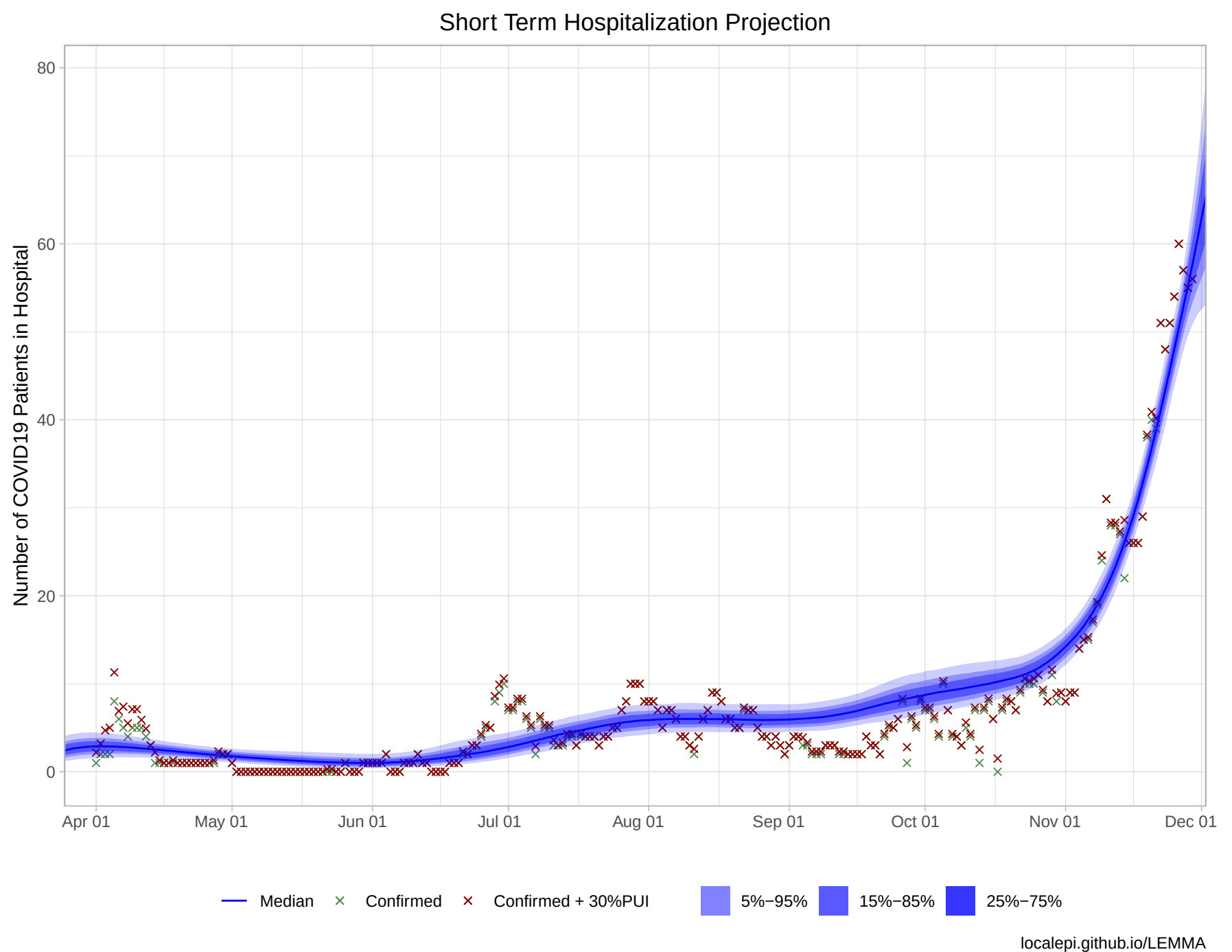
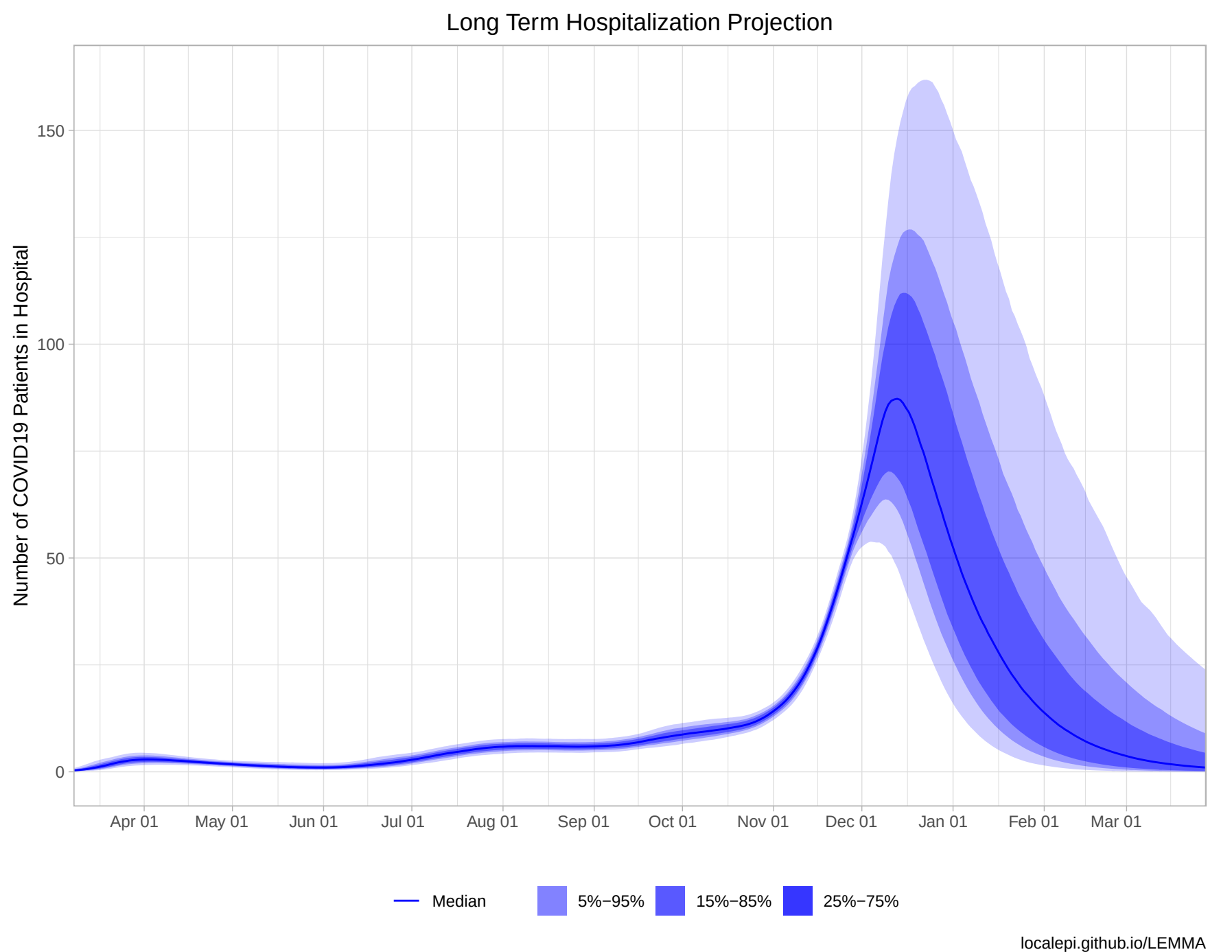
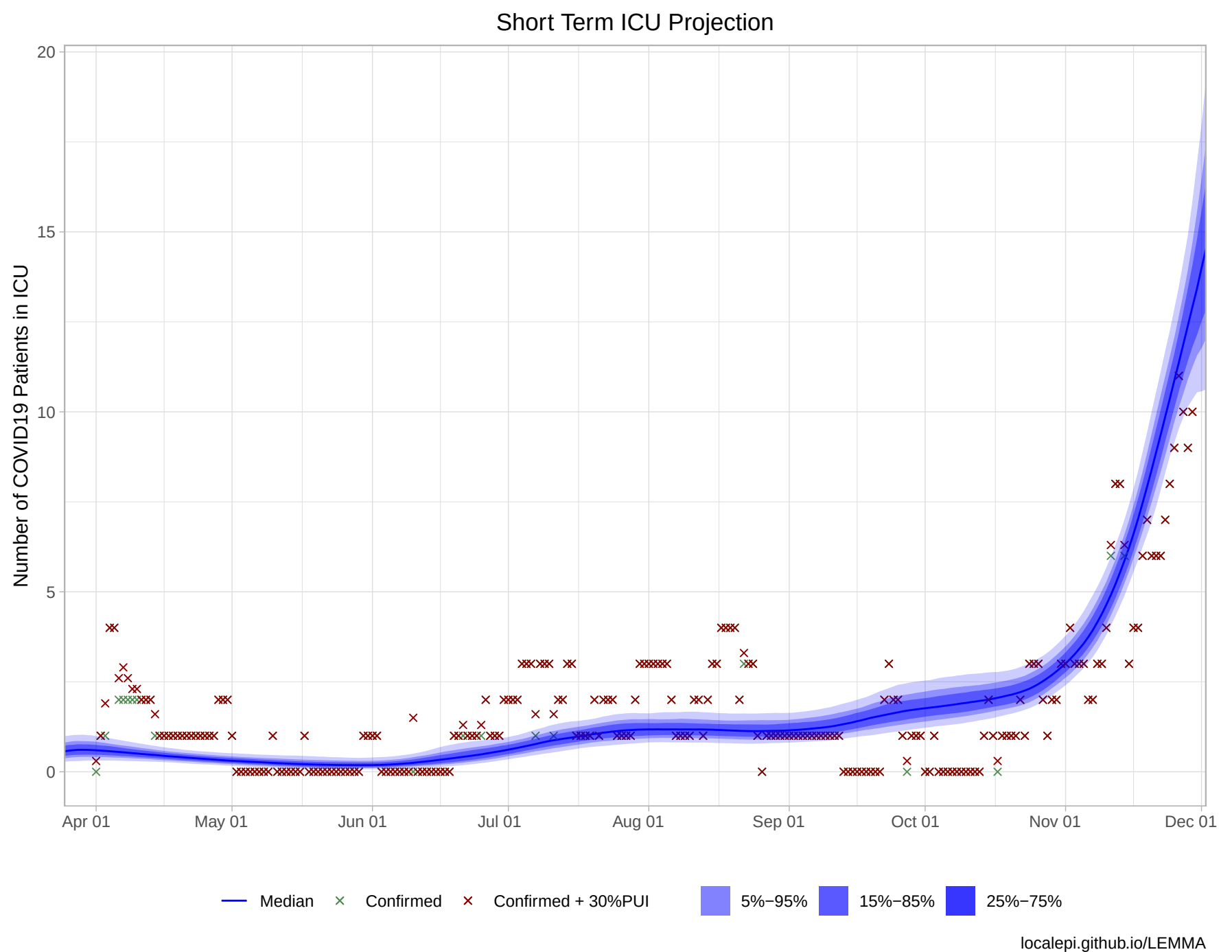
