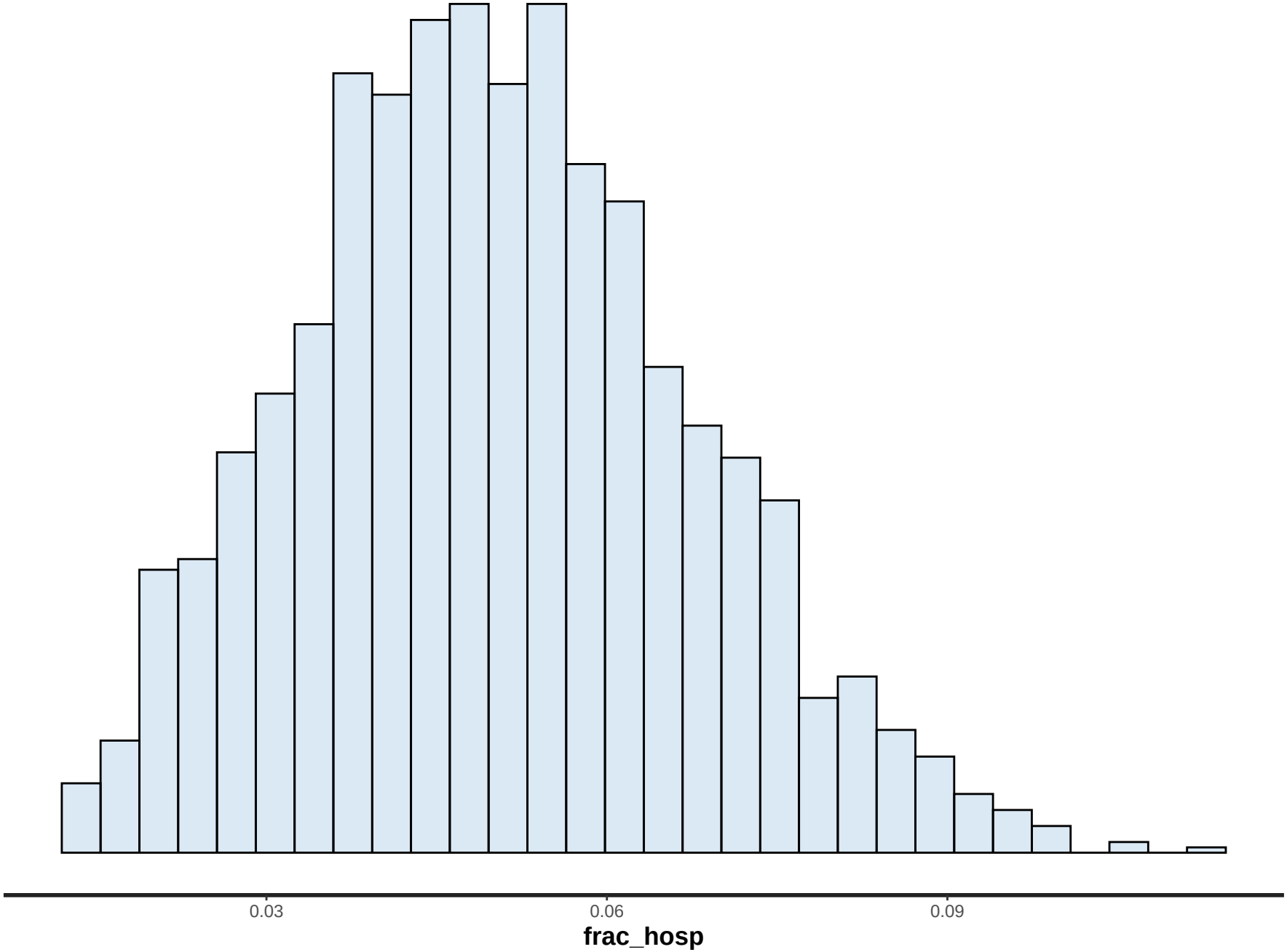

1
2
3
4
5
6
duration_latent

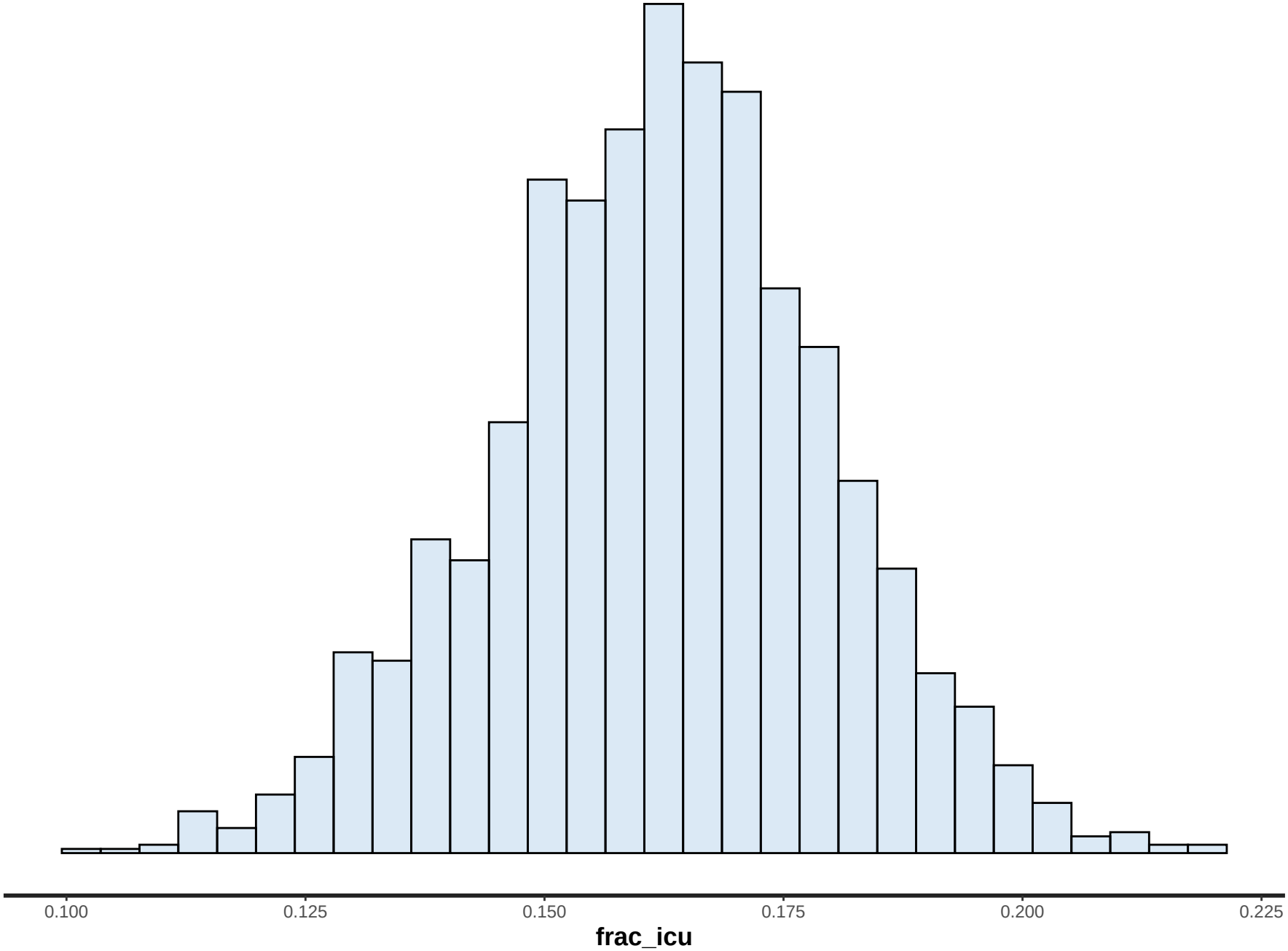

4
6
8
duration_rec_mild

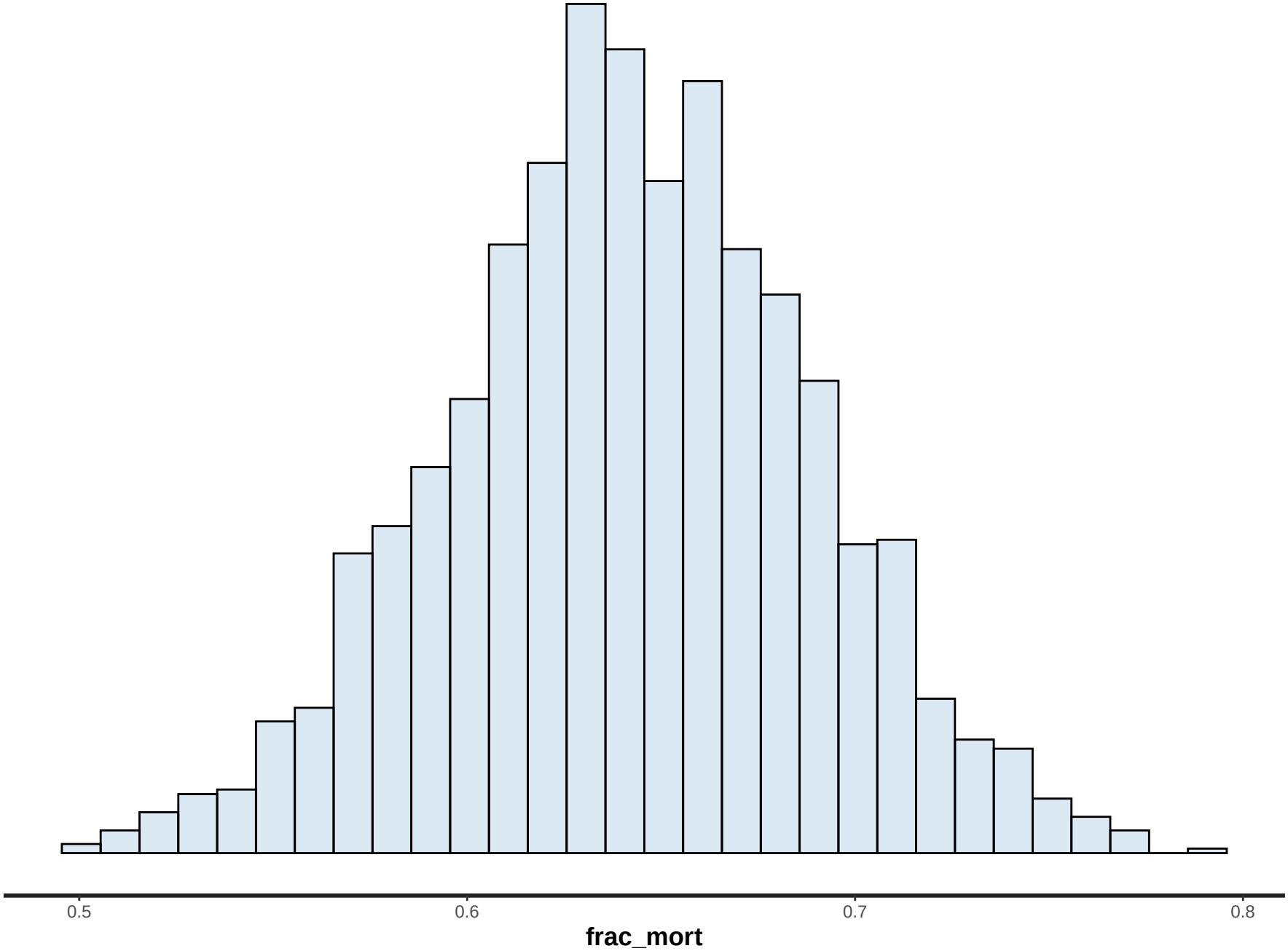

4
8
12
16
duration_pre_hosp

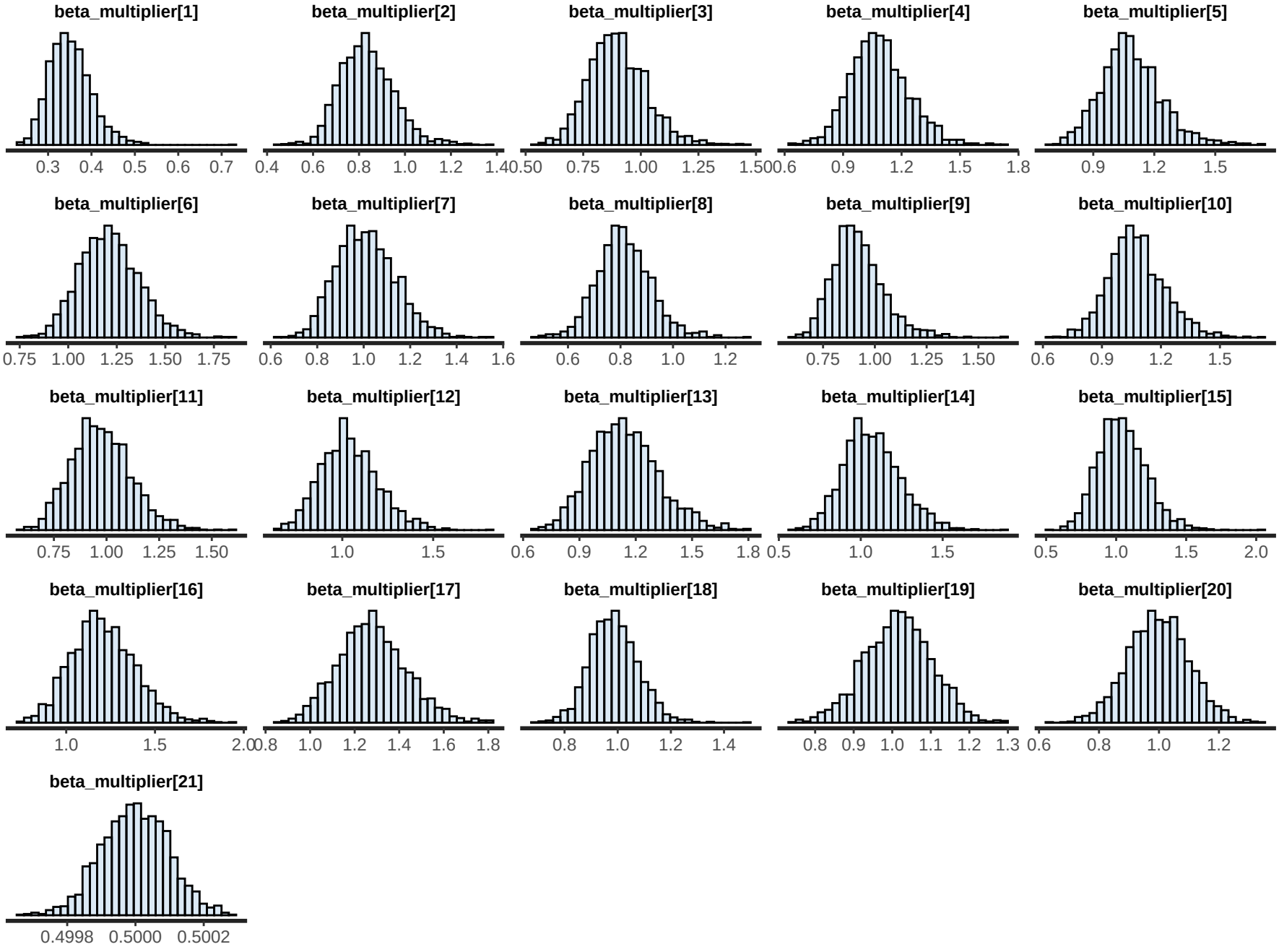

