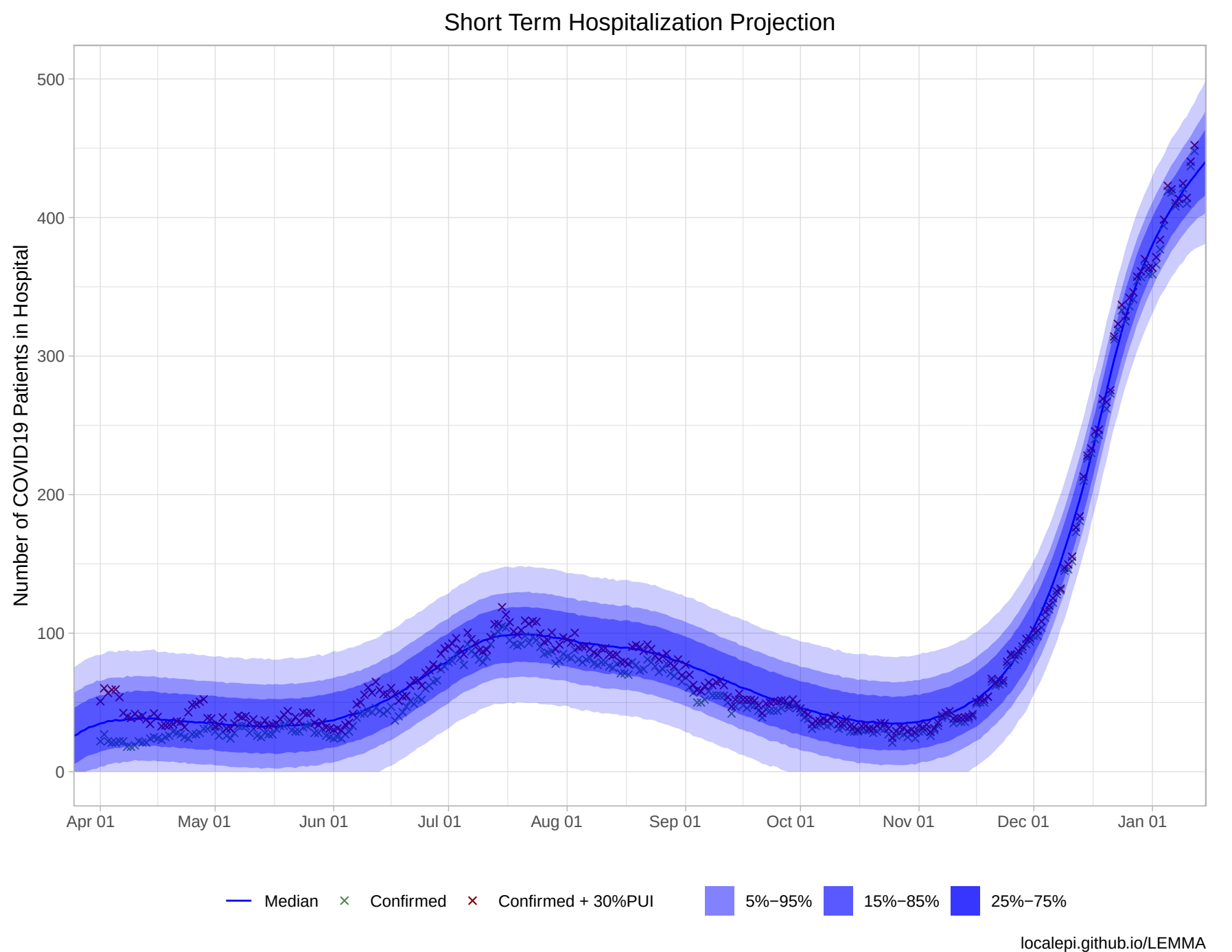
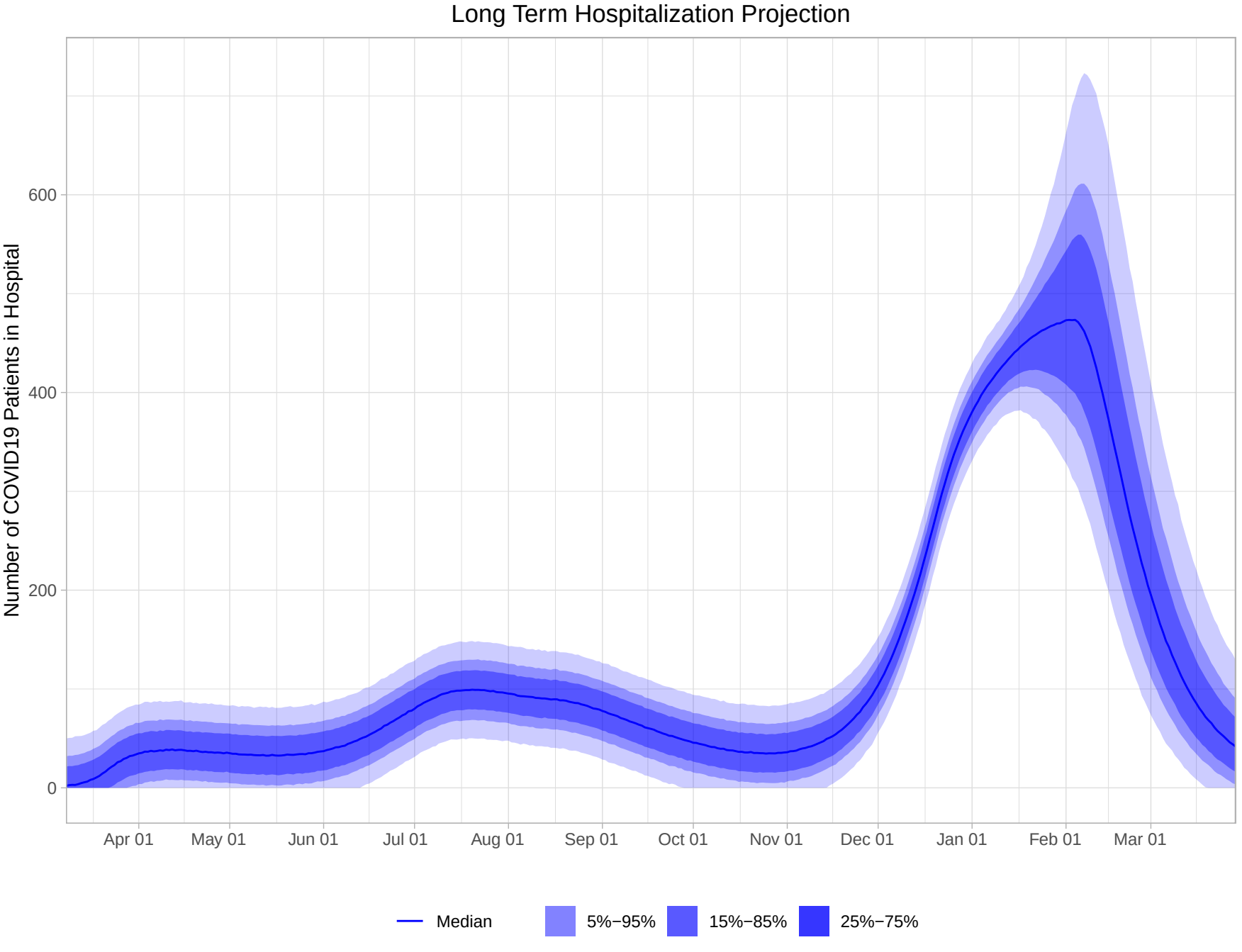
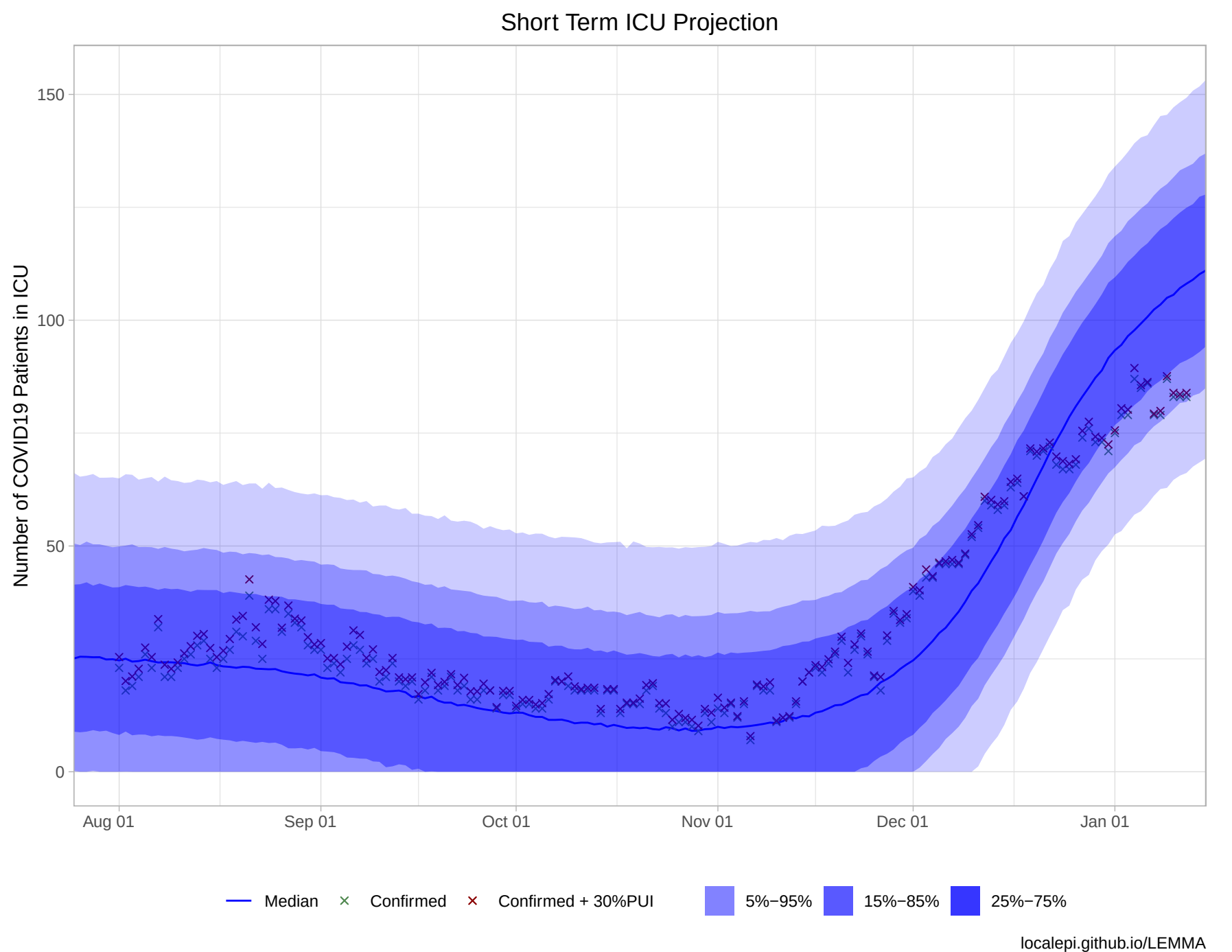
