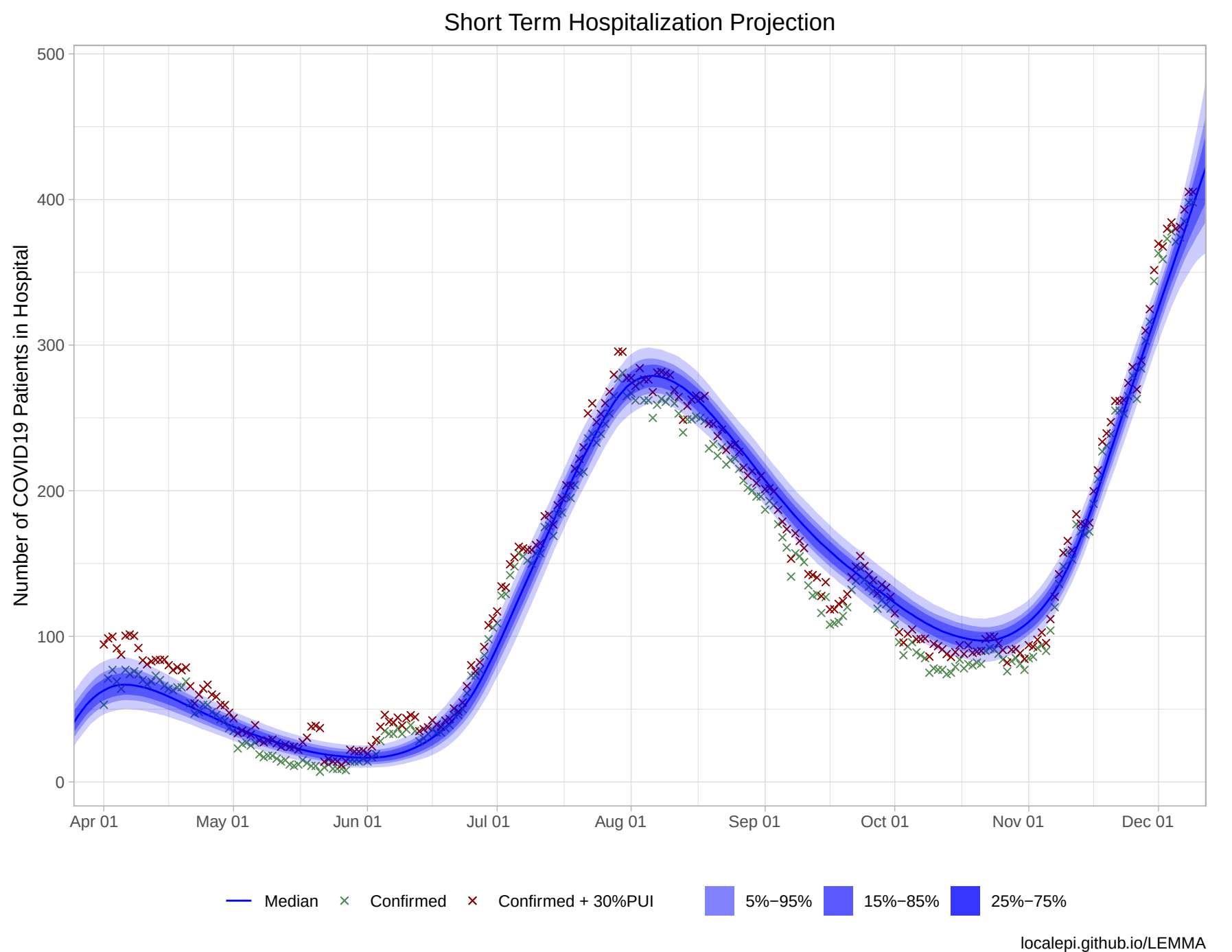
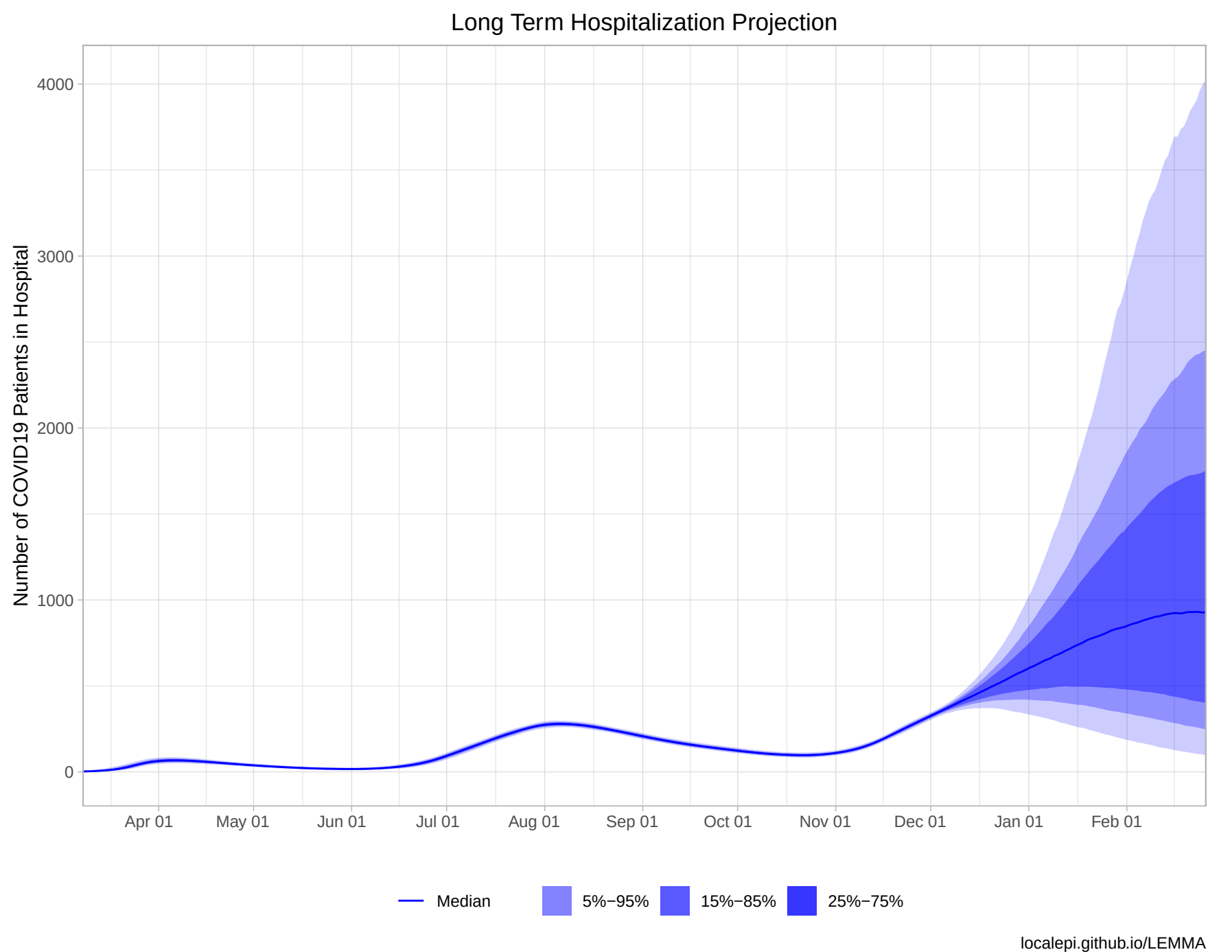
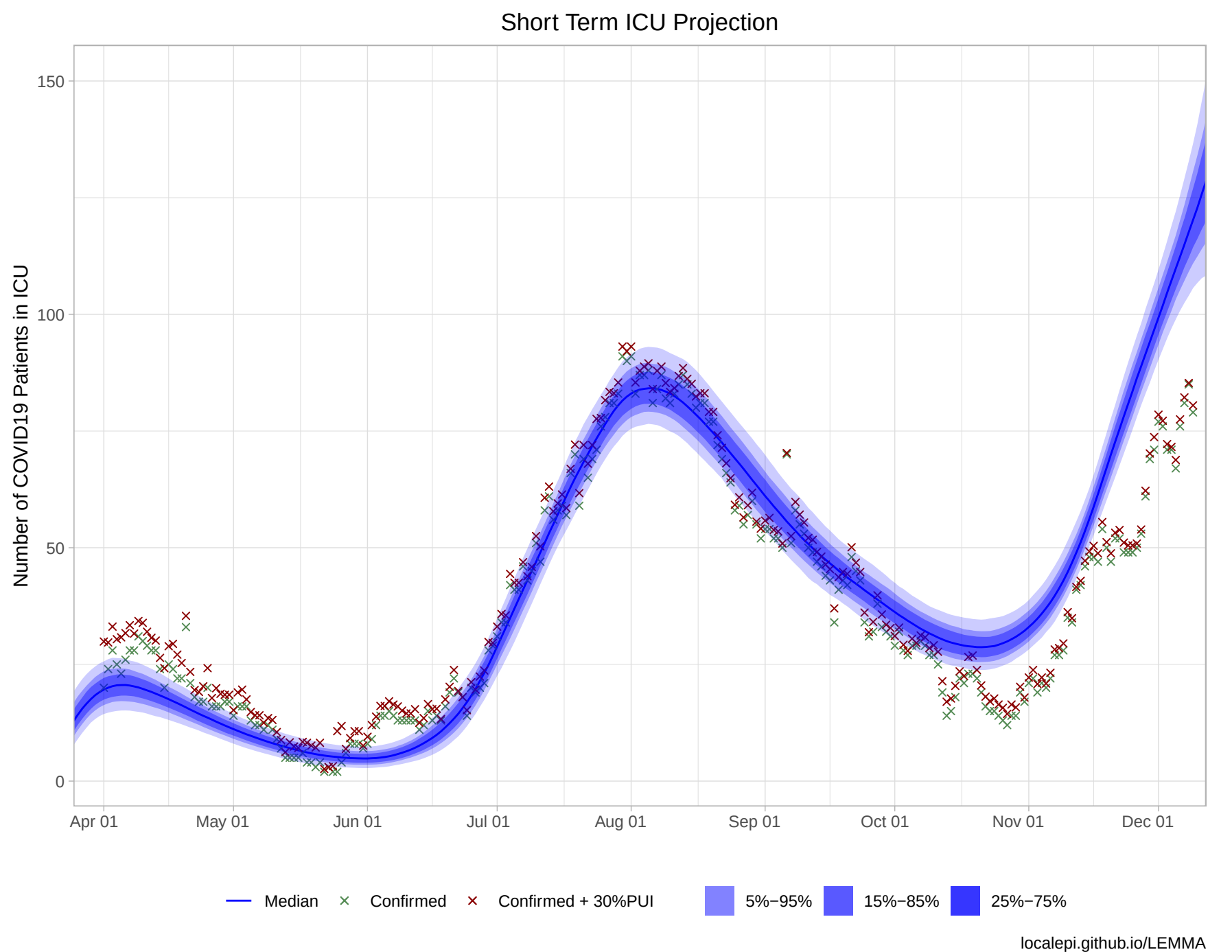
