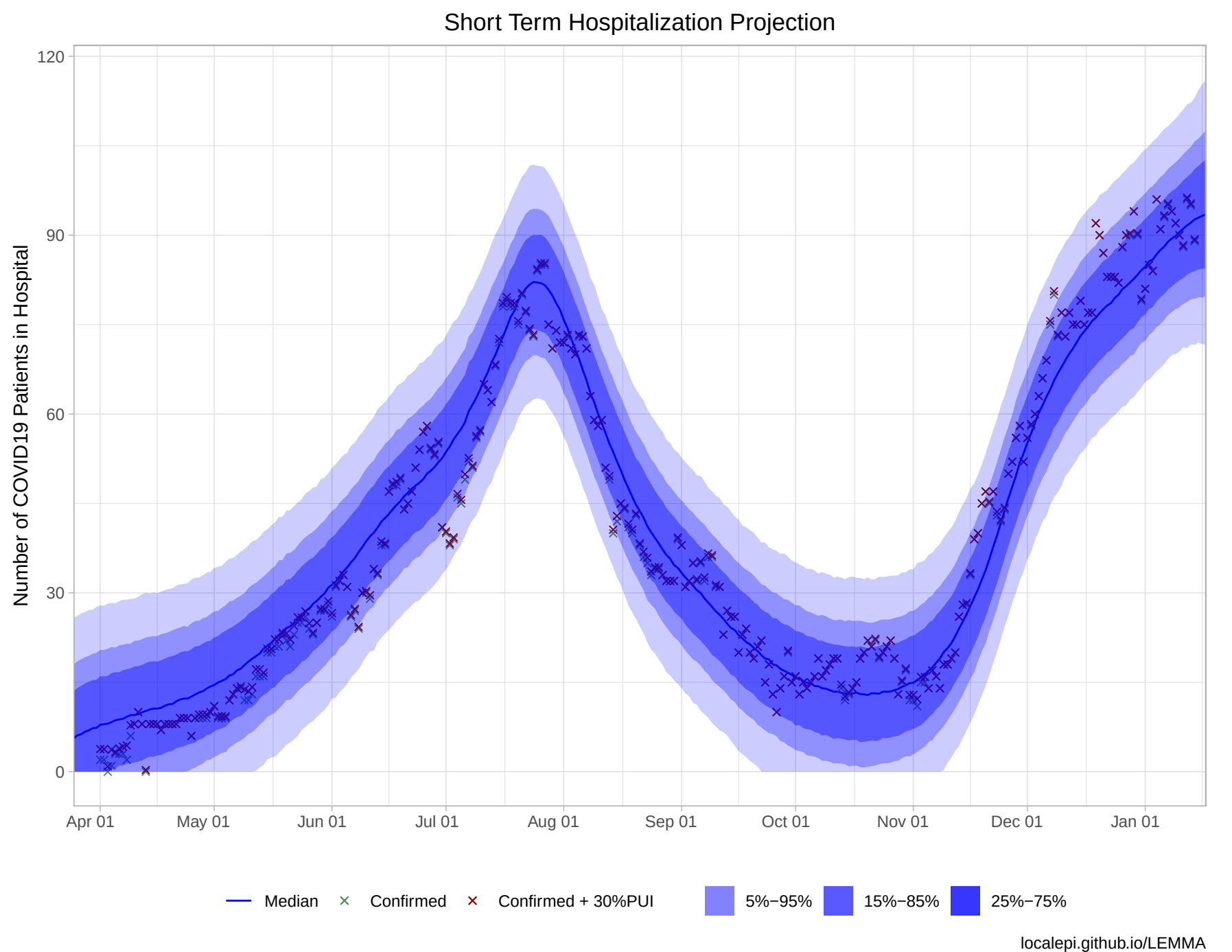
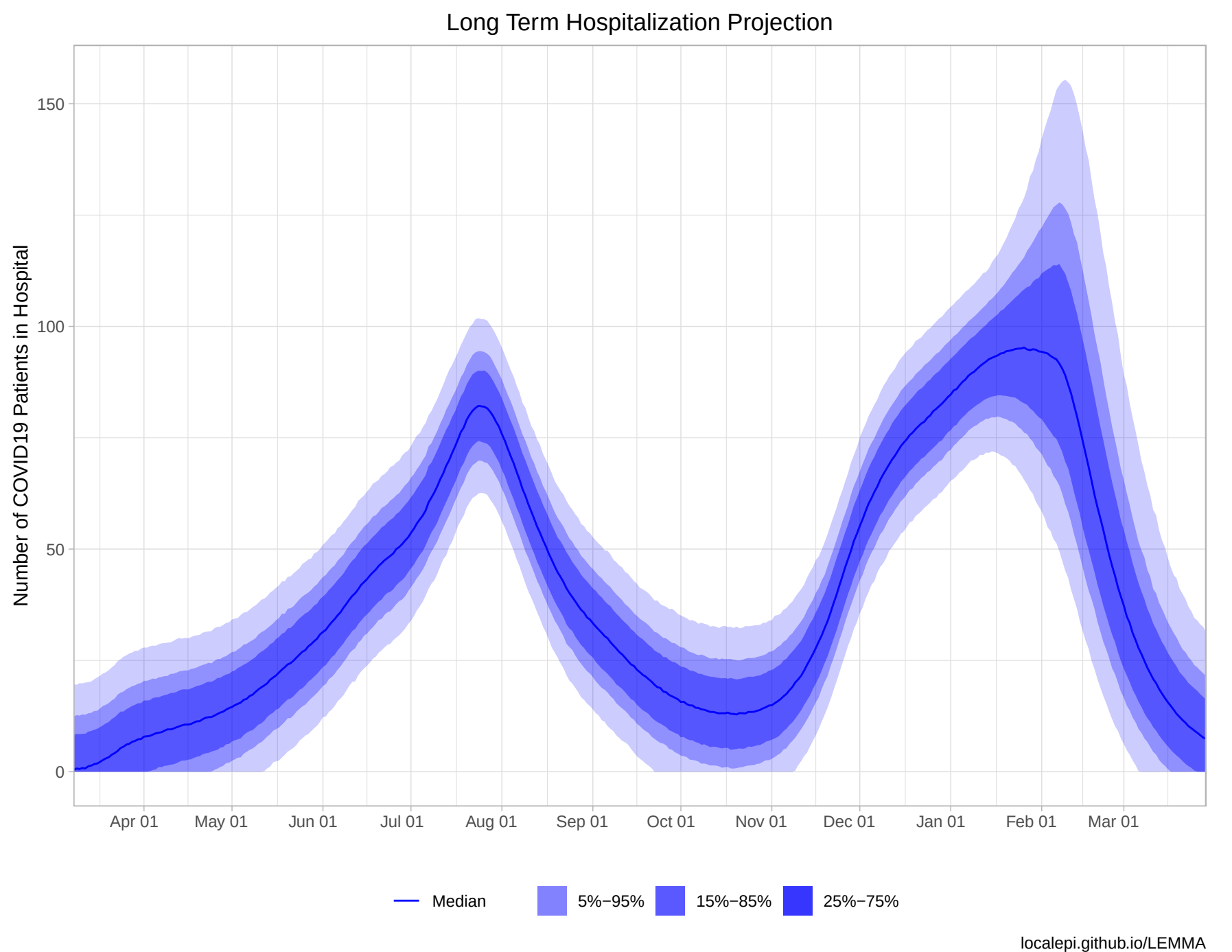
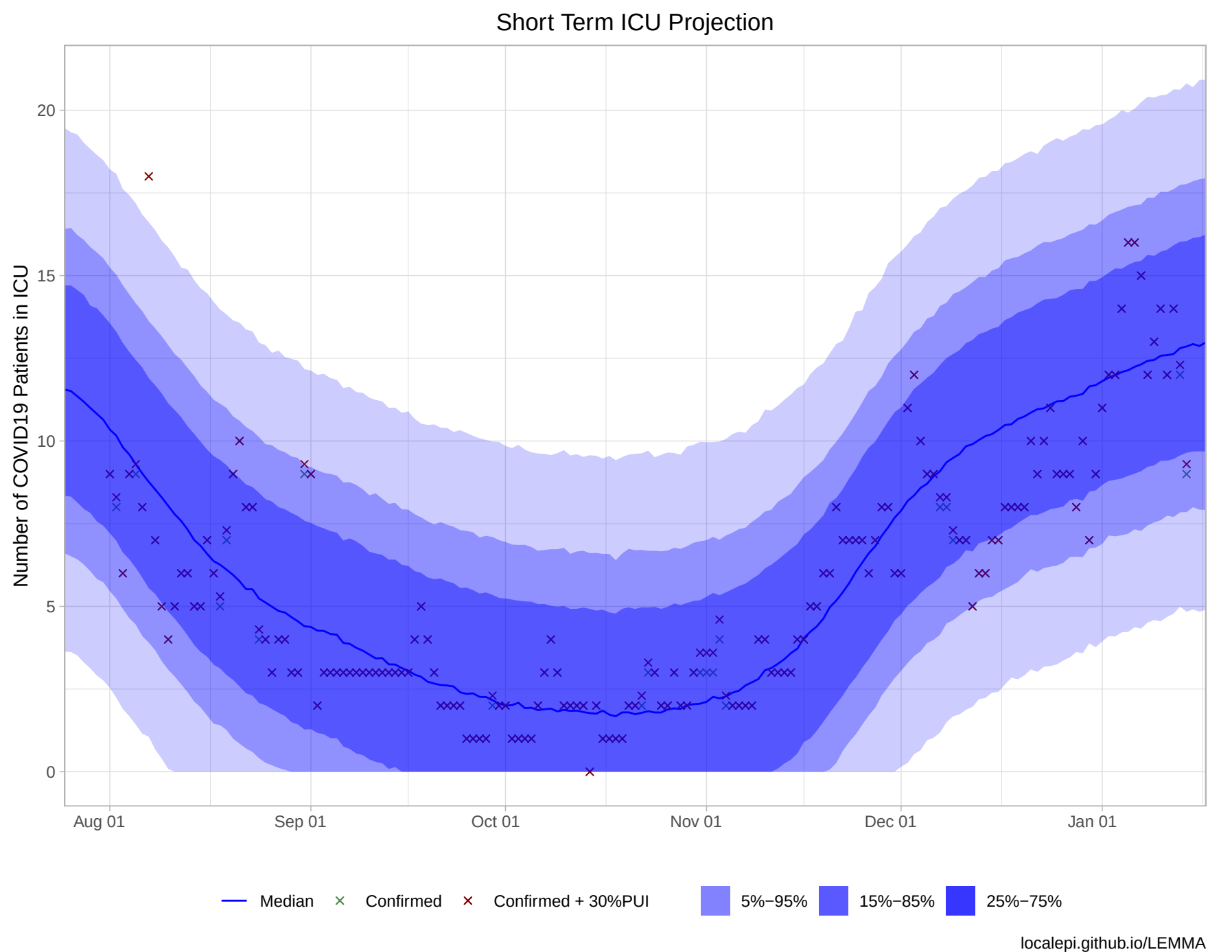
