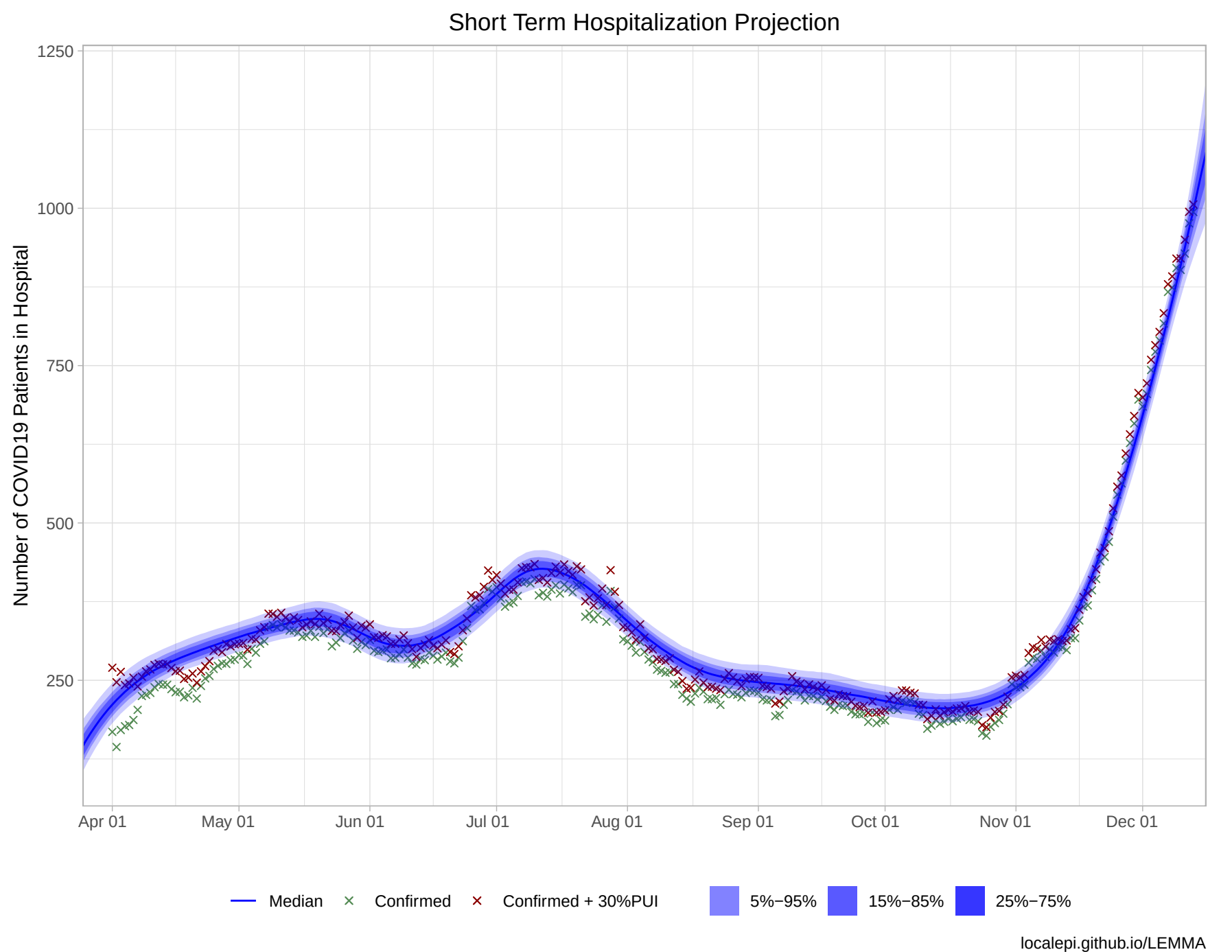
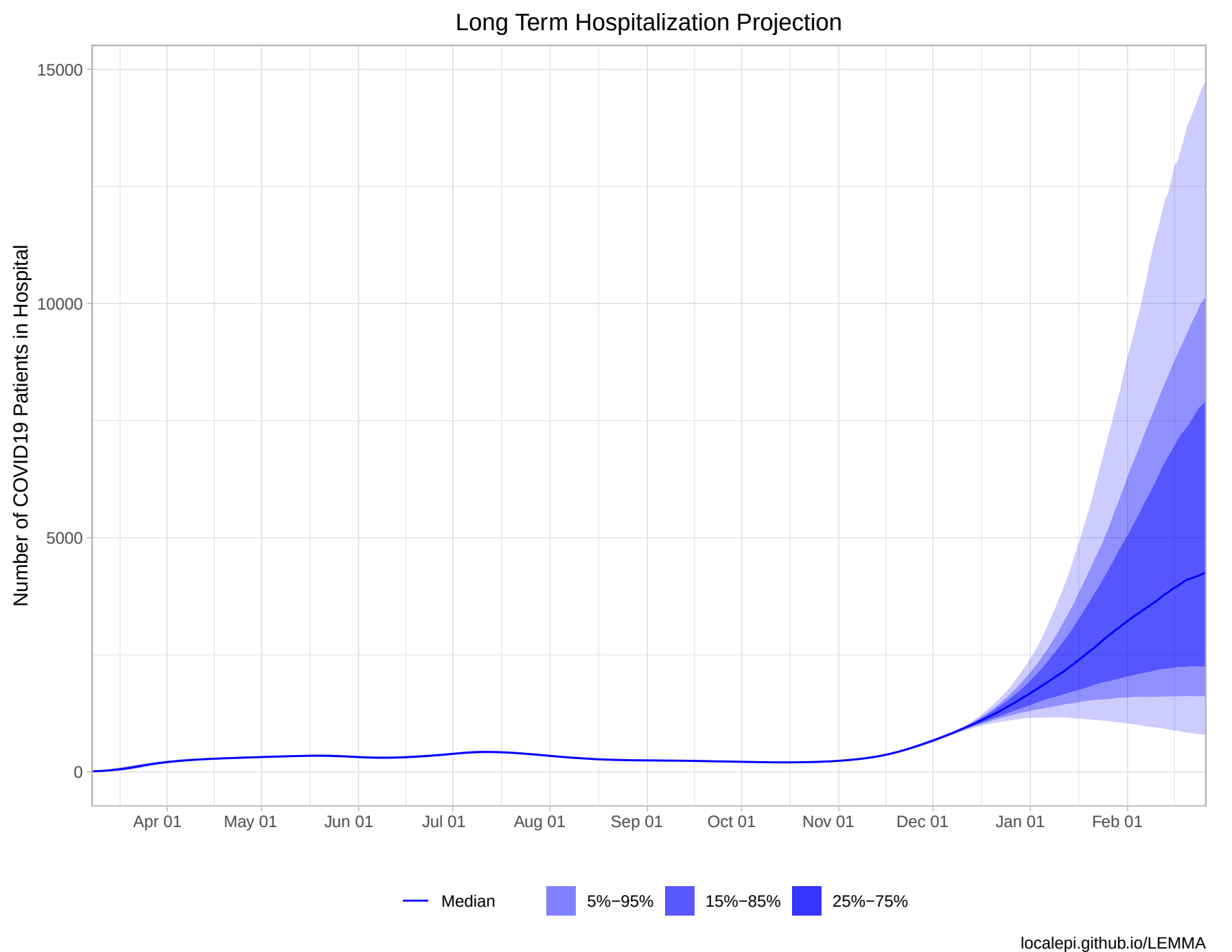
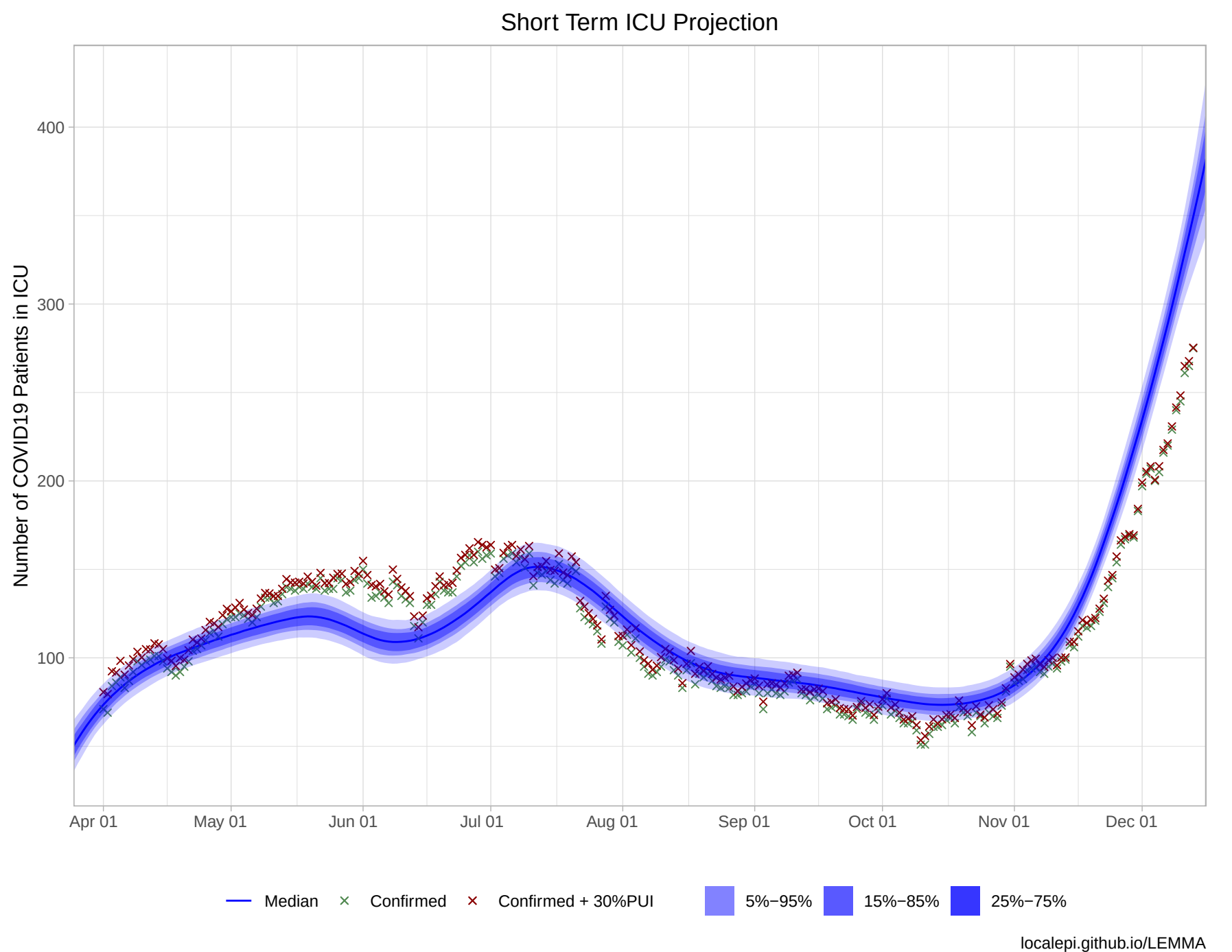