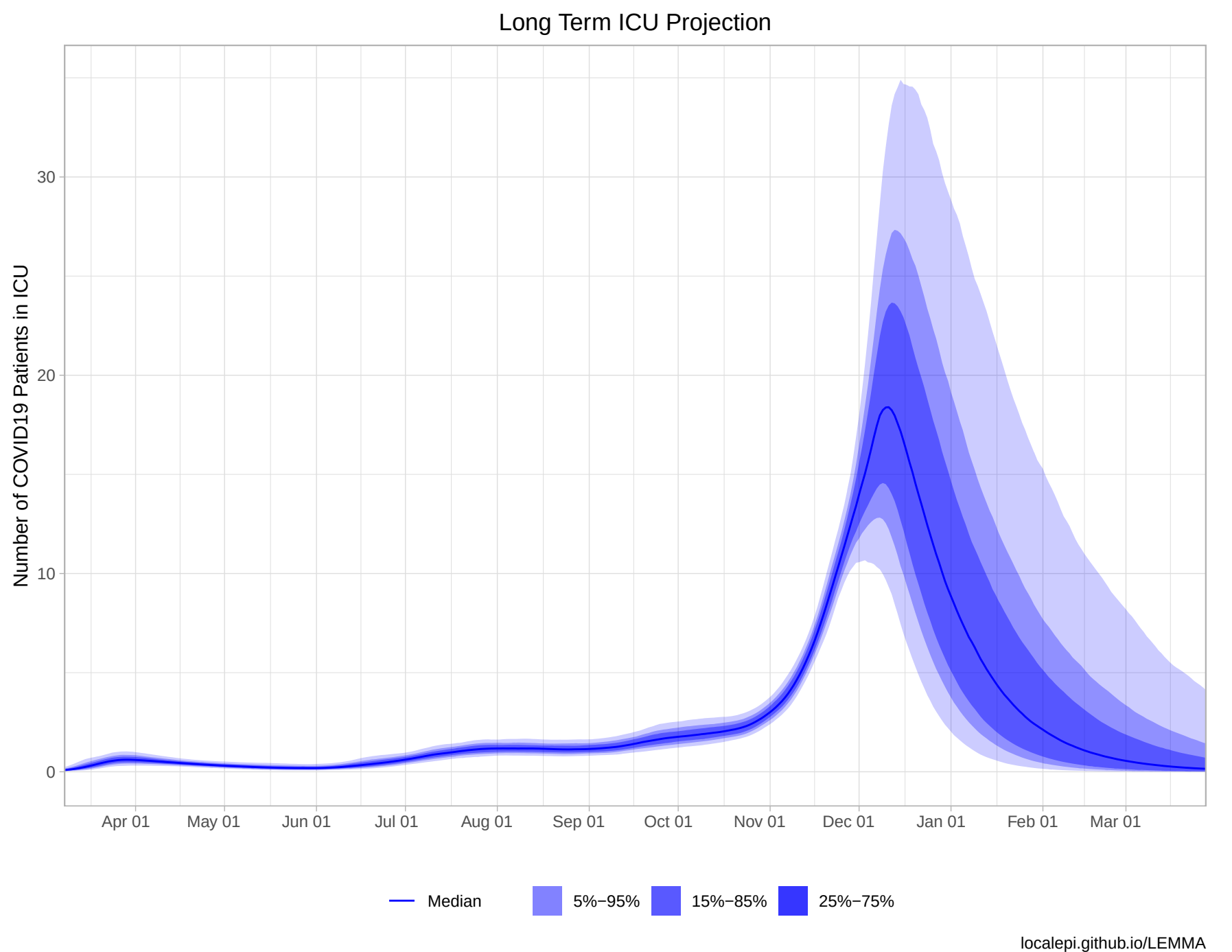
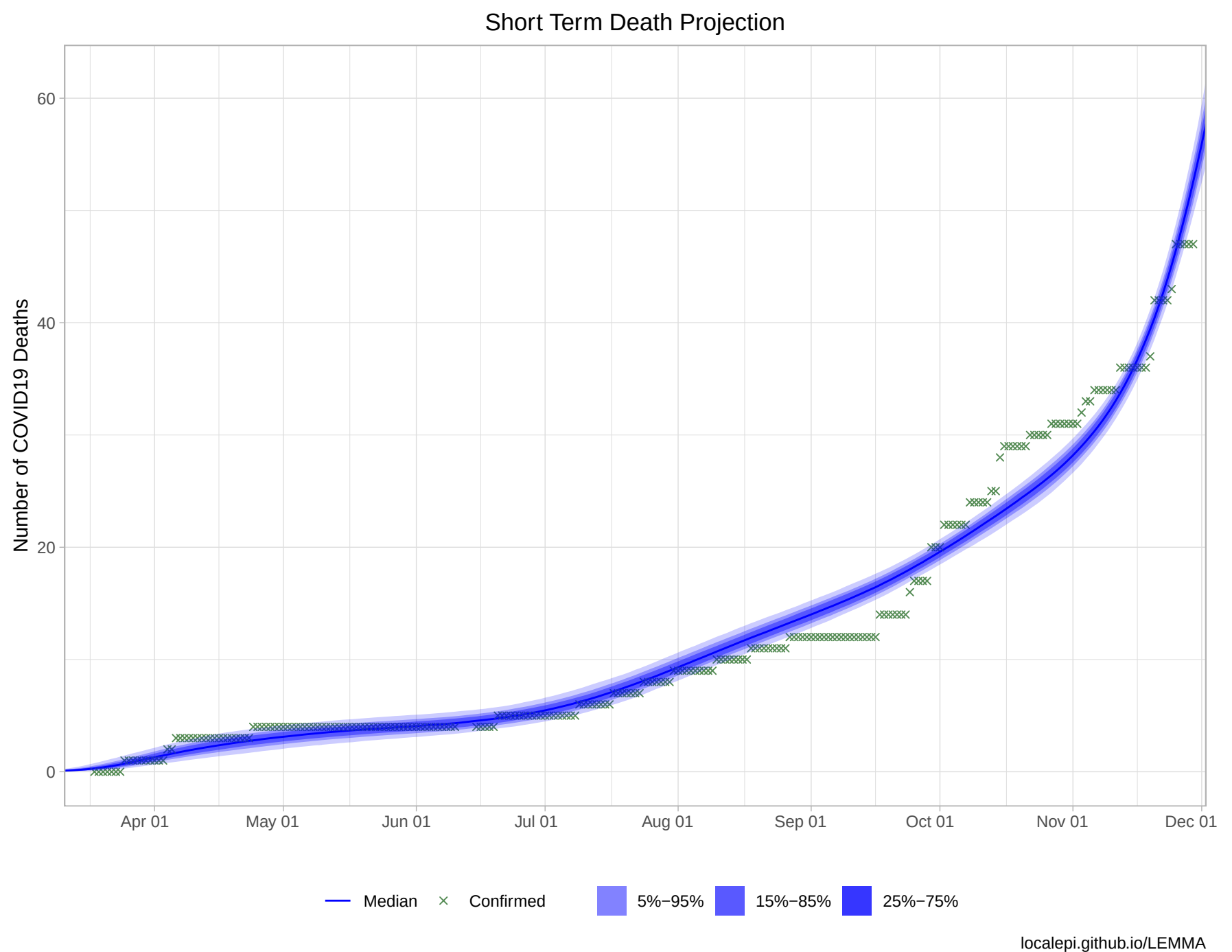
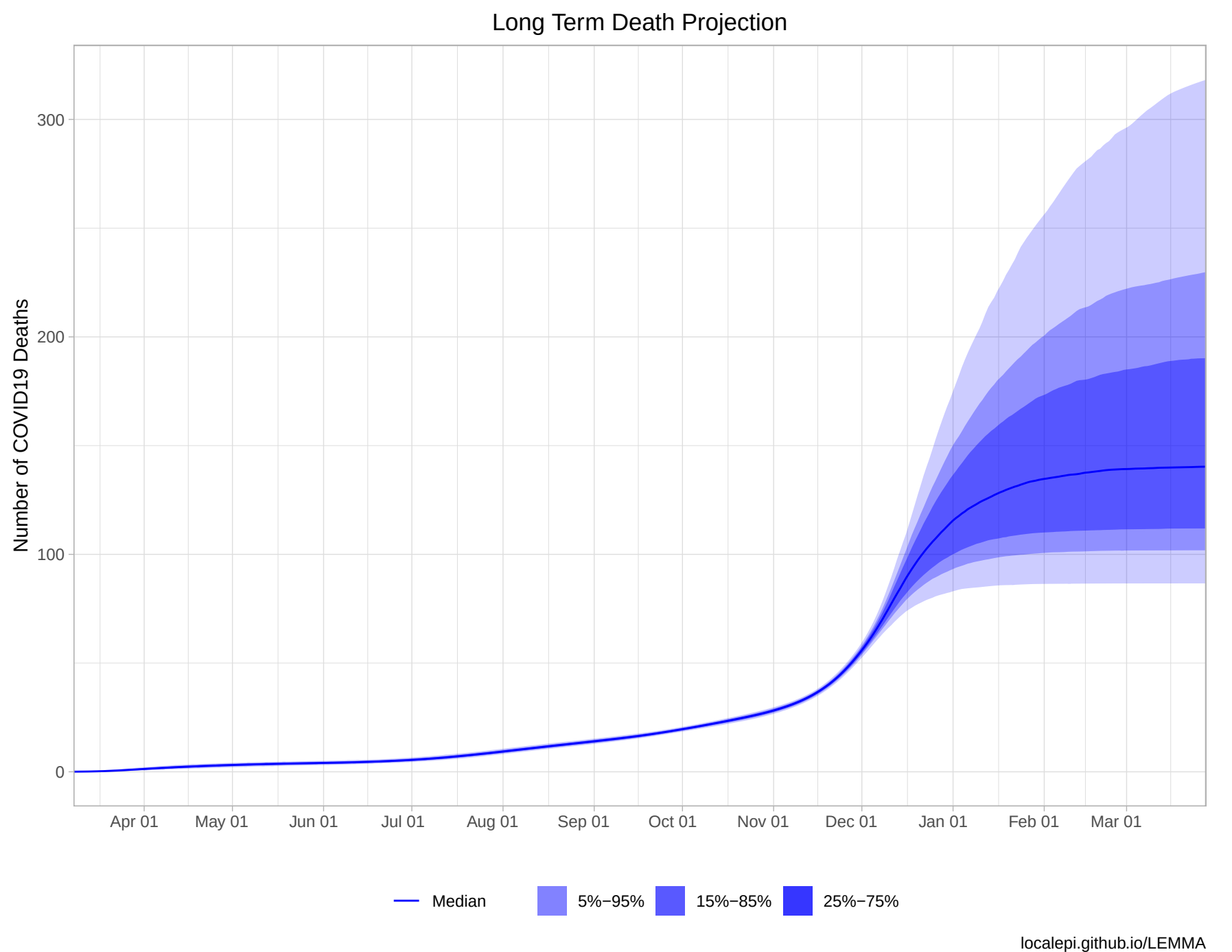