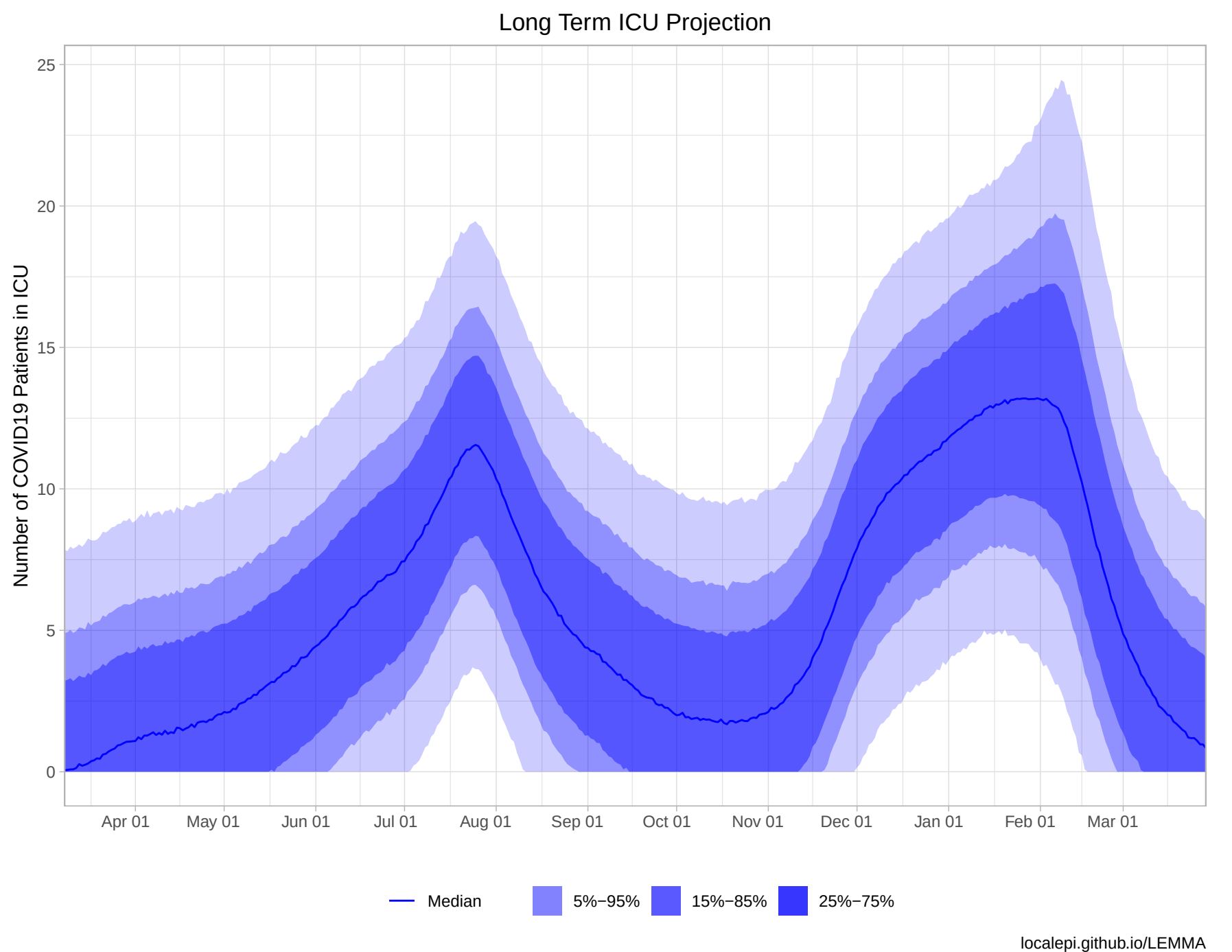
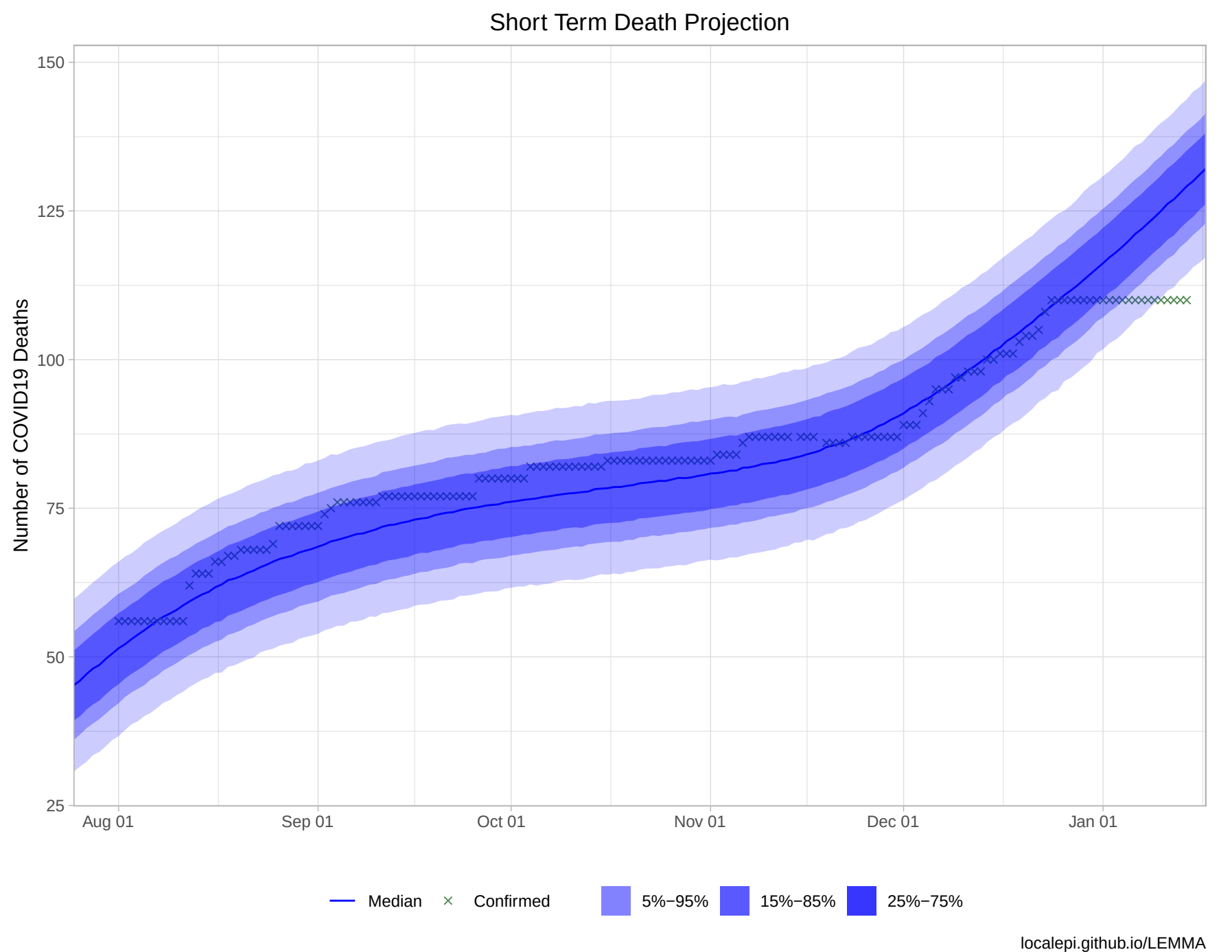
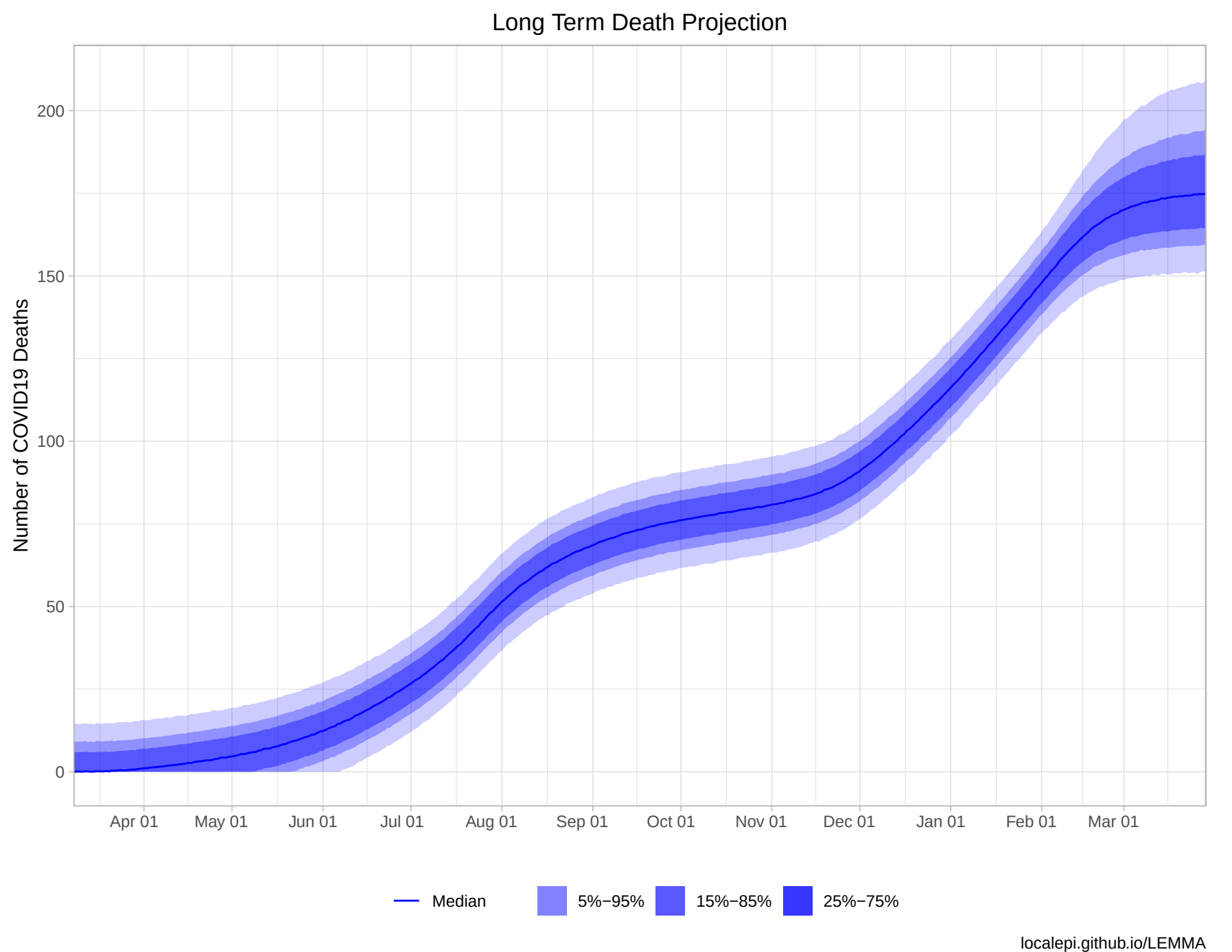