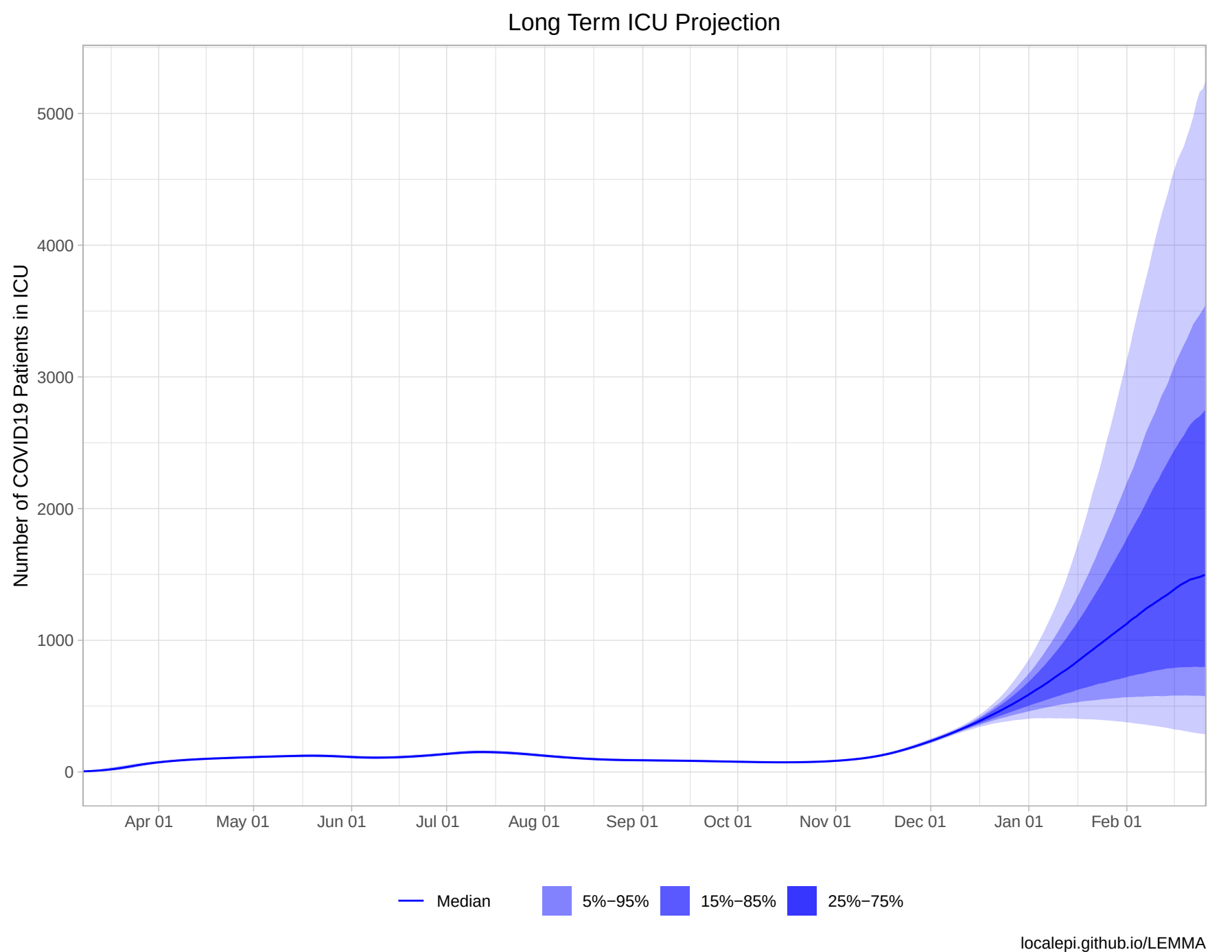
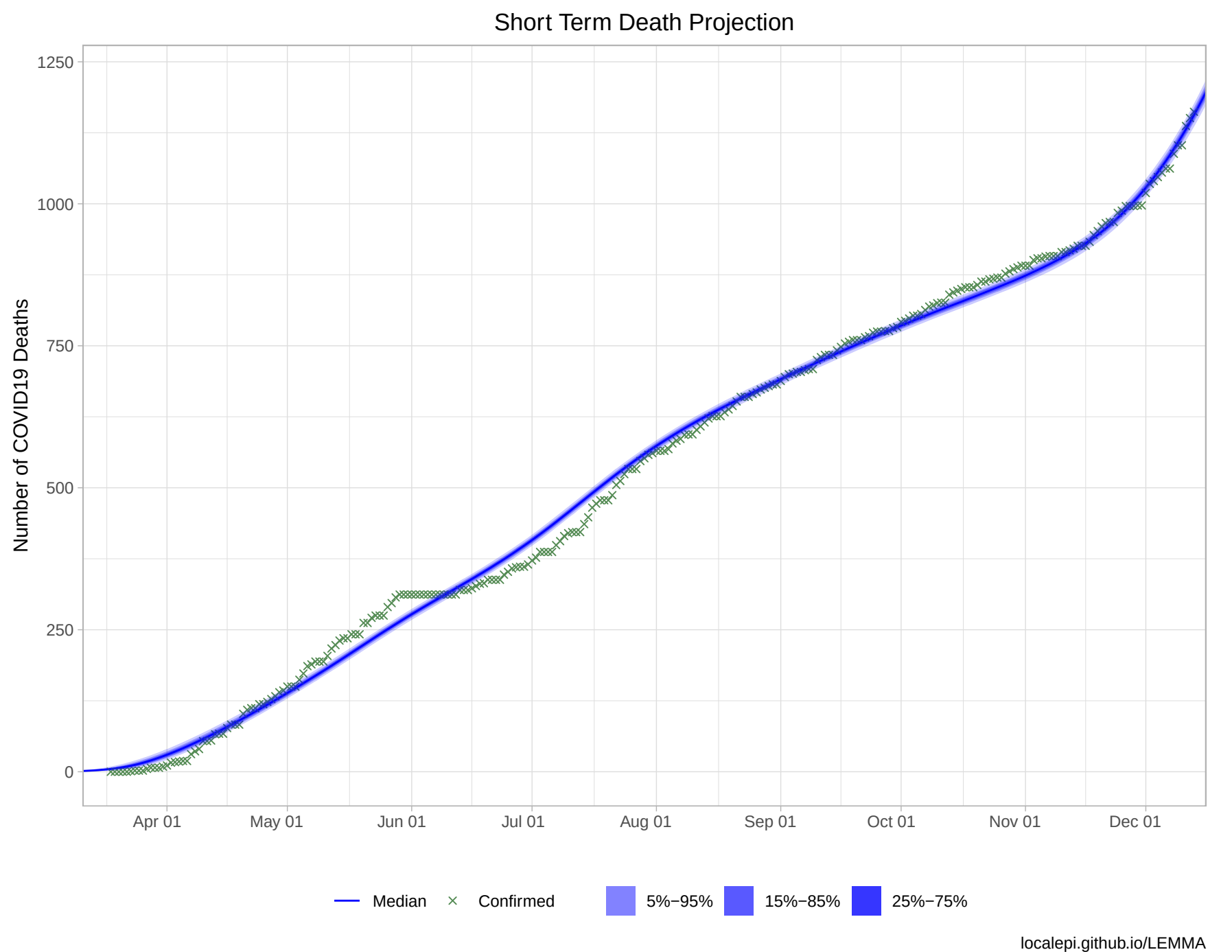
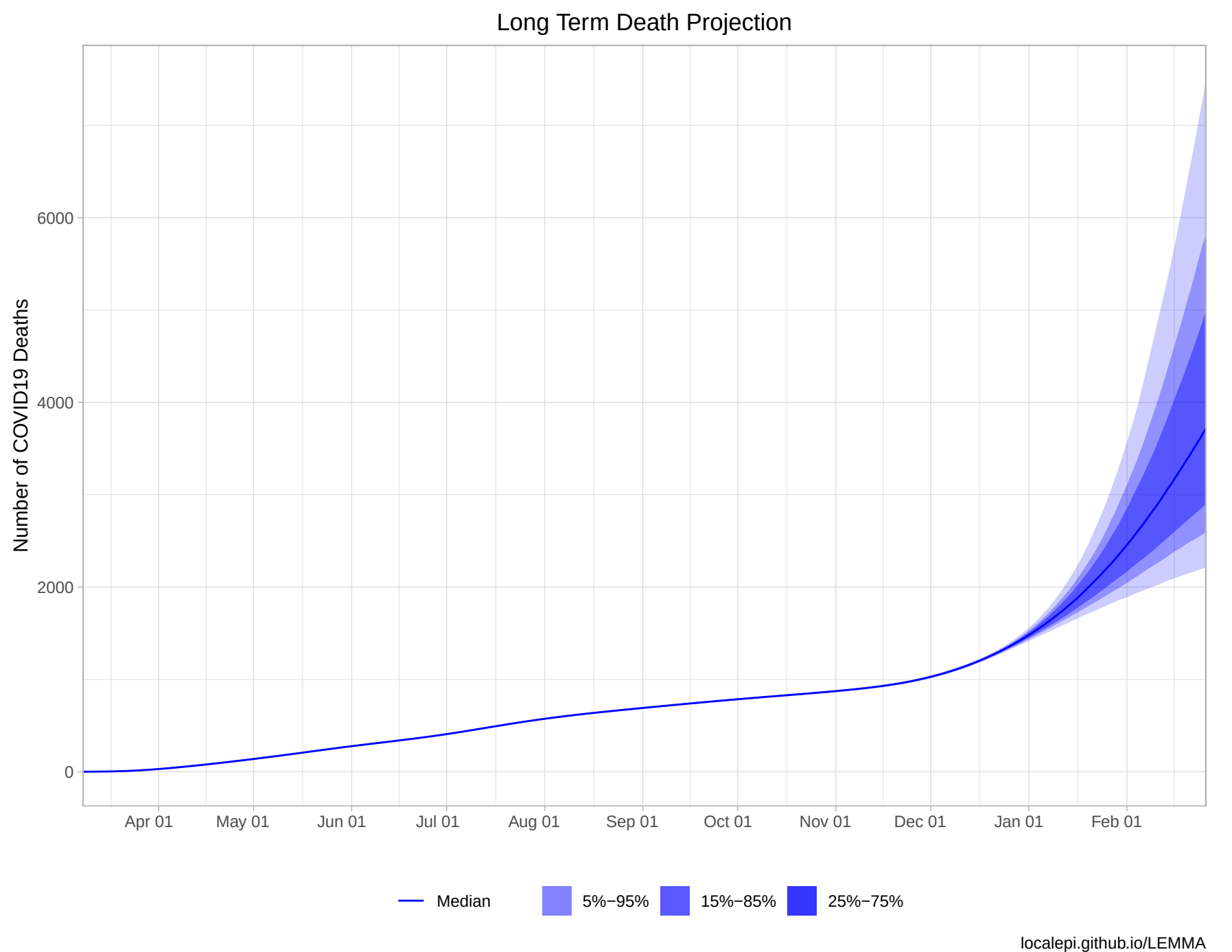