3
4
5
6
7
duration_hosp_mod

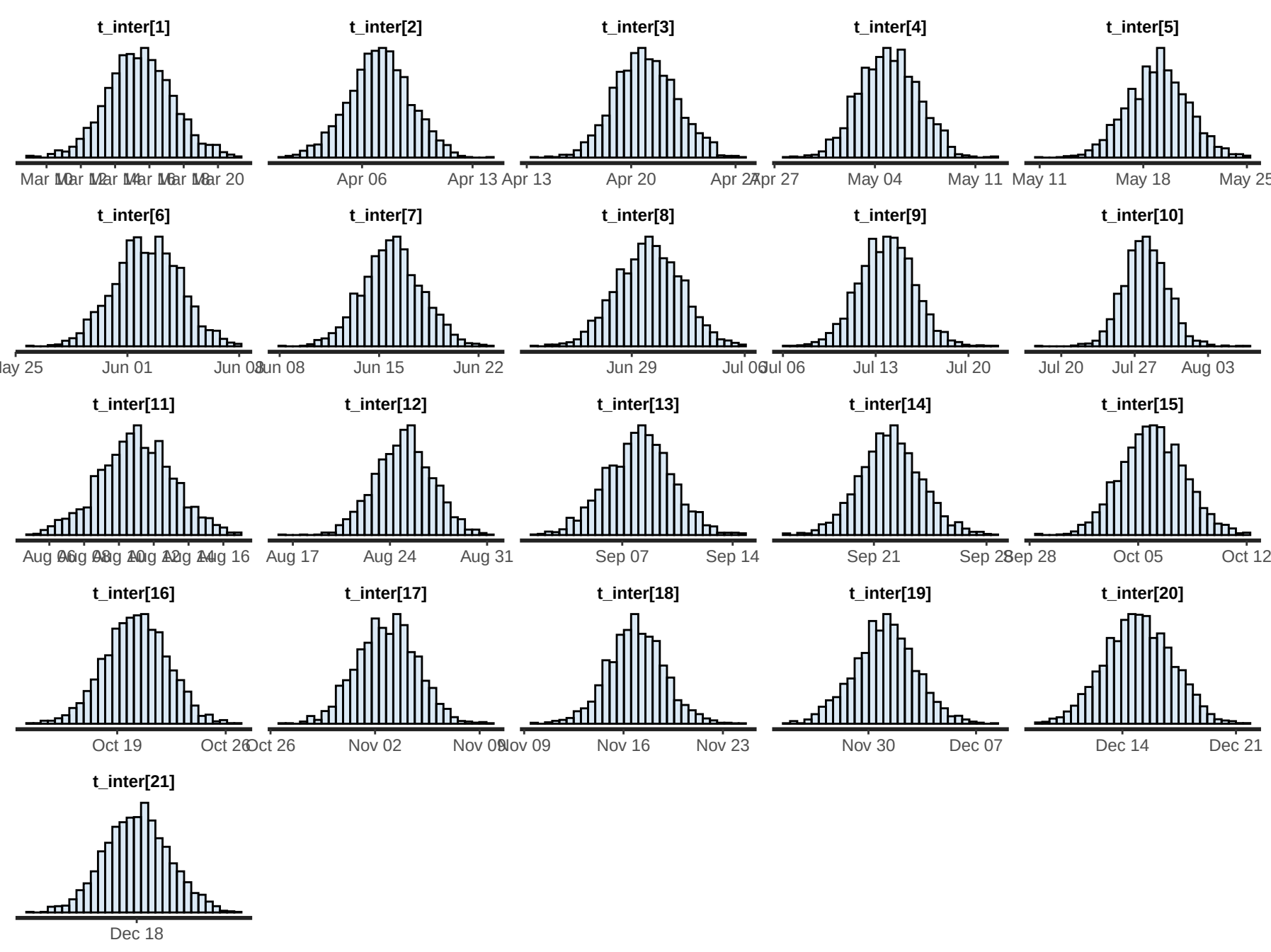

6
7
8
9
10
duration_hosp_icu


0.03
0.06
0.09
frac_hosp


0.100
0.125
0.150
0.175
0.200
0.225
frac_icu


0.5
0.6
0.7
0.8
frac_mort


beta_multiplier[1]
0.3 0.4 0.5 0.6 0.7
beta_multiplier[2]