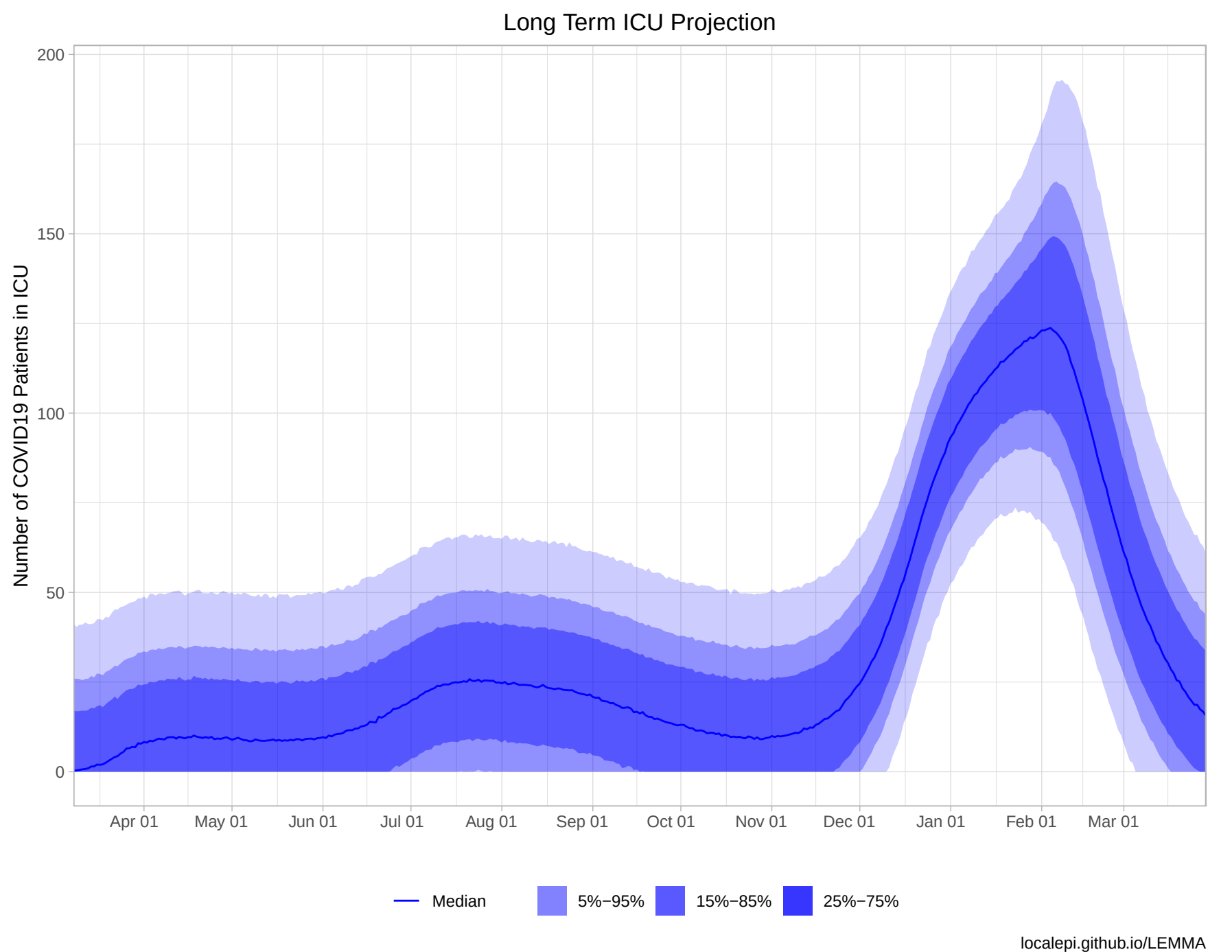
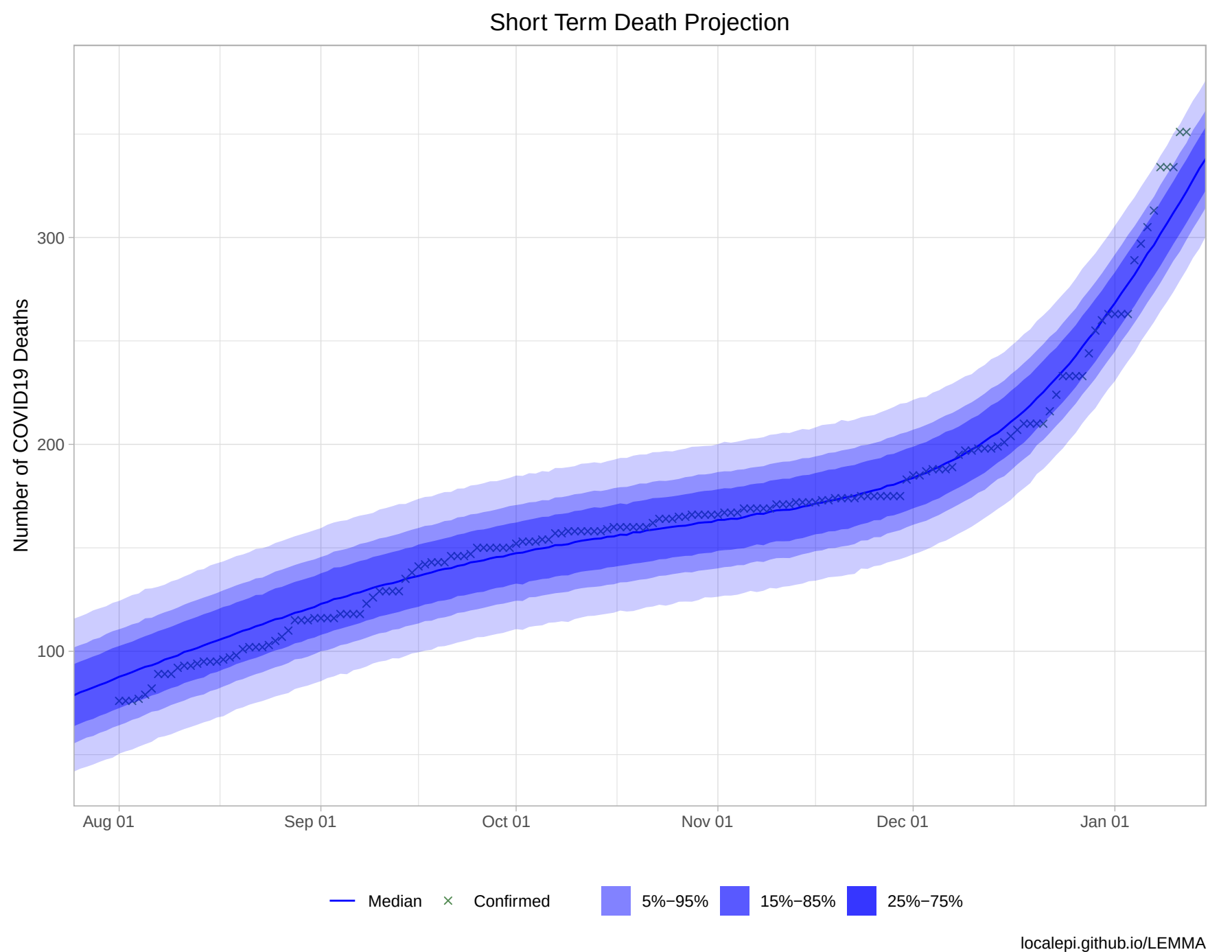
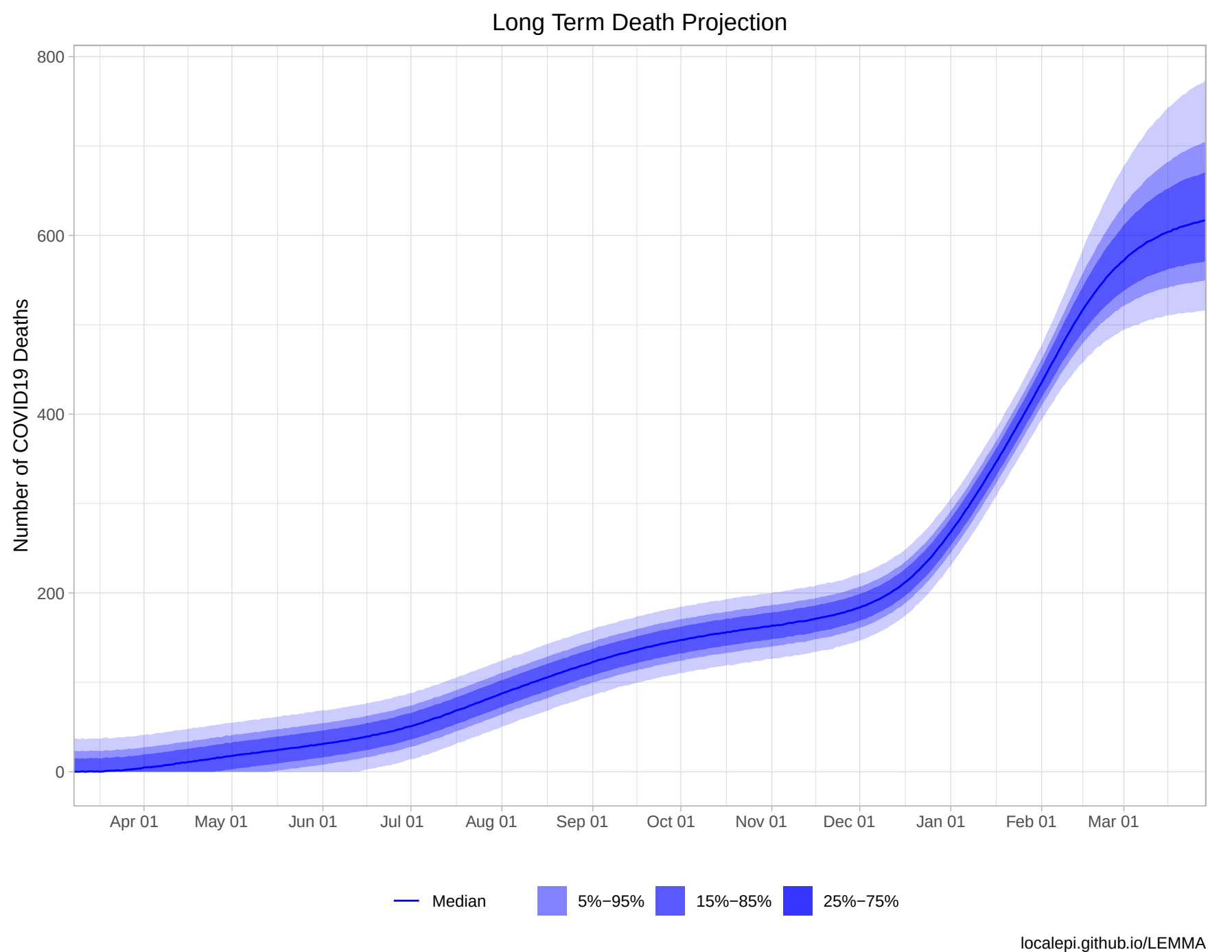