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
1250
1000
750
500
250
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

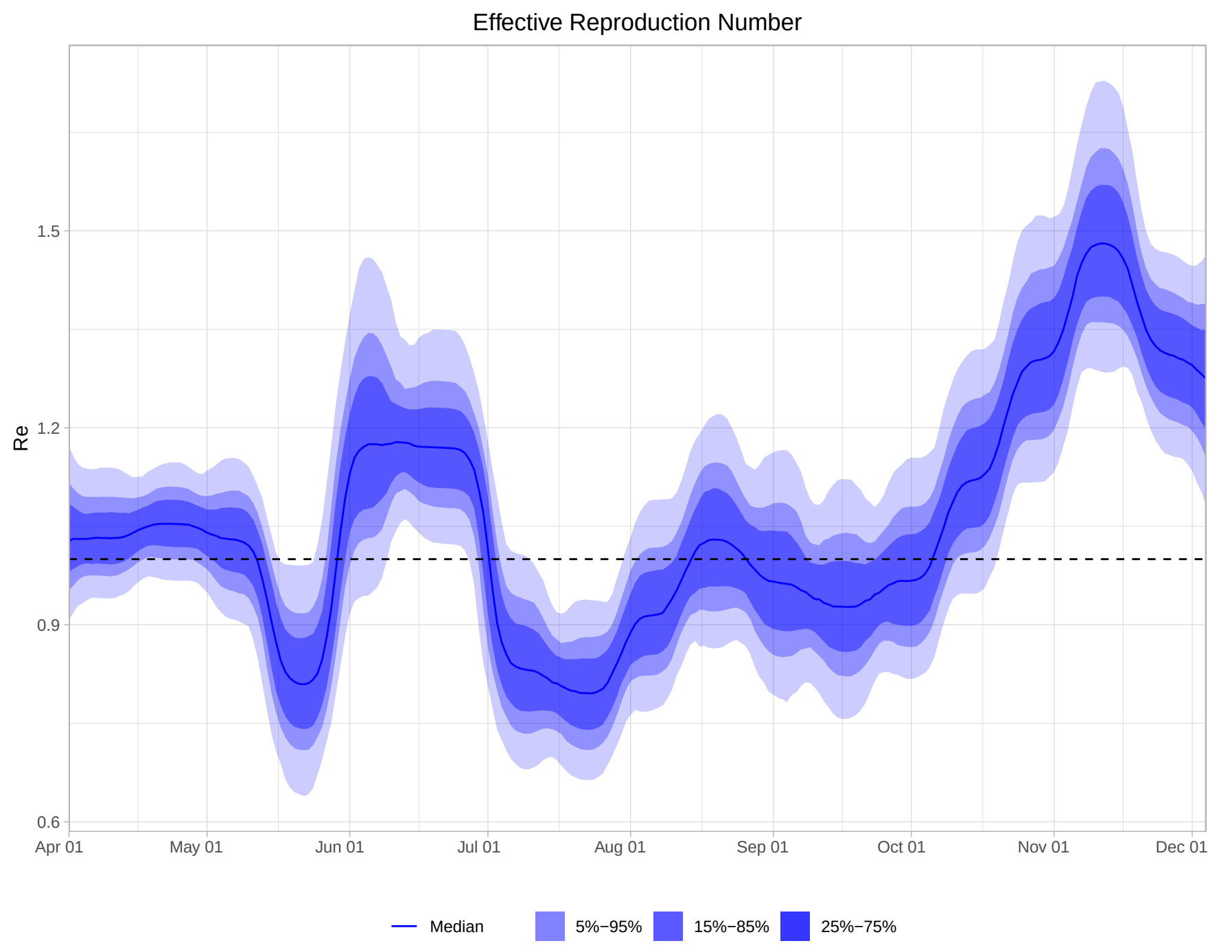

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
15000
10000
5000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
400
300
200
100
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
5000
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

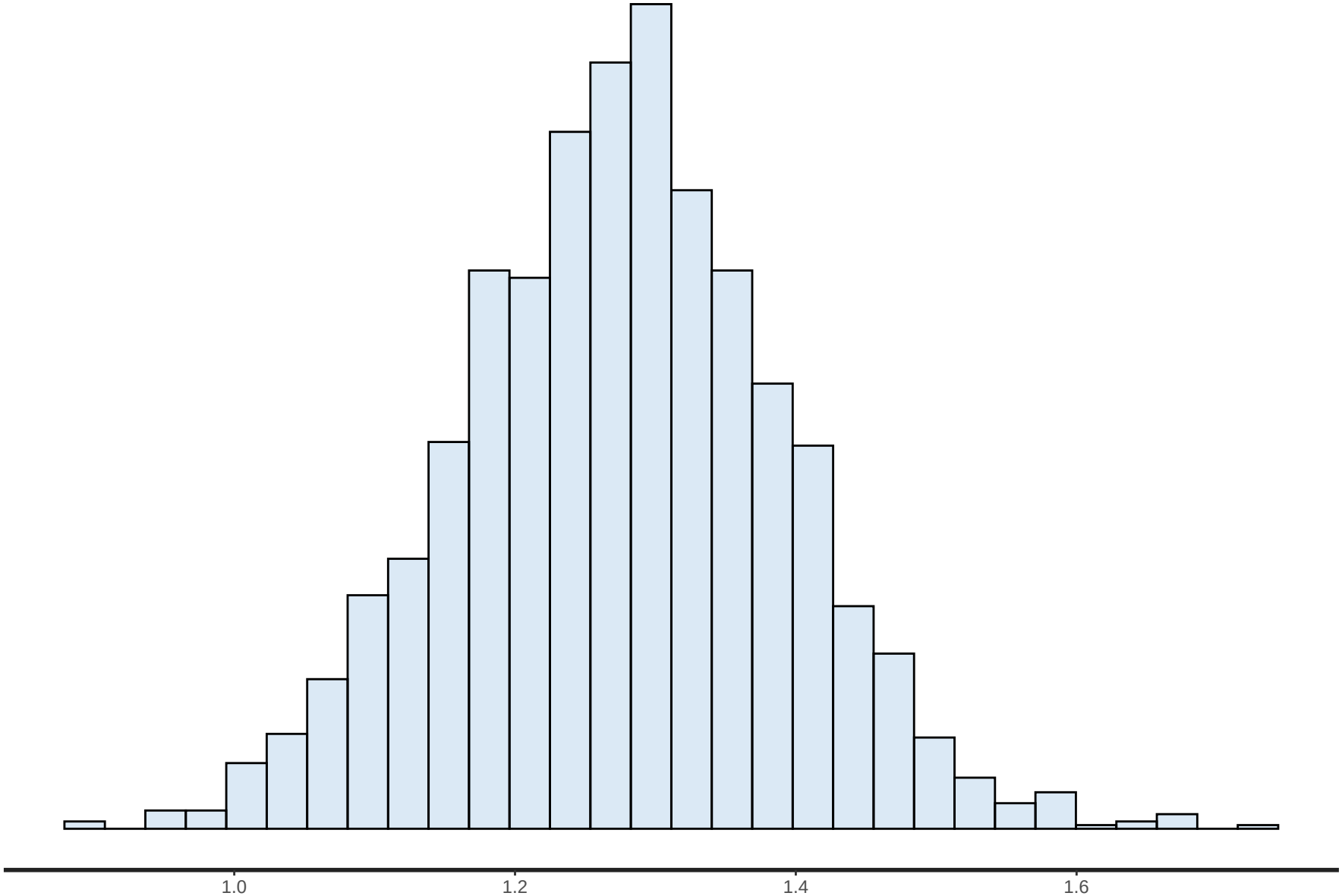

Short Term Death Projection
Number of COVID19 Deaths
1250
1000
750
500
250
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

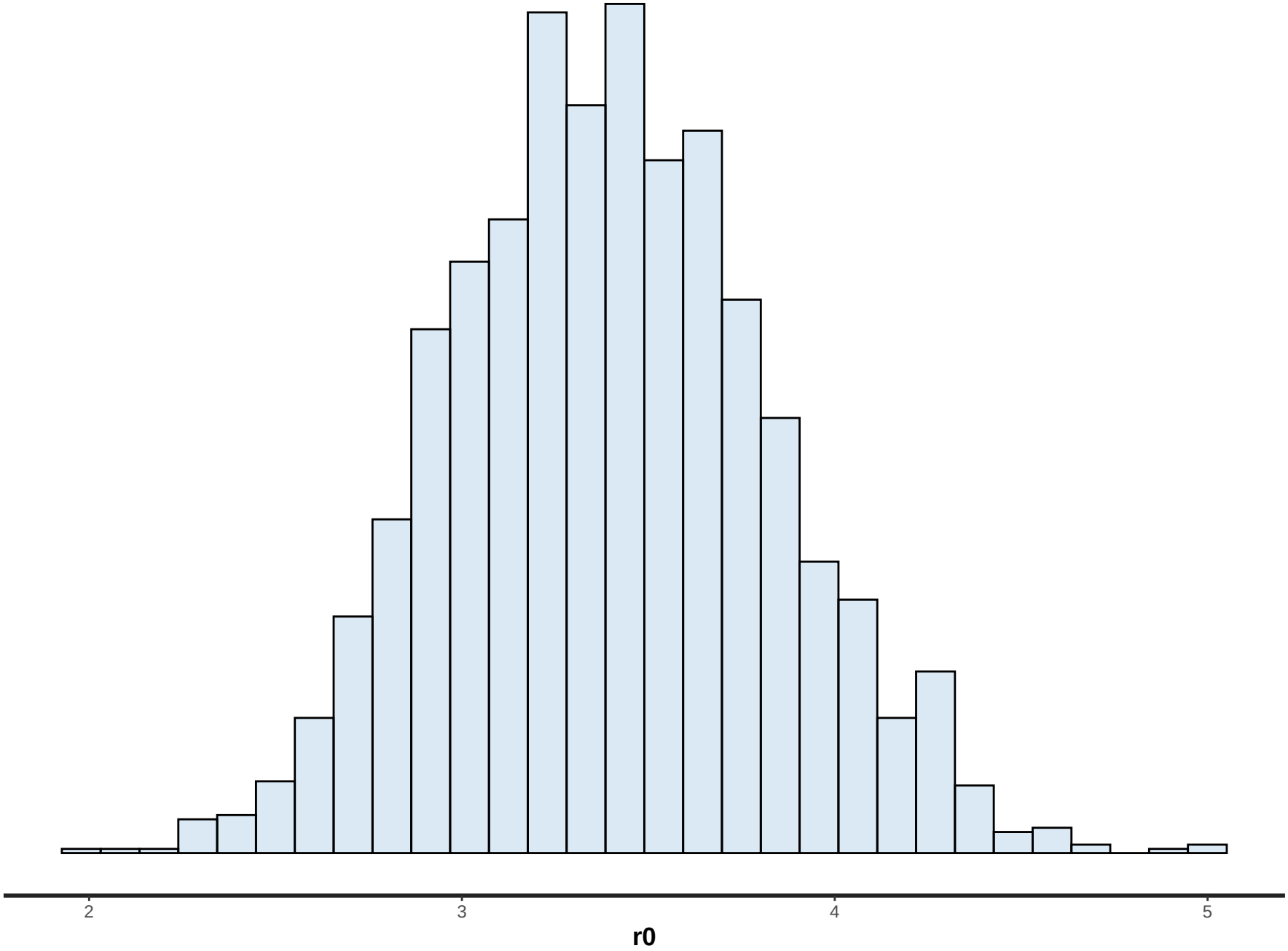

Long Term Death Projection
Number of COVID19 Deaths
6000
4000
2000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