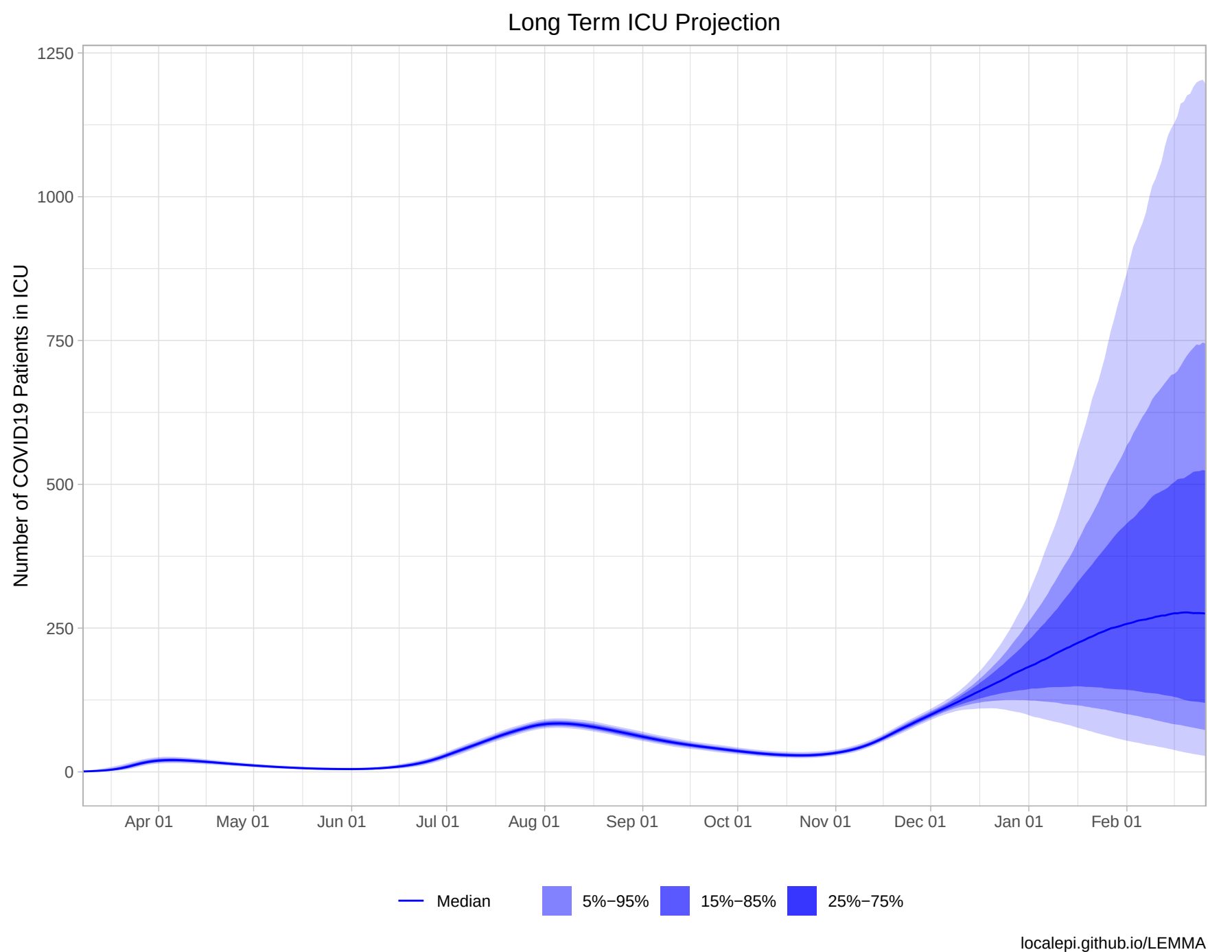
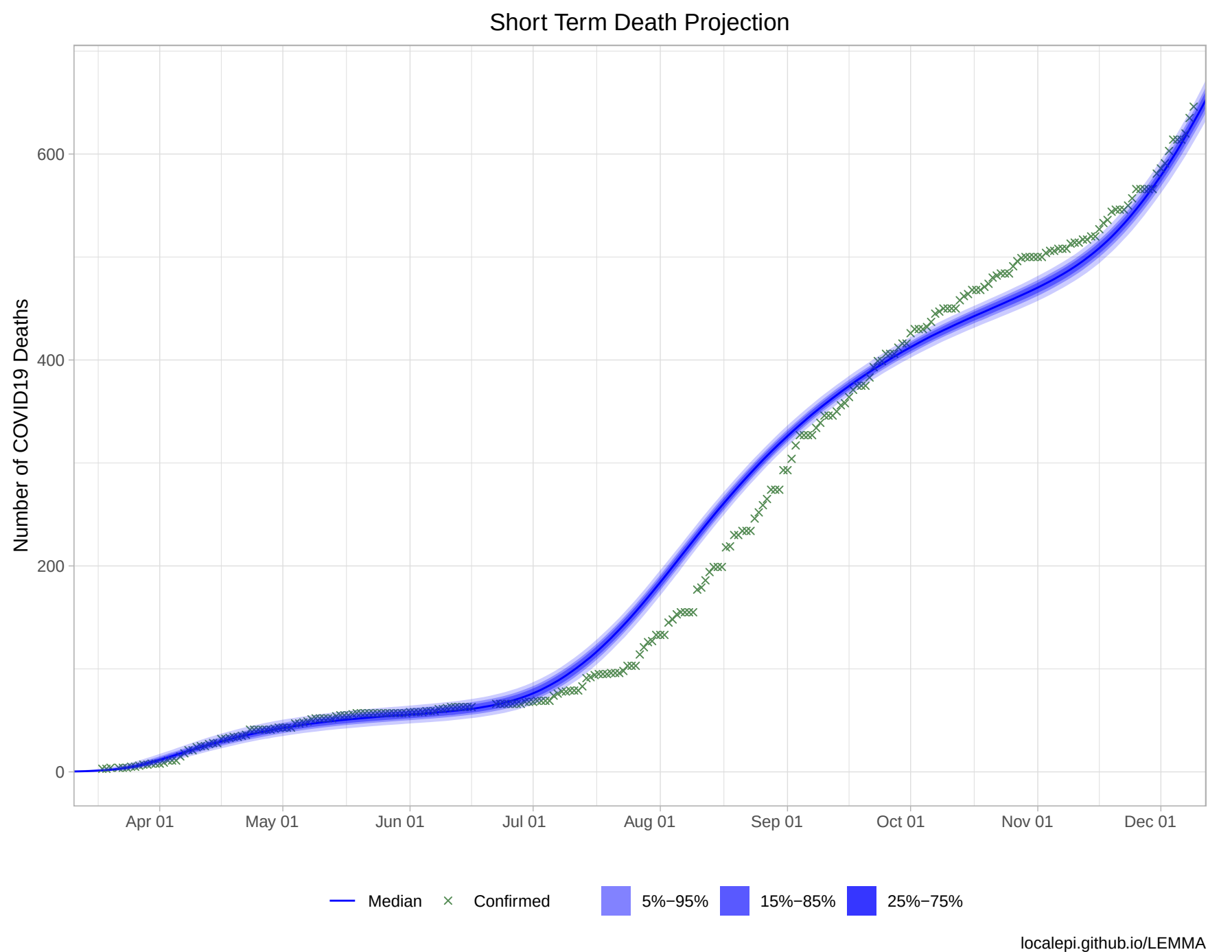
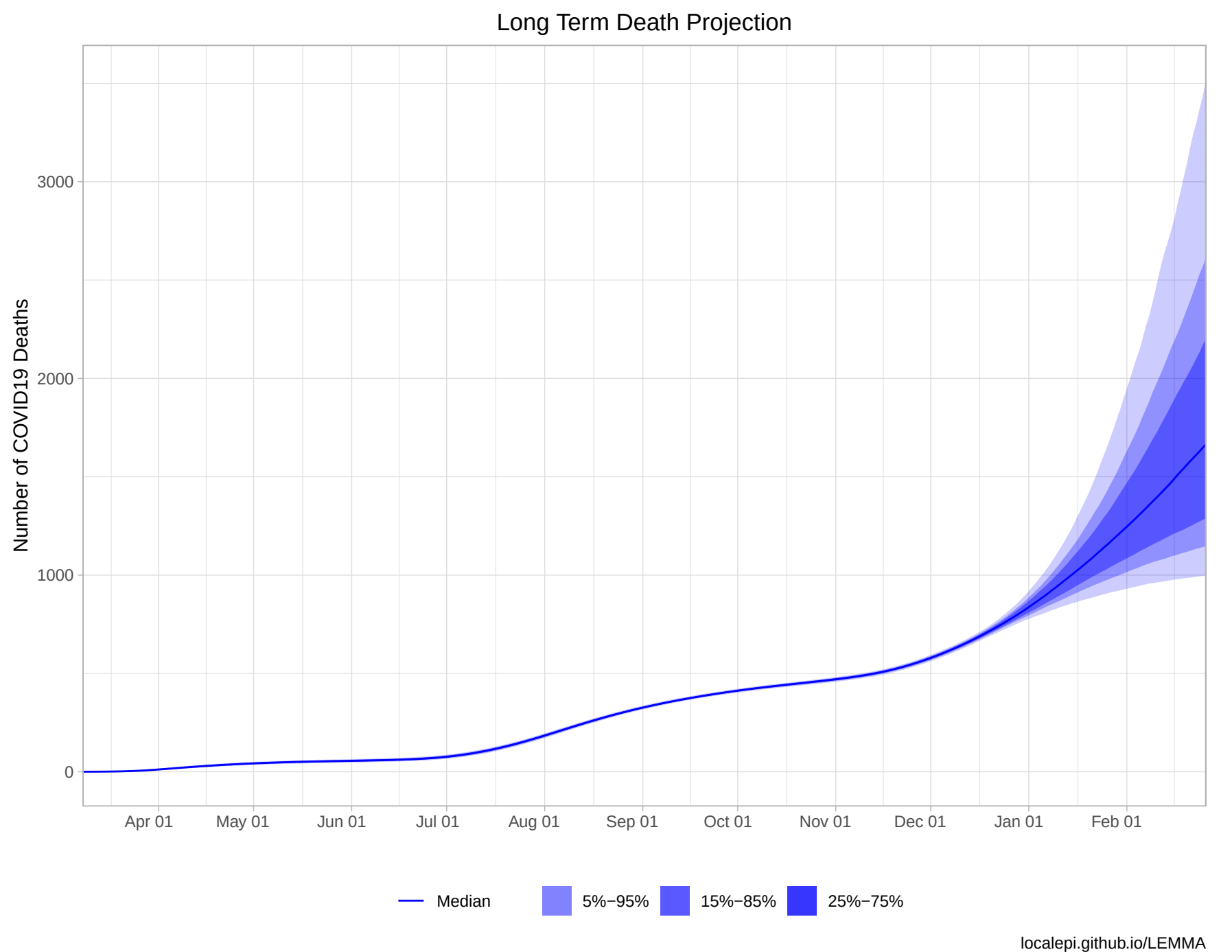