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
80
60
40
20
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

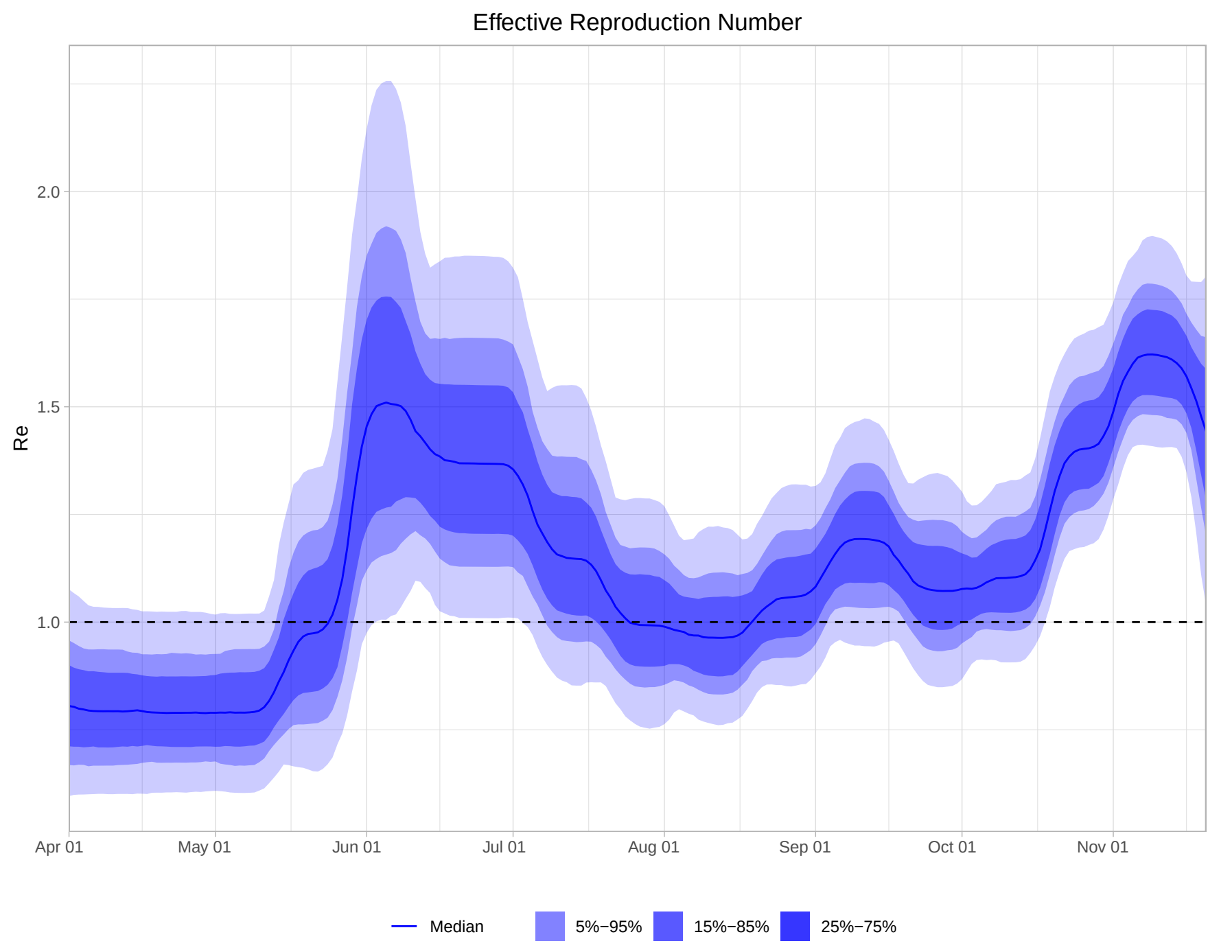

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
150
100
50
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
20
15
10
5
0
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
0
10
20
30
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

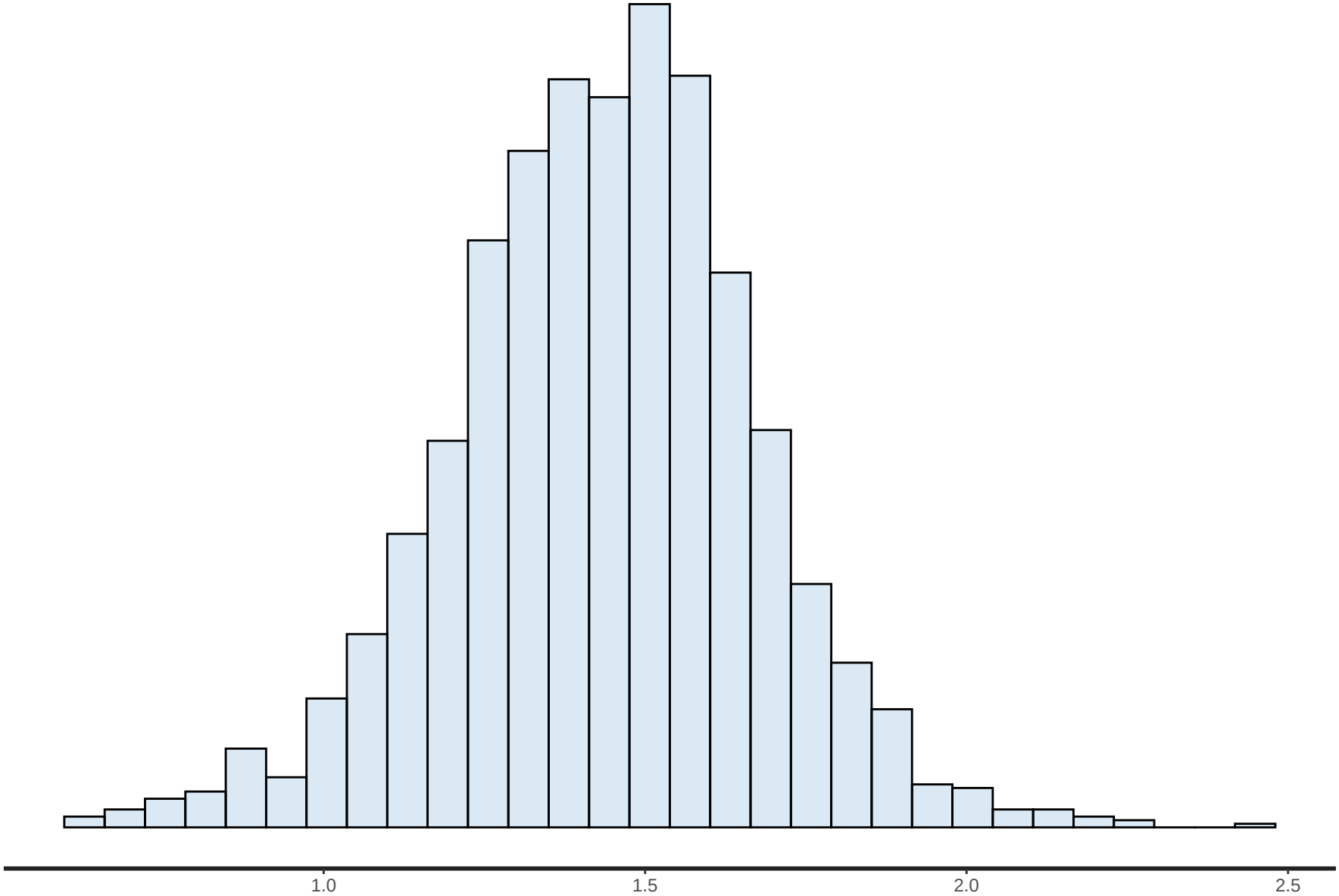

Short Term Death Projection
Number of COVID19 Deaths
60
40
20
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