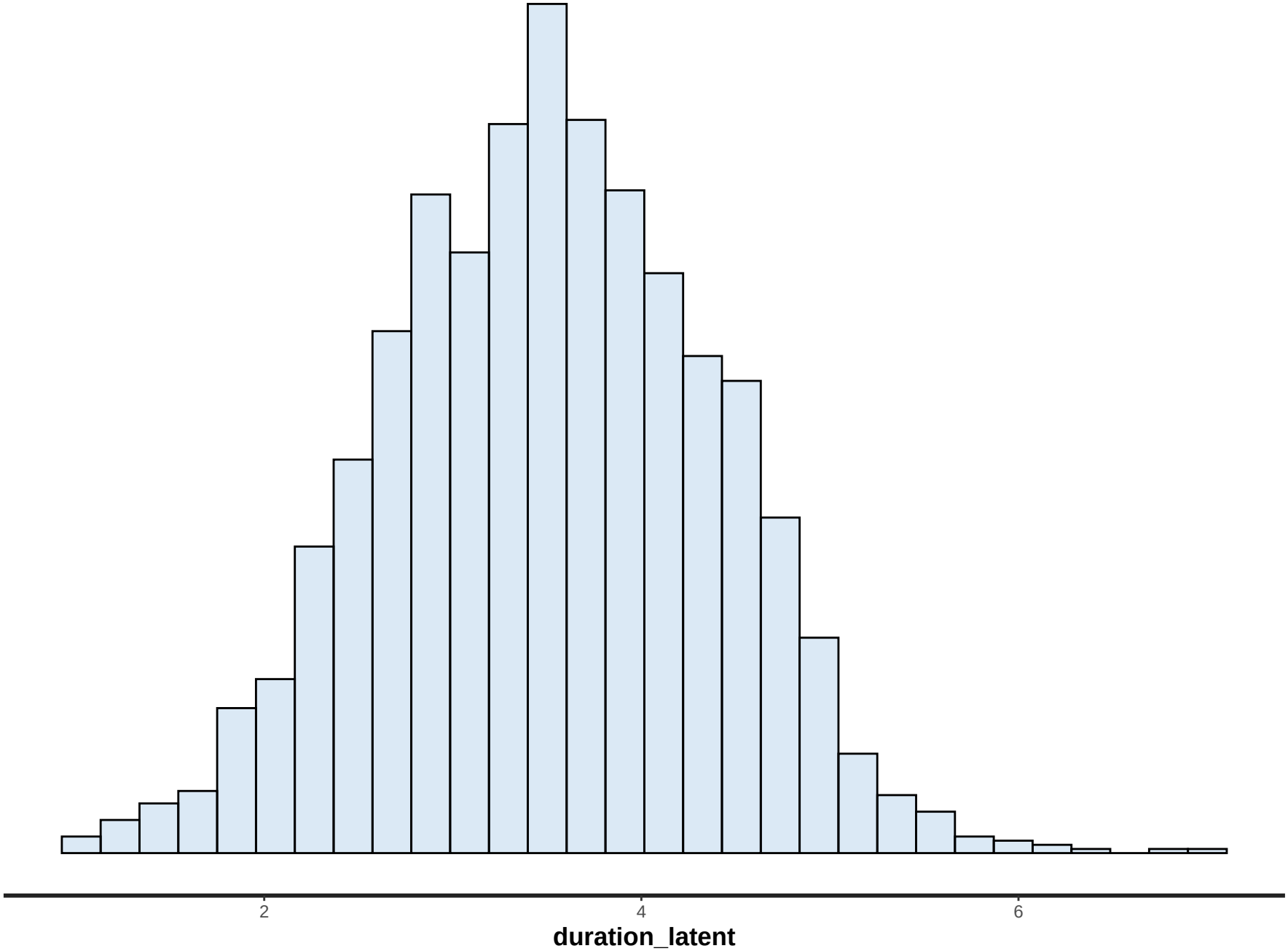

Effective Reproduction Number
Re
1.5
1.2
0.9
0.6
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
5%−95%
15%−85%
25%−75%

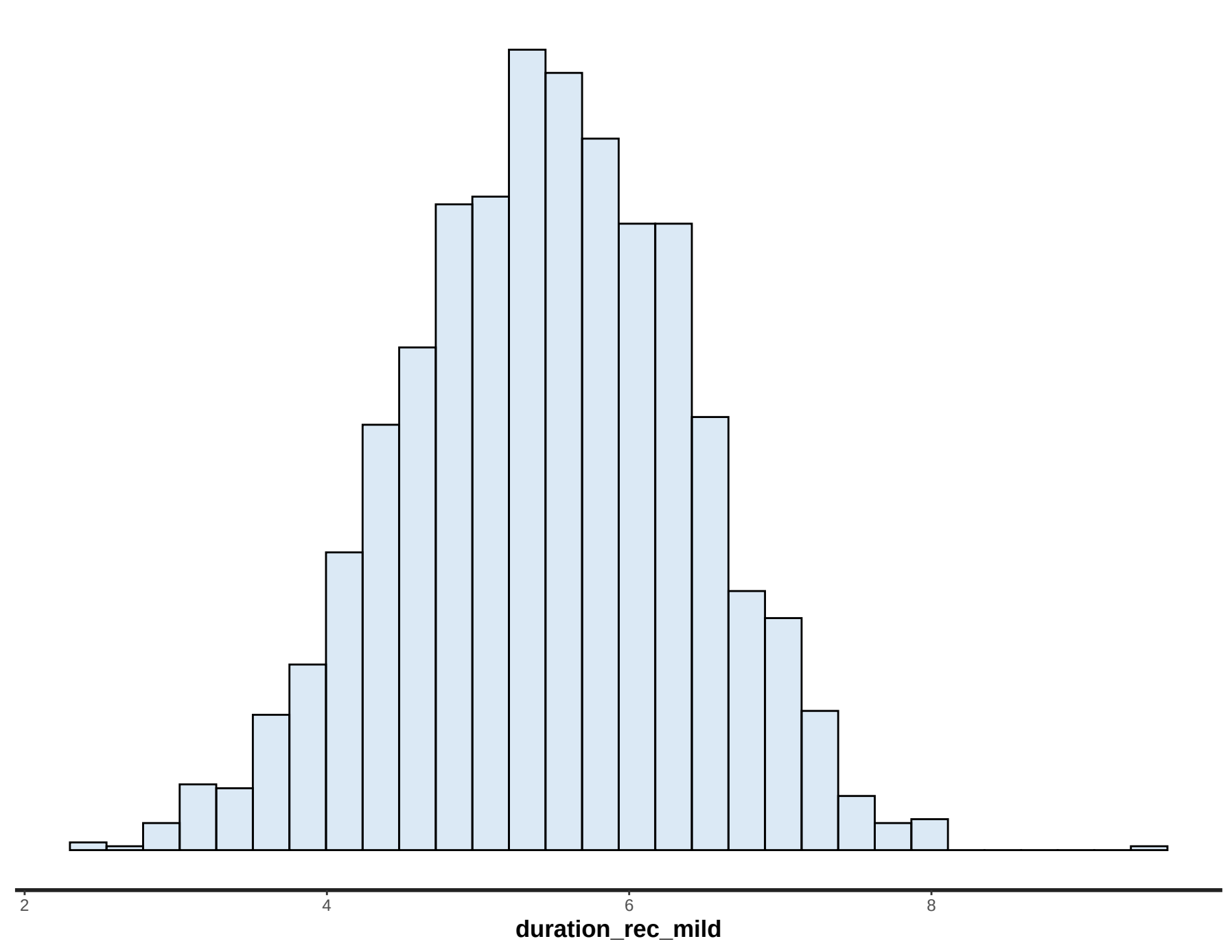
Rt as of 2020−12−04

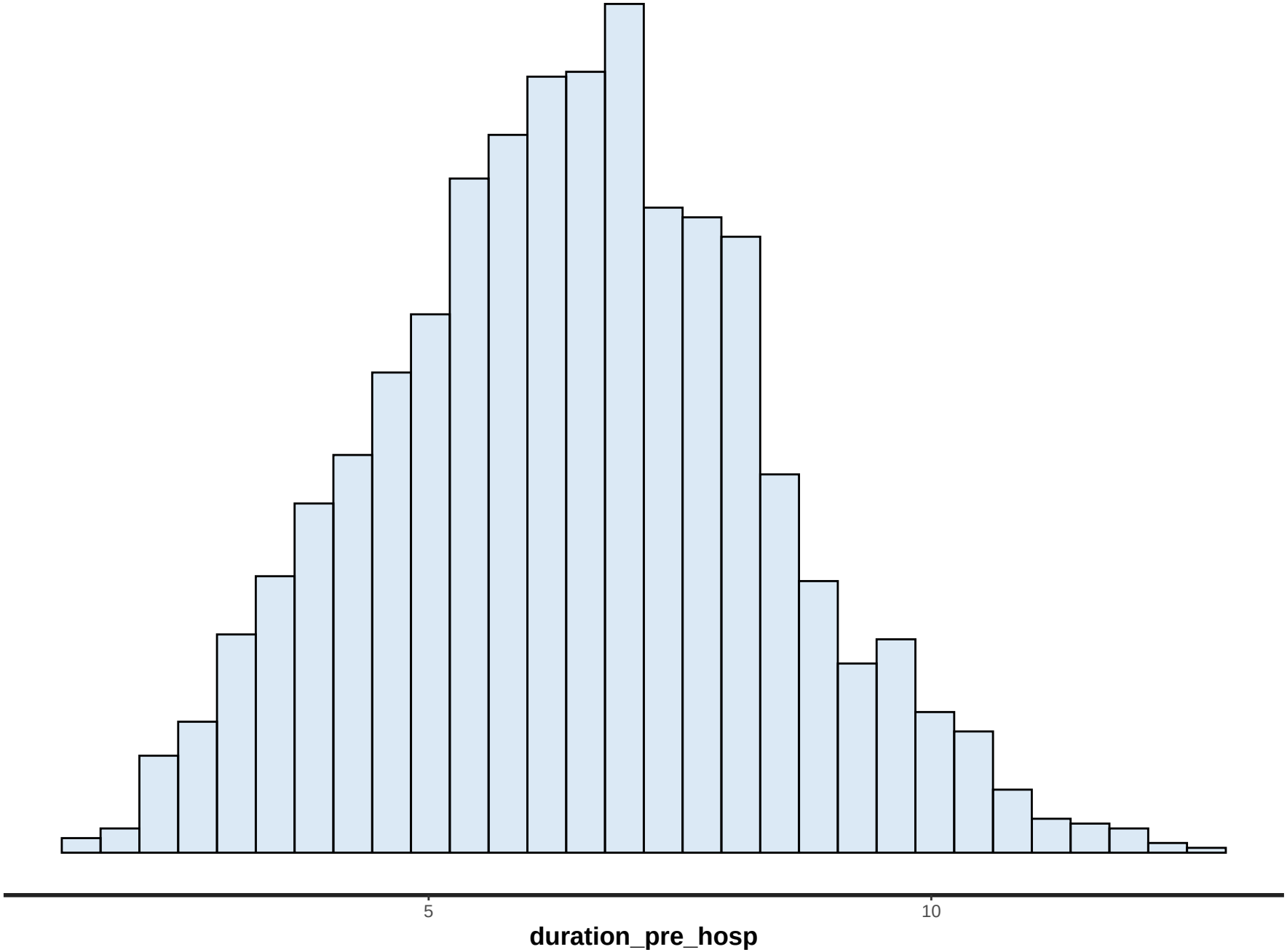
5%	10%	25%	50%	75%	90%	95%
1.08	1.13	1.20	1.28	1.35	1.42	1.46