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
500
400
300
200
100
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

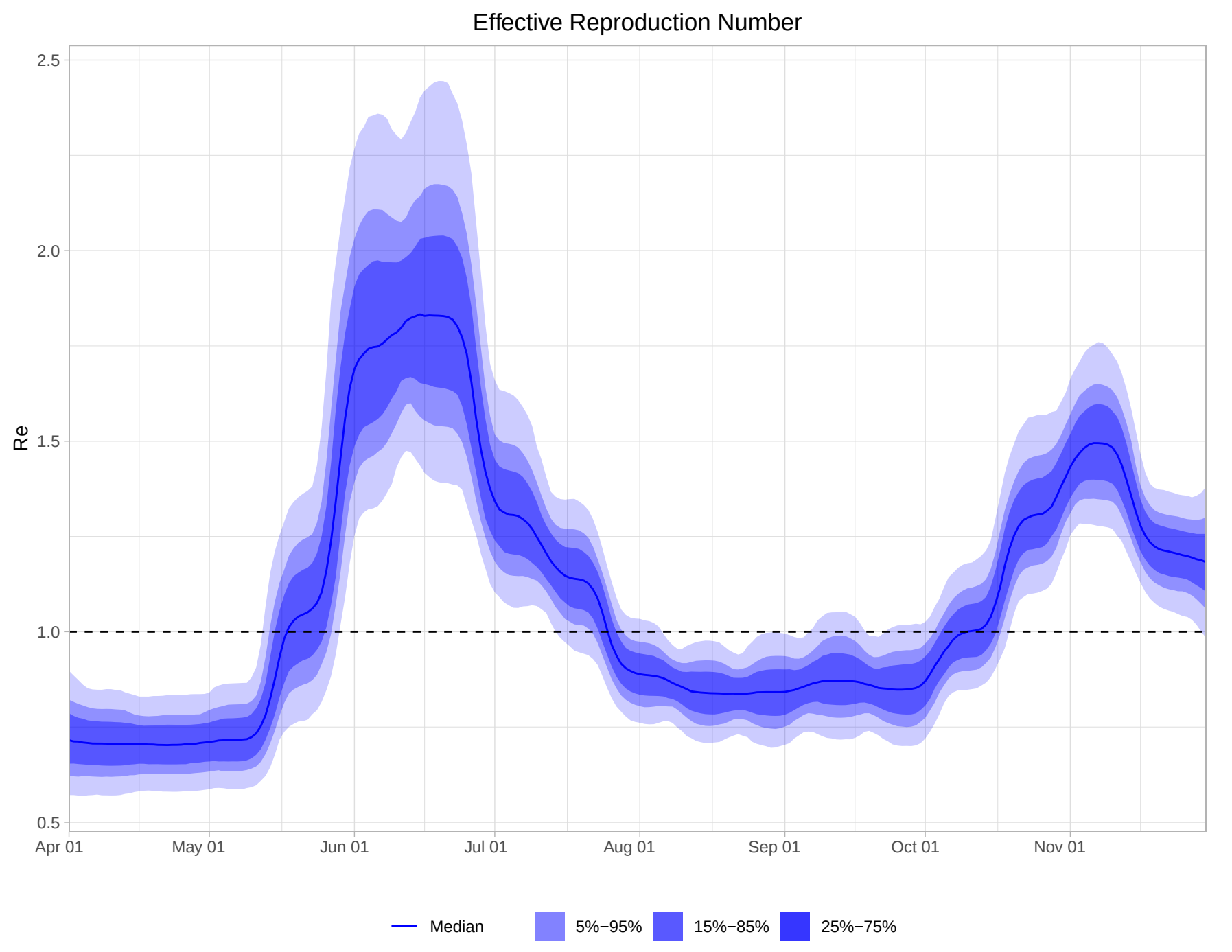

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
4000
3000
2000
1000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
150
100
50
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 ICU Projection
Number of COVID19 Patients in ICU
1250
1000
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
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

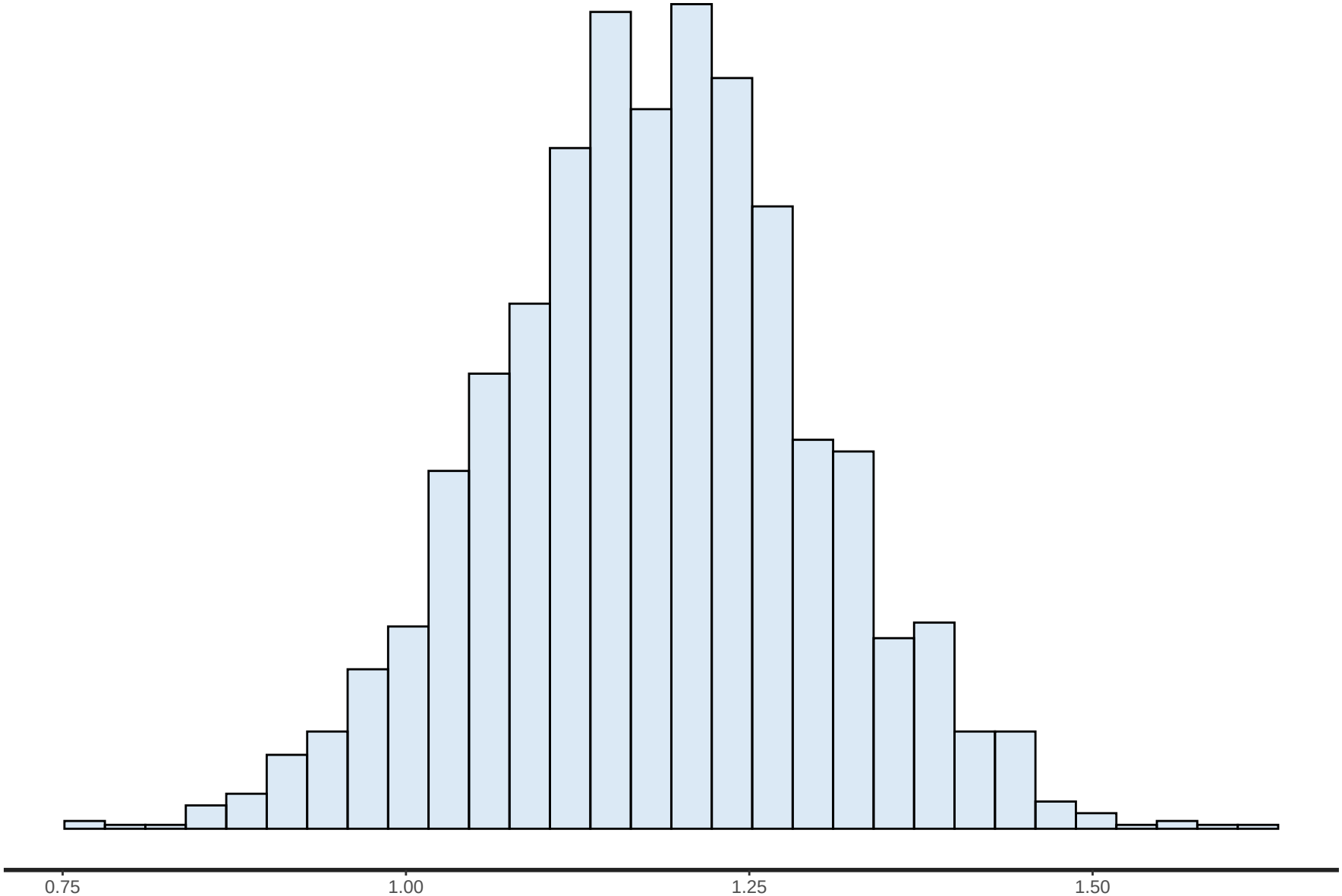

Short Term Death Projection
Number of COVID19 Deaths
0
200
400
600
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

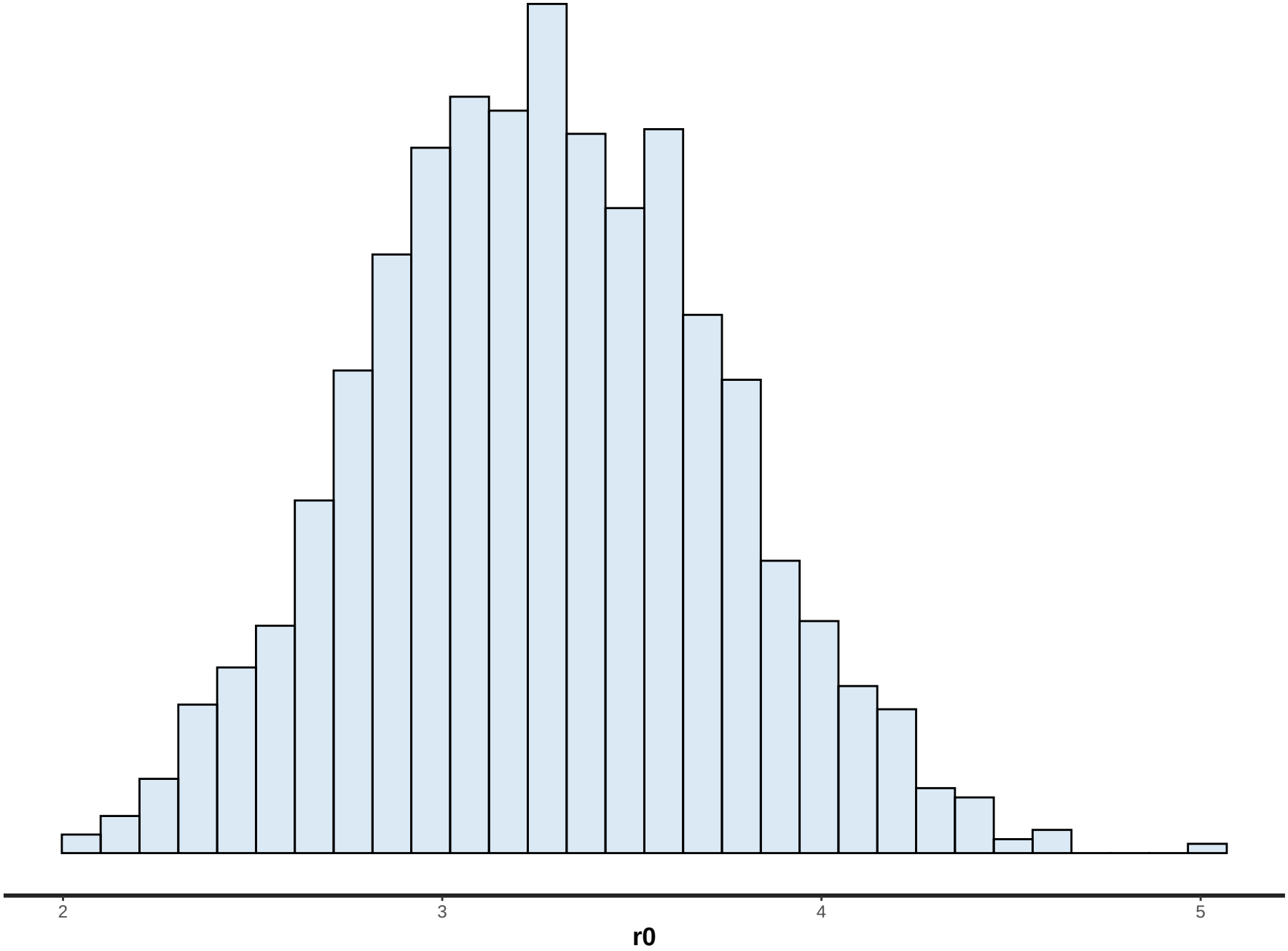

Long Term Death Projection
Number of COVID19 Deaths
3000
2000
1000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