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
500
400
300
200
100
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

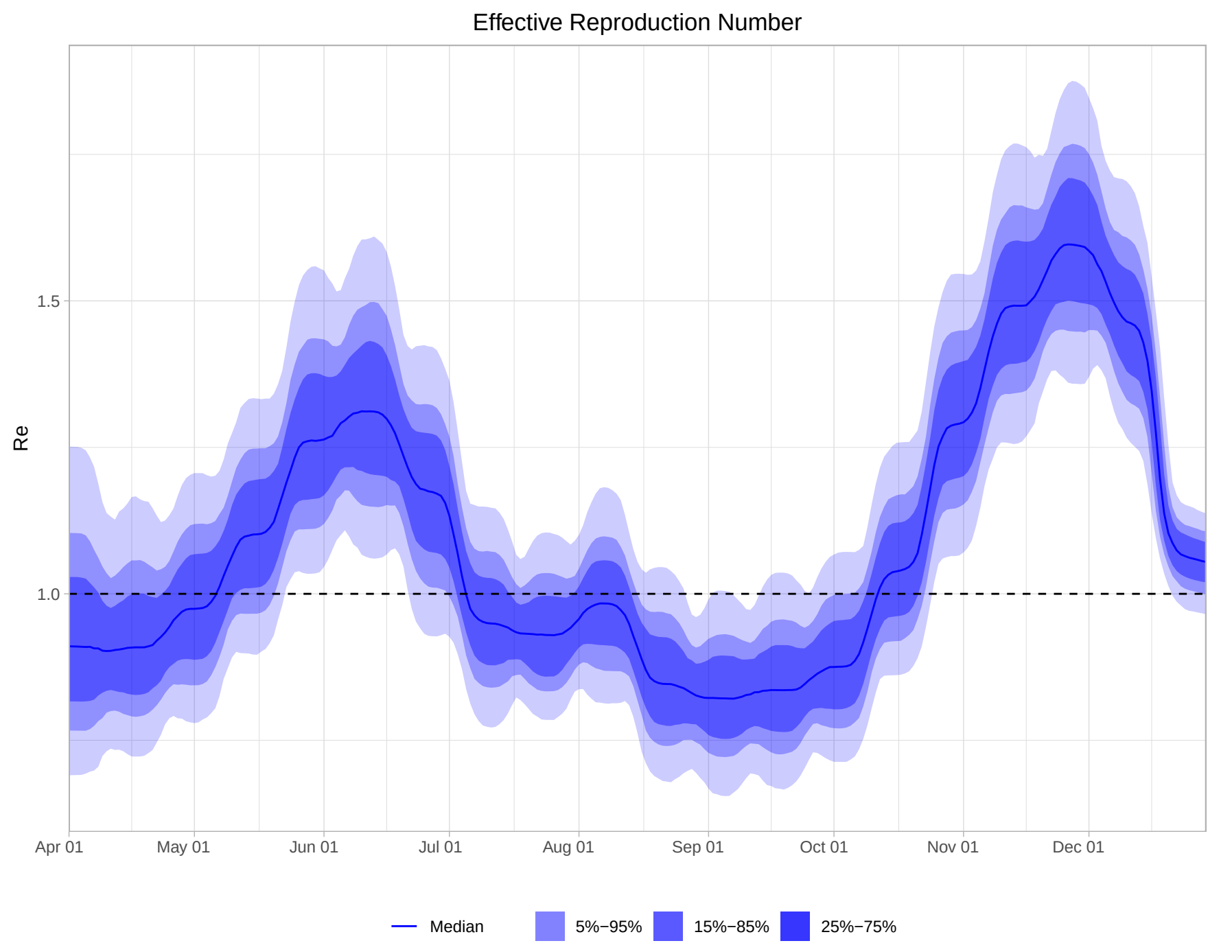

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
600
400
200
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
150
100
50
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
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
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

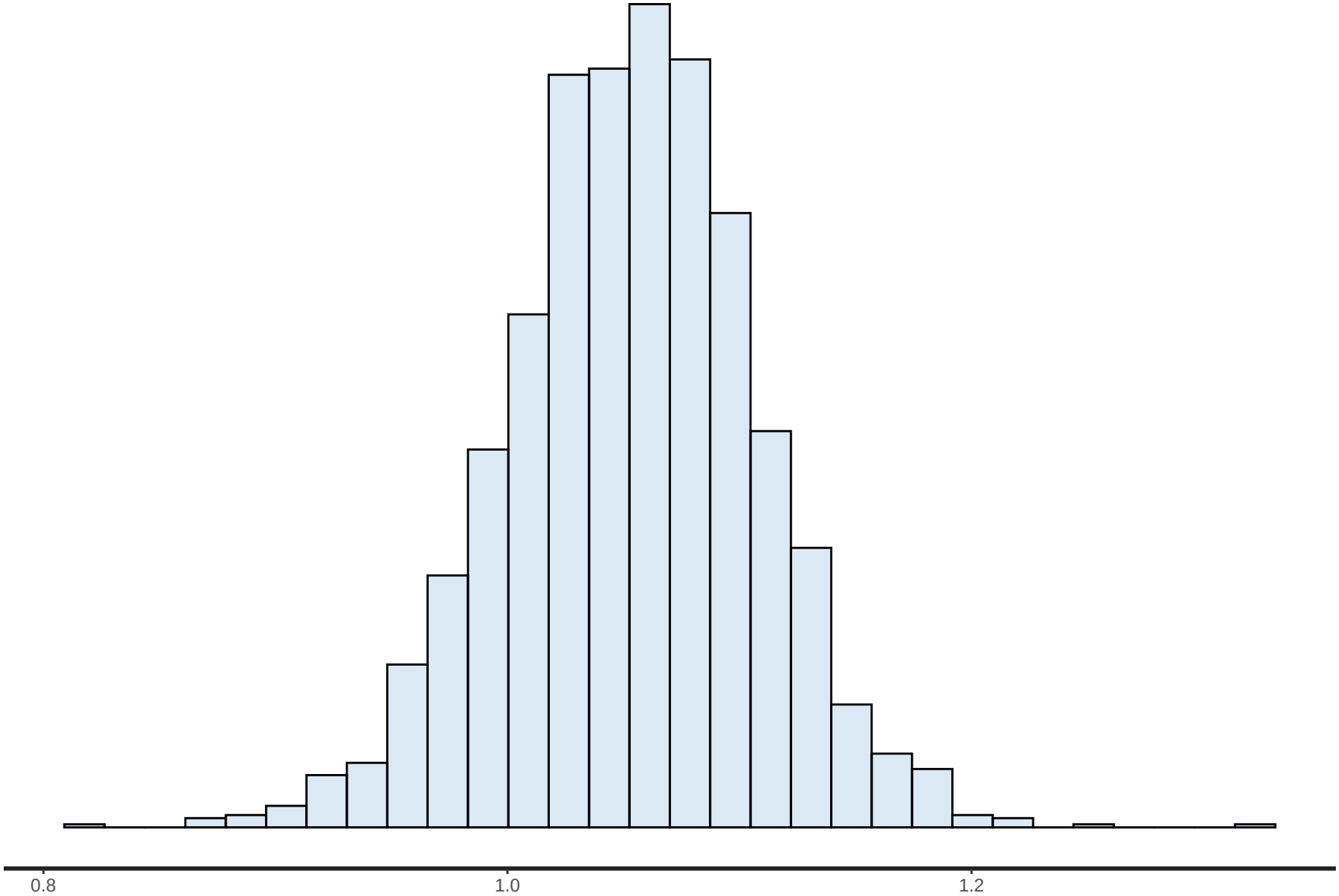

Short Term Death Projection
Number of COVID19 Deaths
300
200
100
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