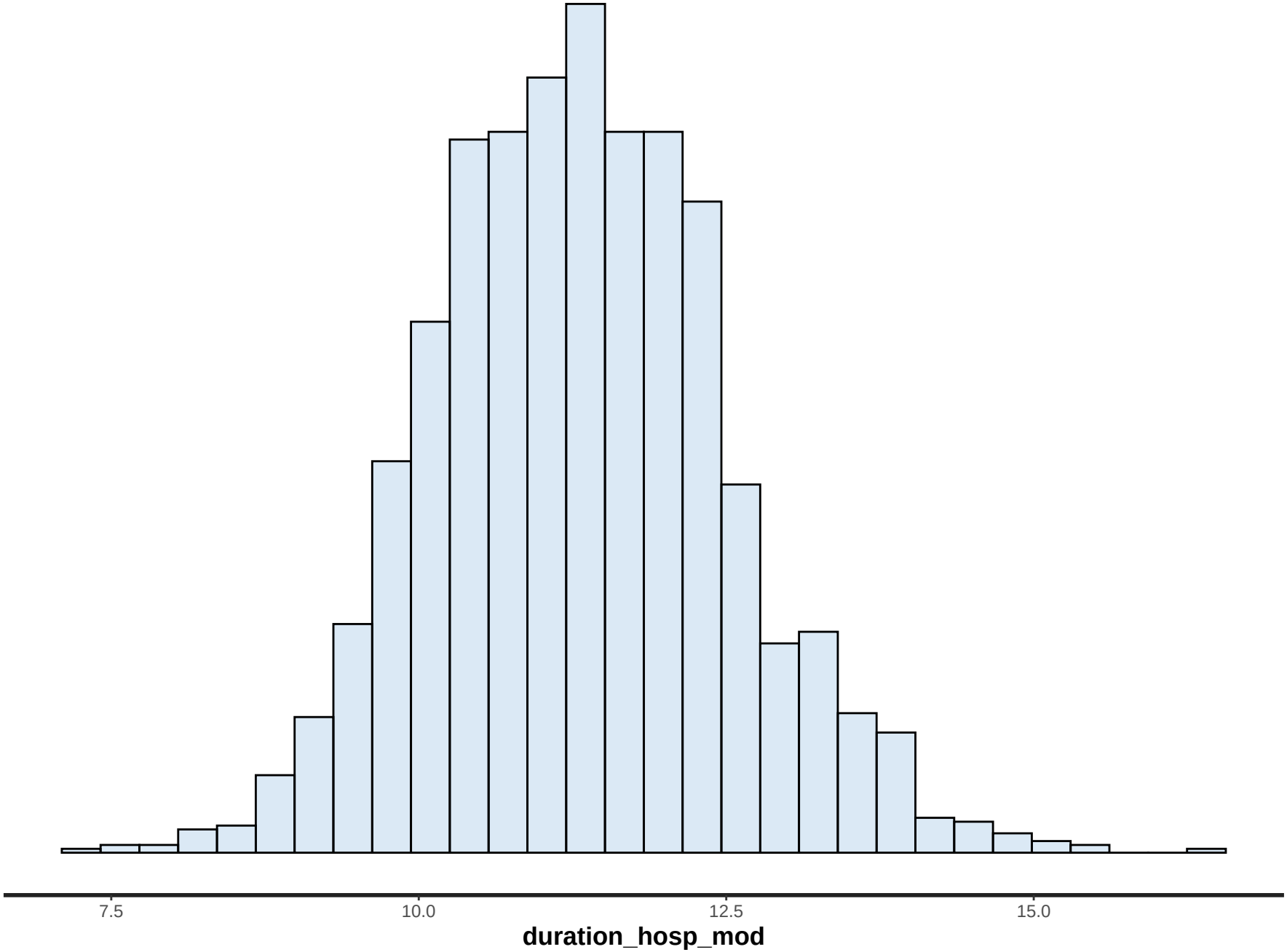


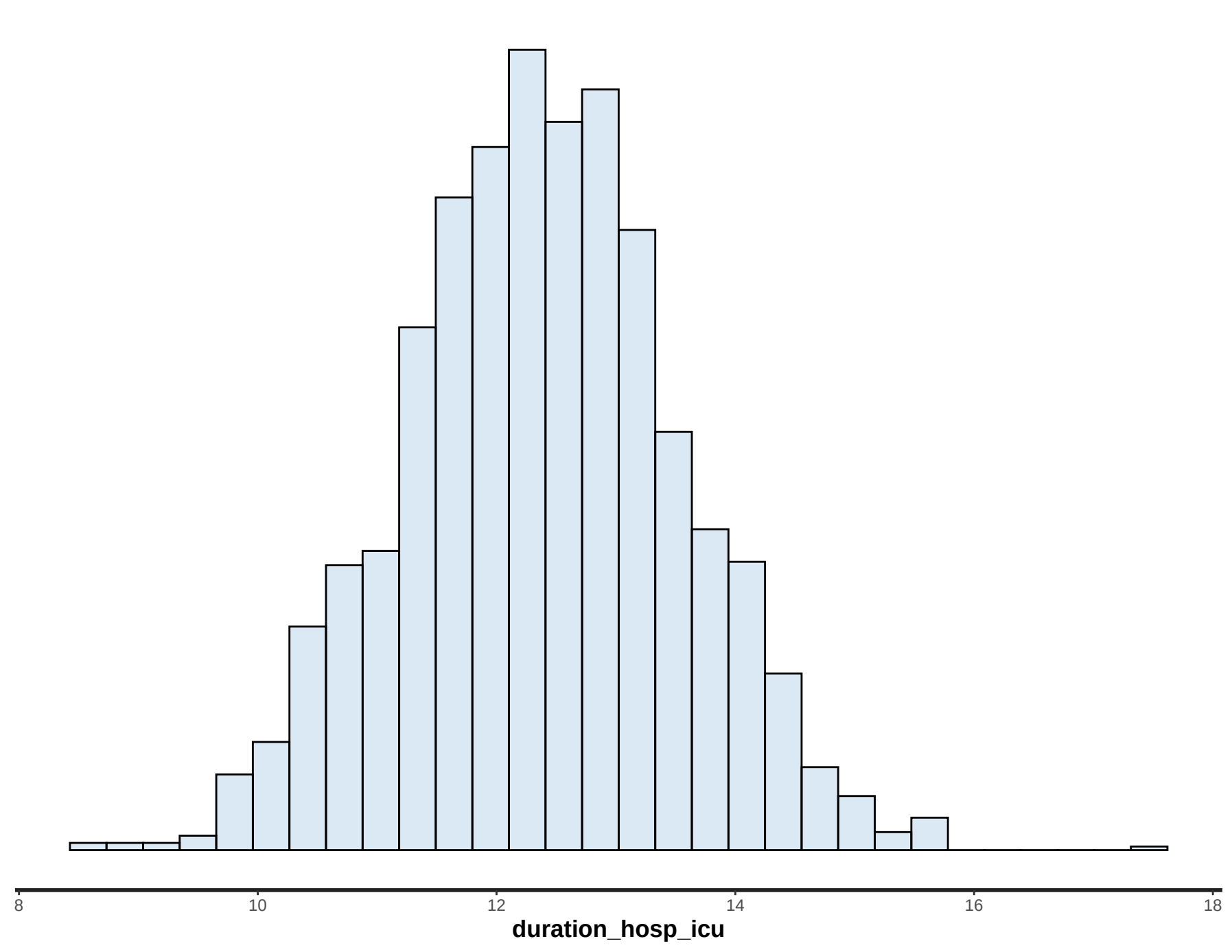

2
3
4
5
r0

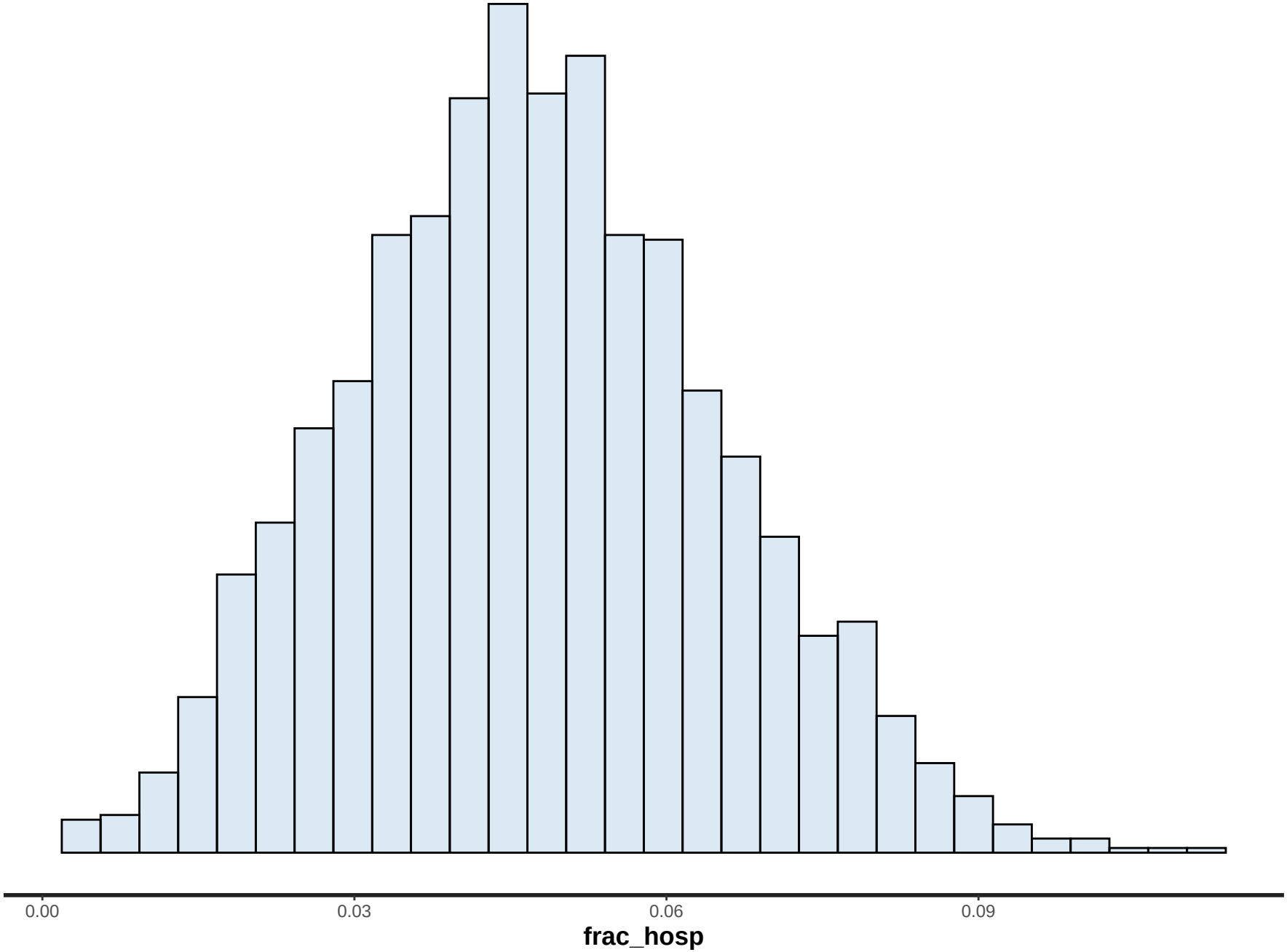

2
4
6
duration_latent


2
4
6
8
duration_rec_mild


5
10
duration_pre_hosp


7.5
10.0
12.5
15.0
duration_hosp_mod