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
120
90
60
30
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

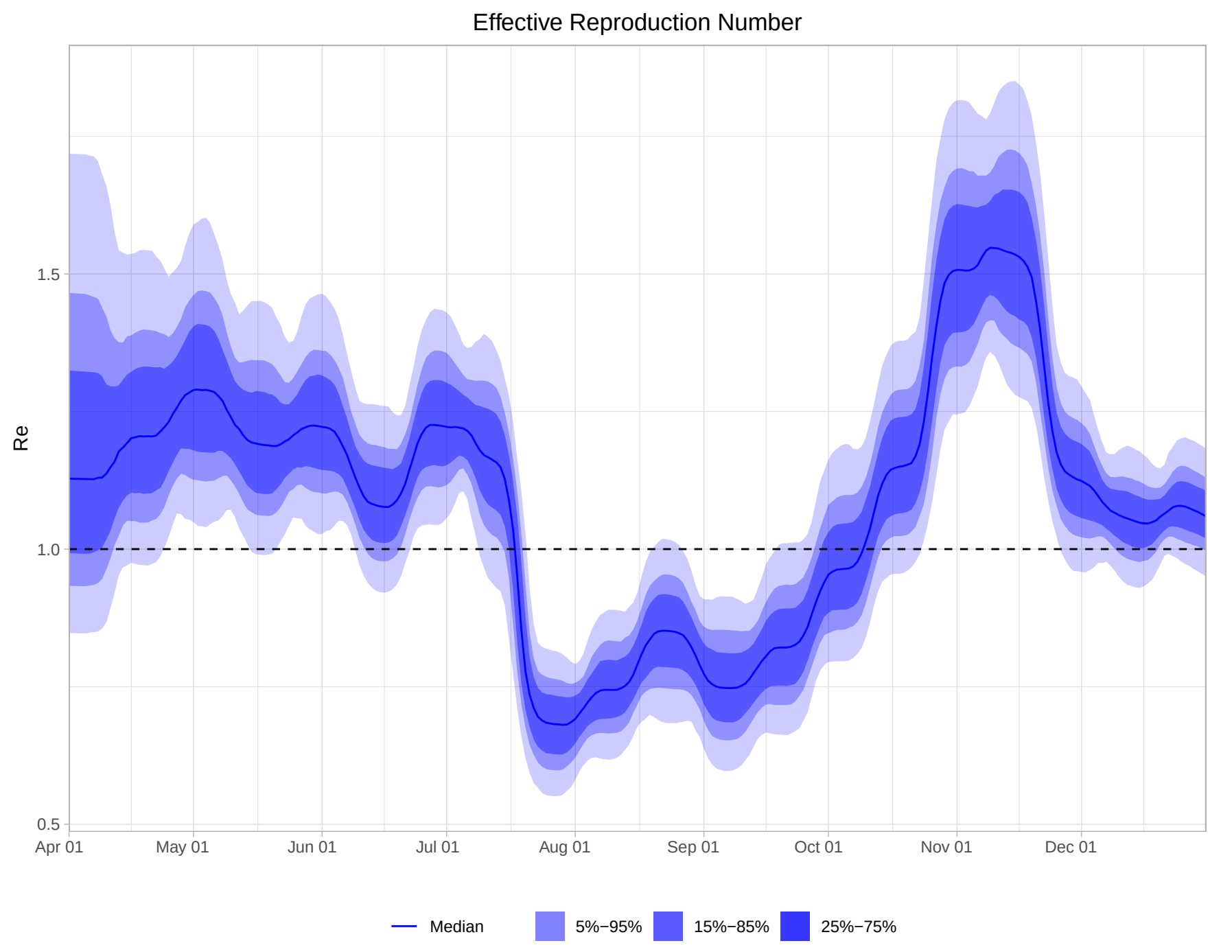

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
150
100
50
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
20
15
10
5
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
25
20
15
10
5
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

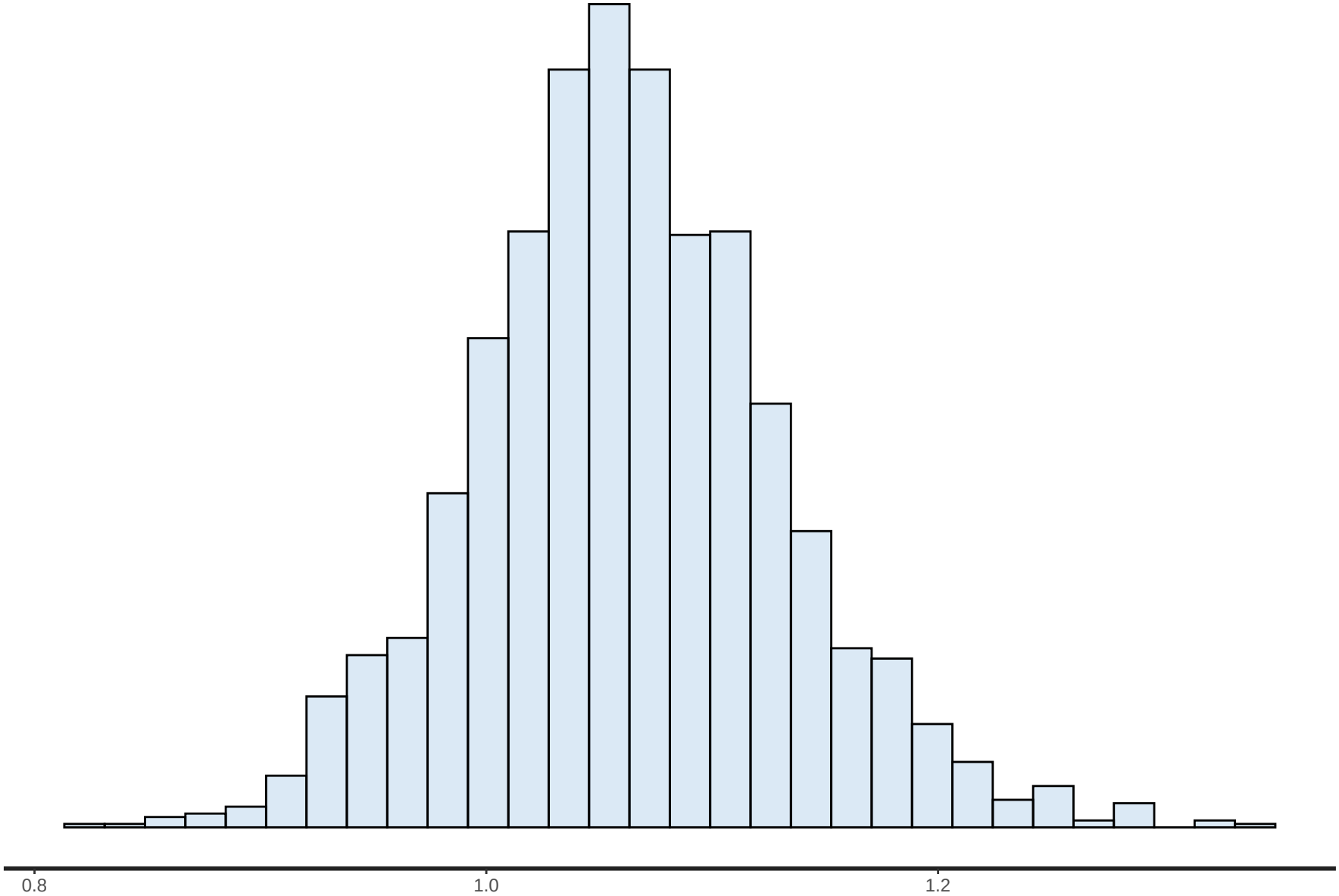

Short Term Death Projection
Number of COVID19 Deaths
150
125
100
75
50
25
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