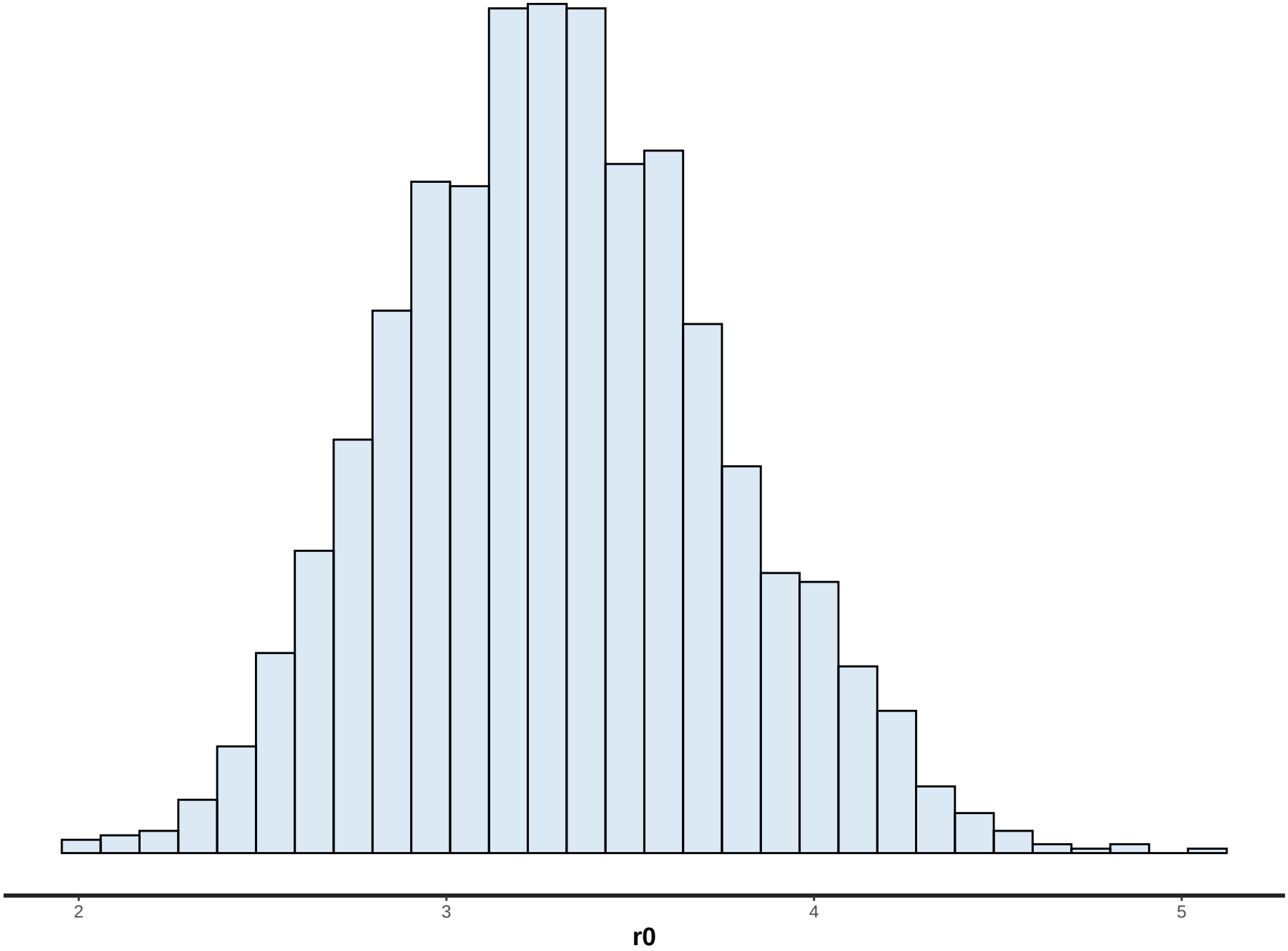

Long Term Death Projection
Number of COVID19 Deaths
800
600
400
200
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

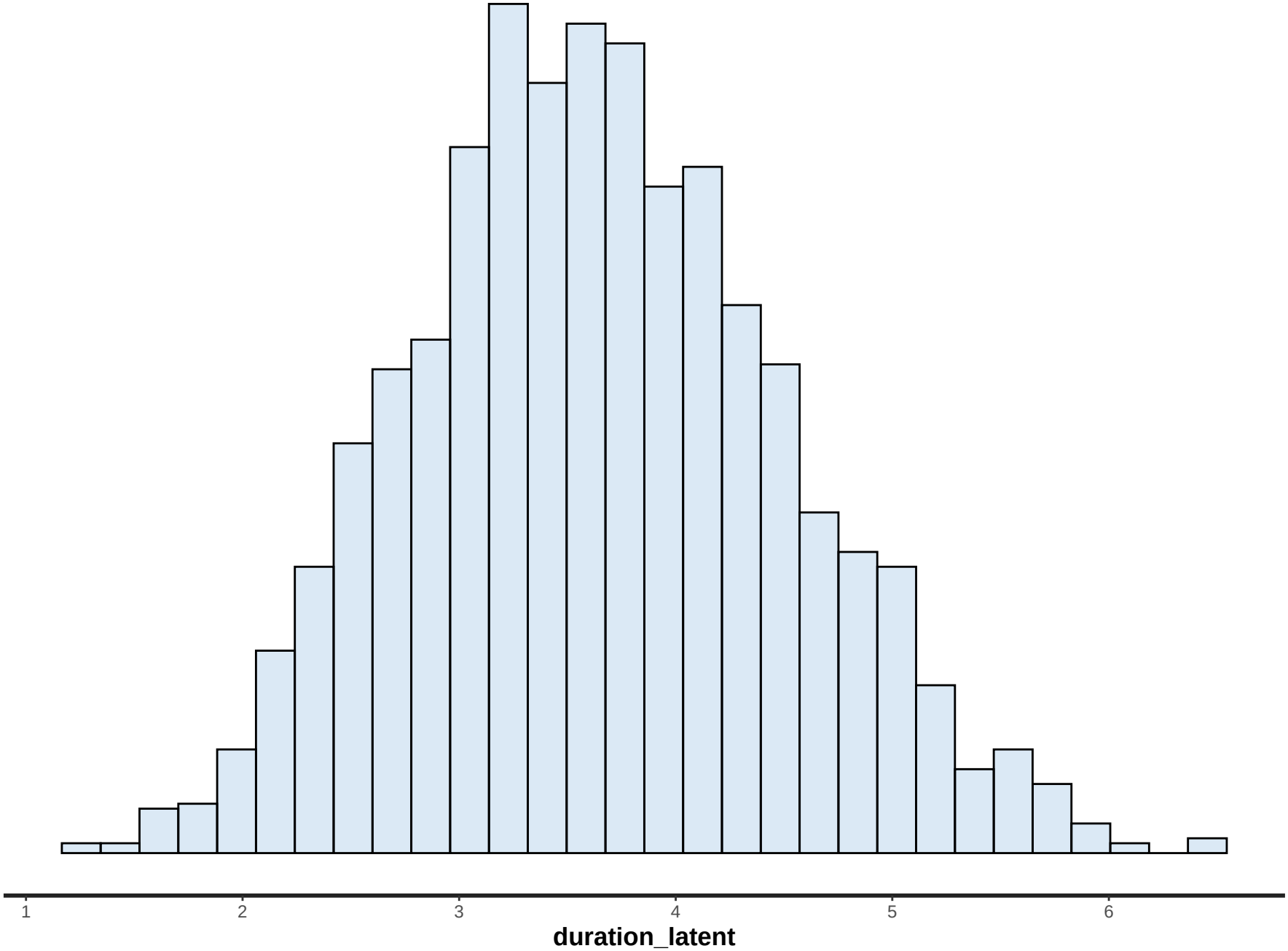

Effective Reproduction Number
Re
1.5
1.0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
5%−95%
15%−85%
25%−75%