8
10
12
14
16
18
duration_hosp_icu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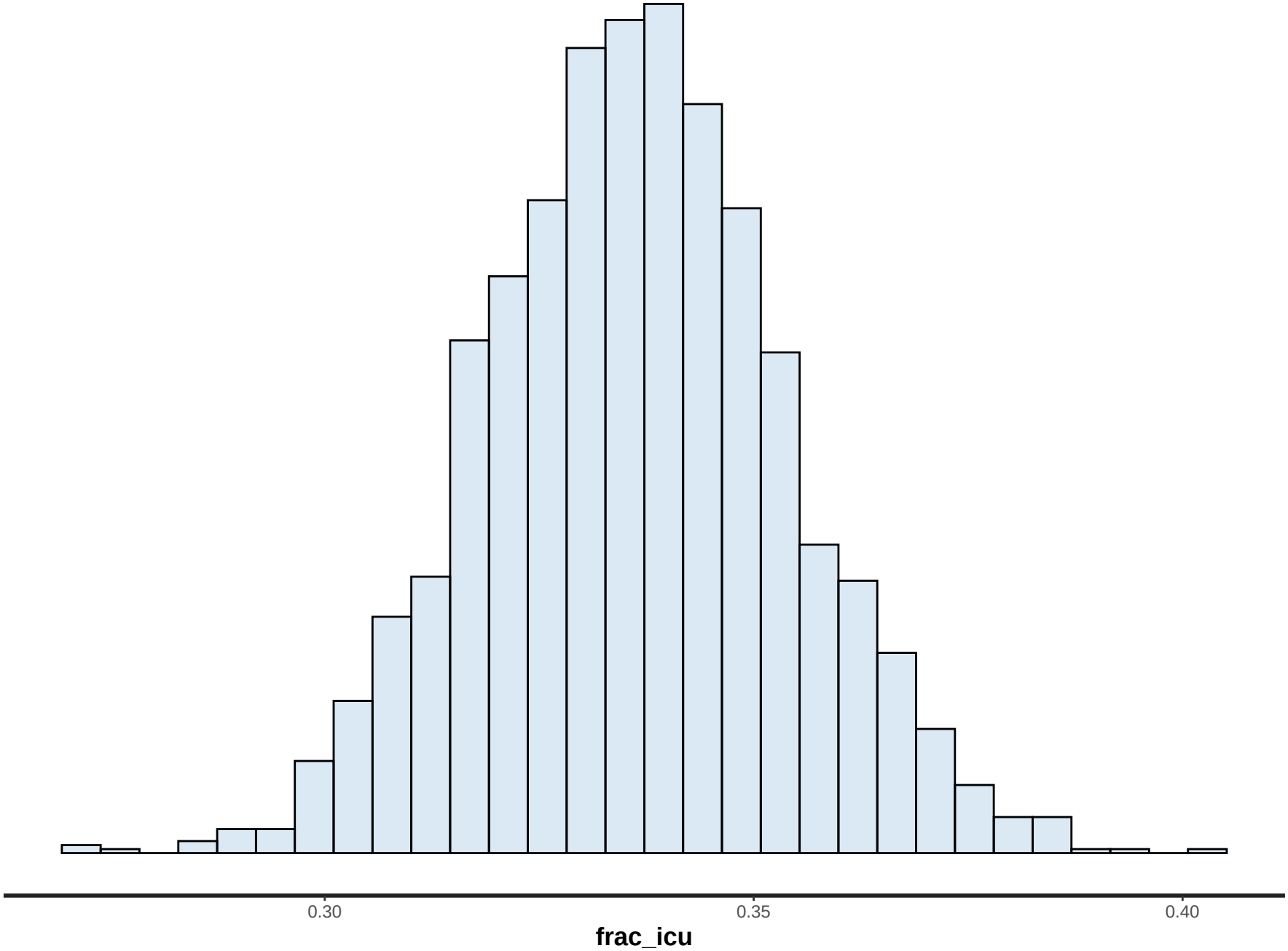
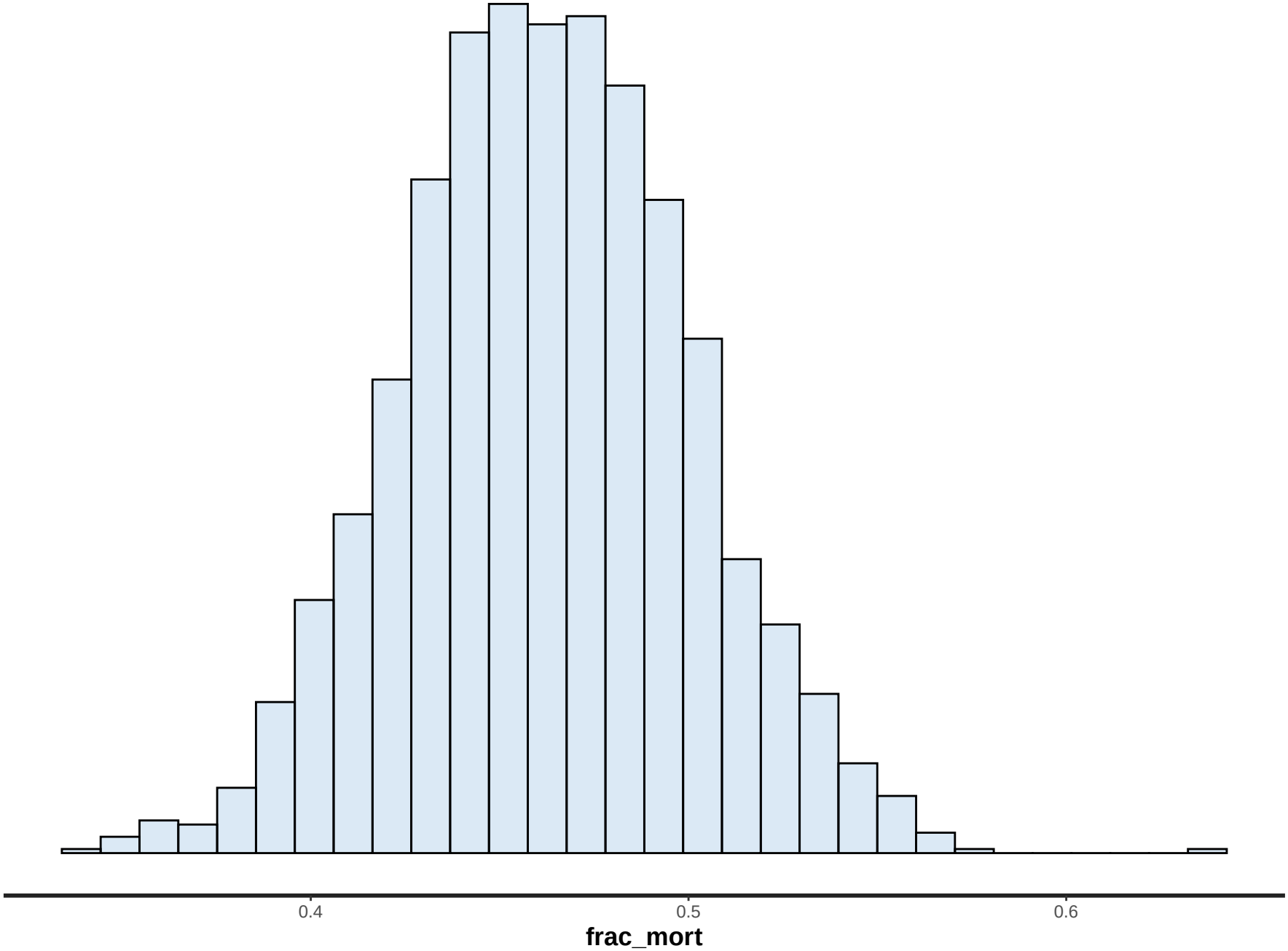
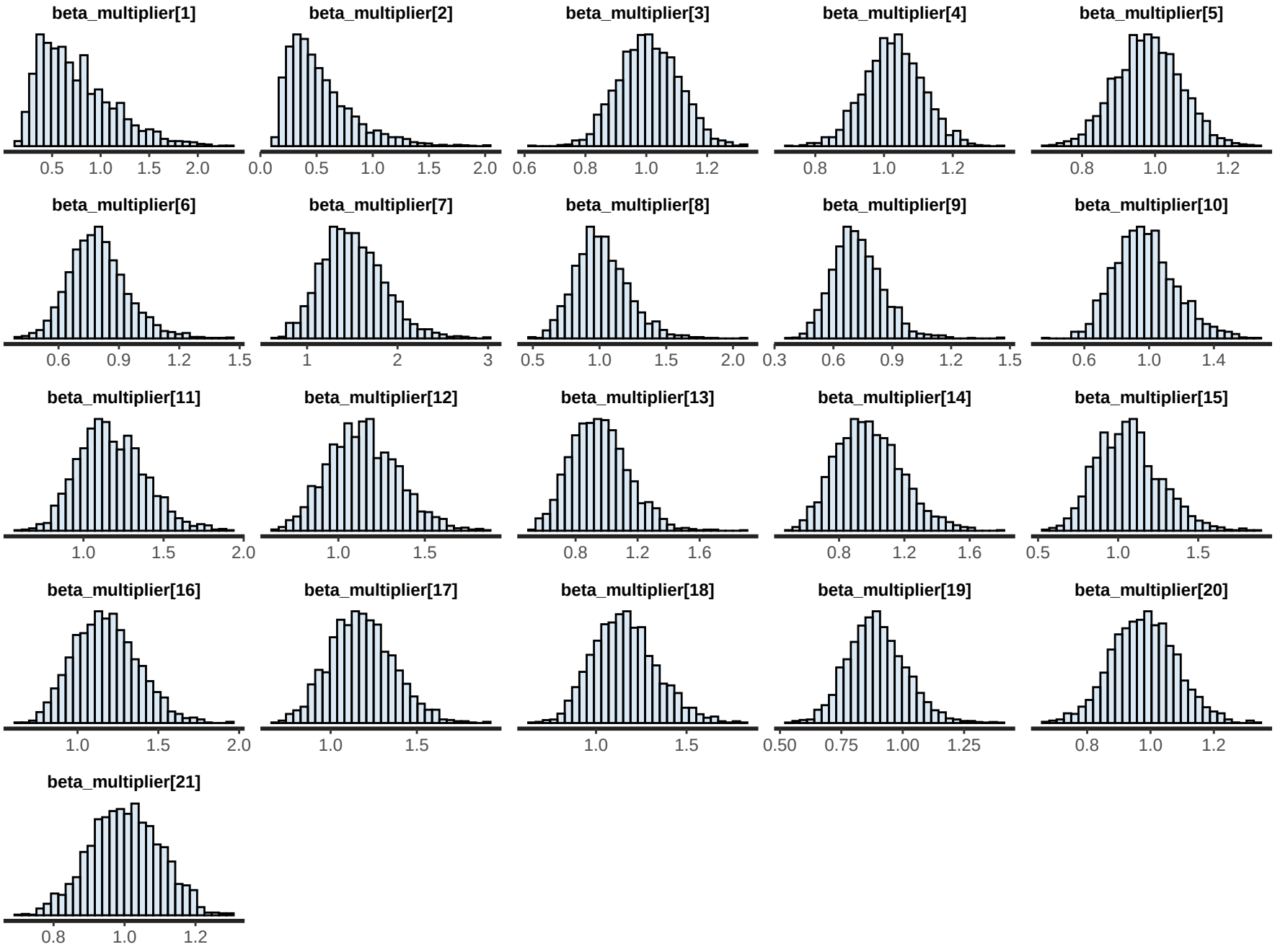
0.03
0.06
0.09
frac_hosp