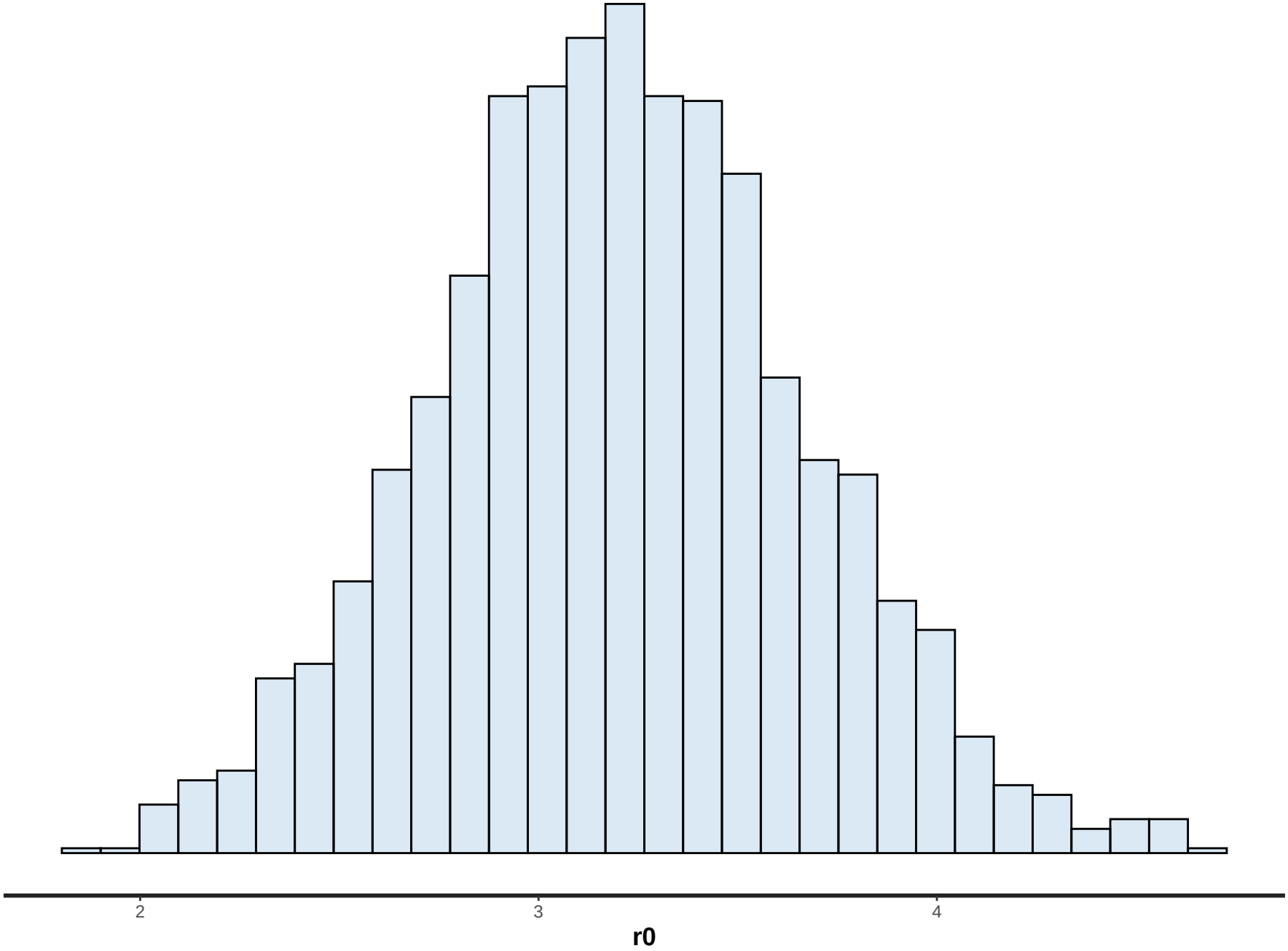

Long Term Death Projection
Number of COVID19 Deaths
300
200
100
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

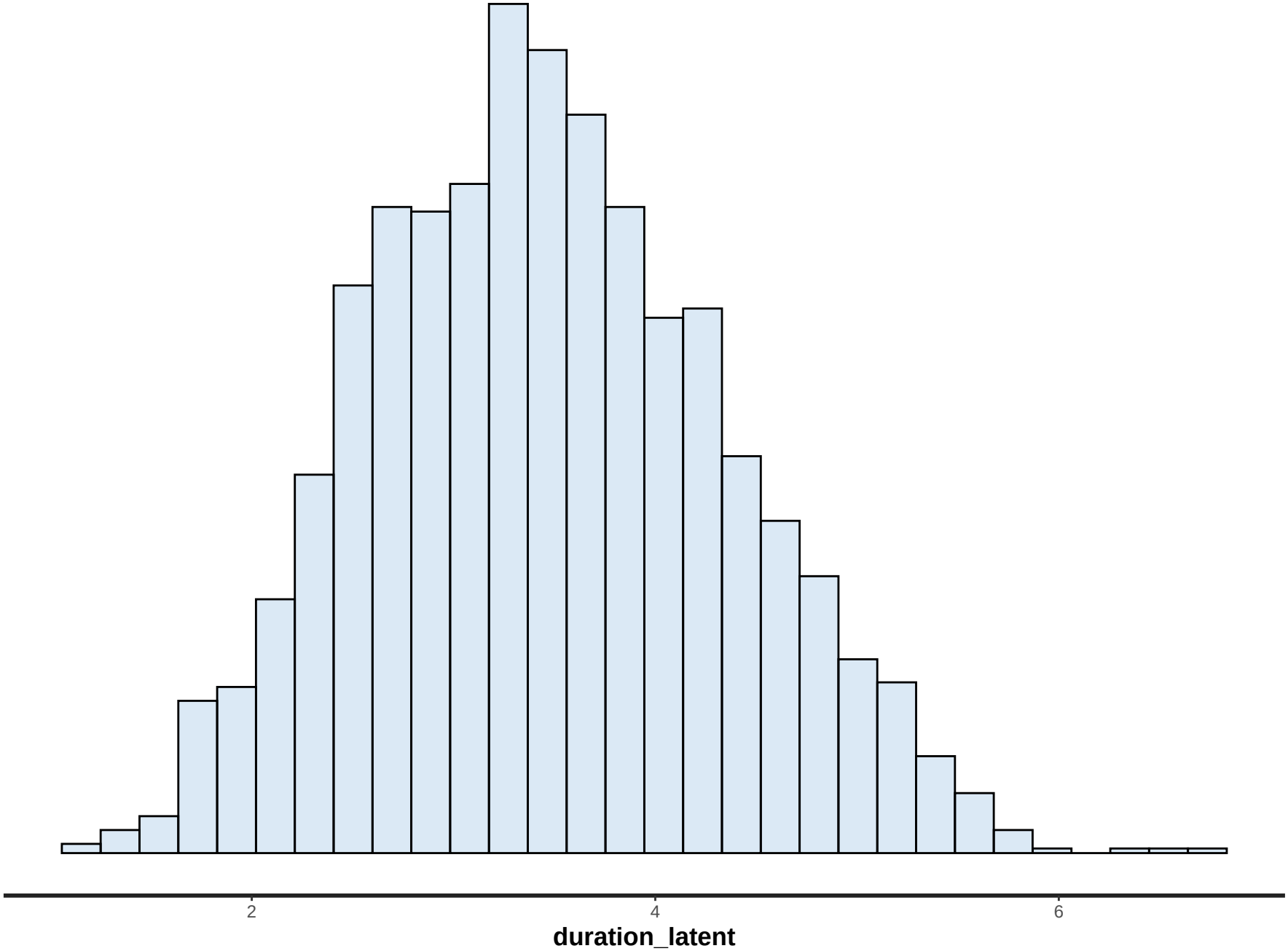

Effective Reproduction Number
Re
2.0
1.5
1.0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Median
5%−95%
15%−85%
25%−75%