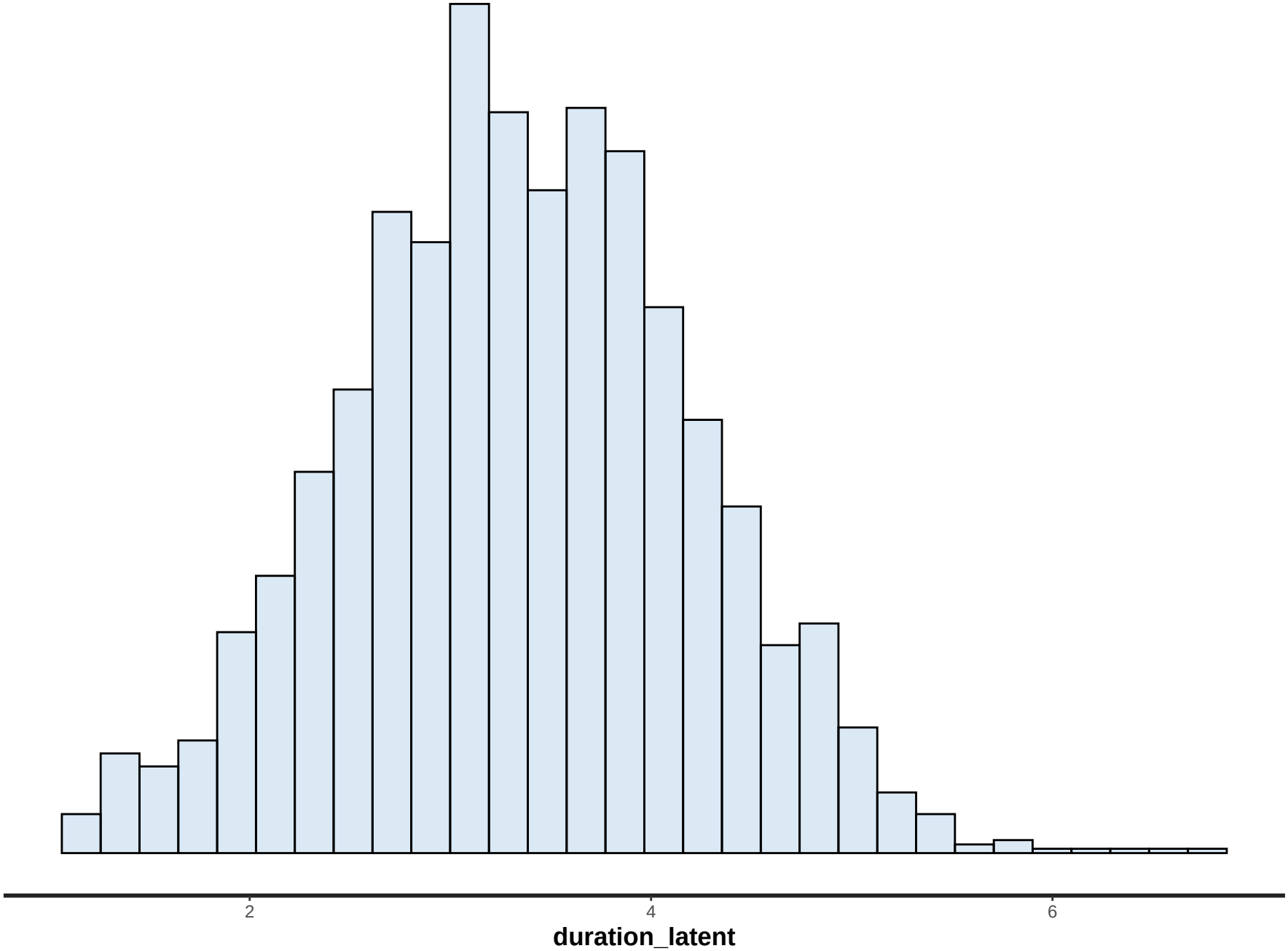

Effective Reproduction Number
Re
2.5
2.0
1.5
1.0
0.5
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Median
5%−95%
15%−85%
25%−75%

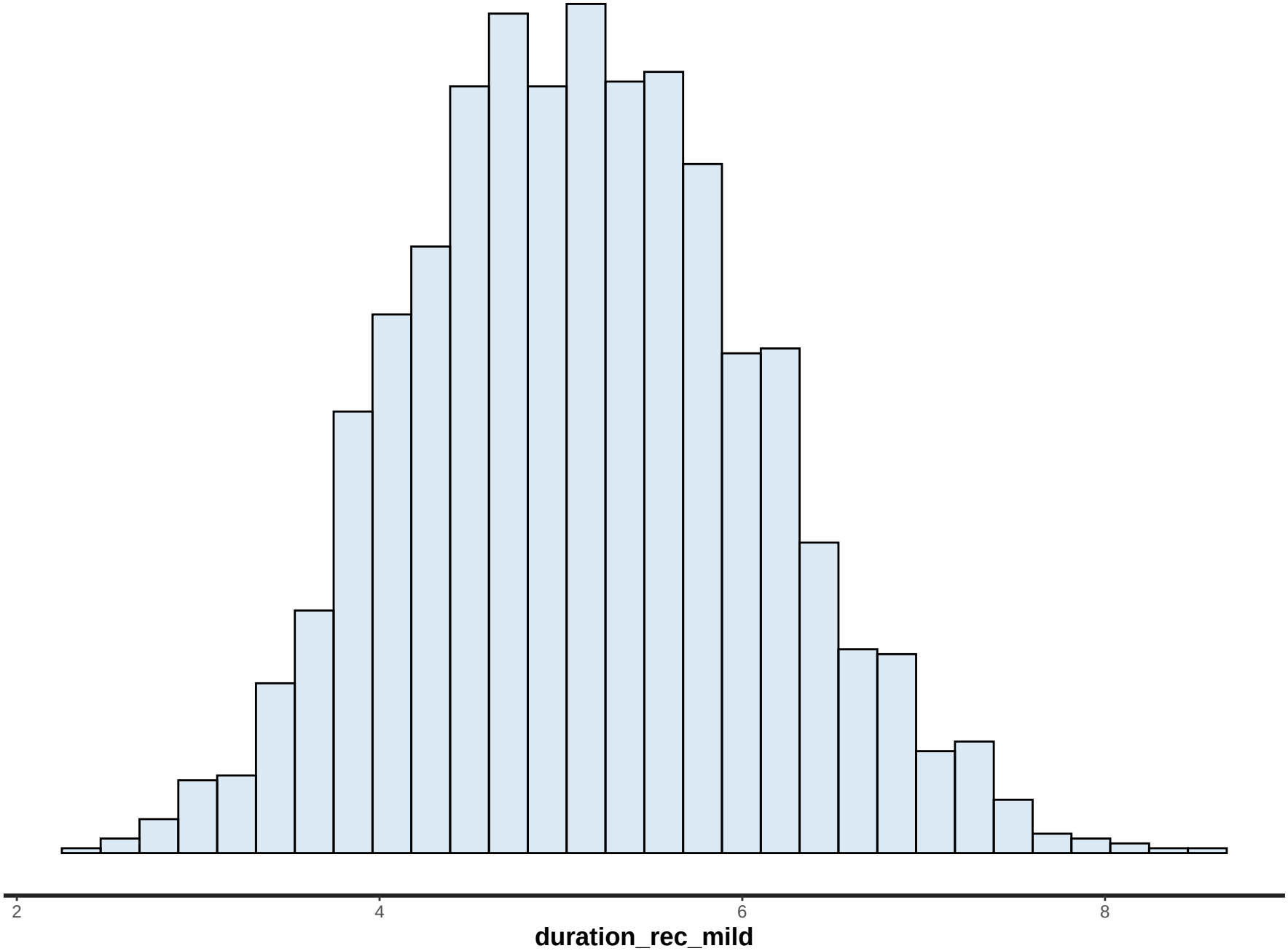
Rt as of 2020−11−30

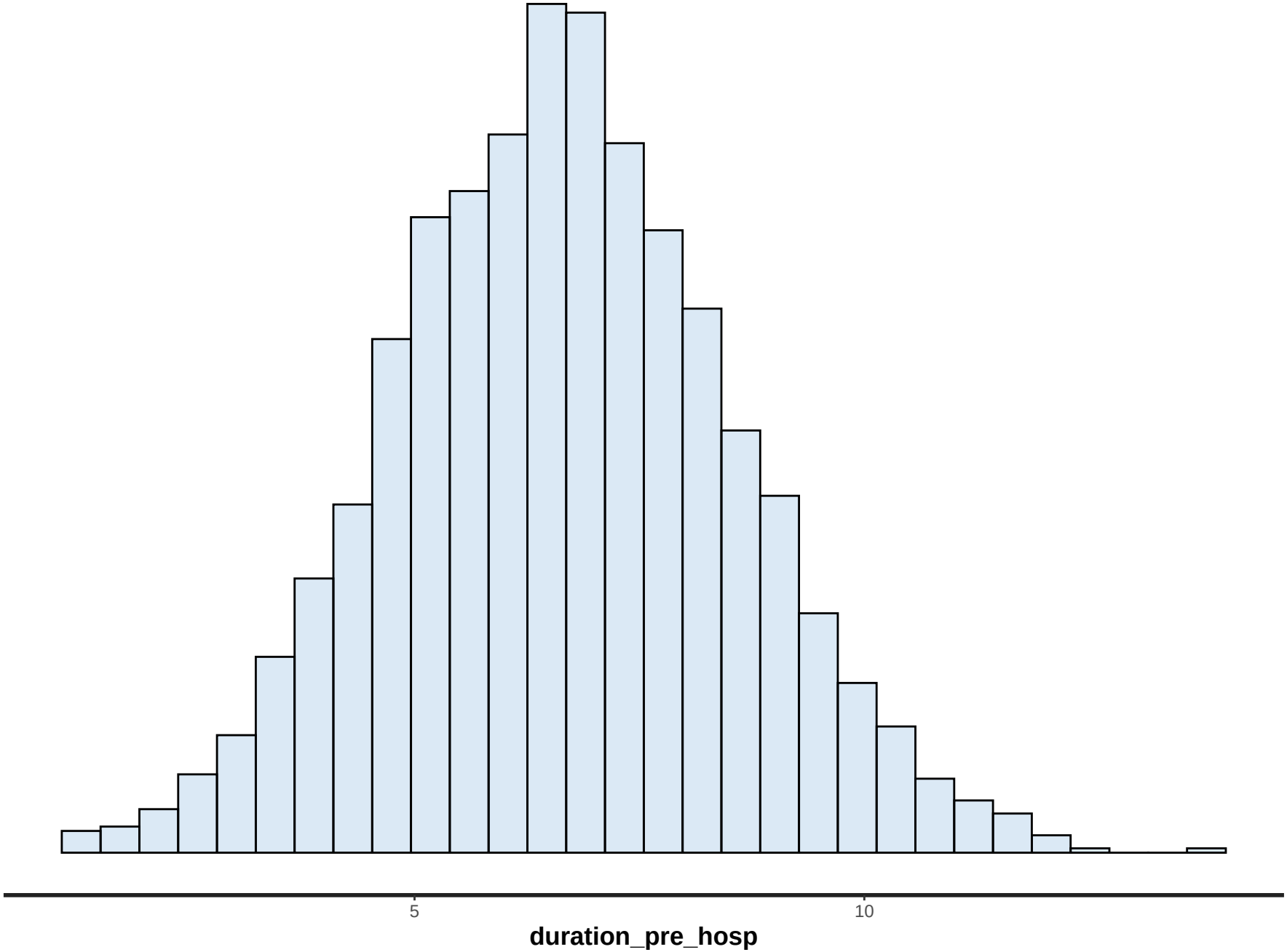
5%	10%	25%	50%	75%	90%	95%
0.98	1.03	1.10	1.18	1.26	1.33	1.38