0.30
0.35
0.40
frac_icu


0.4
0.5
0.6
frac_mort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0.5 1.0 1.5 2.0
beta_multiplier[2]
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beta_multiplier[3]
0.6 0.8 1.0 1.2
beta_multiplier[4]
0.8 1.0 1.2
beta_multiplier[5]
0.8 1.0 1.2
beta_multiplier[6]
0.6 0.9 1.2 1.5
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]
0.6 1.0 1.4
beta_multiplier[11]
1.0 1.5 2.0
beta_multiplier[12]
1.0 1.5
beta_multiplier[13]
0.8 1.2 1.6
beta_multiplier[14]
0.8 1.2 1.6
beta_multiplier[15]
0.5 1.0 1.5
beta_multiplier[16]
1.0 1.5 2.0
beta_multiplier[17]
1.0 1.5
beta_multiplier[18]
1.0 1.5
beta_multiplier[19]
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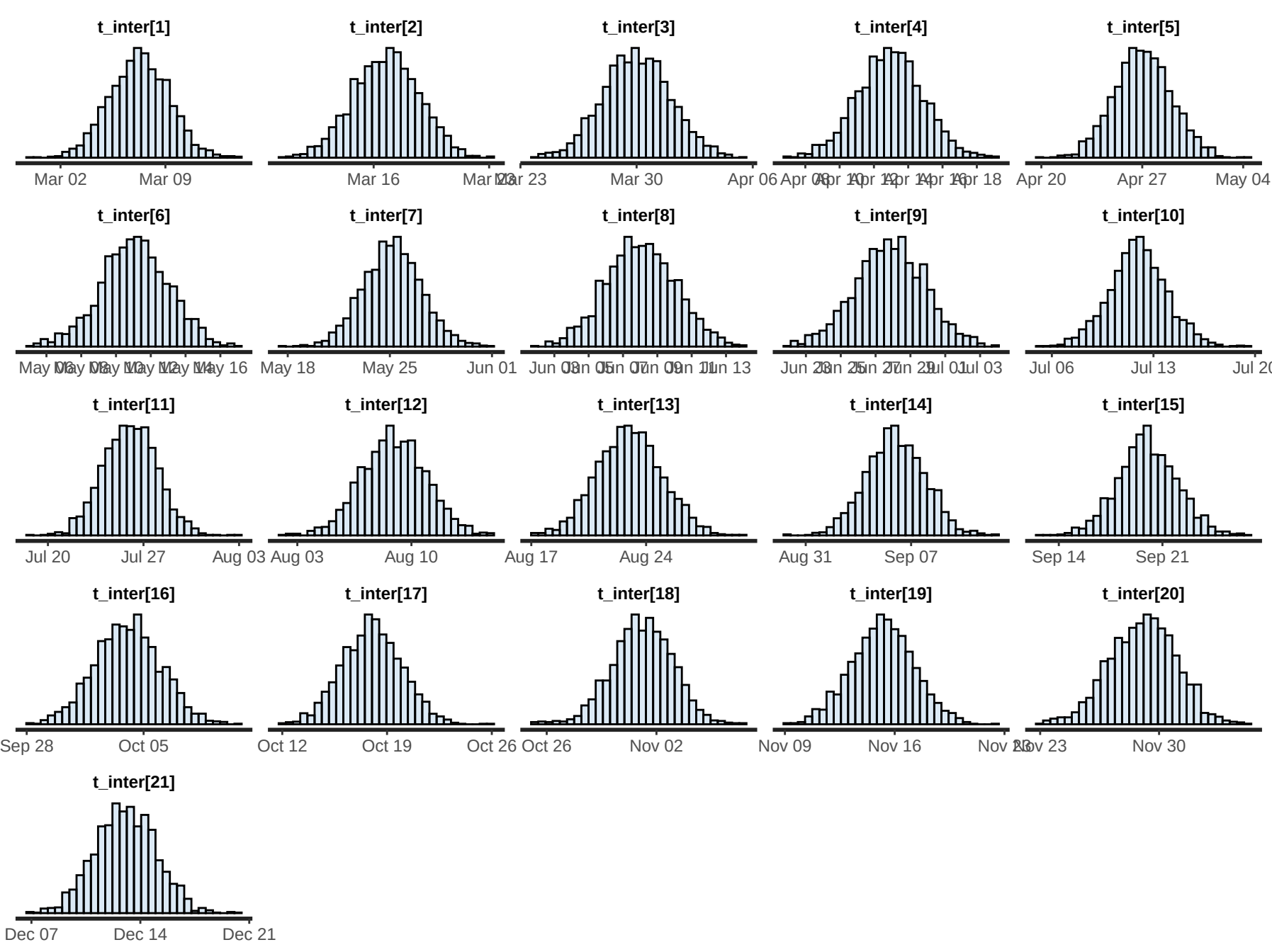
beta_multiplier[20]
0.8 1.0 1.2
beta_multiplier[21]
0.8 1.0 1.2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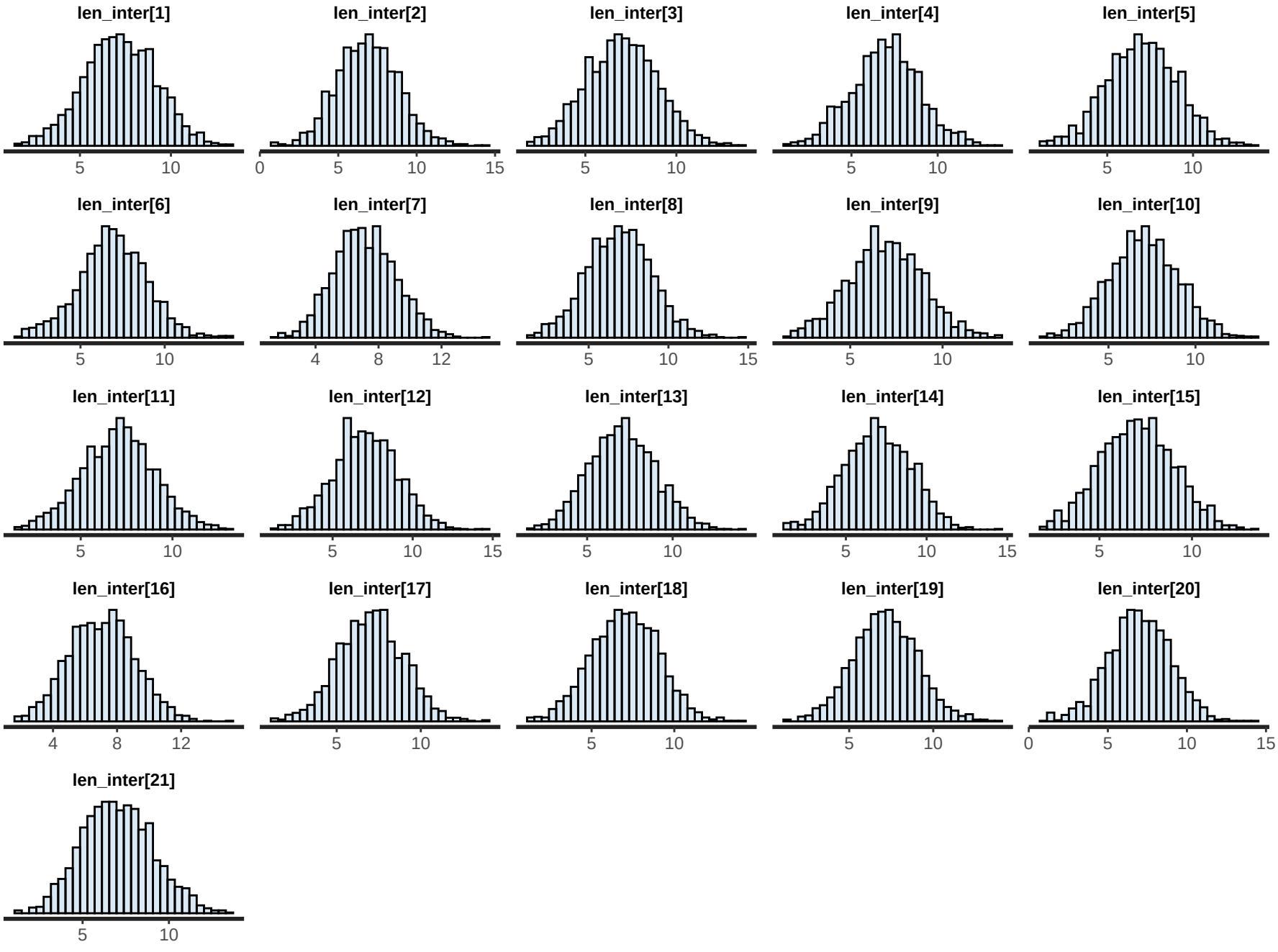
Mar 02
Mar 09
t_inter[2]
Mar 16
Mar 23
t_inter[3]
Mar 30
Apr 06
t_inter[4]
Apr 08
Apr 10
Apr 12
Apr 14
Apr 16
Apr 18
t_inter[5]
Apr 20
Apr 27
May 04
t_inter[6]
May 16
t_inter[7]
May 18
May 25
Jun 01
t_inter[8]
Jun 13
t_inter[9]
Jun 29
Jul 01
Jul 03
t_inter[10]
Jul 06
Jul 13
t_inter[11]
Jul 20
Jul 27
Aug 03
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
Oct 26
t_inter[18]
Oct 26
Nov 02
t_inter[19]
Nov 09
Nov 16
Nov 23
t_inter[20]
Nov 23
Nov 30
t_inter[21]
Dec 07
Dec 14
Dec 21