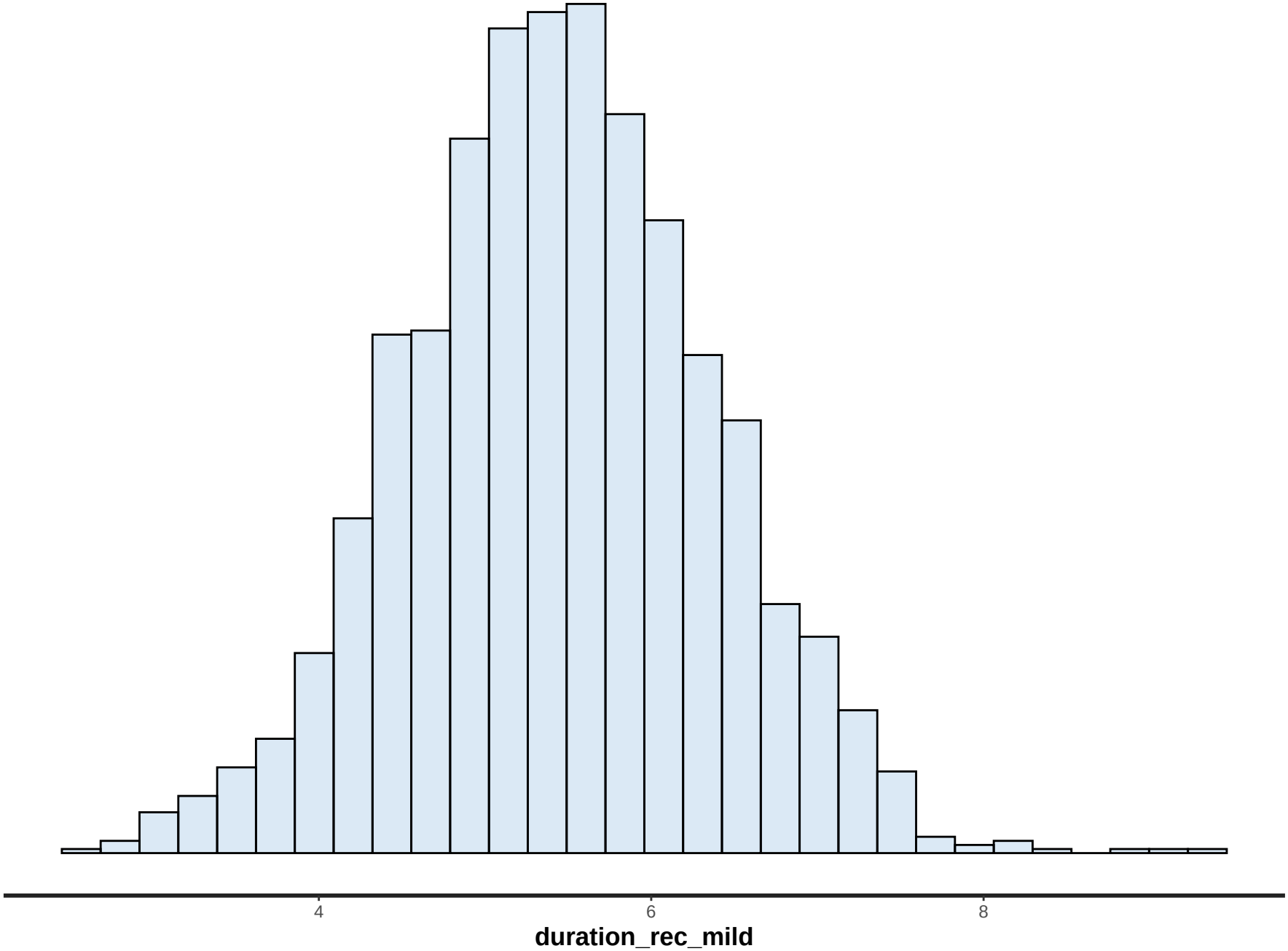
Rt as of 2020−12−29

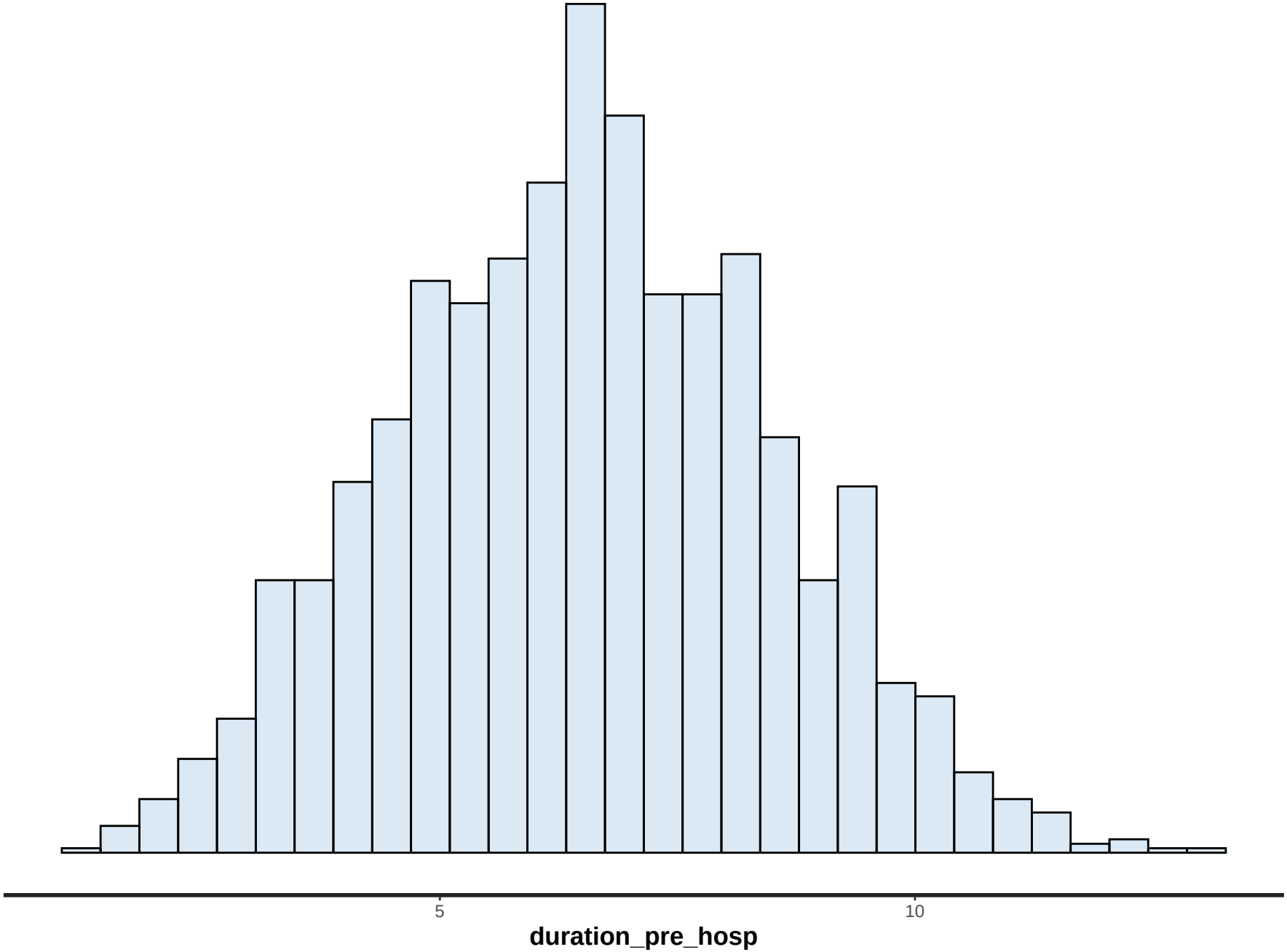
5%	10%	25%	50%	75%	90%	95%
0.97	0.98	1.02	1.05	1.09	1.12	1.14