0.4 0.6 0.8 1.0 1.2 1.4
beta_multiplier[3]
0.50 0.75 1.00 1.25 1.50
beta_multiplier[4]
0.6 0.9 1.2 1.5 1.8
beta_multiplier[5]
0.9 1.2 1.5
beta_multiplier[6]
0.75 1.00 1.25 1.50 1.75
beta_multiplier[7]
0.6 0.8 1.0 1.2 1.4 1.6
beta_multiplier[8]
0.6 0.8 1.0 1.2
beta_multiplier[9]
0.75 1.00 1.25 1.50
beta_multiplier[10]
0.6 0.9 1.2 1.5
beta_multiplier[11]
0.75 1.00 1.25 1.50
beta_multiplier[12]
1.0 1.5
beta_multiplier[13]
0.6 0.9 1.2 1.5 1.8
beta_multiplier[14]
0.5 1.0 1.5
beta_multiplier[15]
0.5 1.0 1.5 2.0
beta_multiplier[16]
1.0 1.5 2.0
beta_multiplier[17]
0.8 1.0 1.2 1.4 1.6 1.8
beta_multiplier[18]
0.8 1.0 1.2 1.4
beta_multiplier[19]
0.8 0.9 1.0 1.1 1.2 1.3
beta_multiplier[20]
0.6 0.8 1.0 1.2
beta_multiplier[21]
0.4998 0.5000 0.5002