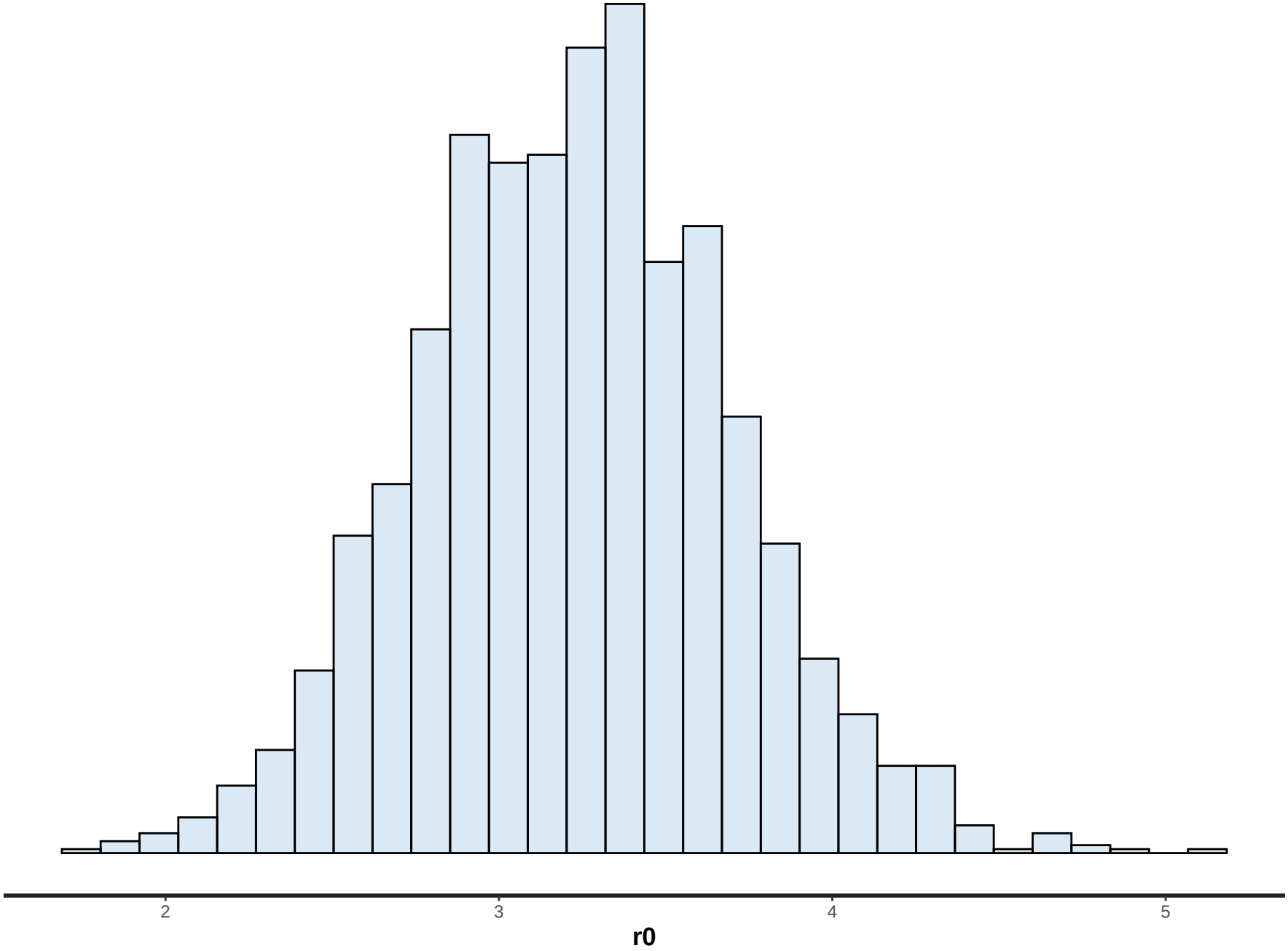

Long Term Death Projection
Number of COVID19 Deaths
200
150
100
50
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

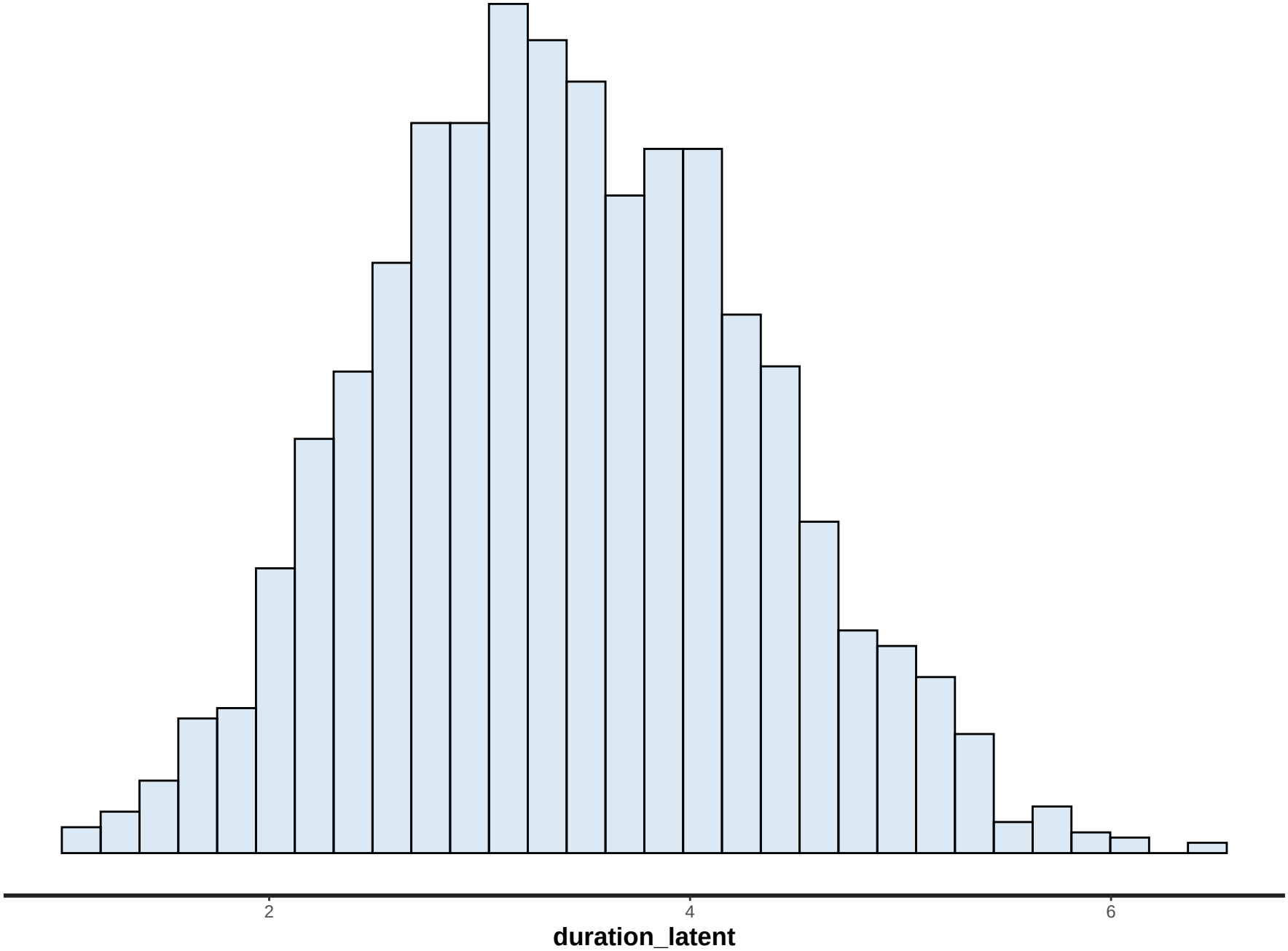

Effective Reproduction Number
Re
1.5
1.0
0.5
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
5%−95%
15%−85%
25%−75%