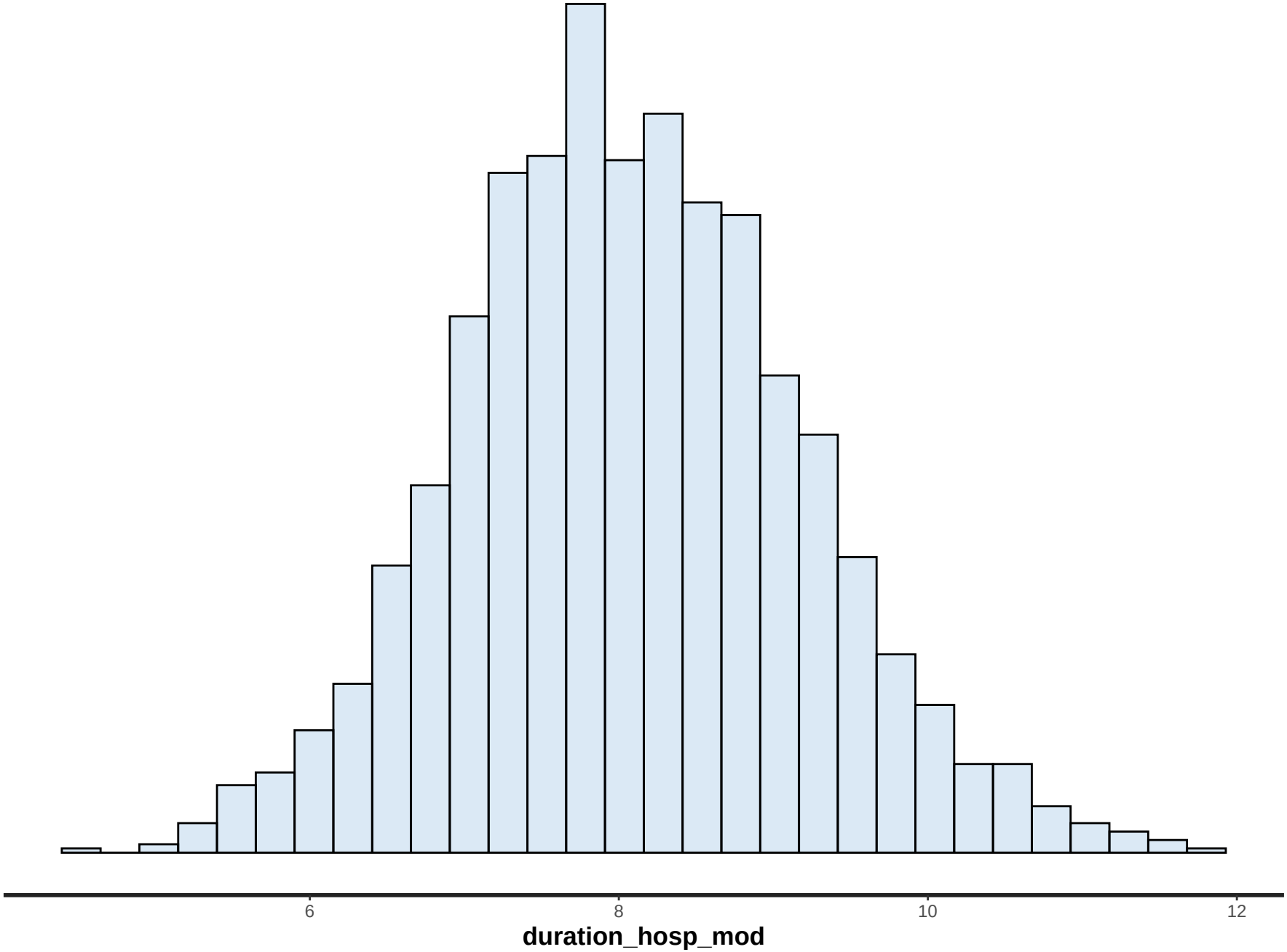


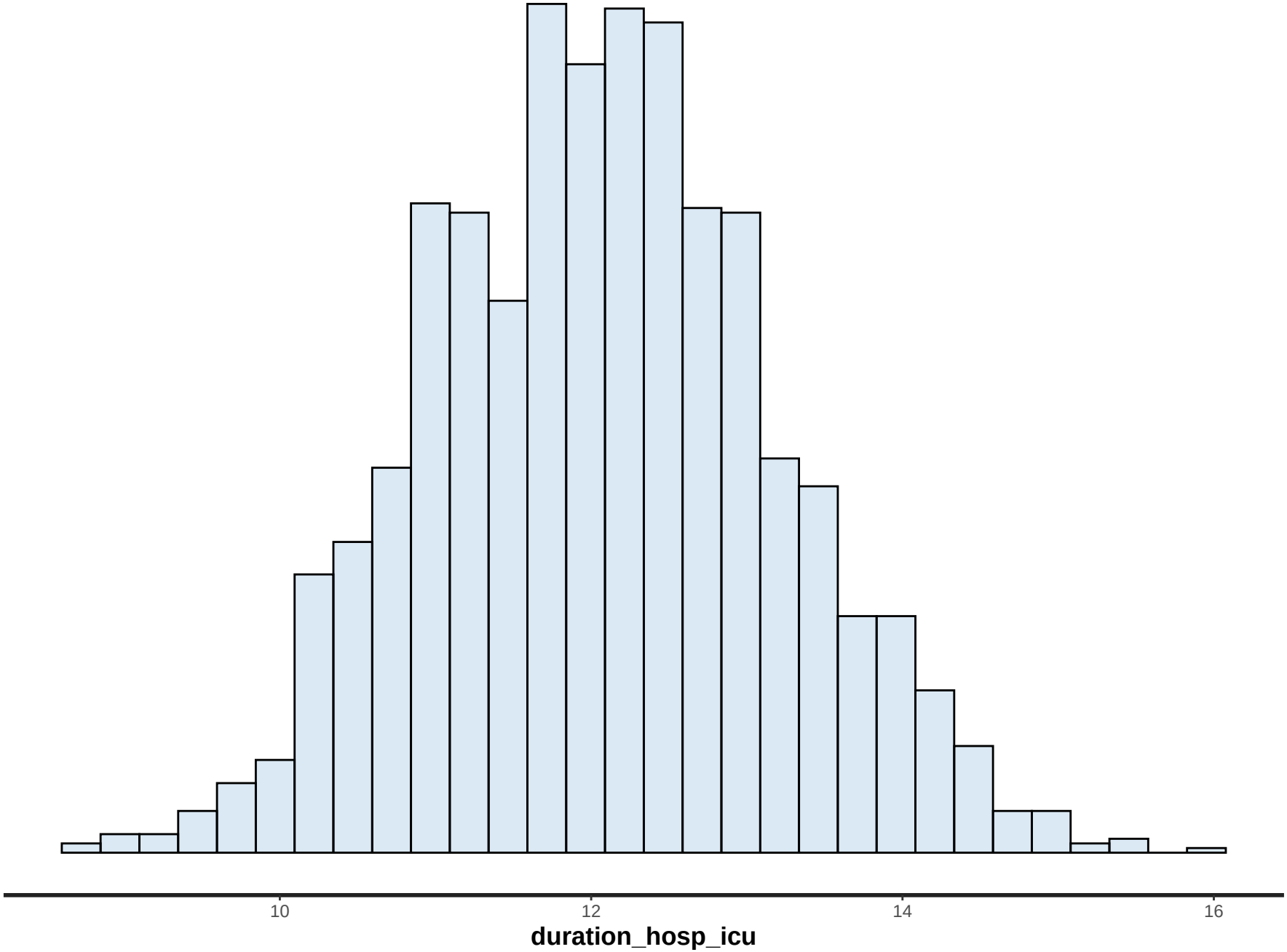

2
3
4
5
r0

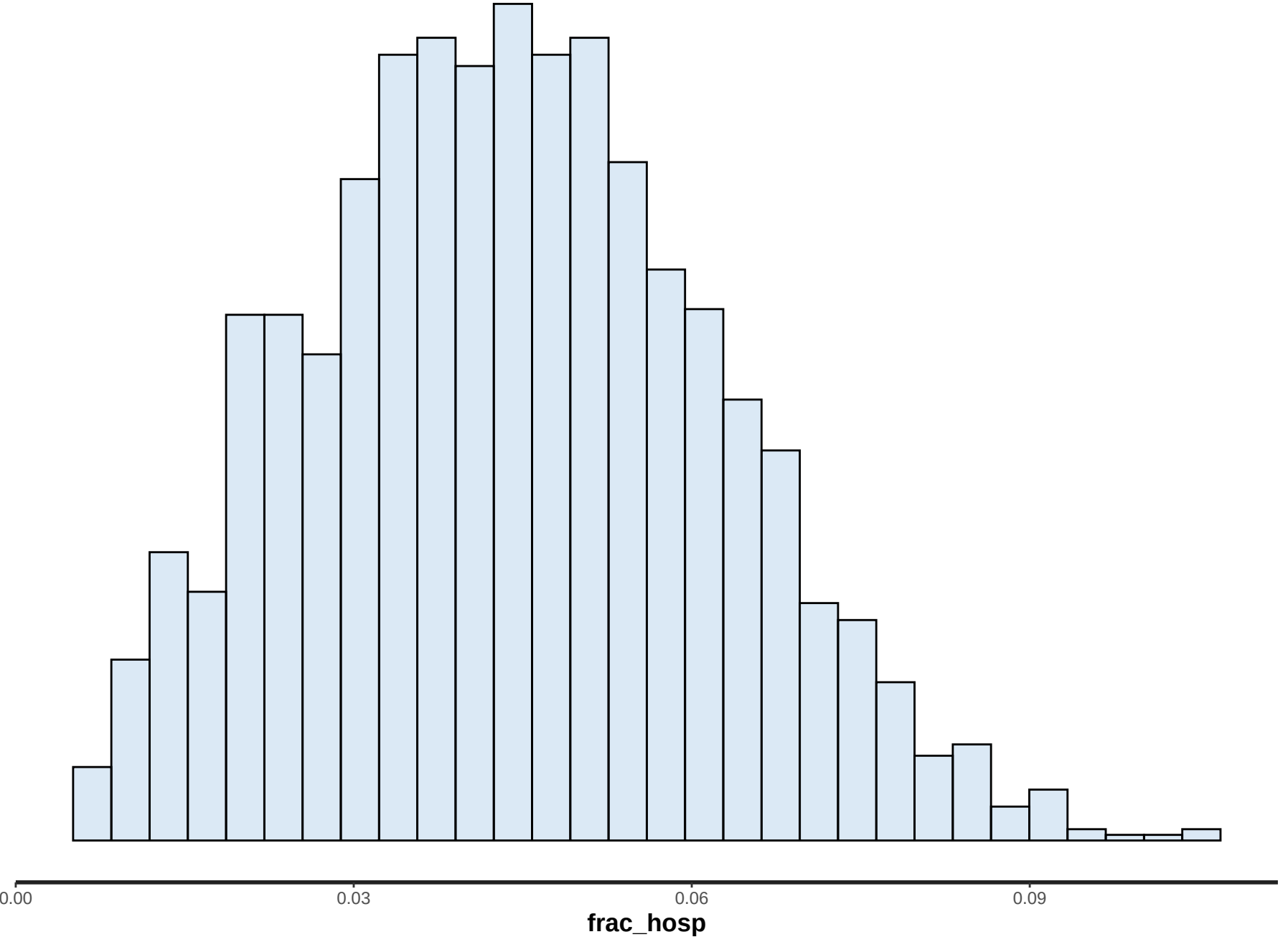

1
2
3
4
5
6
duration_latent

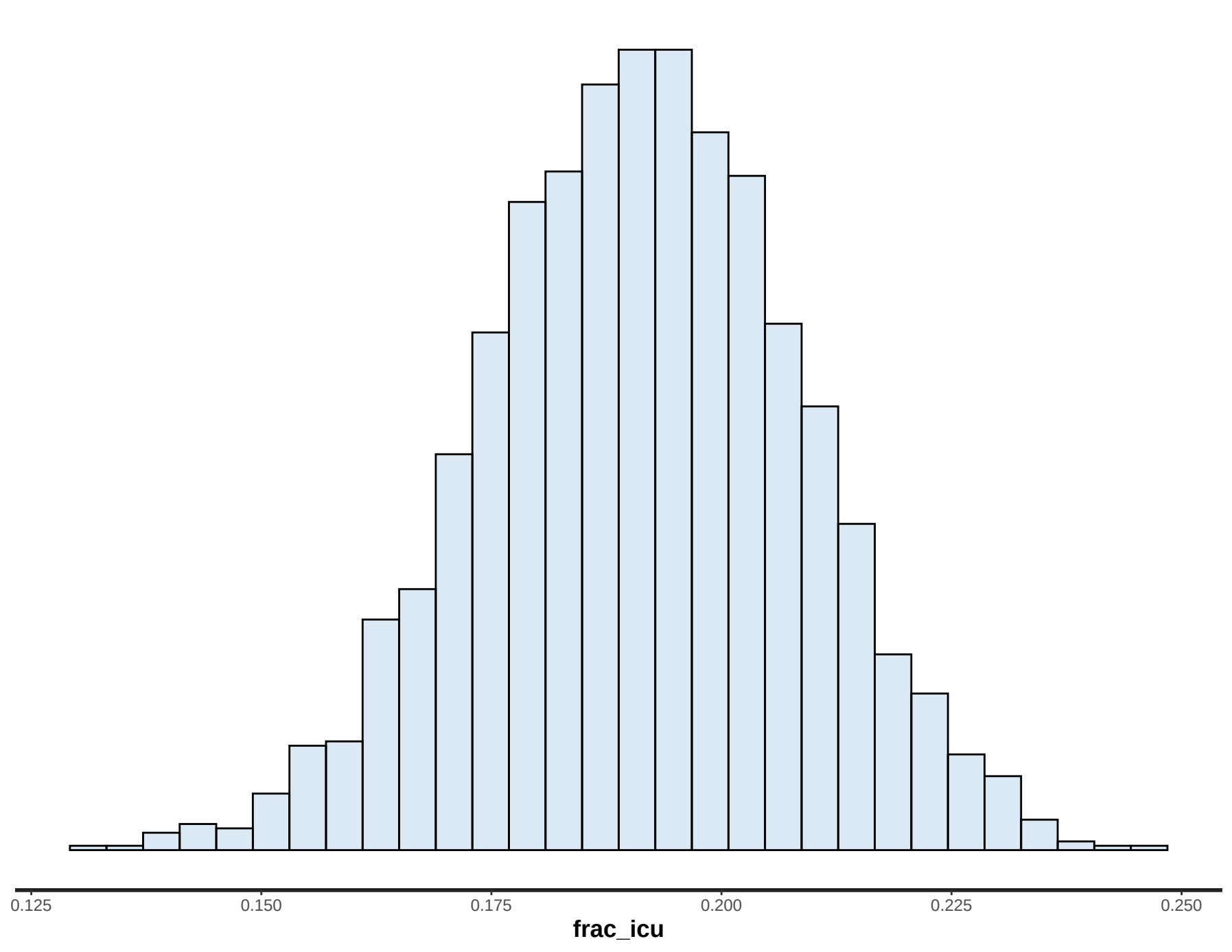

4
6
8
duration_rec_mild

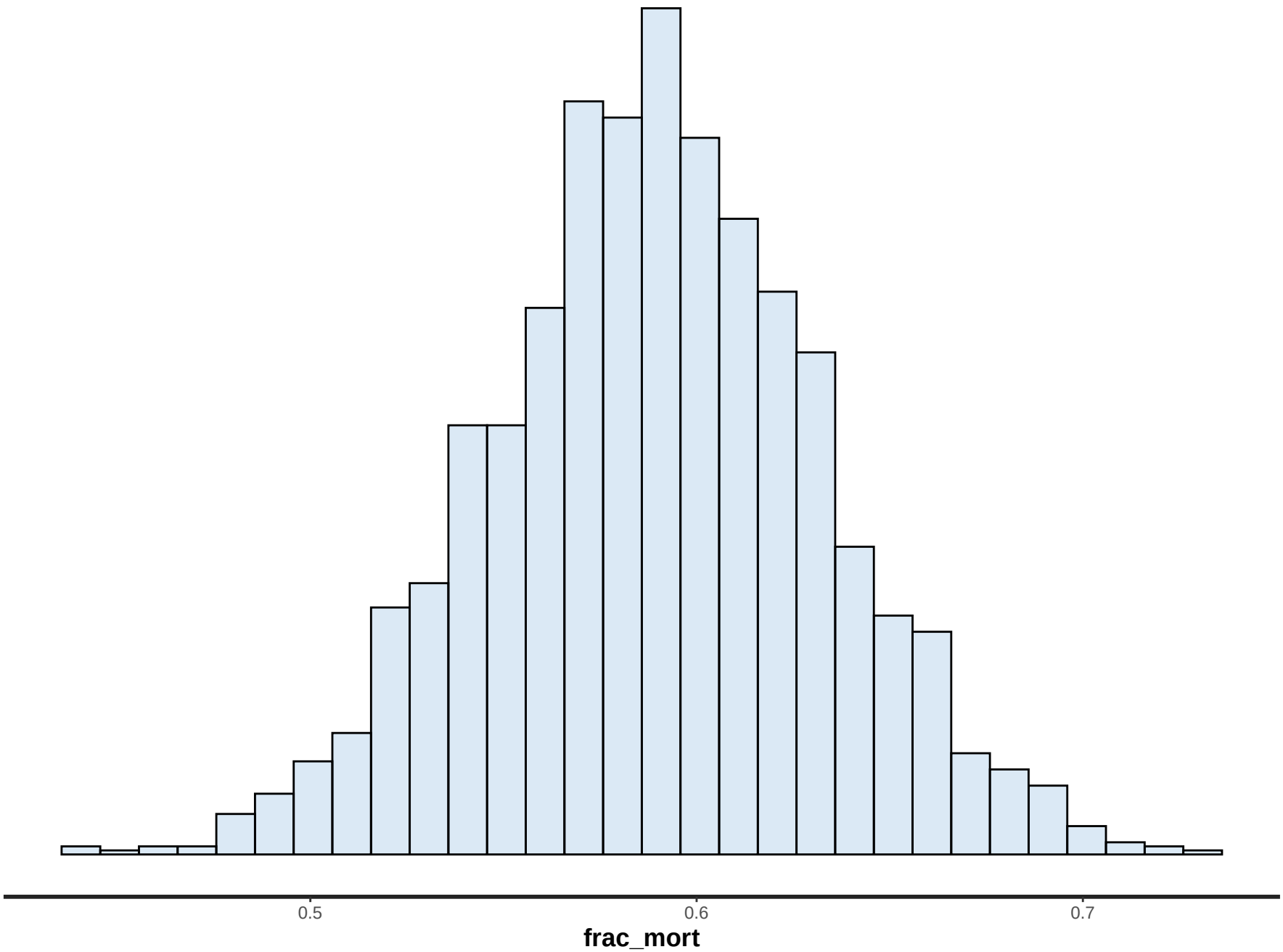

5
10
duration_pre_hosp

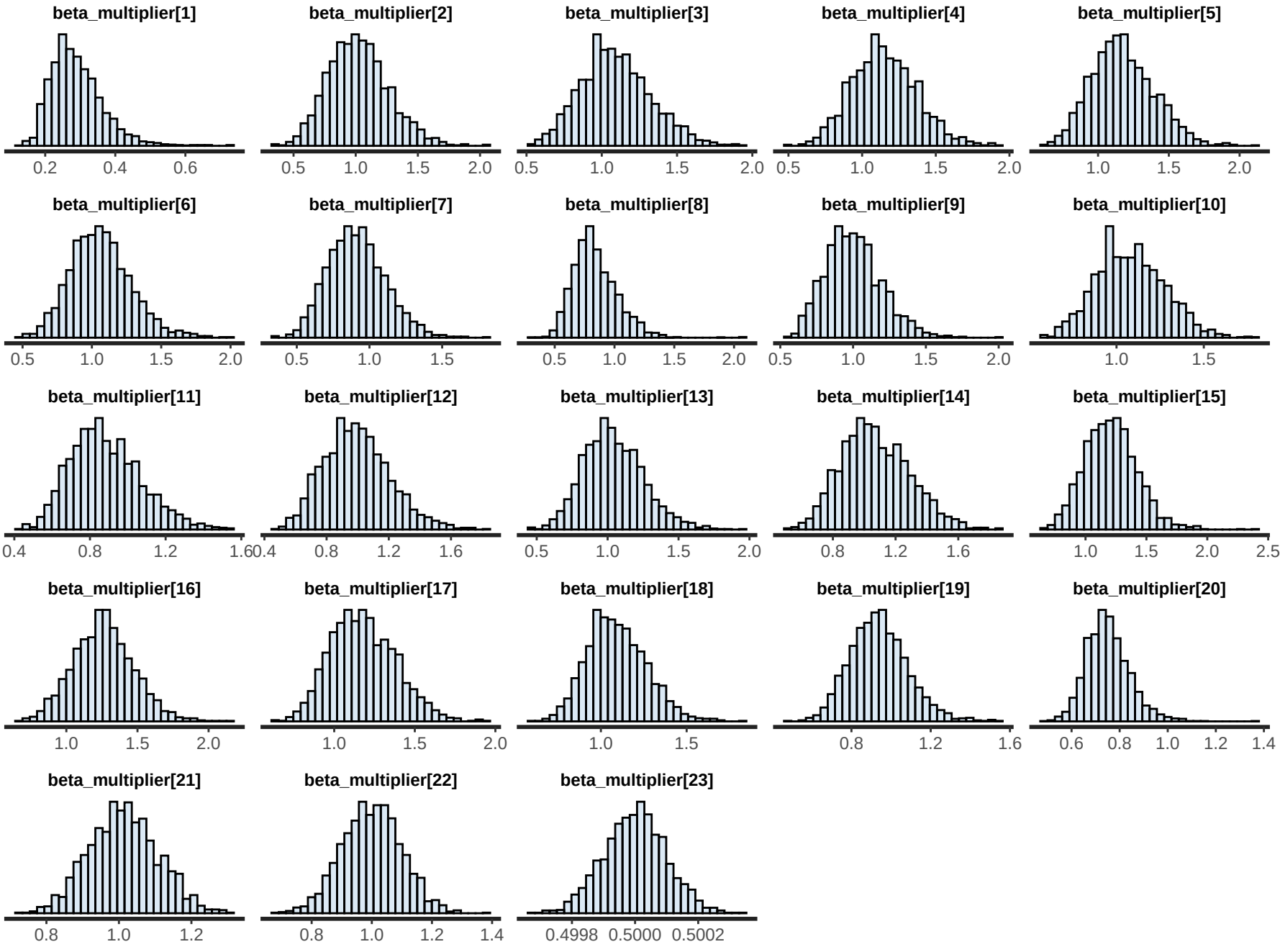

6
8
10
12
duration_hosp_mod


10
12
14
16
duration_hosp_icu


0.00
0.03
0.06
0.09
frac_hosp


0.125
0.150
0.175
0.200
0.225
0.250
frac_icu


0.5
0.6
0.7
frac_mort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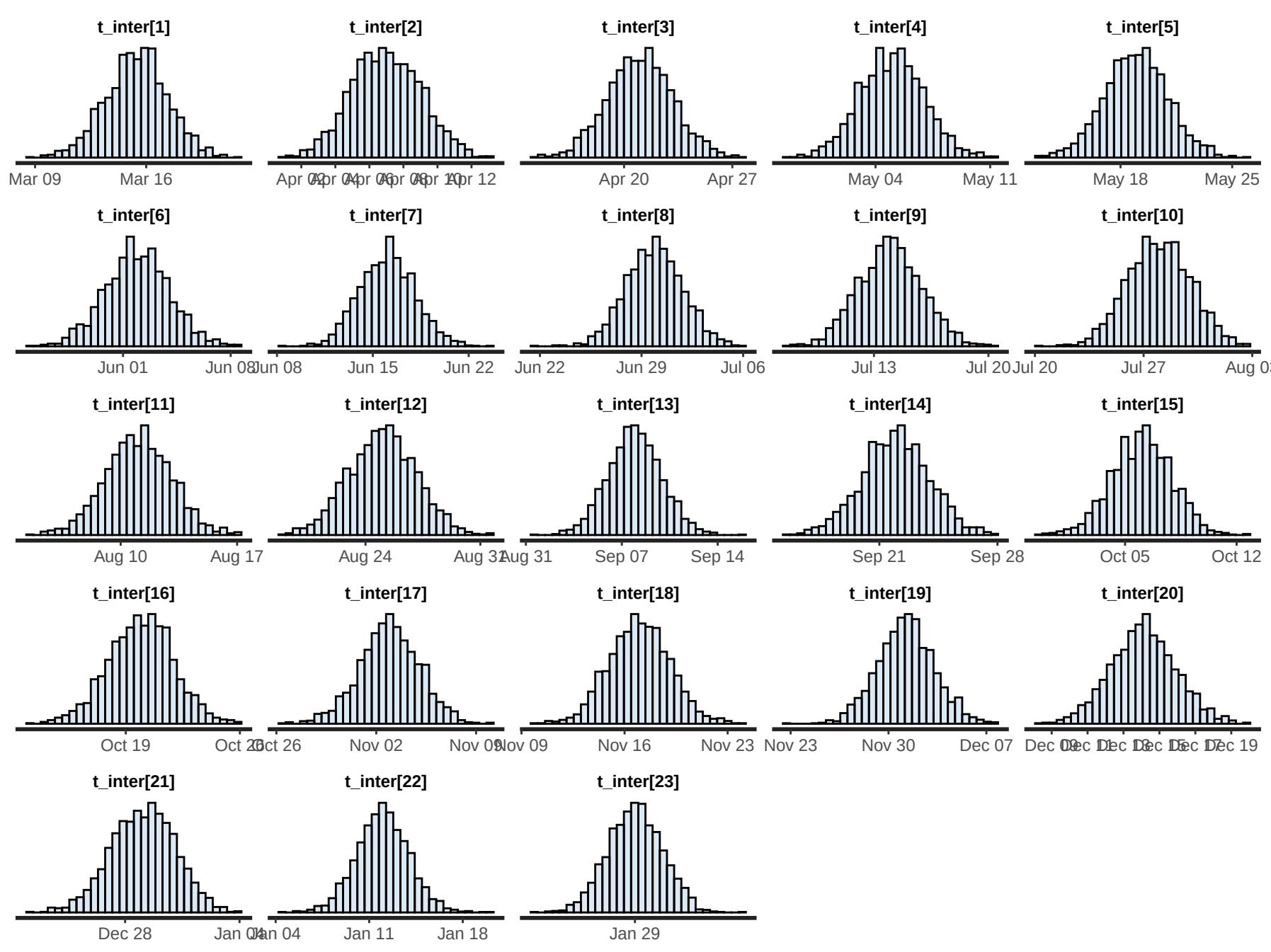
0.2 0.4 0.6
beta_multiplier[2]
0.5 1.0 1.5 2.0
beta_multiplier[3]
0.5 1.0 1.5 2.0
beta_multiplier[4]
0.5 1.0 1.5 2.0
beta_multiplier[5]
1.0 1.5 2.0
beta_multiplier[6]
0.5 1.0 1.5 2.0
beta_multiplier[7]
0.5 1.0 1.5
beta_multiplier[8]
0.5 1.0 1.5 2.0
beta_multiplier[9]
0.5 1.0 1.5 2.0
beta_multiplier[10]
1.0 1.5
beta_multiplier[11]
0.4 0.8 1.2 1.6