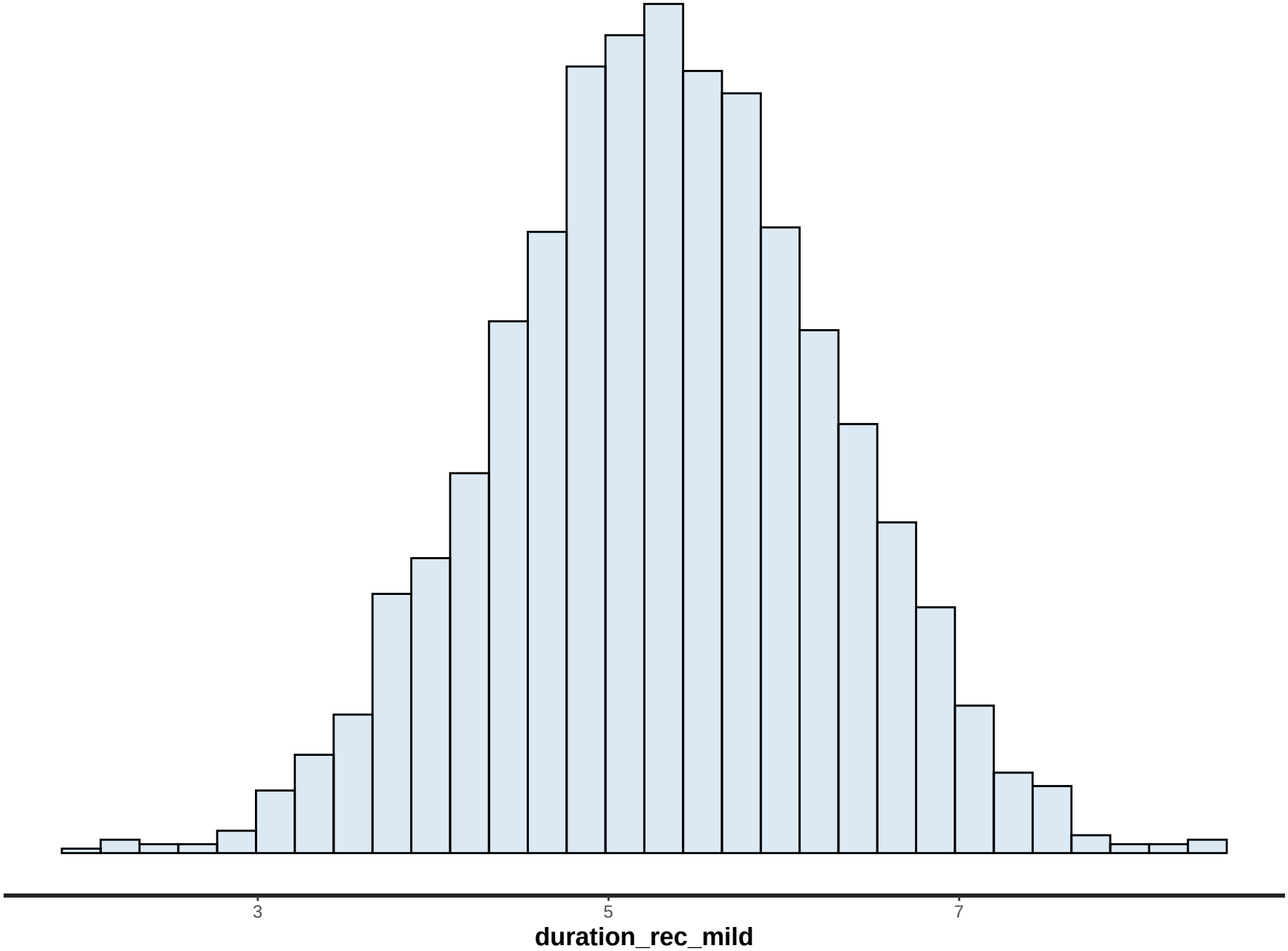
Rt as of 2020−11−20

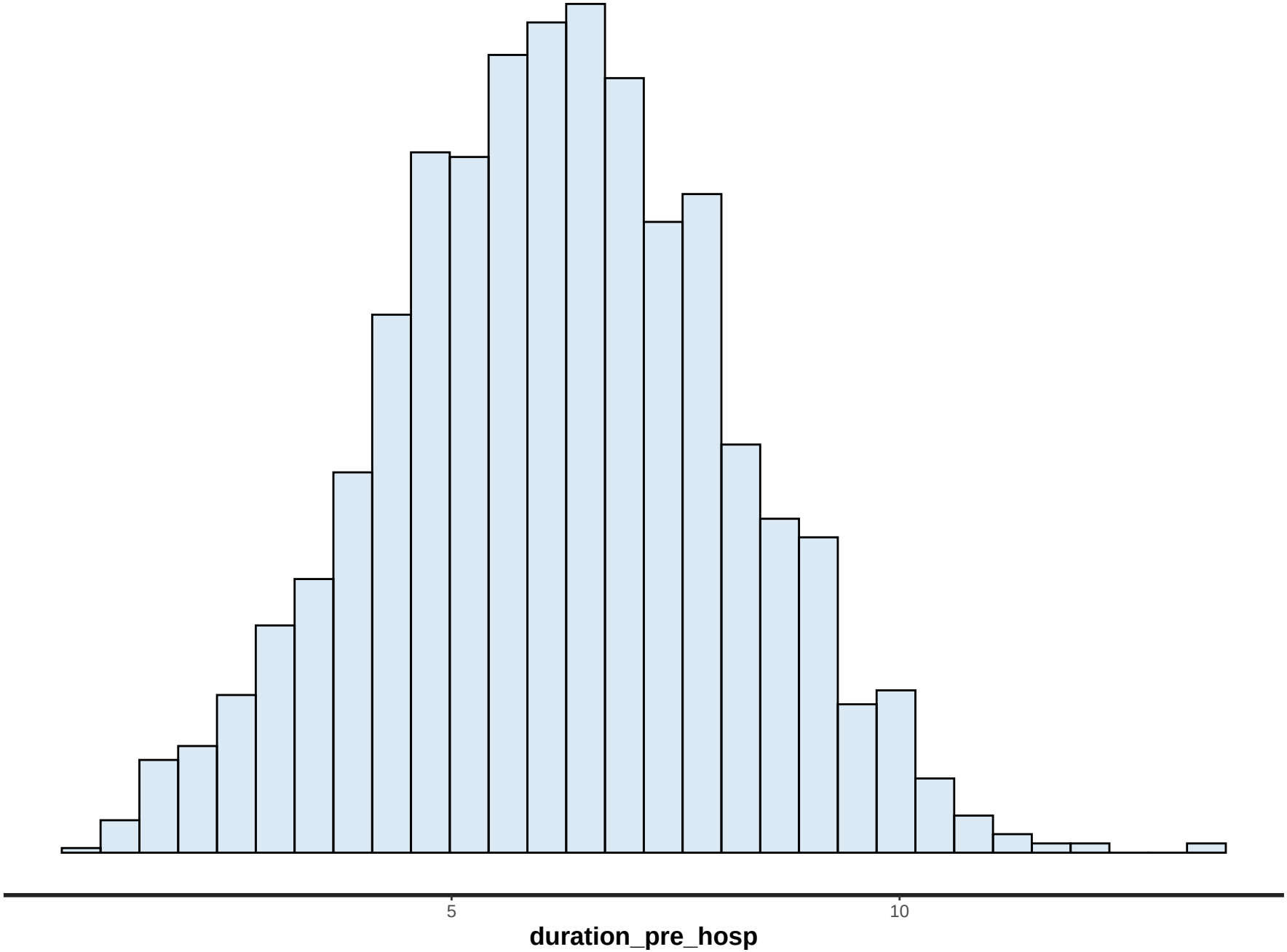
5%	10%	25%	50%	75%	90%	95%
1.04	1.14	1.28	1.44	1.59	1.72	1.80