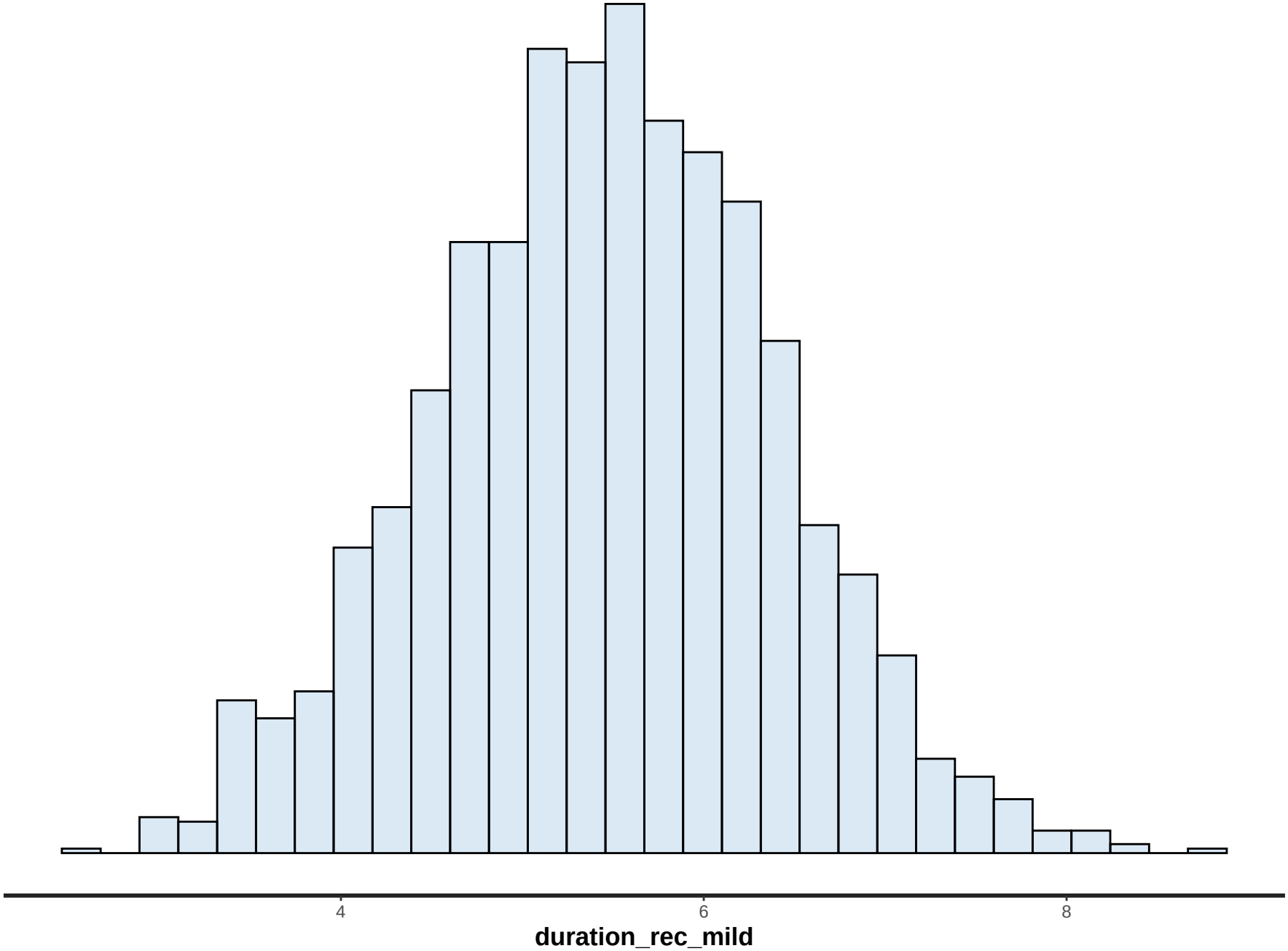
Rt as of 2020−12−31

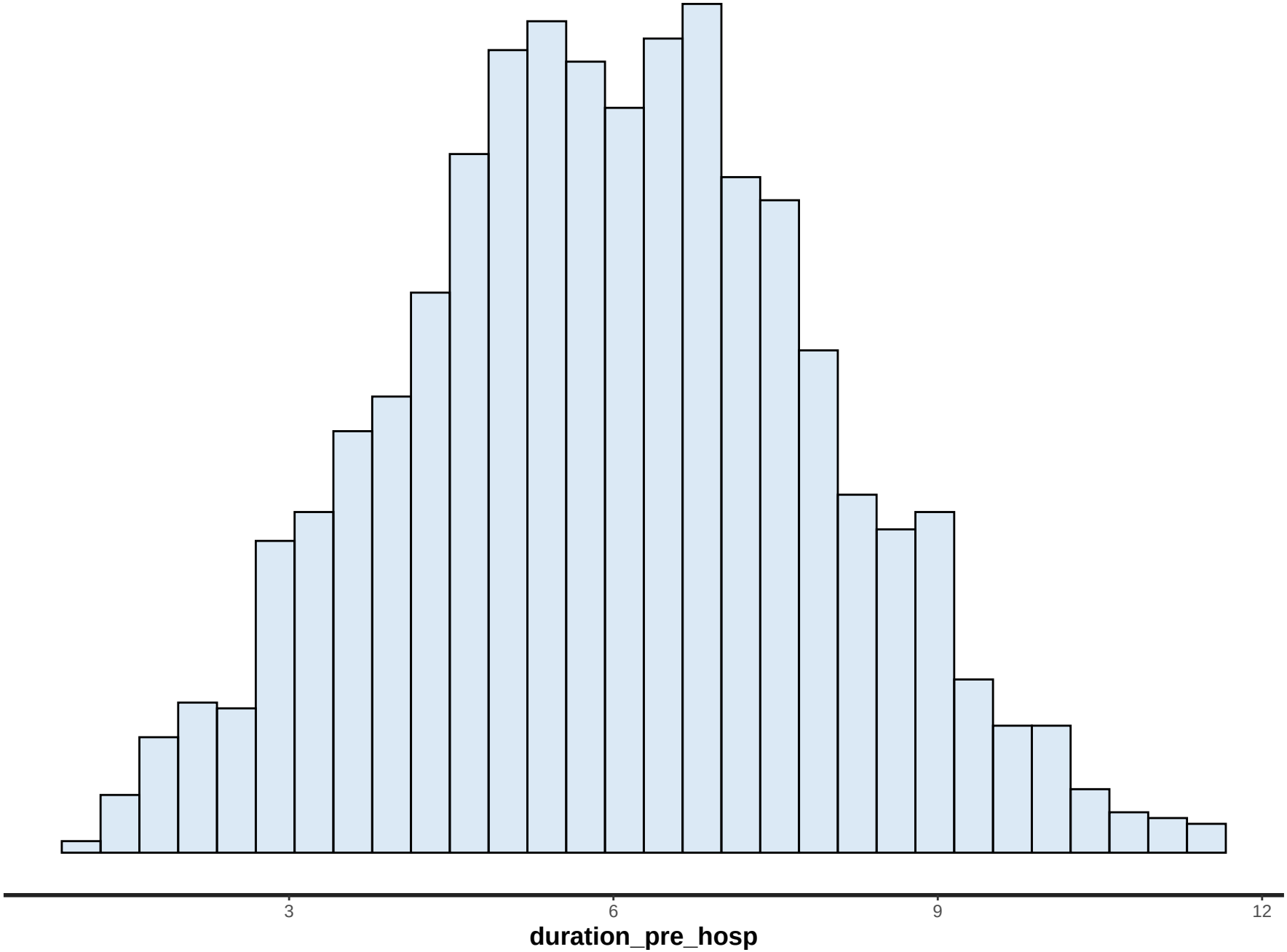
5%	10%	25%	50%	75%	90%	95%
0.95	0.98	1.02	1.06	1.11	1.15	1.18