beta_multiplier[12]
0.4 0.8 1.2 1.6
beta_multiplier[13]
0.5 1.0 1.5 2.0
beta_multiplier[14]
0.8 1.2 1.6
beta_multiplier[15]
1.0 1.5 2.0 2.5
beta_multiplier[16]
1.0 1.5 2.0
beta_multiplier[17]
1.0 1.5 2.0
beta_multiplier[18]
1.0 1.5
beta_multiplier[19]
0.8 1.2 1.6
beta_multiplier[20]
0.6 0.8 1.0 1.2 1.4
beta_multiplier[21]
0.8 1.0 1.2
beta_multiplier[22]
0.8 1.0 1.2 1.4
beta_multiplier[23]
0.4998 0.5000 0.5002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Mar 09
Mar 16
t_inter[2]
Apr 02
Apr 04
Apr 06
Apr 08
Apr 10
Apr 12
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 08
Jun 15
Jun 22
t_inter[8]
Jun 22
Jun 29
Jul 06
t_inter[9]
Jul 13
Jul 20
t_inter[10]
Jul 20
Jul 27
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Aug 10
Aug 17
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Aug 24
Aug 31
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Aug 31
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Sep 14
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Sep 21
Sep 28
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Oct 19
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Nov 02
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Nov 09
Nov 16
Nov 23
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Nov 23
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Dec 07
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Dec 09
Dec 11
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Dec 15
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Dec 19
t_inter[21]
Dec 28
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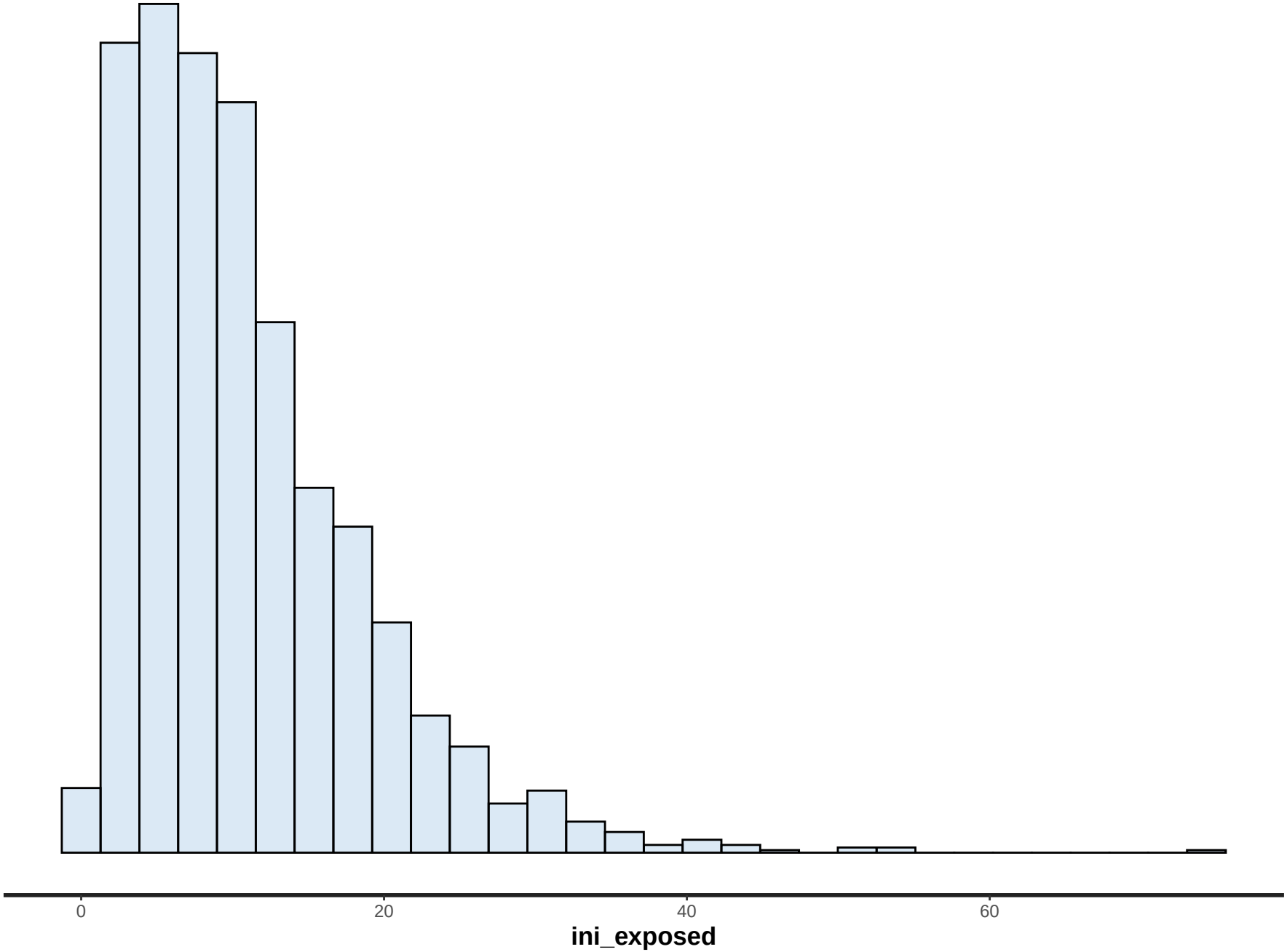
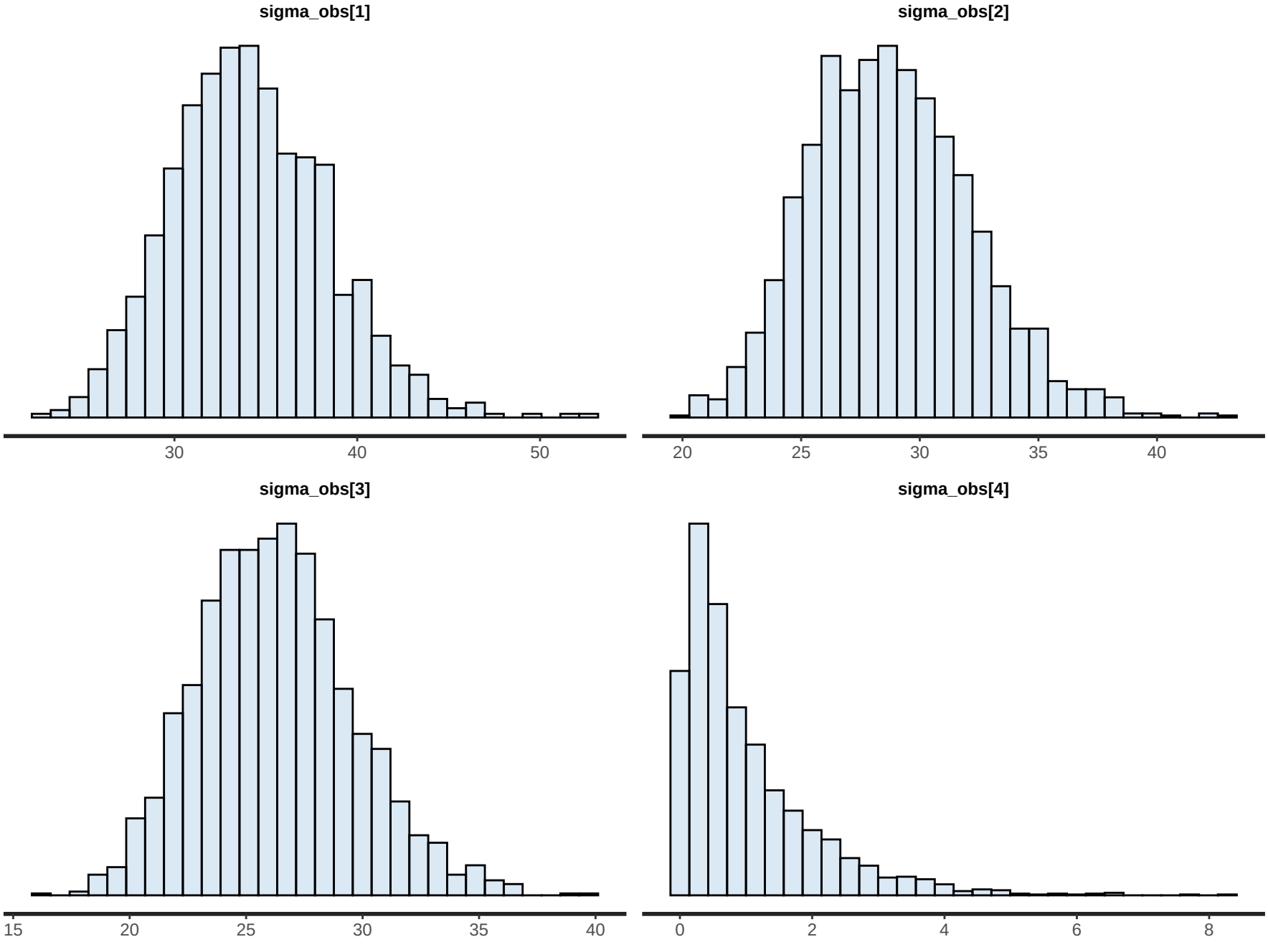
Jan 04
Jan 11
Jan 18
t_inter[23]
Jan 29


0
20
40
60
ini_exposed


sigma_obs[1]
30
40
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sigma_obs[2]
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40
sigma_obs[3]
15
20
25
30
35
40
sigma_obs[4]
0
2
4
6
8