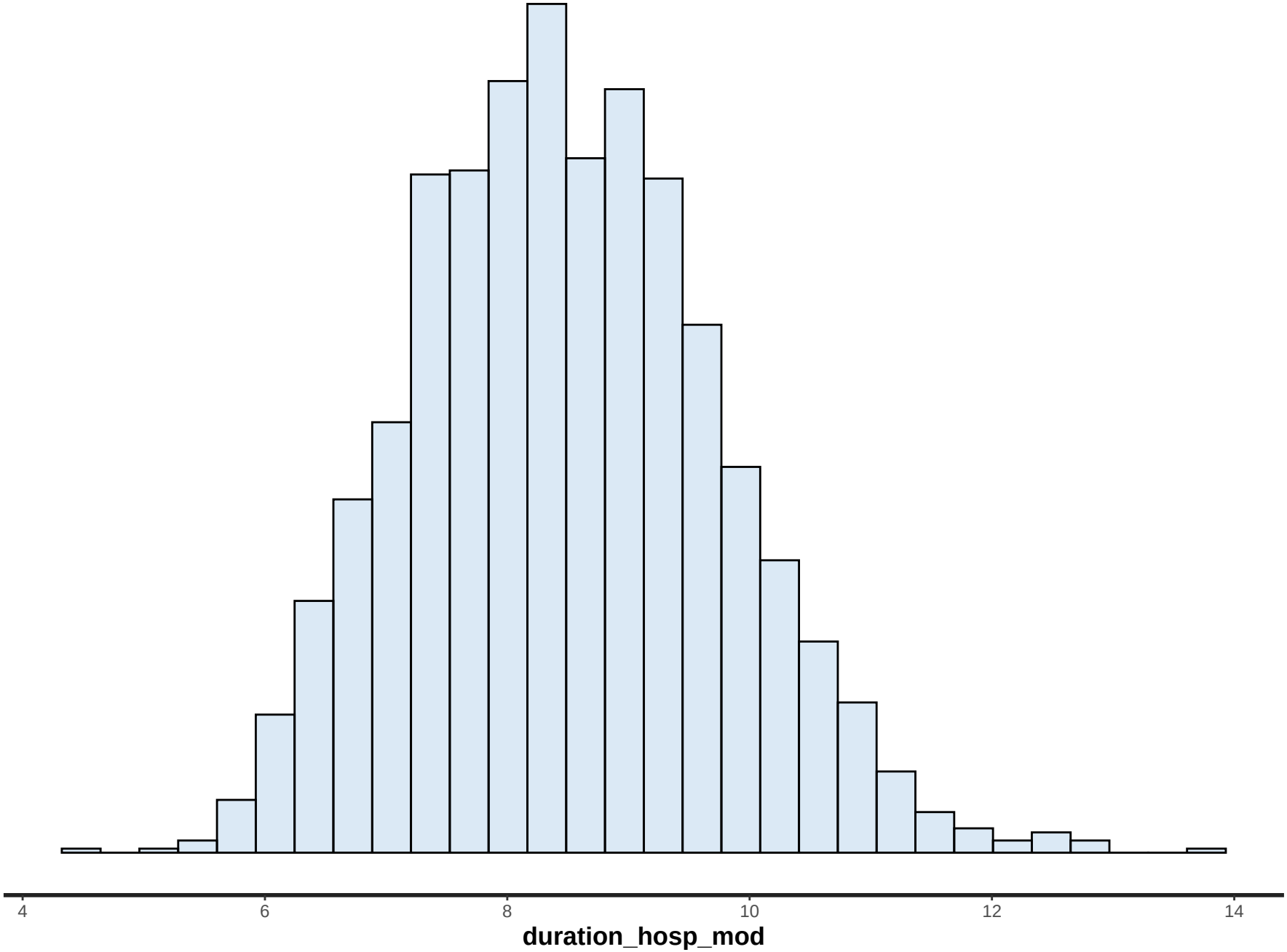


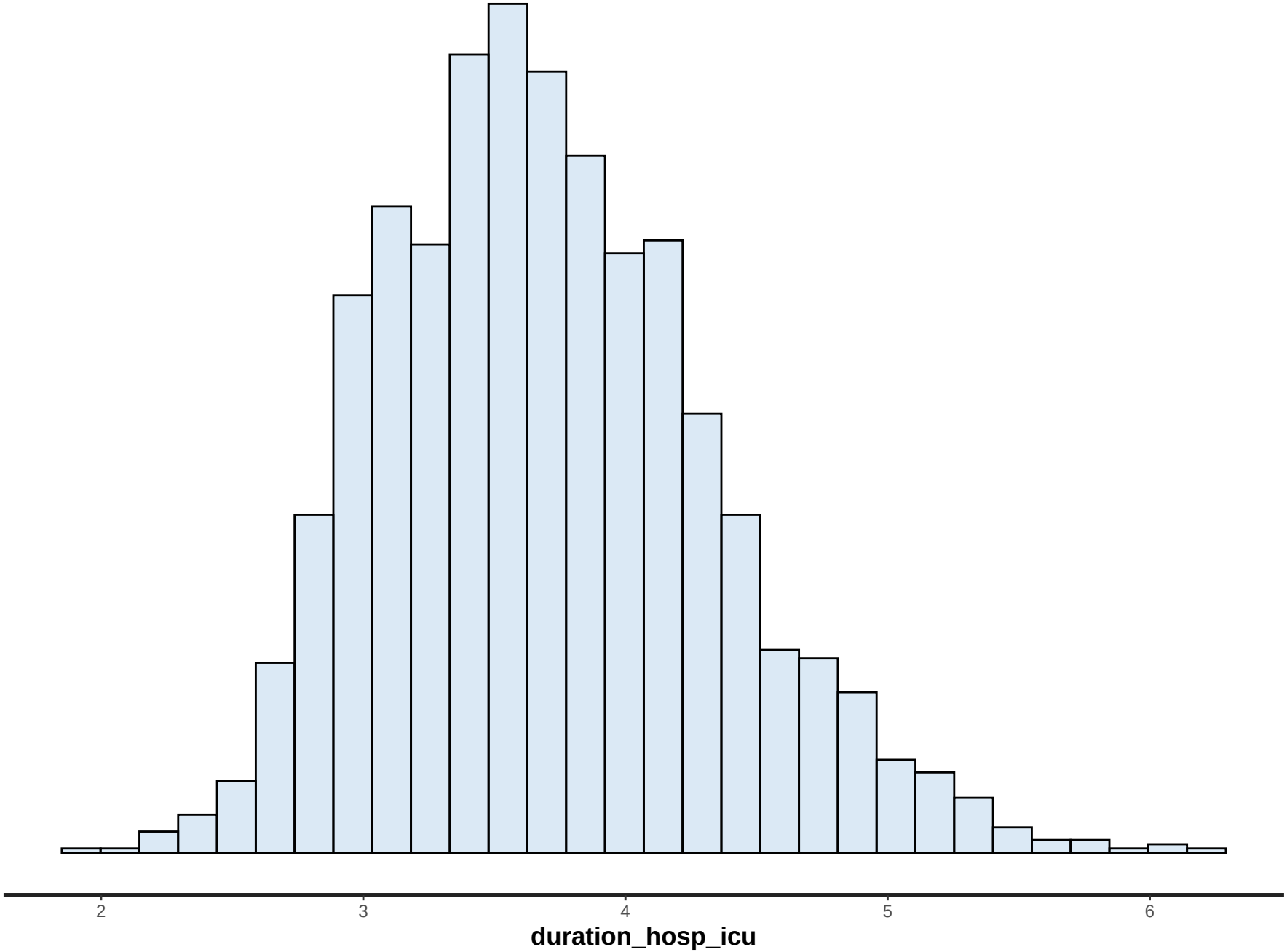

2
3
4
r0

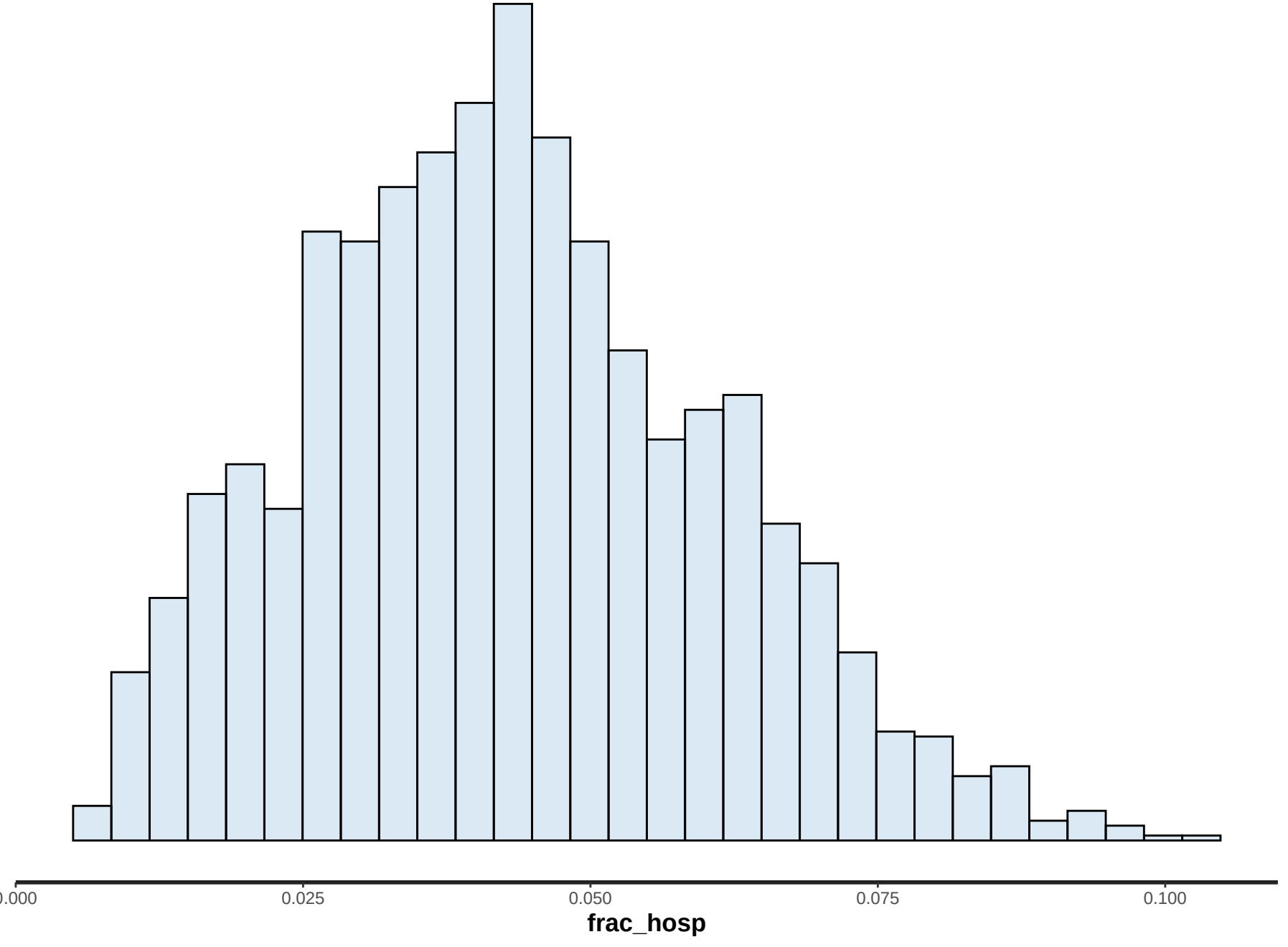

2
4
6
duration_latent

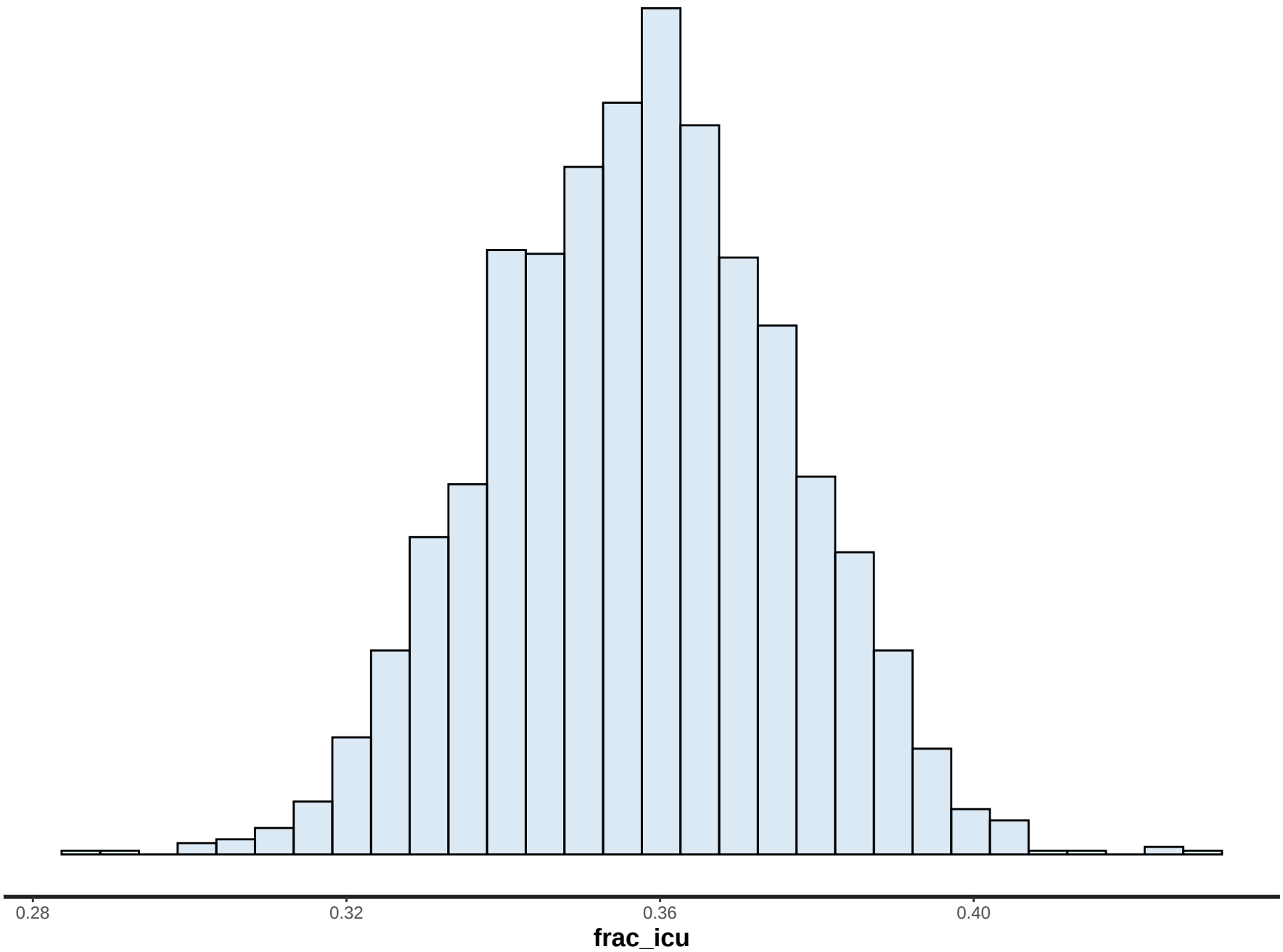