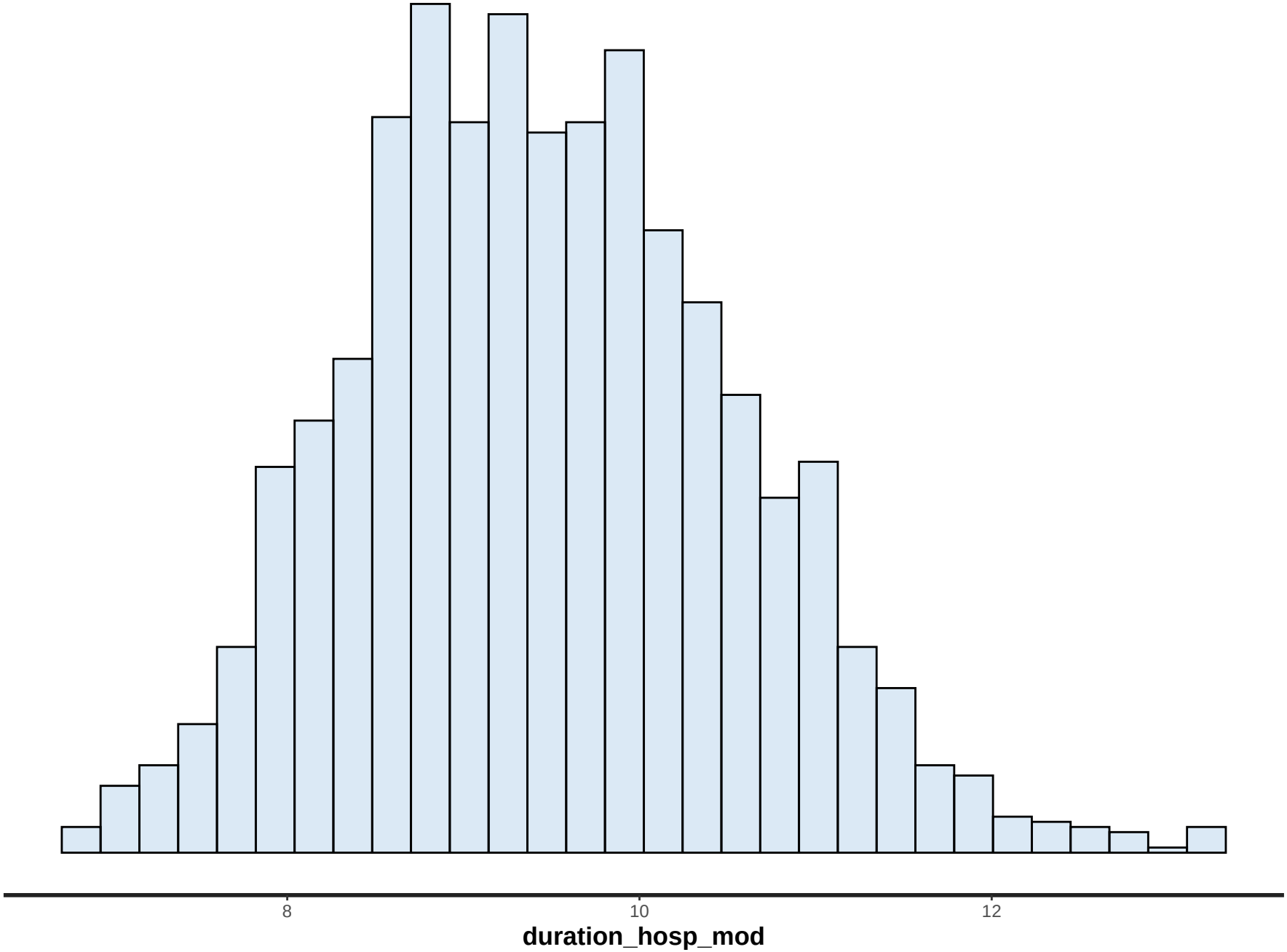


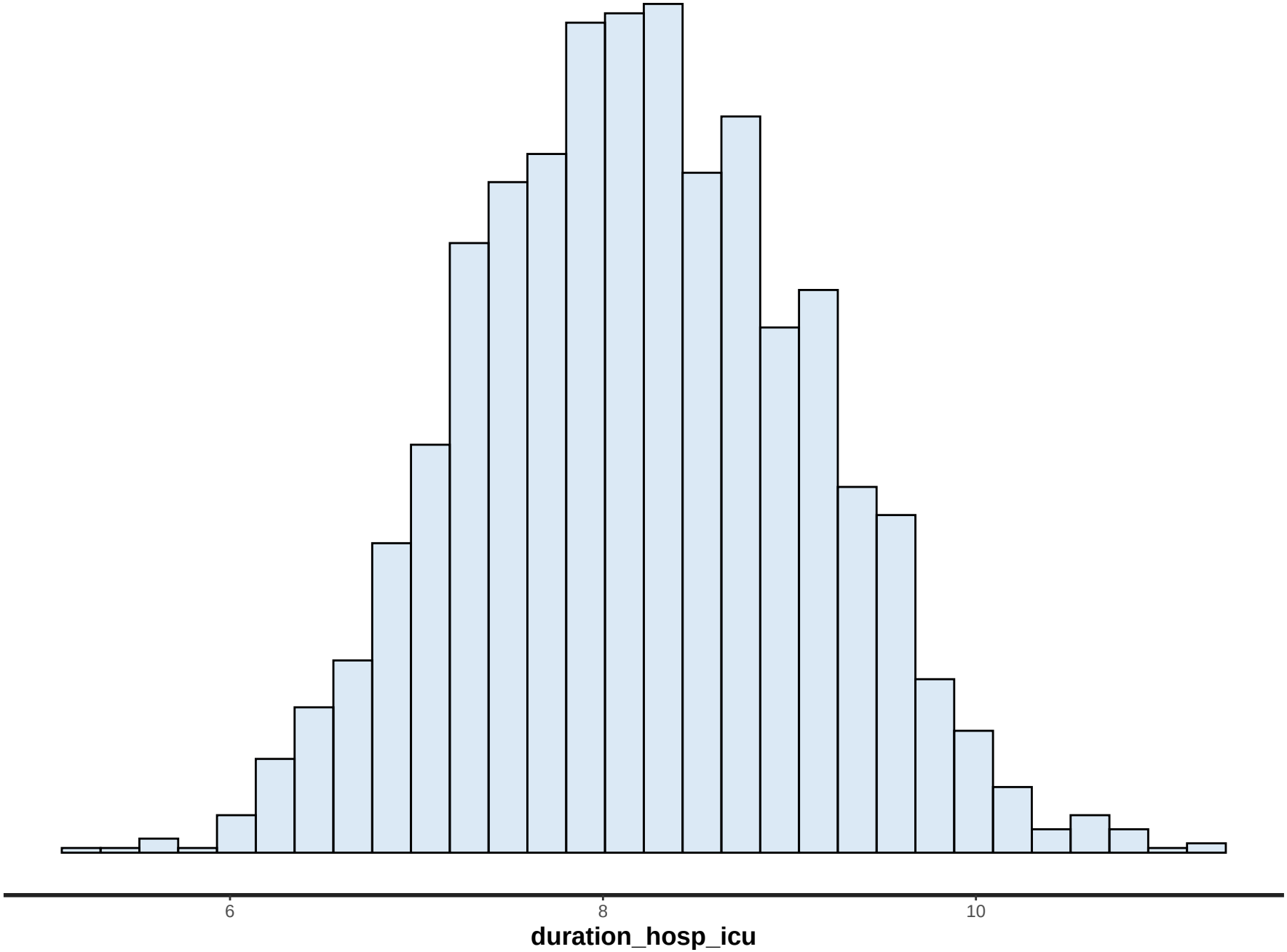

2
3
4
5
r0

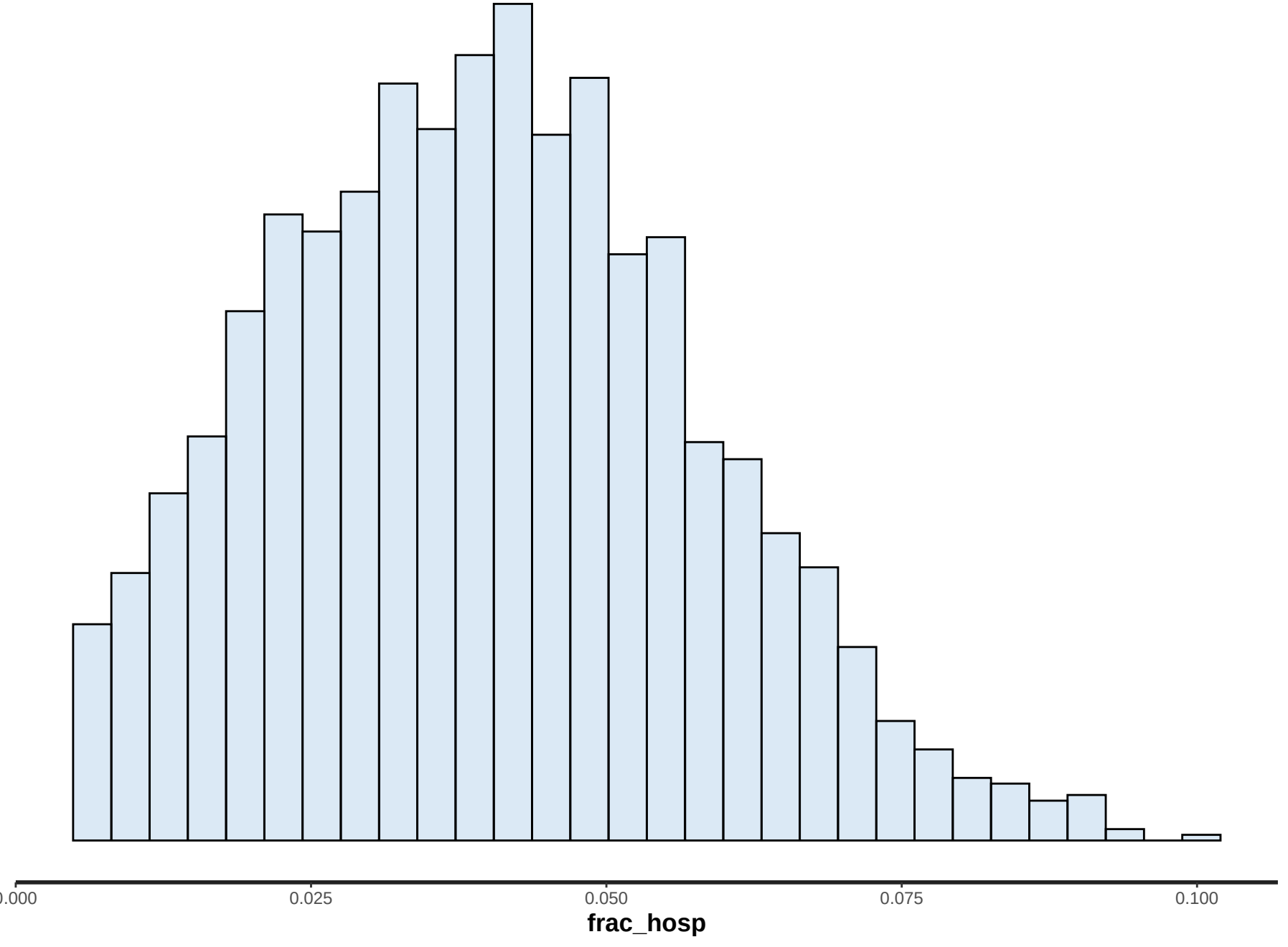

2
4
6
duration_latent

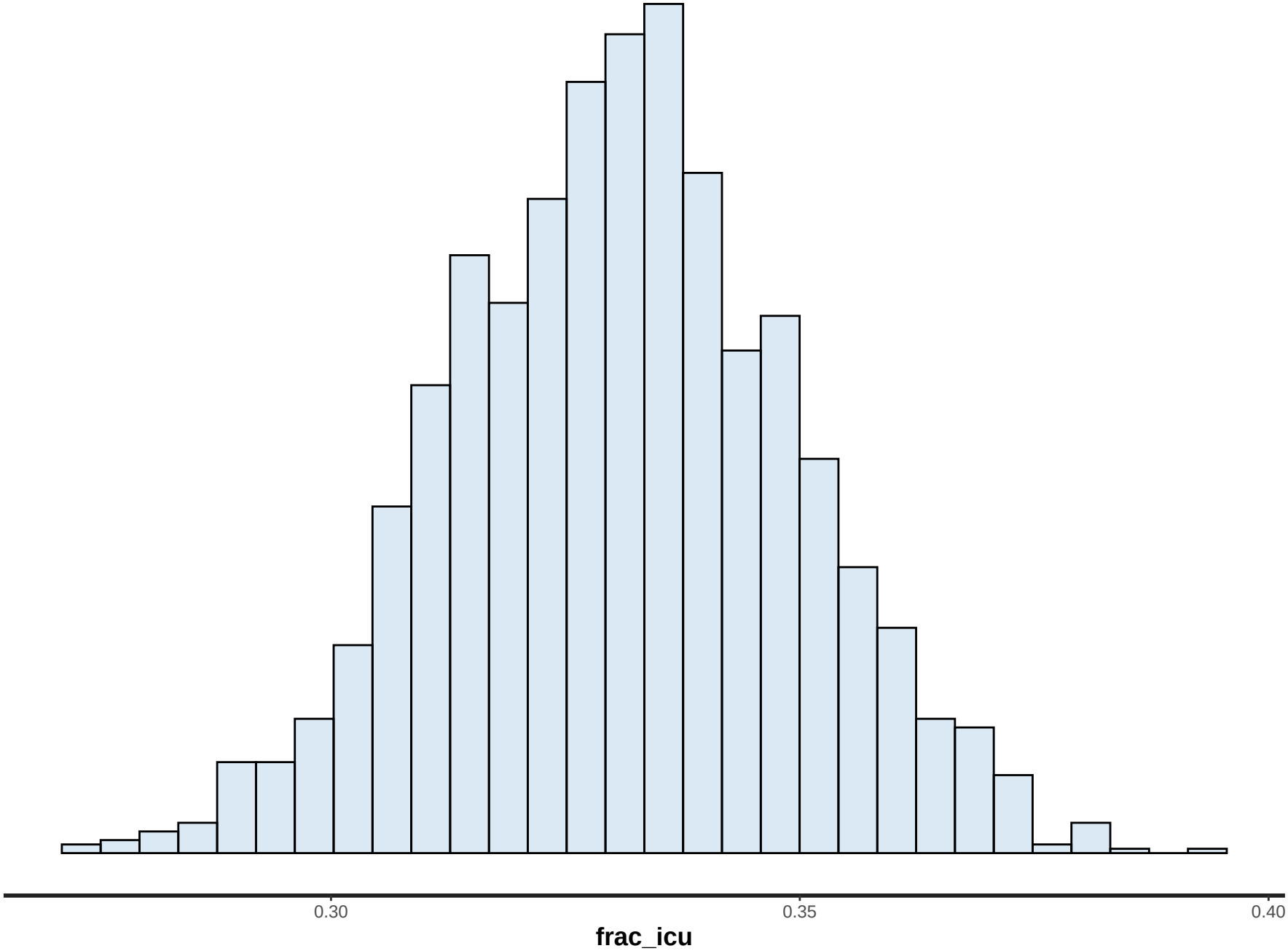

2
4
6
8
duration_rec_mild

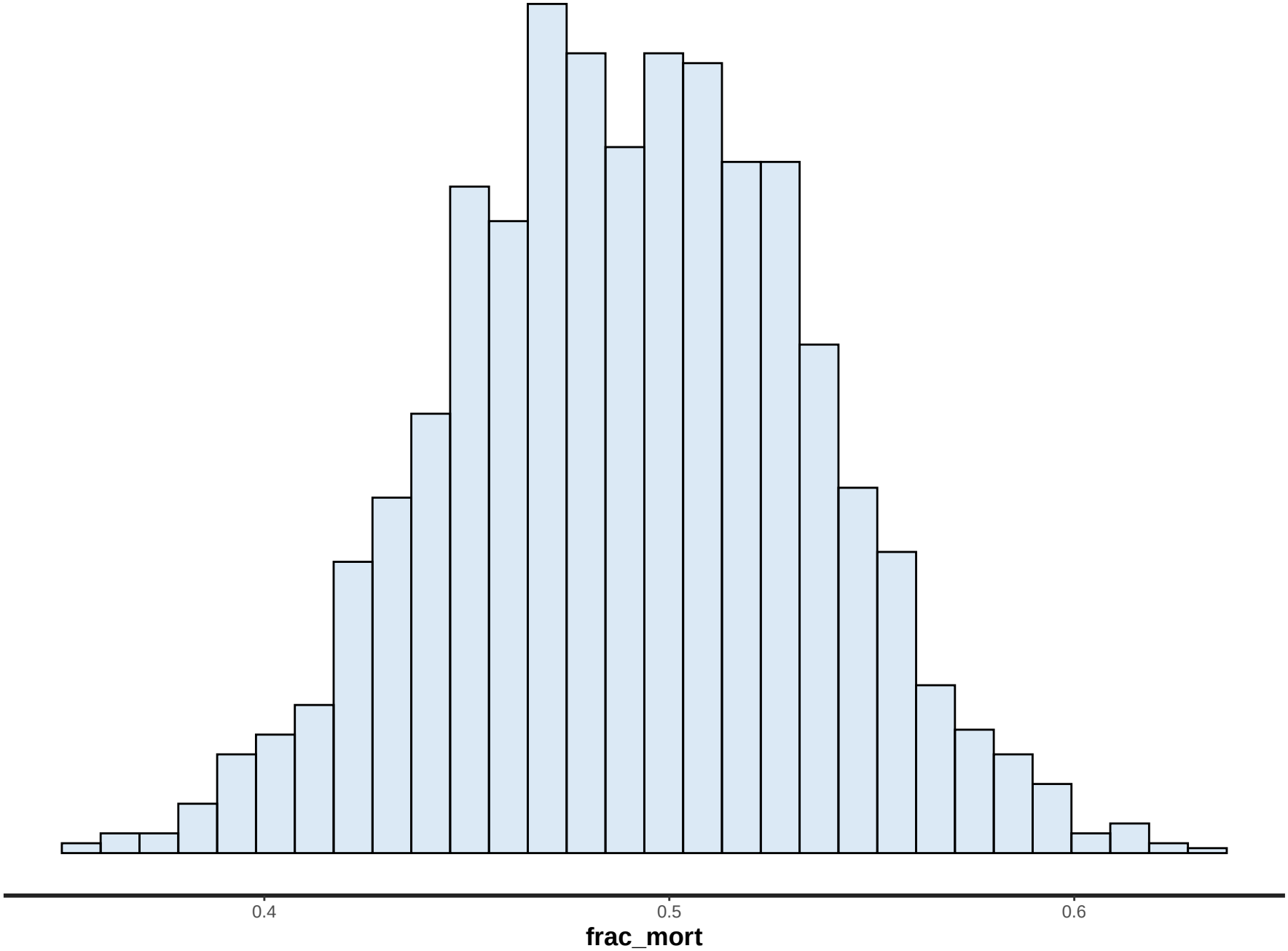

5
10
duration_pre_hosp

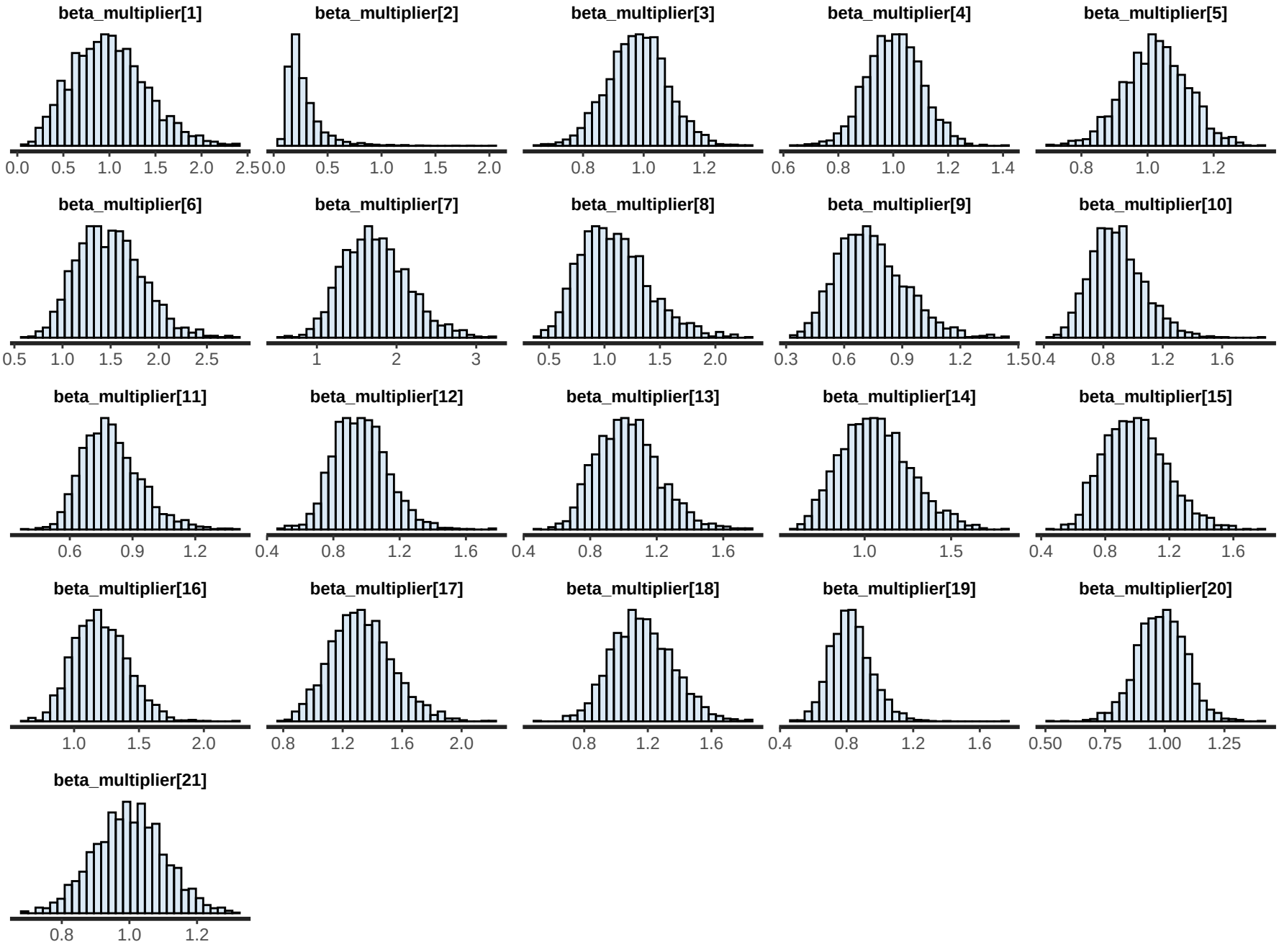

8
10
12
duration_hosp_mod

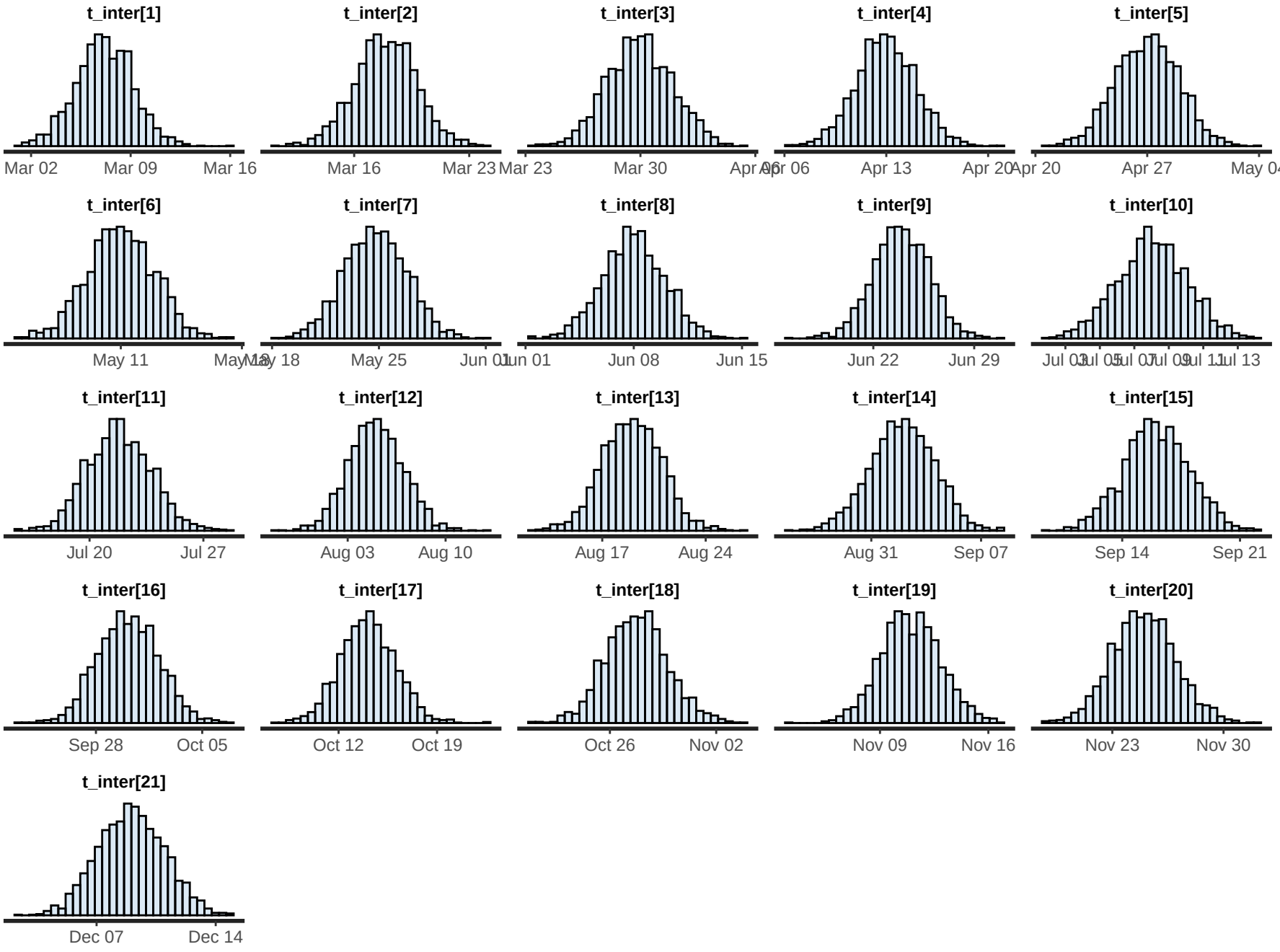

6
8
10
duration_hosp_icu

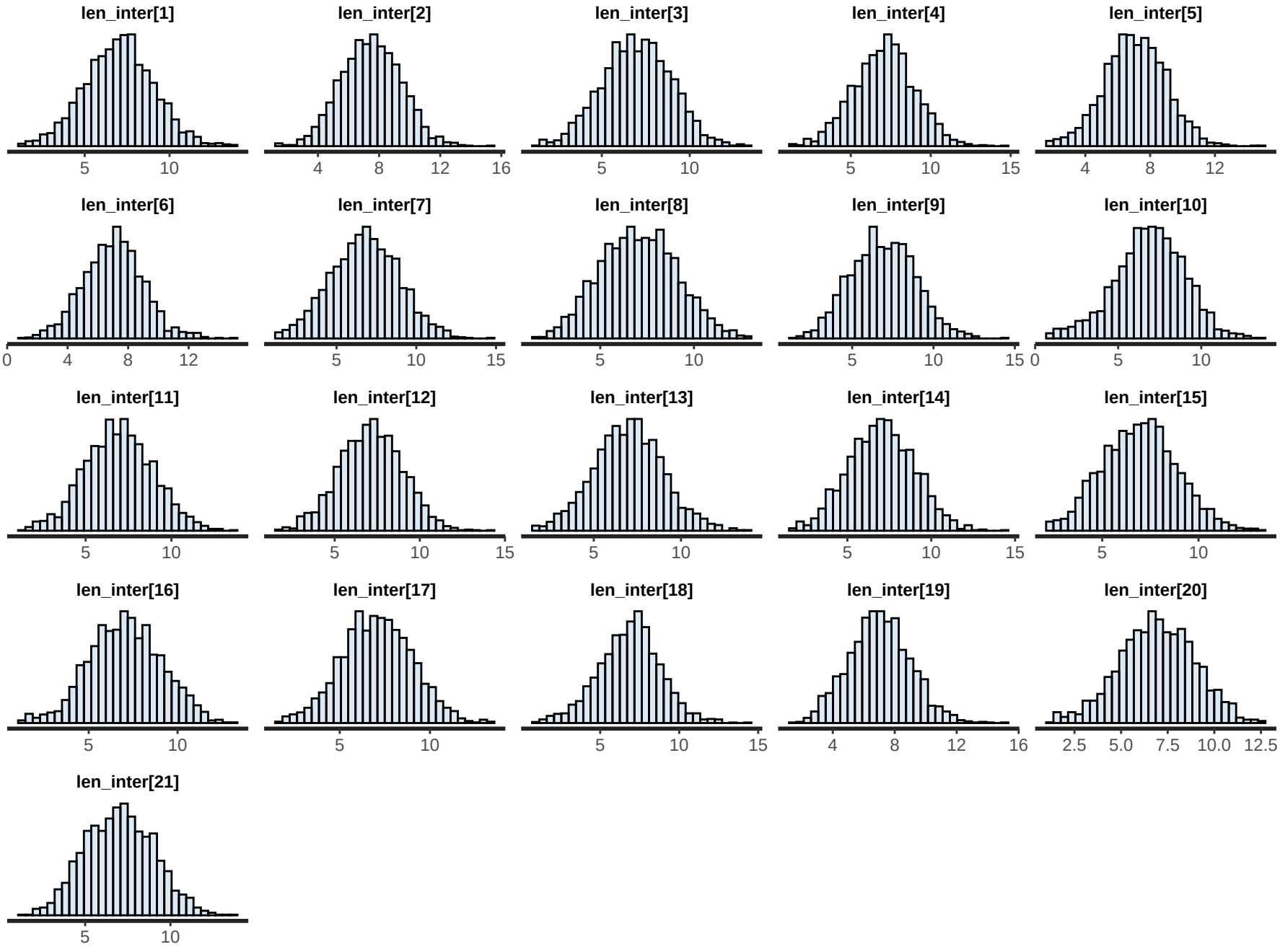