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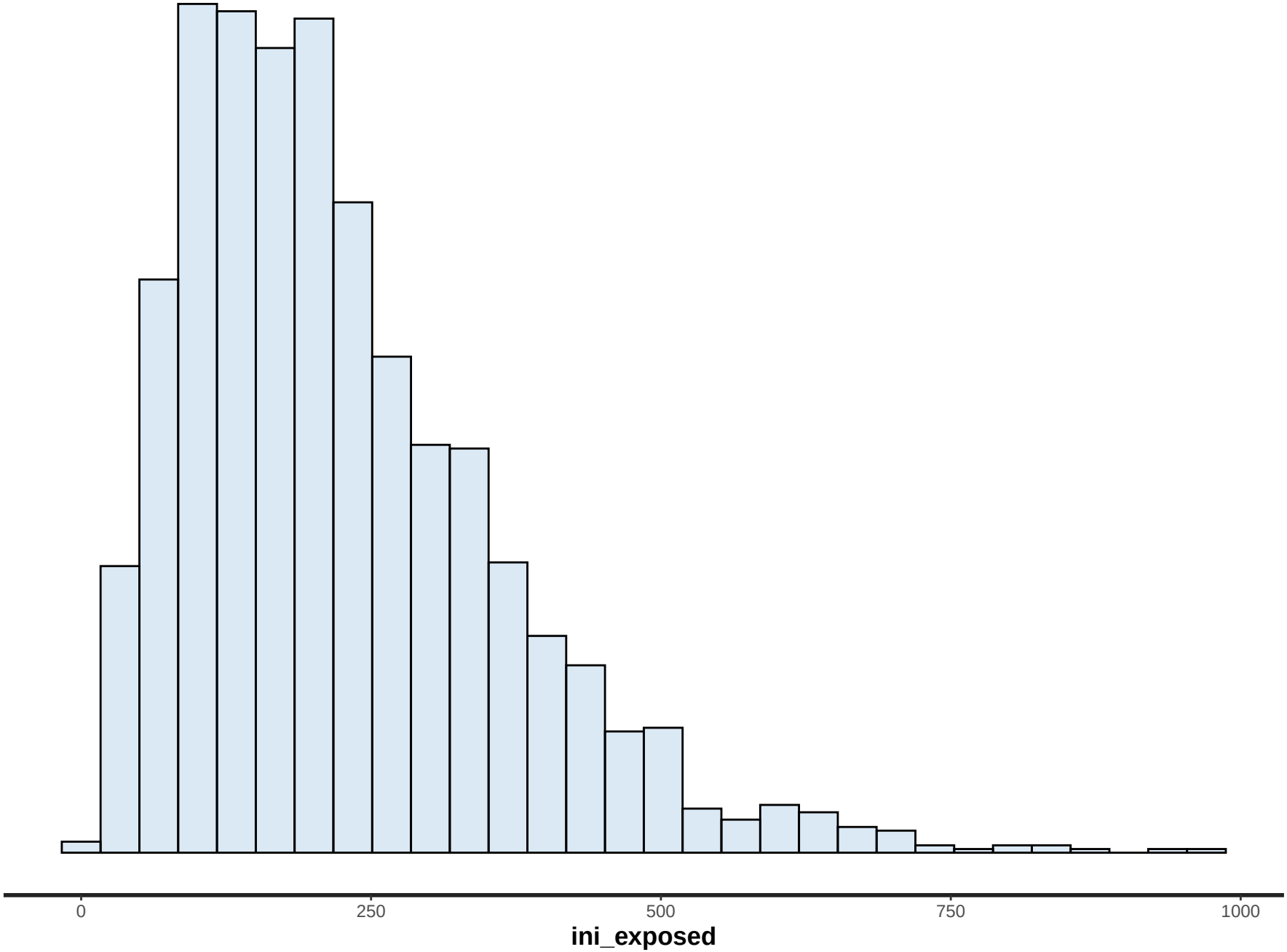
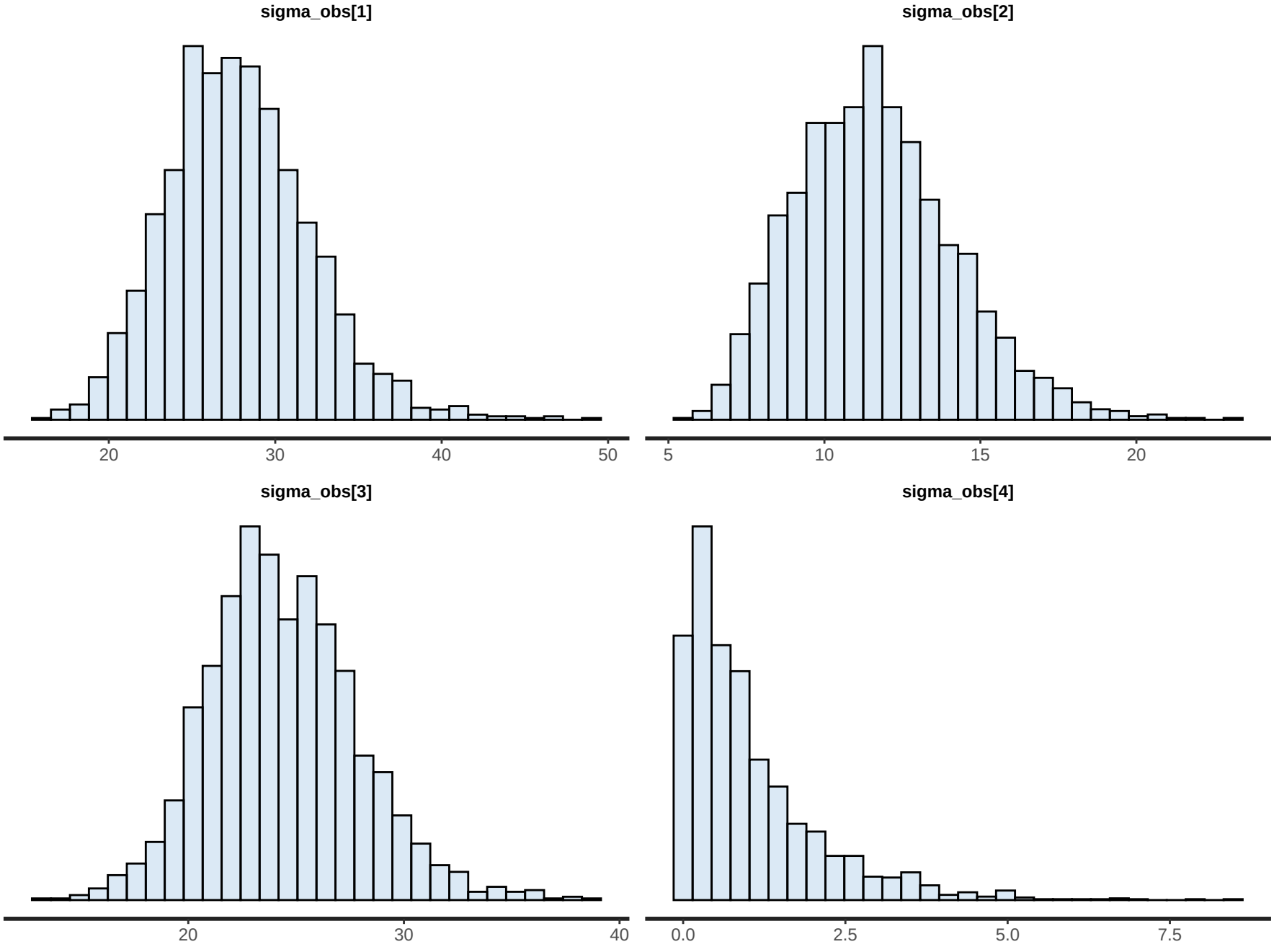
Sep 07
Sep 14
t_inter[14]
Sep 21
Sep 28
t_inter[15]
Sep 28
Oct 05
Oct 12
t_inter[16]
Oct 19
Oct 26
t_inter[17]
Oct 26
Nov 02
Nov 09
t_inter[18]
Nov 09
Nov 16
Nov 23
t_inter[19]
Nov 30
Dec 07
t_inter[20]
Dec 14
Dec 21
t_inter[21]
Dec 18


0
250
500
750
1000
ini_exposed


sigma_obs[1]
20
30
40
50
sigma_obs[2]
5
10
15
20
sigma_obs[3]
20
30
40
sigma_obs[4]
0.0
2.5
5.0
7.5