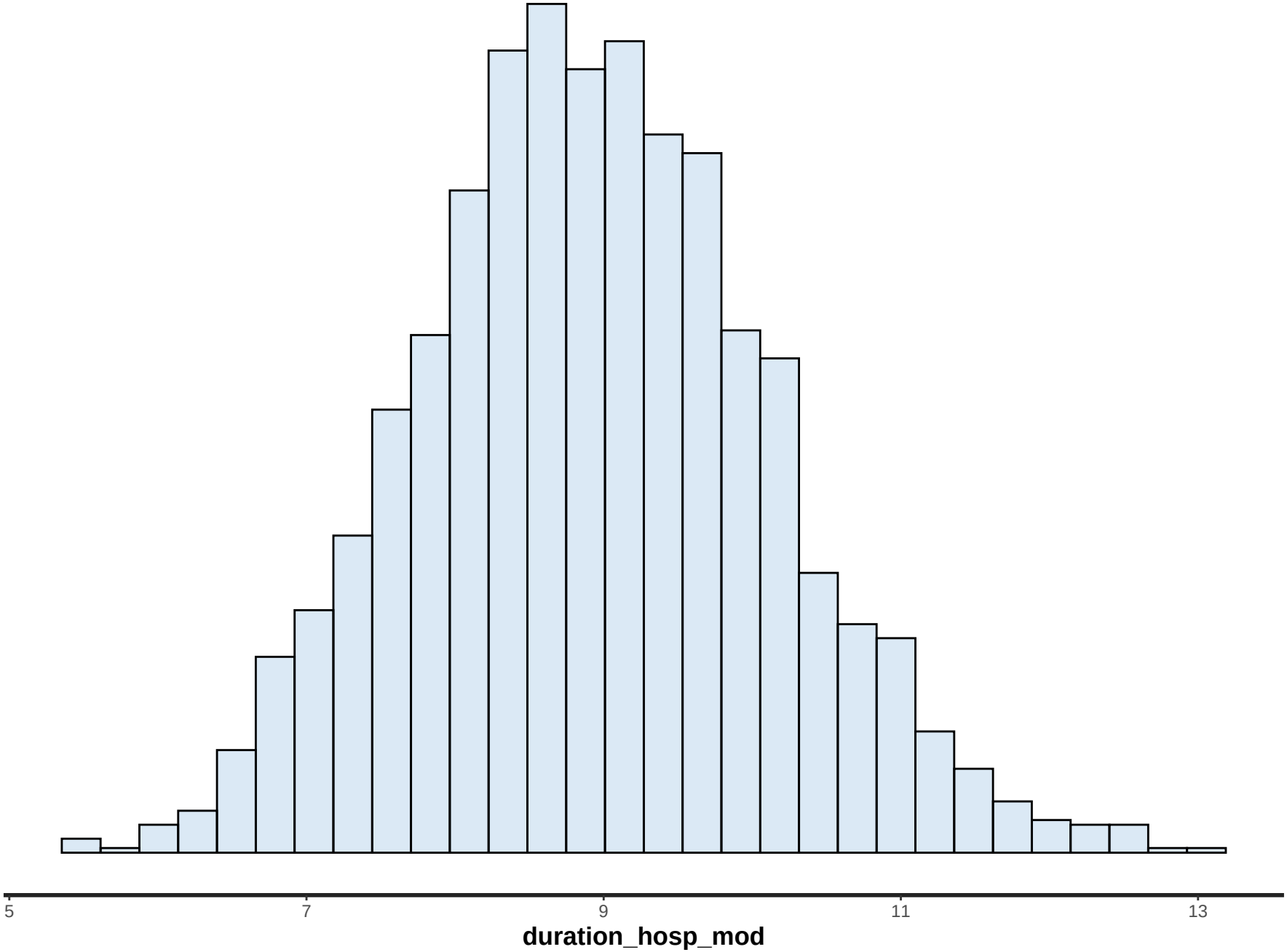


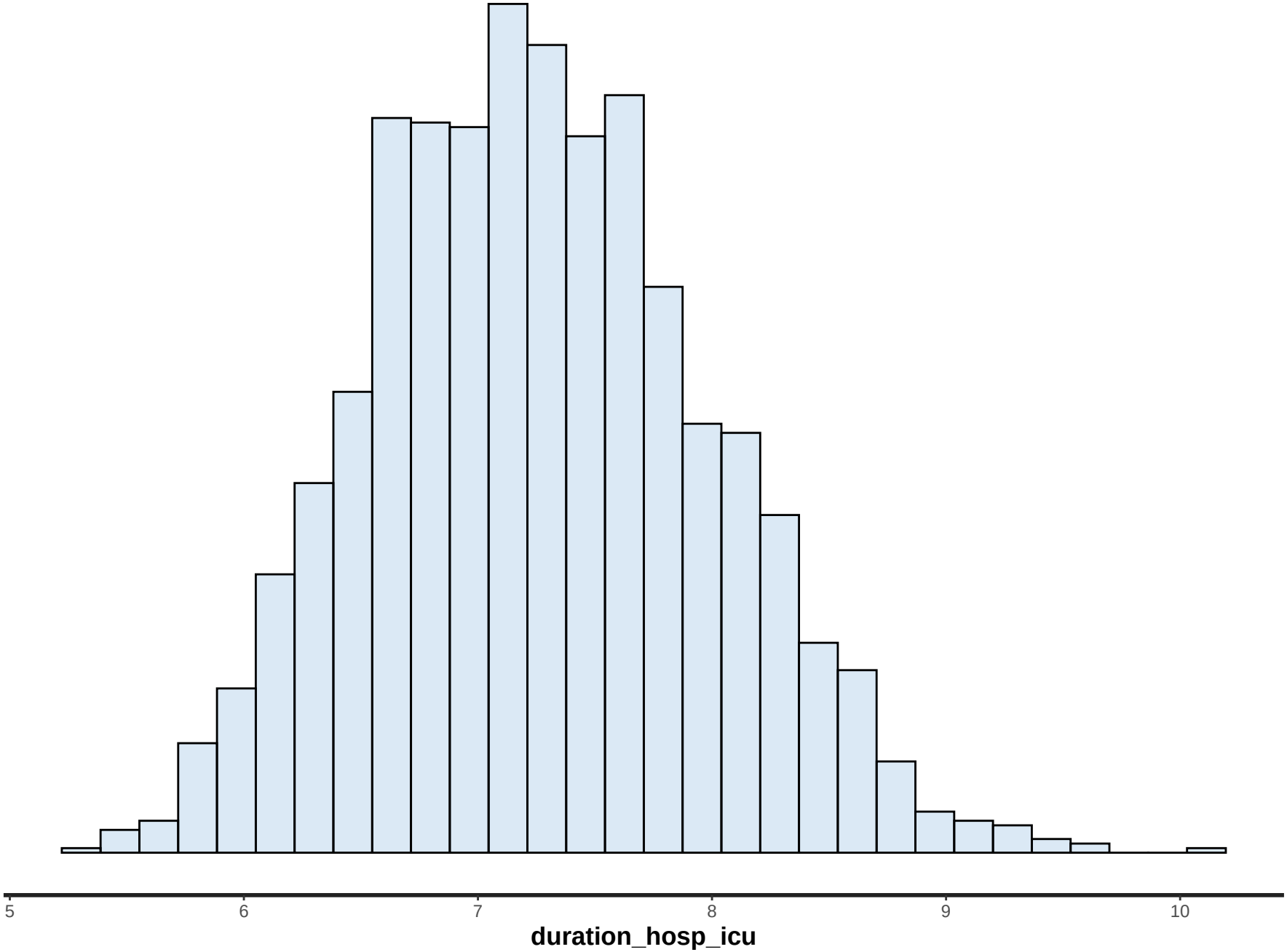

2
3
4
5
r0

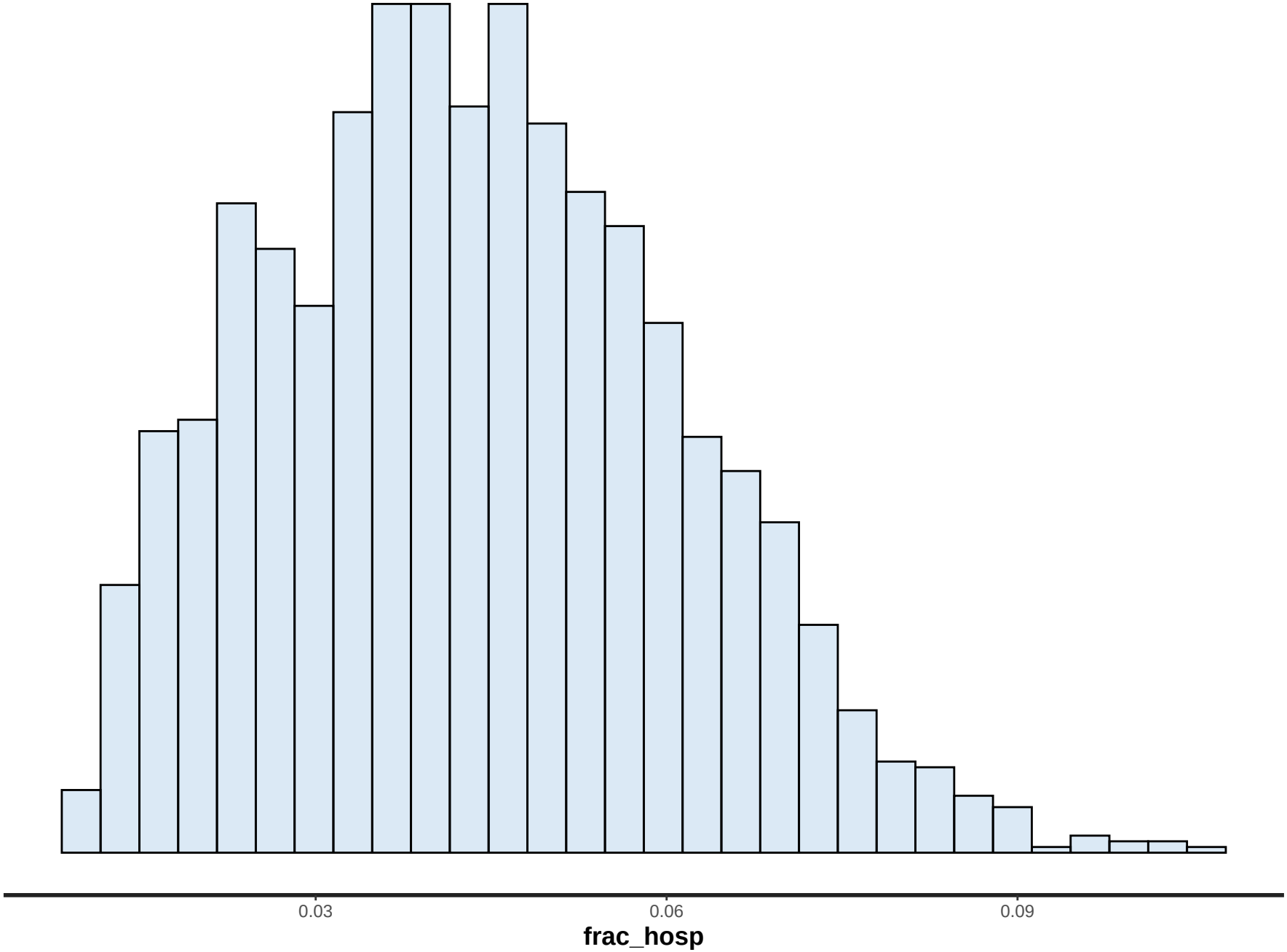

2
4
6
duration_latent

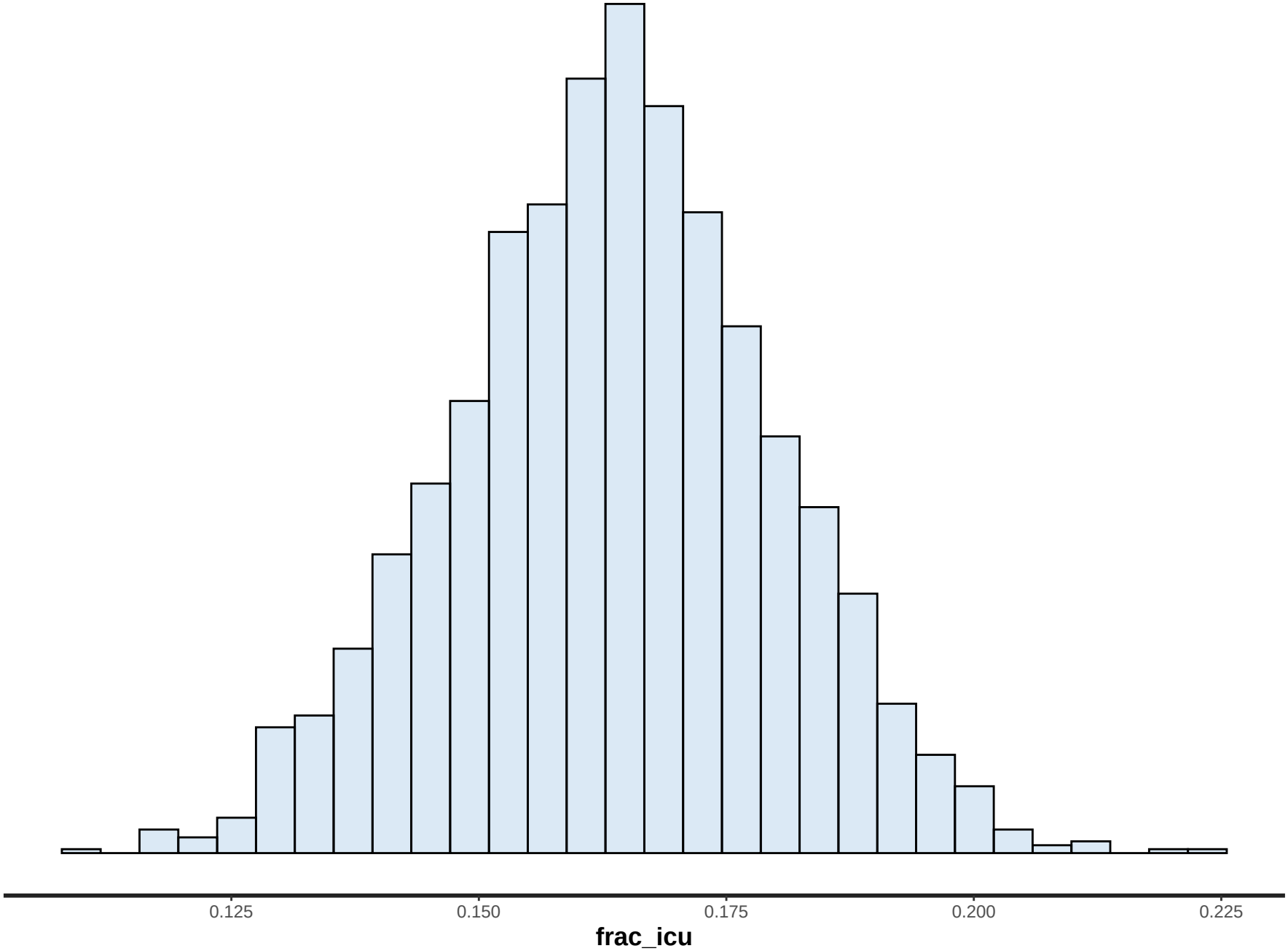

4
6
8
duration_rec_mild

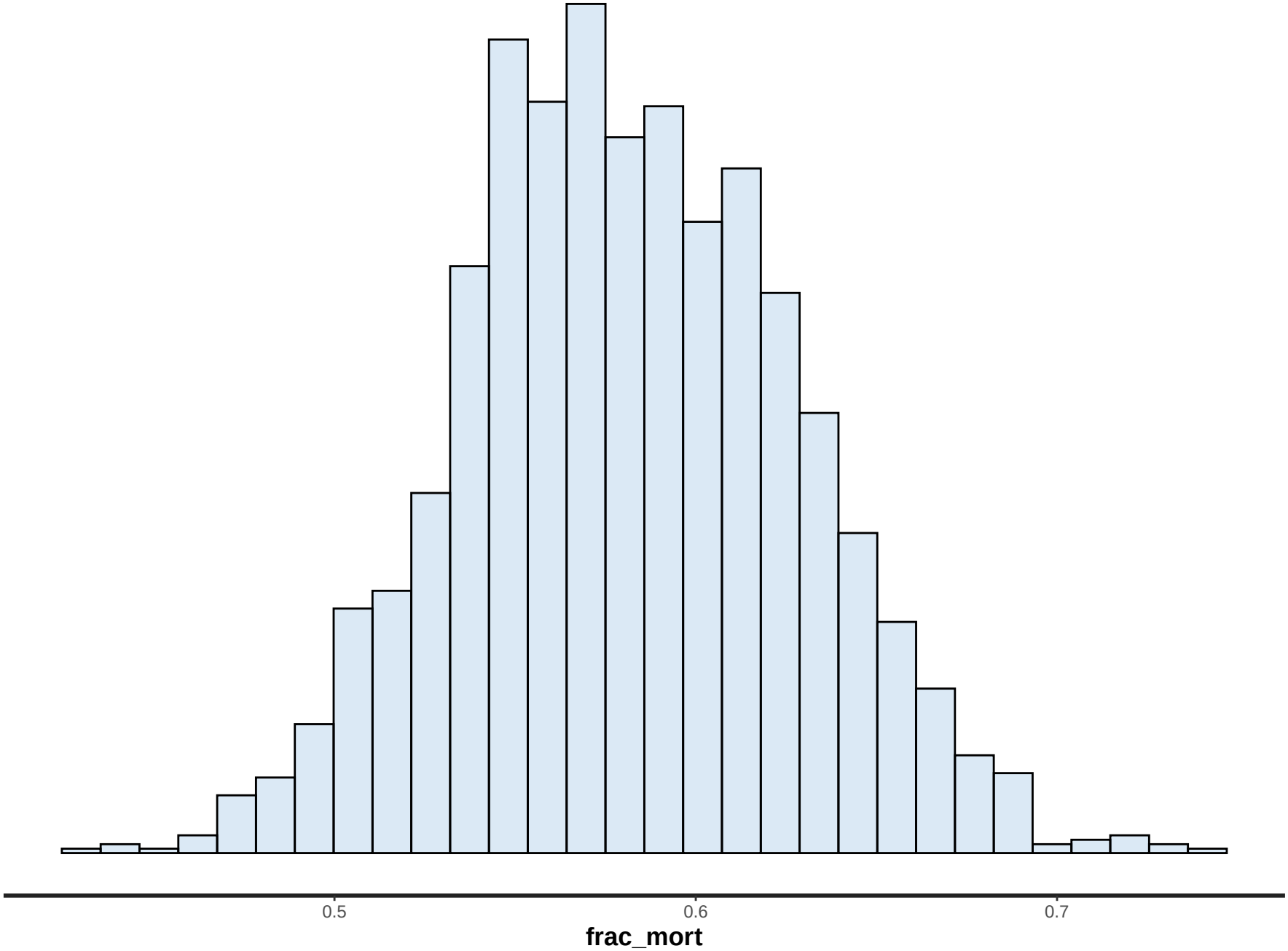

3
6
9
12
duration_pre_hosp

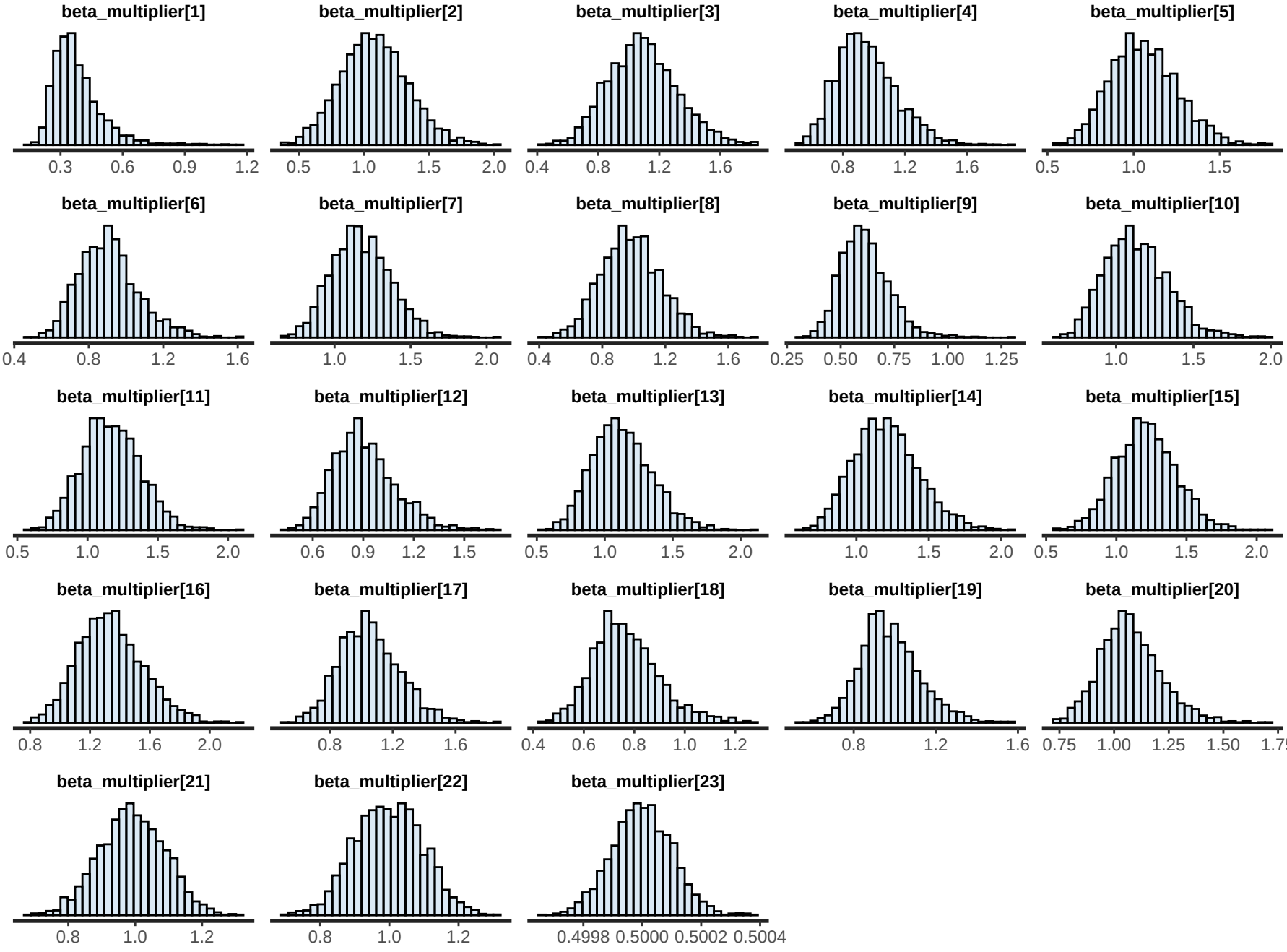

5
7
9
11
13
duration_hosp_mod


5
6
7
8
9
10
duration_hosp_icu


0.03
0.06
0.09
frac_hosp


0.125
0.150
0.175
0.200
0.225
frac_icu


0.5
0.6
0.7
frac_mort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0.3 0.6 0.9 1.2
beta_multiplier[2]
0.5 1.0 1.5 2.0
beta_multiplier[3]
0.4 0.8 1.2 1.6
beta_multiplier[4]
0.8 1.2 1.6
beta_multiplier[5]
0.5 1.0 1.5
beta_multiplier[6]
0.4 0.8 1.2 1.6
beta_multiplier[7]
1.0 1.5 2.0
beta_multiplier[8]
0.4 0.8 1.2 1.6
beta_multiplier[9]
0.25 0.50 0.75 1.00 1.25
beta_multiplier[10]
1.0 1.5 2.0
beta_multiplier[11]
0.5 1.0 1.5 2.0