len_inter[1]
5
10
len_inter[2]
0
5
10
15
len_inter[3]
5
10
len_inter[4]
5
10
len_inter[5]
5
10
len_inter[6]
5
10
len_inter[7]
4
8
12
len_inter[8]
5
10
15
len_inter[9]
5
10
len_inter[10]
5
10
len_inter[11]
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len_inter[12]
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15
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len_inter[15]
5
10
len_inter[16]
4
8
12
len_inter[17]
5
10
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len_inter[19]
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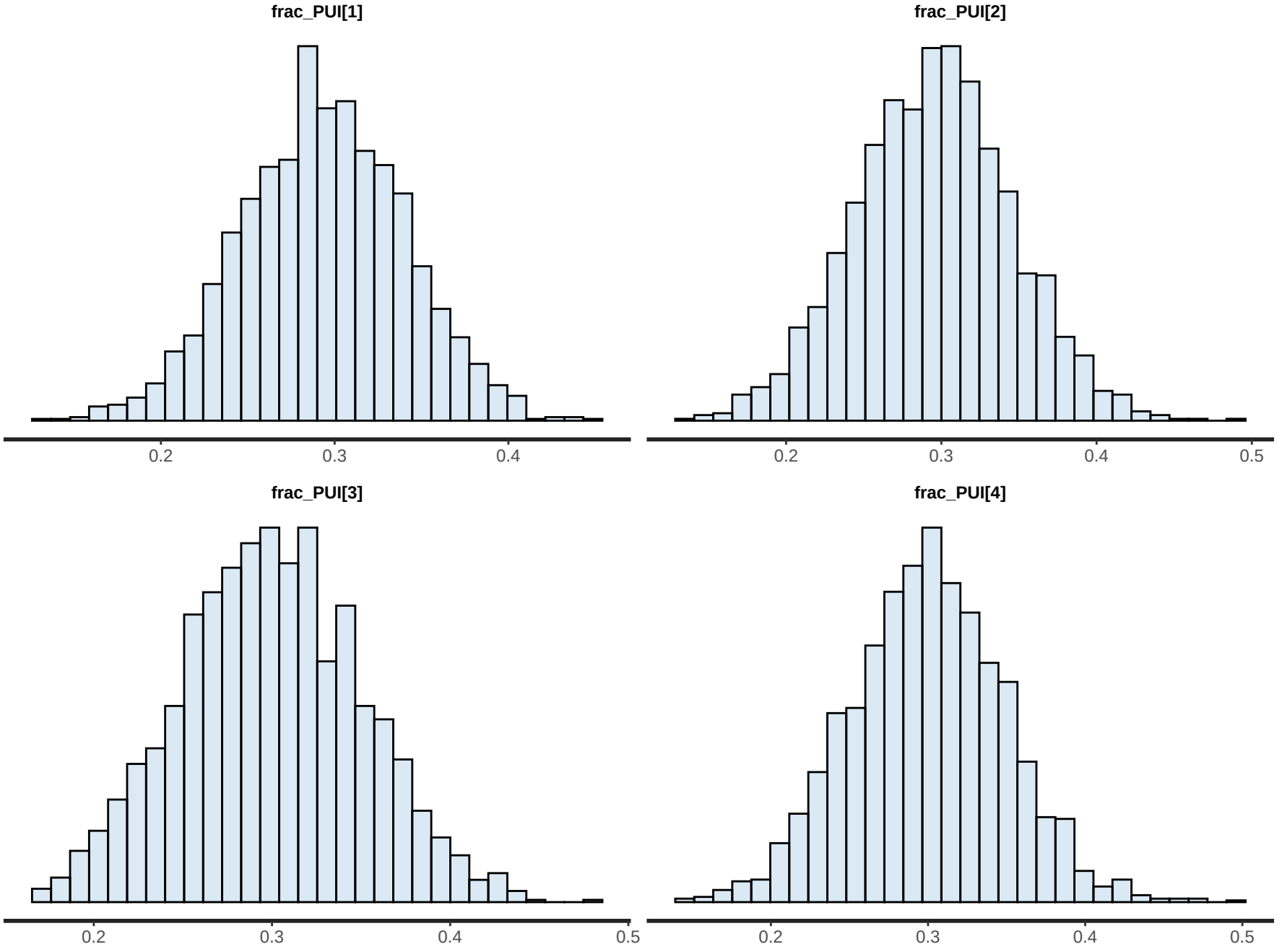
15
len_inter[21]
5
10


frac_PUI[1]
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0.3
0.4
frac_PUI[2]
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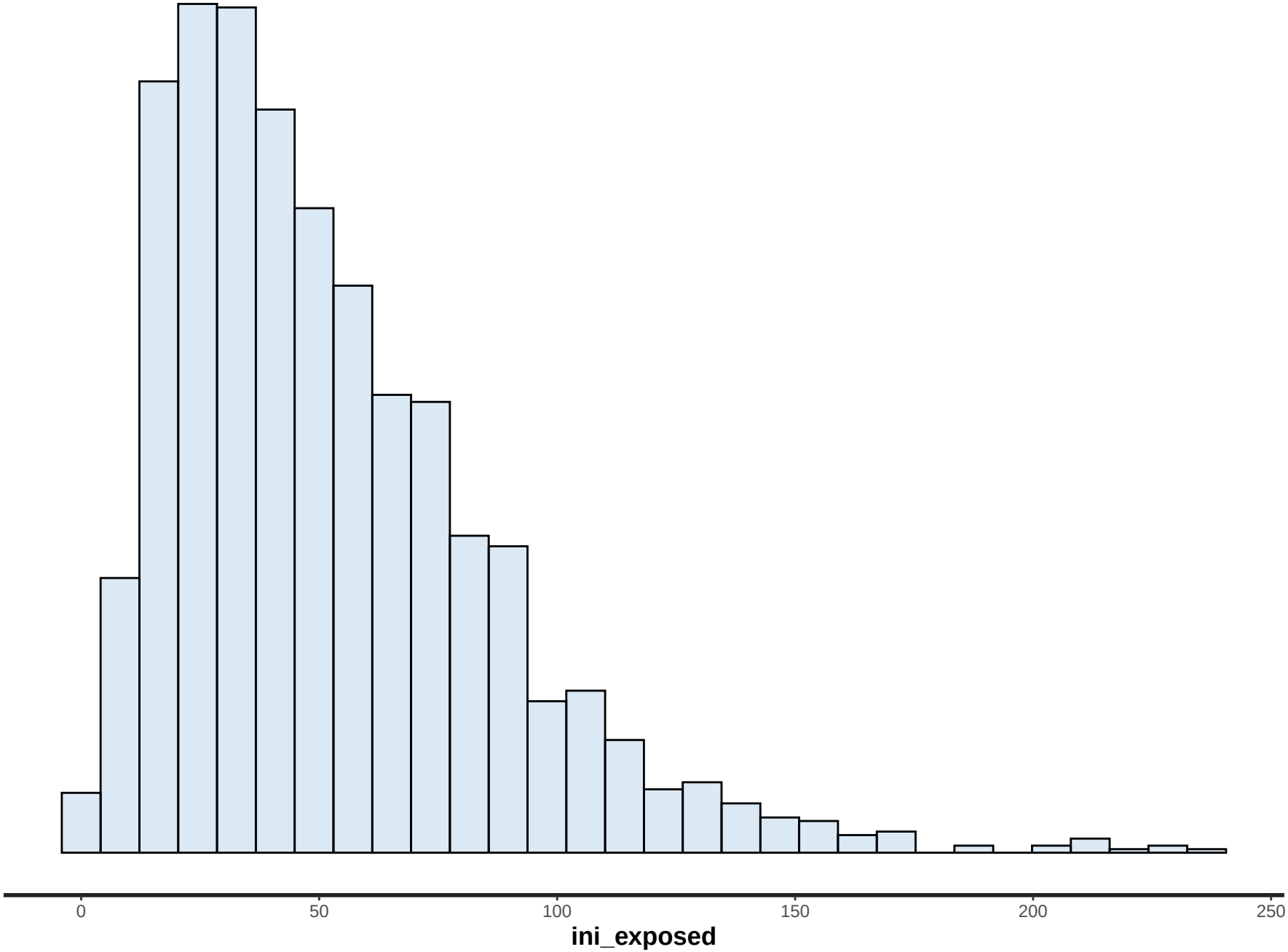
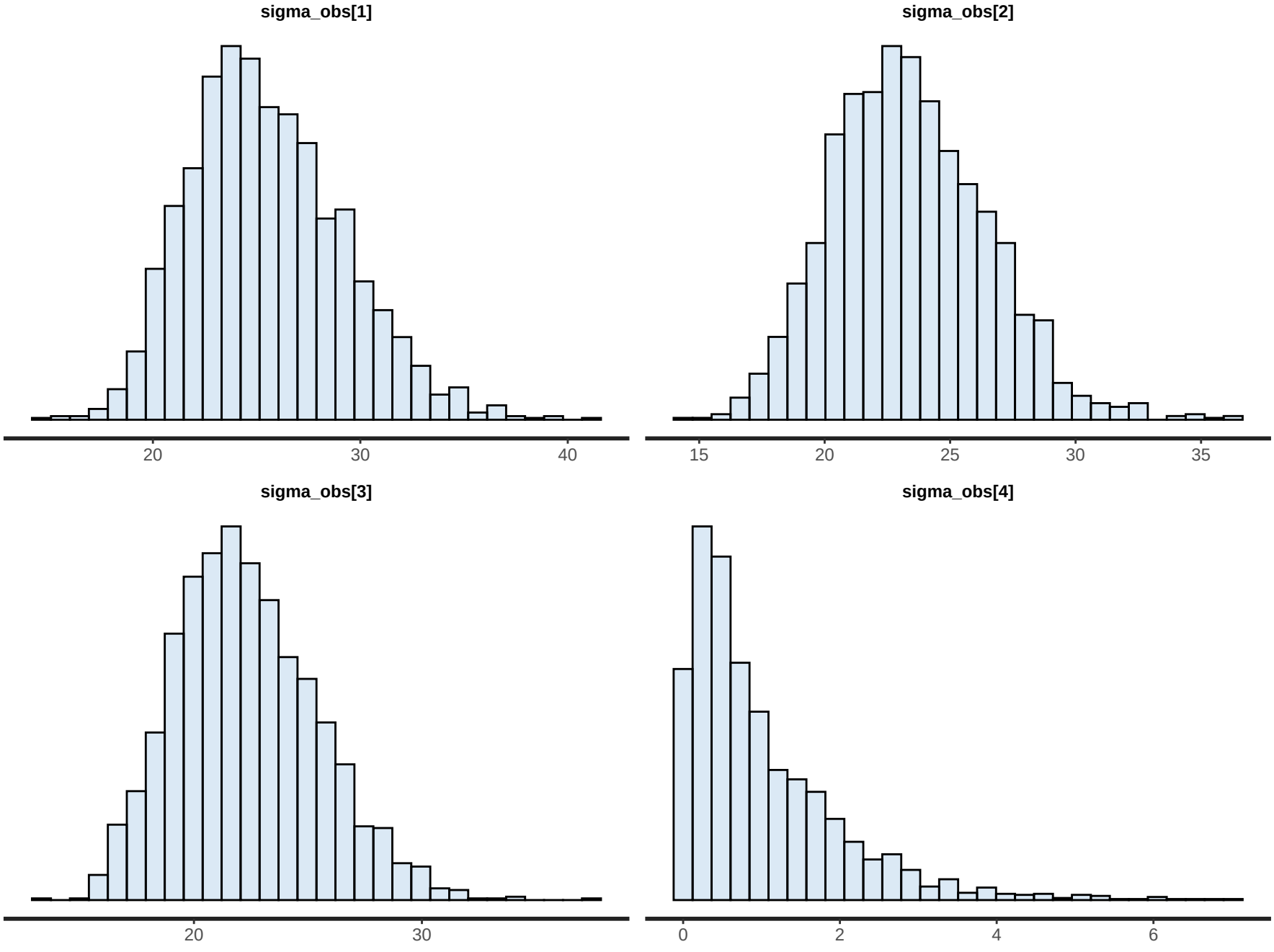
0.3
0.4
0.5
frac_PUI[3]
0.2
0.3
0.4
0.5
frac_PUI[4]
0.2
0.3
0.4
0.5


0
50
100
150
200
250
ini_exposed


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