0.000
0.025
0.050
0.075
0.100
frac_hosp

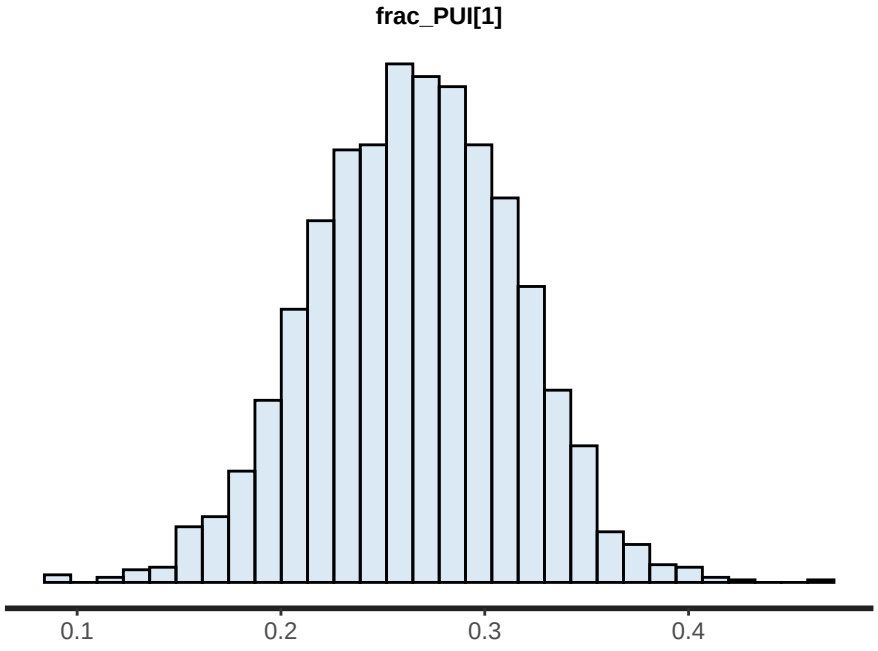

0.30
0.35
0.40
frac_icu

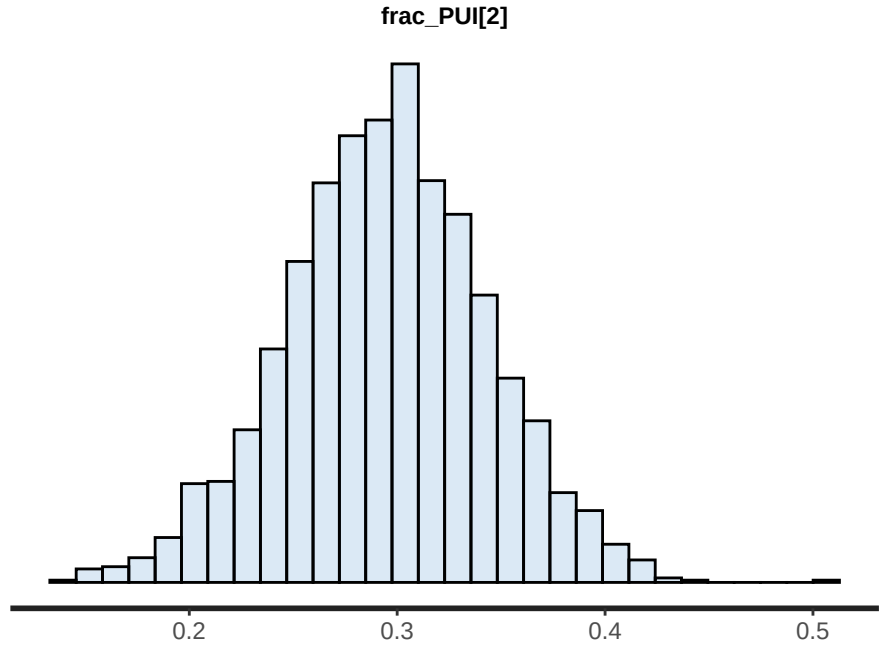

0.4
0.5
0.6
frac_mort


beta_multiplier[1]
0.0 0.5 1.0 1.5 2.0 2.5
beta_multiplier[2]
0.0 0.5 1.0 1.5 2.0
beta_multiplier[3]
0.8 1.0 1.2
beta_multiplier[4]
0.6 0.8 1.0 1.2 1.4
beta_multiplier[5]
0.8 1.0 1.2
beta_multiplier[6]
0.5 1.0 1.5 2.0 2.5
beta_multiplier[7]
1 2 3
beta_multiplier[8]
0.5 1.0 1.5 2.0
beta_multiplier[9]
0.3 0.6 0.9 1.2 1.5
beta_multiplier[10]
0.4 0.8 1.2 1.6
beta_multiplier[11]
0.6 0.9 1.2
beta_multiplier[12]
0.4 0.8 1.2 1.6
beta_multiplier[13]
0.4 0.8 1.2 1.6
beta_multiplier[14]
1.0 1.5
beta_multiplier[15]
0.4 0.8 1.2 1.6
beta_multiplier[16]
1.0 1.5 2.0
beta_multiplier[17]
0.8 1.2 1.6 2.0
beta_multiplier[18]
0.8 1.2 1.6
beta_multiplier[19]
0.4 0.8 1.2 1.6
beta_multiplier[20]
0.50 0.75 1.00 1.25
beta_multiplier[21]
0.8 1.0 1.2