beta_multiplier[12]
0.6 0.9 1.2 1.5
beta_multiplier[13]
0.5 1.0 1.5 2.0
beta_multiplier[14]
1.0 1.5 2.0
beta_multiplier[15]
0.5 1.0 1.5 2.0
beta_multiplier[16]
0.8 1.2 1.6 2.0
beta_multiplier[17]
0.8 1.2 1.6
beta_multiplier[18]
0.4 0.6 0.8 1.0 1.2
beta_multiplier[19]
0.8 1.2 1.6
beta_multiplier[20]
0.75 1.00 1.25 1.50 1.75
beta_multiplier[21]
0.8 1.0 1.2
beta_multiplier[22]
0.8 1.0 1.2
beta_multiplier[23]
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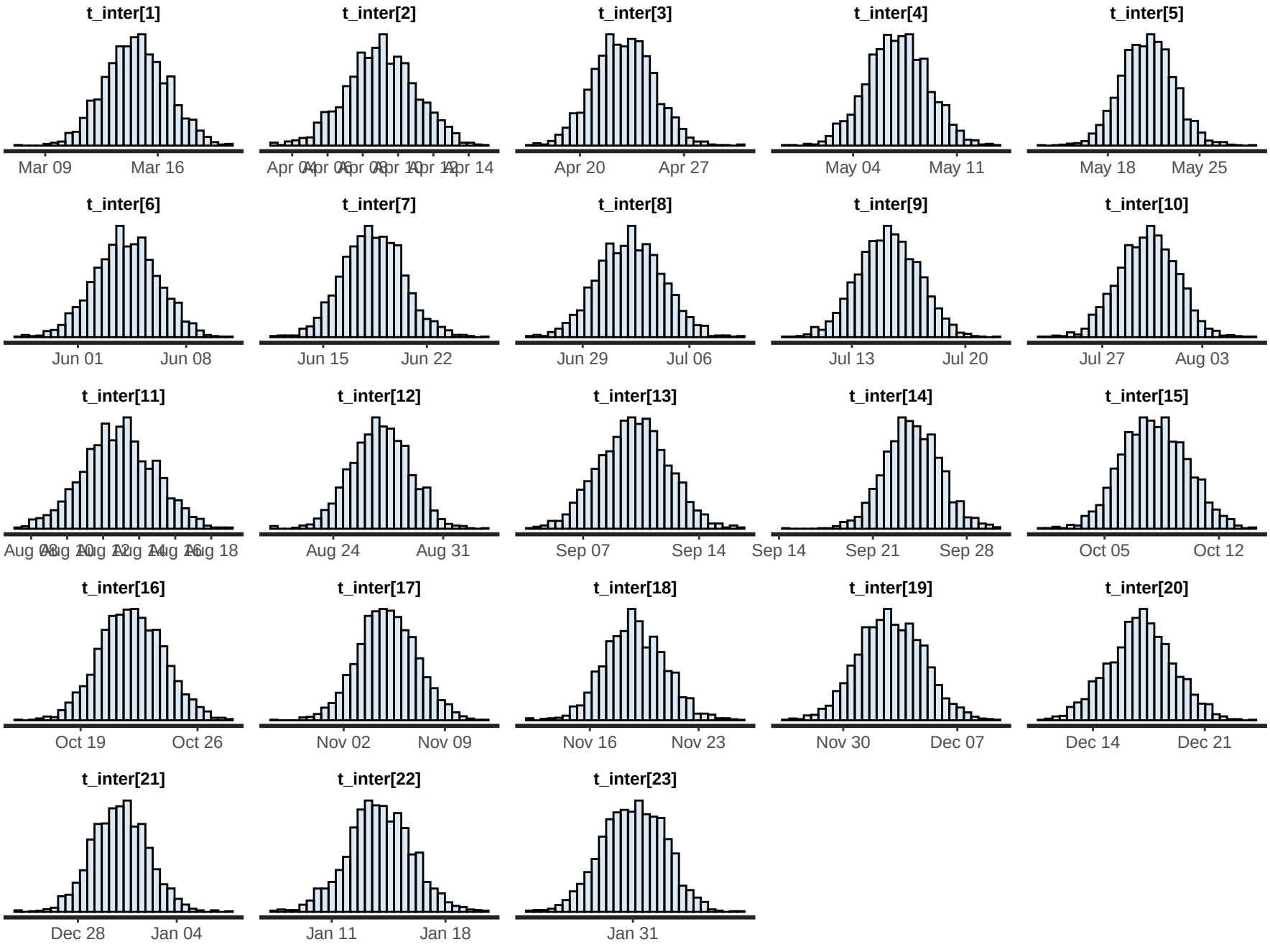
t_inter[1]
Mar 09
Mar 16
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Apr 04
Apr 06
Apr 08
Apr 10
Apr 12
Apr 14
t_inter[3]
Apr 20
Apr 27
t_inter[4]
May 04
May 11
t_inter[5]
May 18
May 25
t_inter[6]
Jun 01
Jun 08
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Jun 15
Jun 22
t_inter[8]
Jun 29
Jul 06
t_inter[9]
Jul 13
Jul 20
t_inter[10]
Jul 27
Aug 03
t_inter[11]
Aug 08
Aug 10
Aug 12
Aug 14
Aug 16
Aug 18