3
5
7
duration_rec_mild

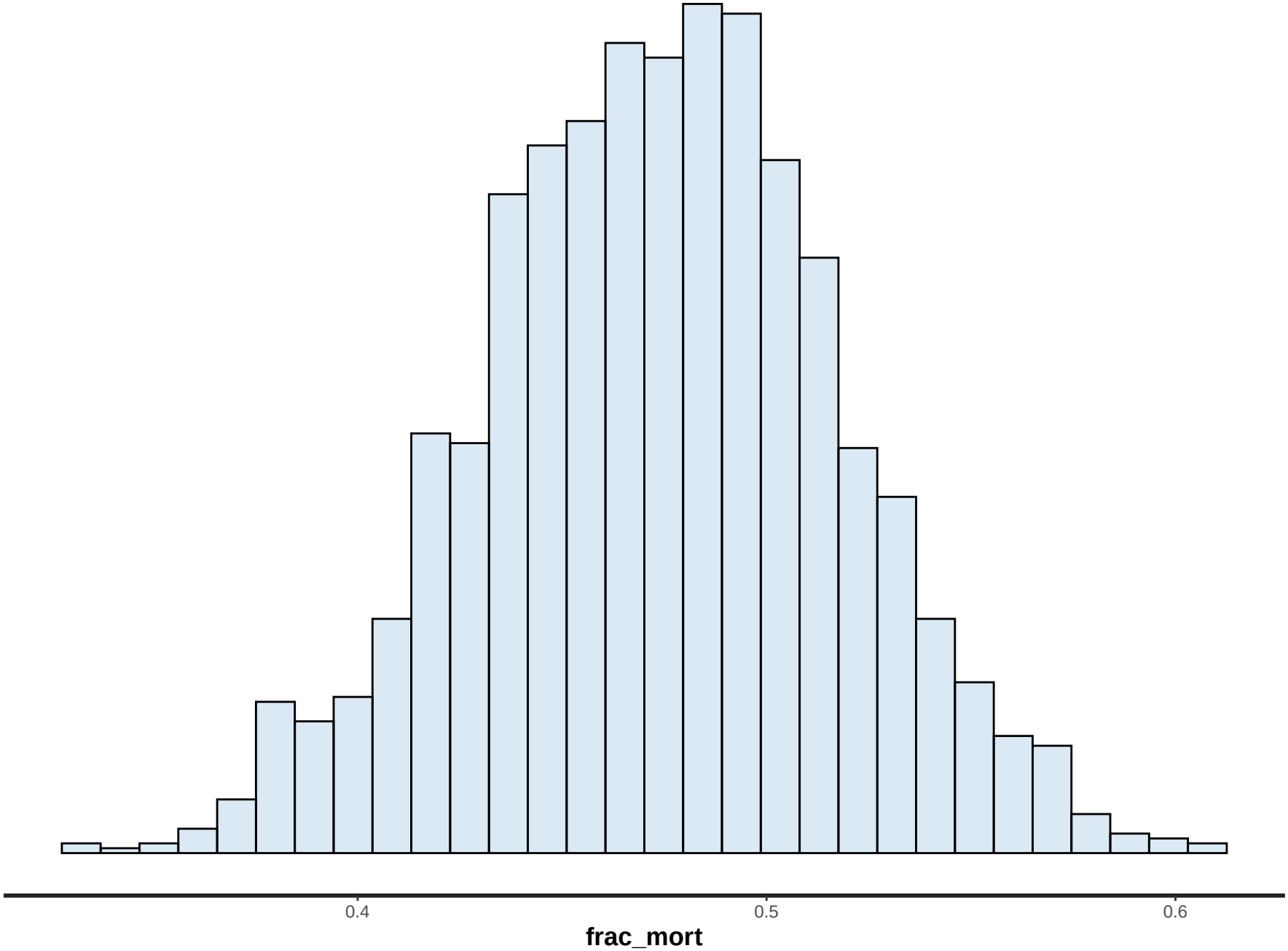

5
10
duration_pre_hosp

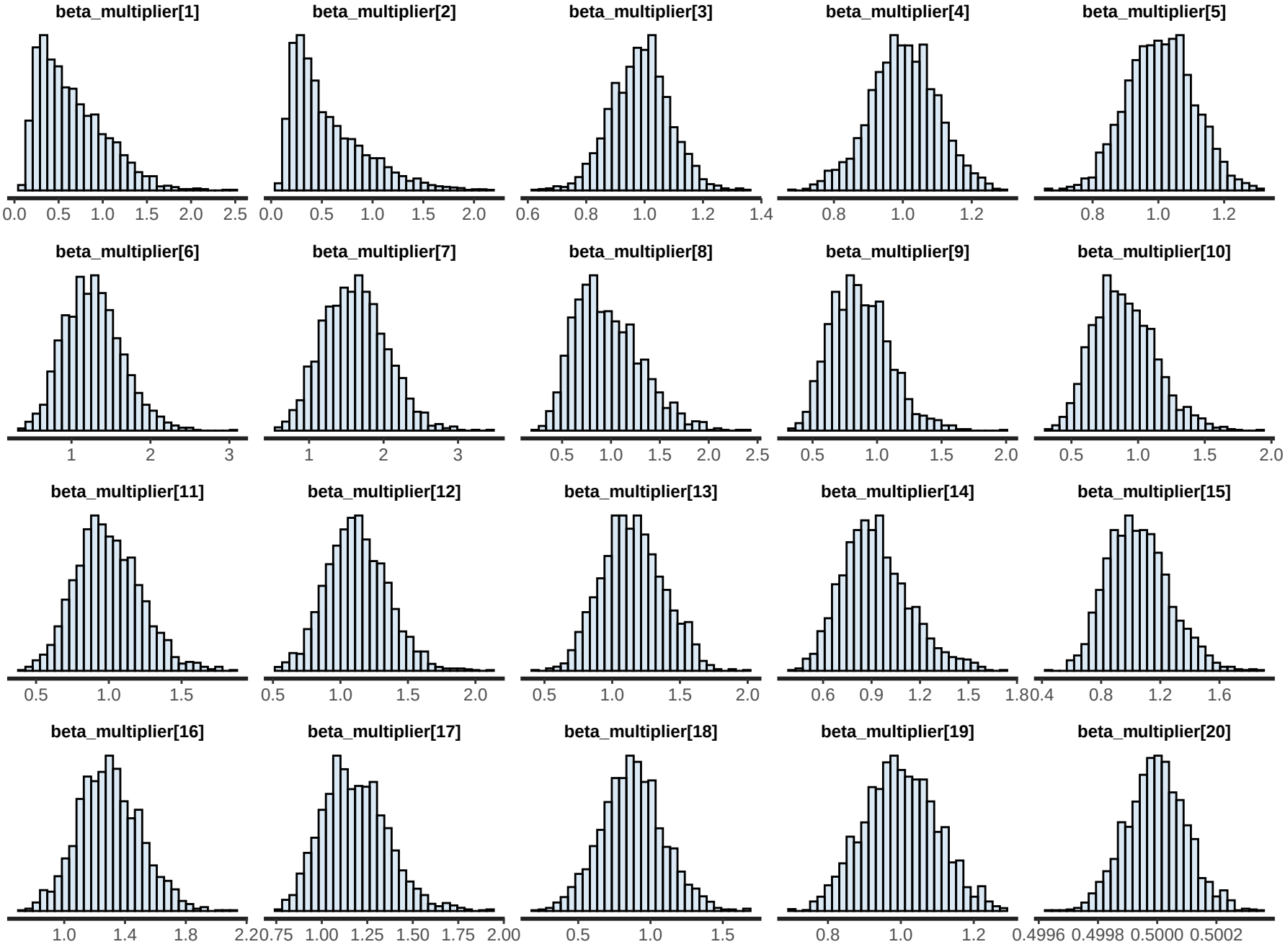

4
6
8
10
12
14
duration_hosp_mod

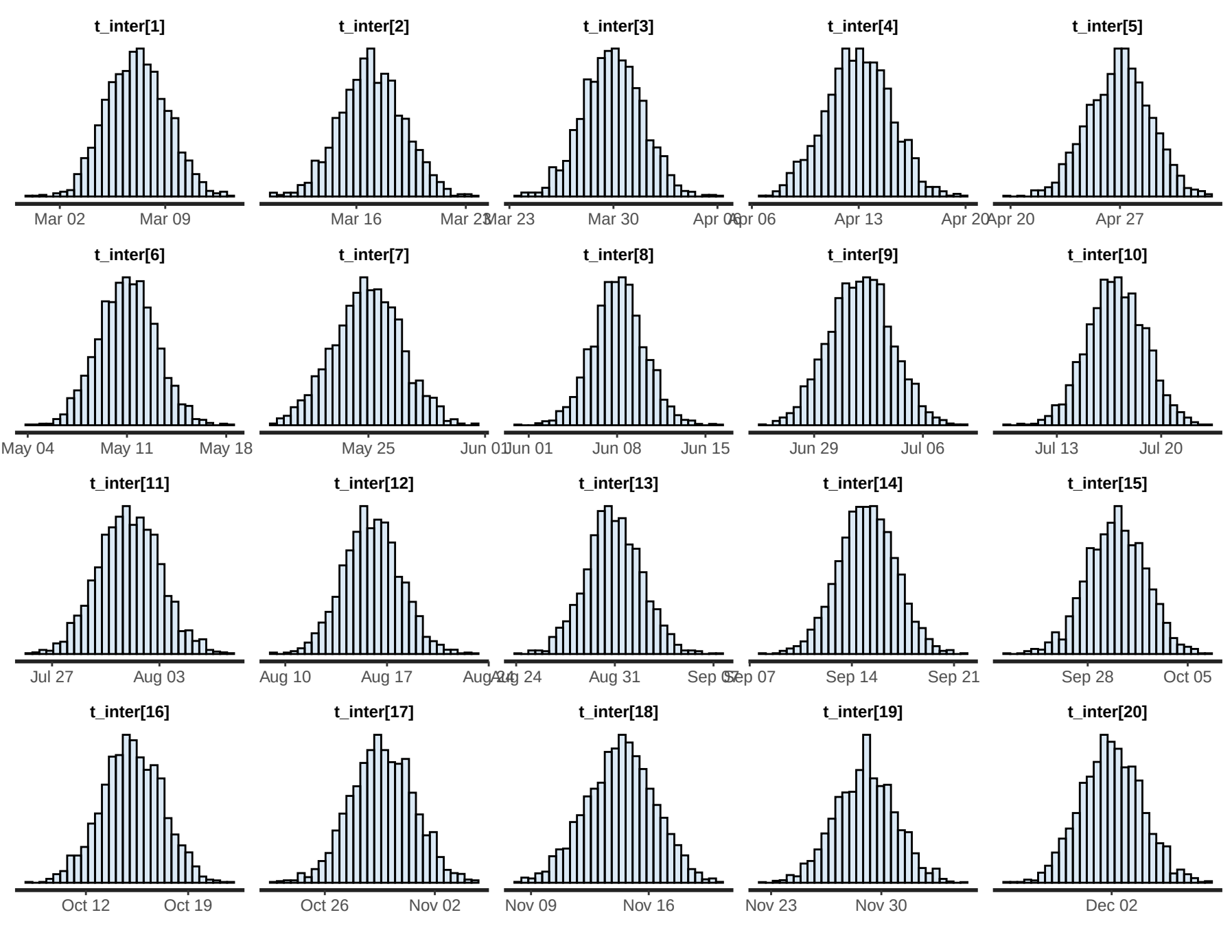