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


len_inter[1]
5 10
len_inter[2]
4 8 12 16
len_inter[3]
5 10
len_inter[4]
5 10 15
len_inter[5]
4 8 12
len_inter[6]
0 4 8 12
len_inter[7]
5 10 15
len_inter[8]
5 10
len_inter[9]
5 10 15
len_inter[10]
0 5 10
len_inter[11]
5 10
len_inter[12]
5 10 15
len_inter[13]
5 10
len_inter[14]
5 10 15
len_inter[15]
5 10
len_inter[16]
5 10
len_inter[17]
5 10
len_inter[18]
5 10 15
len_inter[19]
4 8 12 16
len_inter[20]
2.5 5.0 7.5 10.0 12.5
len_inter[21]
5 10


frac_PUI[1]
0.1
0.2
0.3
0.4


frac_PUI[2]
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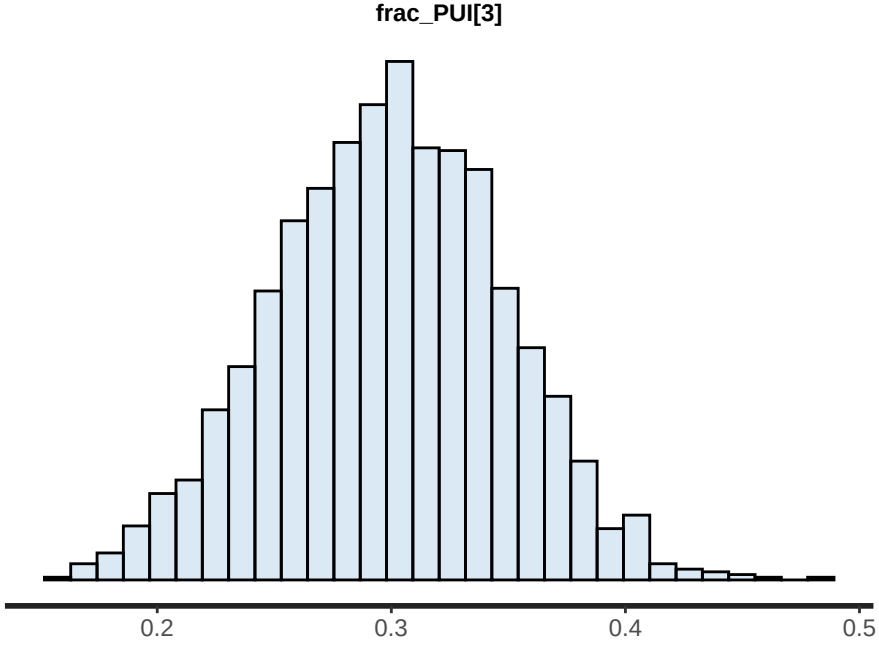
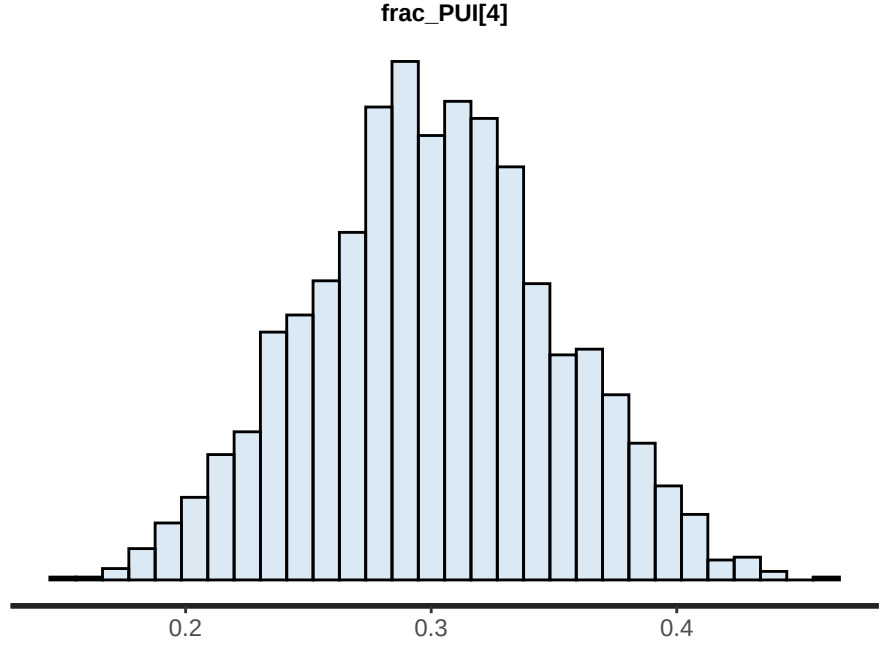
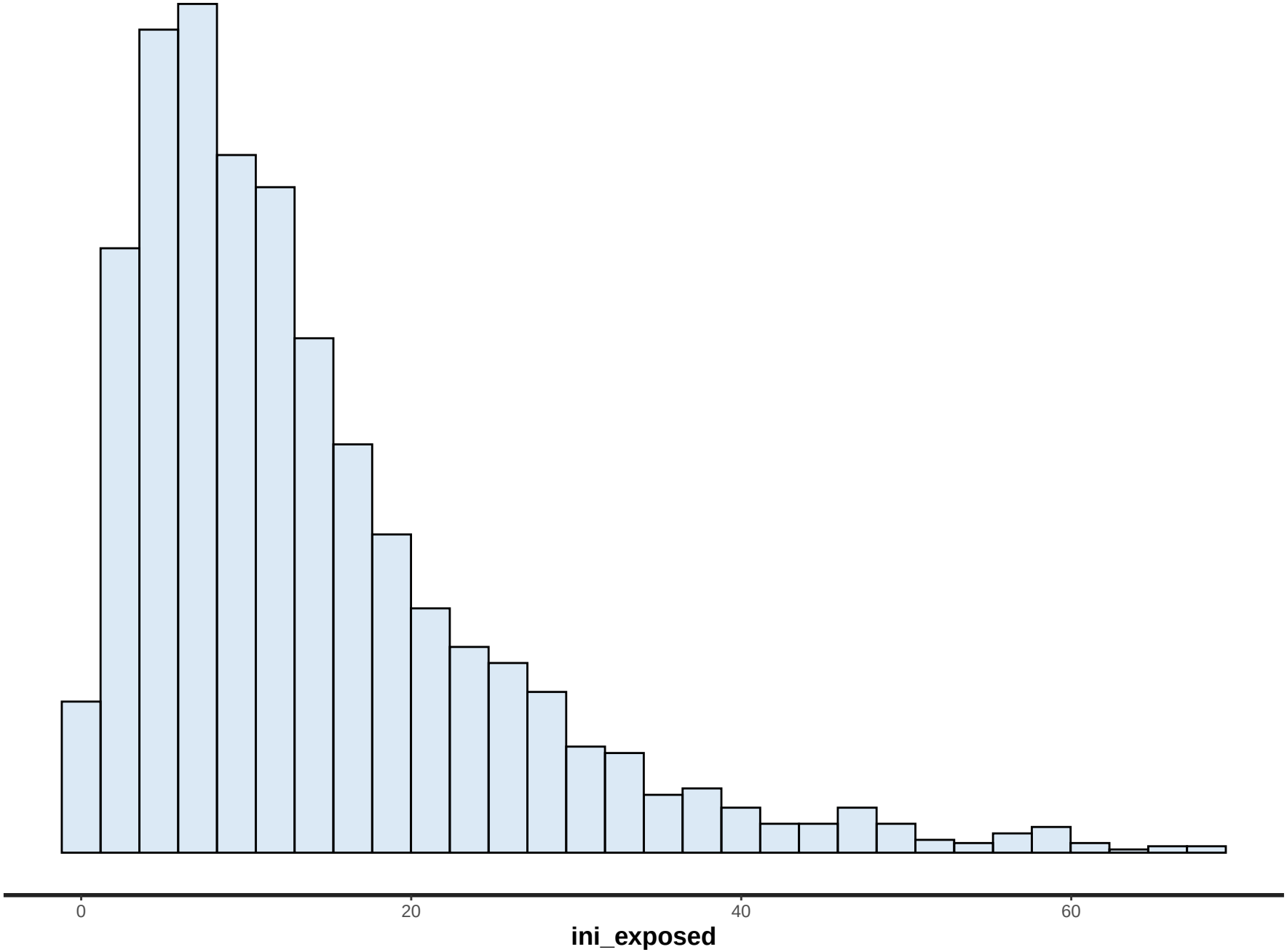
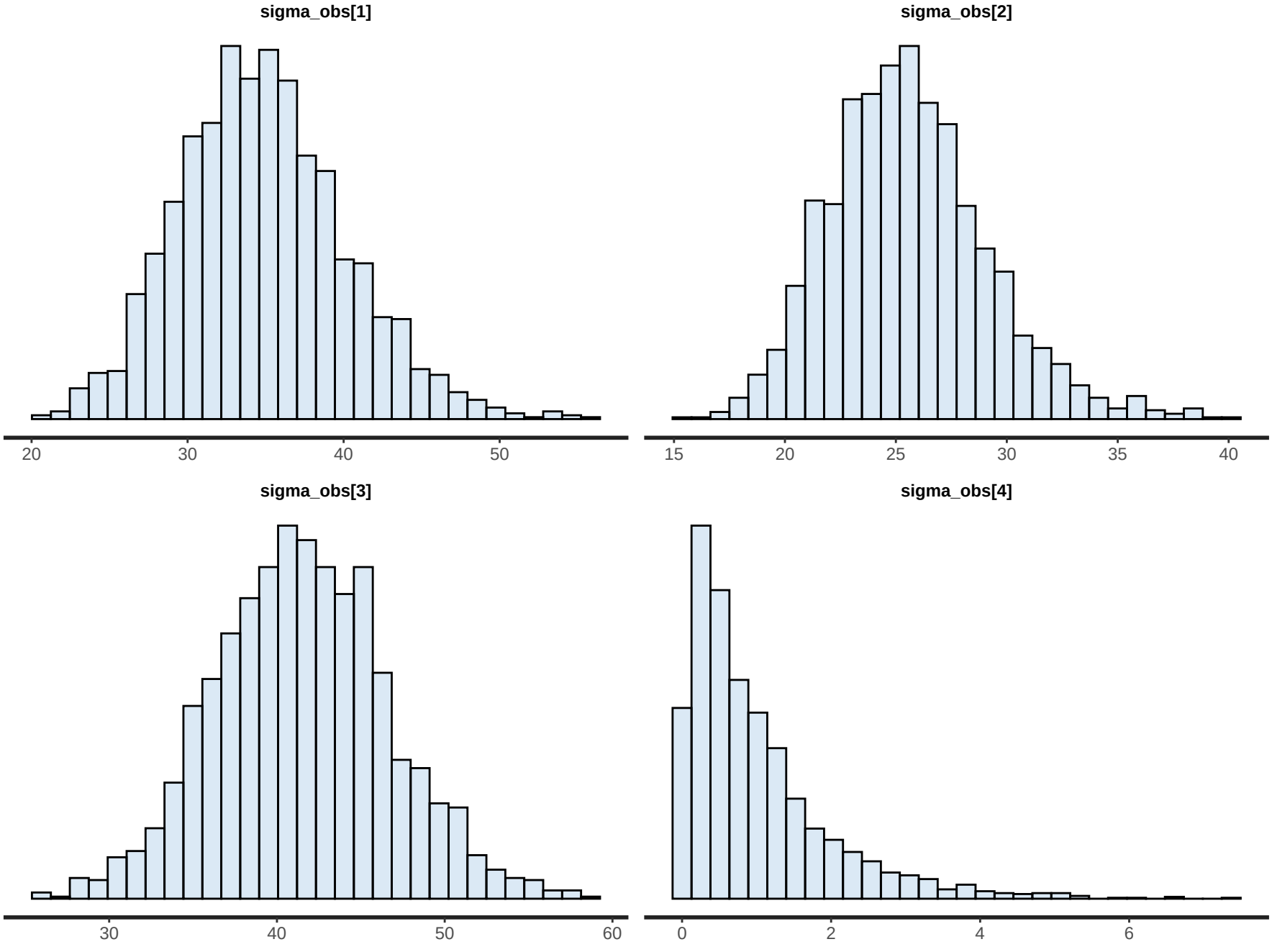
0.3
0.4
0.5


frac_PUI[3]
0.2
0.3
0.4
0.5


frac_PUI[4]
0.2
0.3
0.4


0
20
40
60
ini_exposed


sigma_obs[1]
20
30
40
50
sigma_obs[2]
15
20
25
30
35
40
sigma_obs[3]
30
40
50
60
sigma_obs[4]
0
2
4
6