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Aug 24
Aug 31
t_inter[13]
Sep 07
Sep 14
t_inter[14]
Sep 14
Sep 21
Sep 28
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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
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Dec 14
Dec 21
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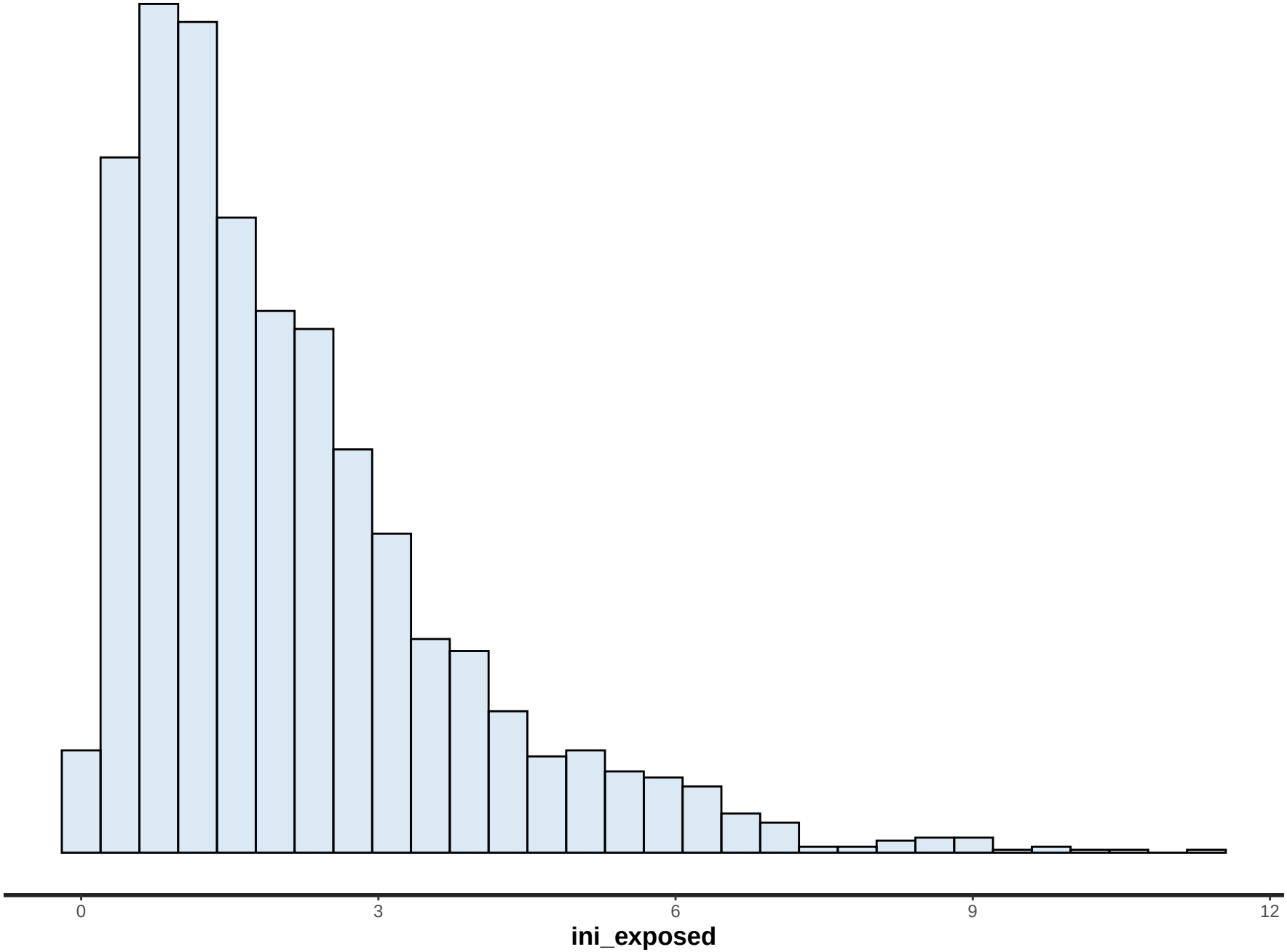
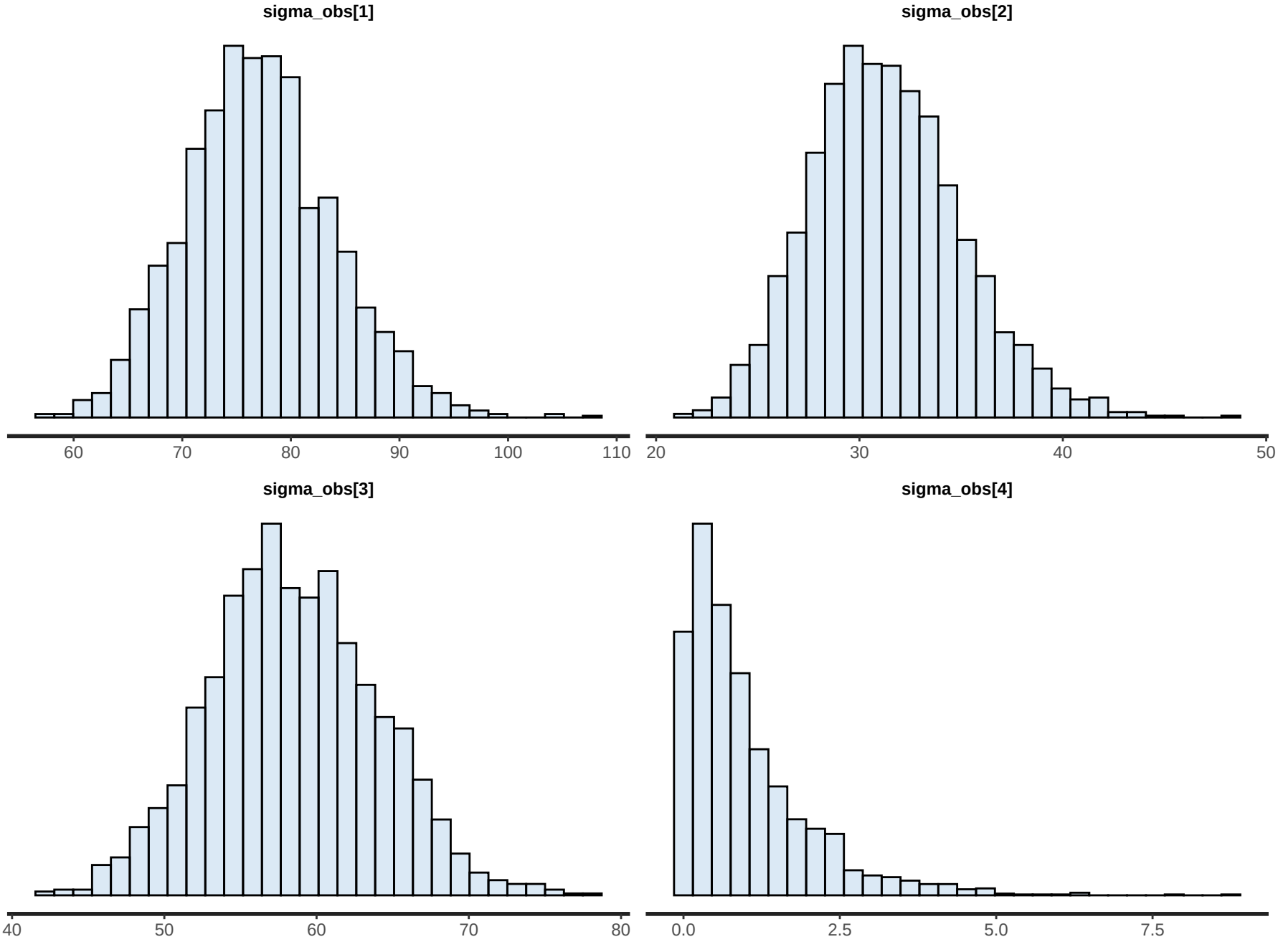
Dec 28
Jan 04
t_inter[22]
Jan 11
Jan 18
t_inter[23]
Jan 31


0
3
6
9
12
ini_exposed


sigma_obs[1]
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80
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100
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30
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50
sigma_obs[3]
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60
70
80
sigma_obs[4]
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2.5
5.0
7.5