2
3
4
5
6
duration_hosp_icu

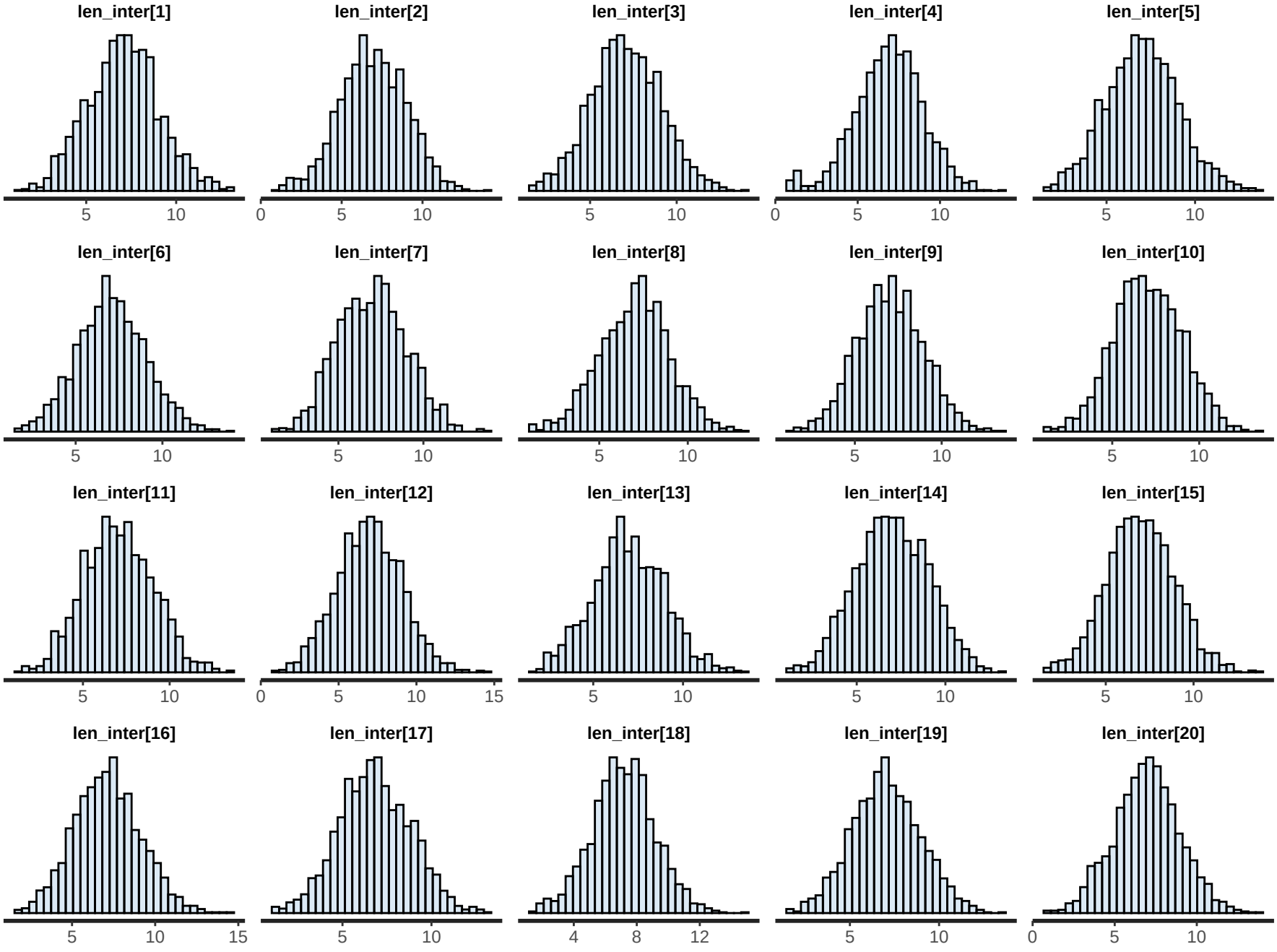

0.000
0.025
0.050
0.075
0.100
frac_hosp

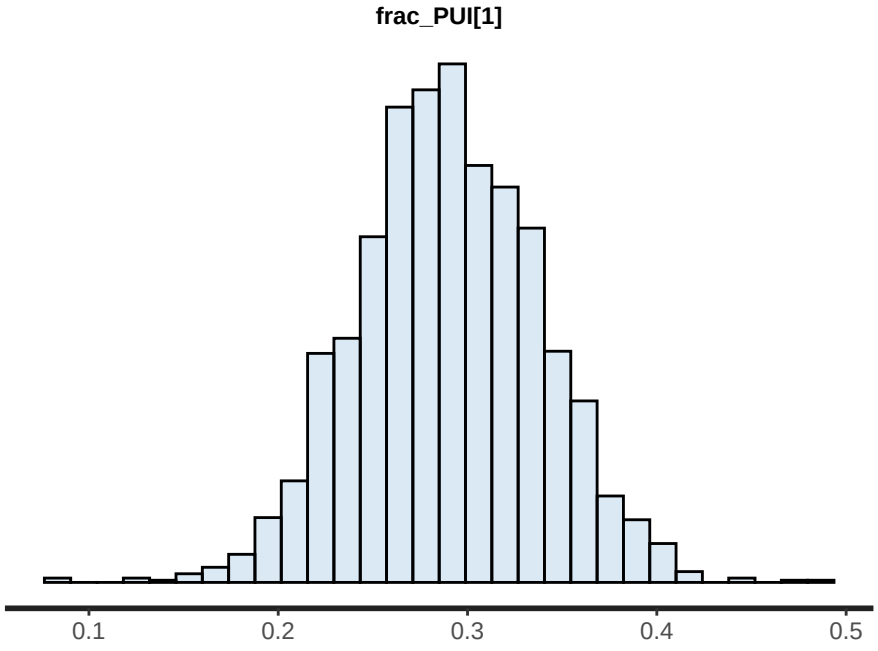

0.28
0.32
0.36
0.40
frac_icu

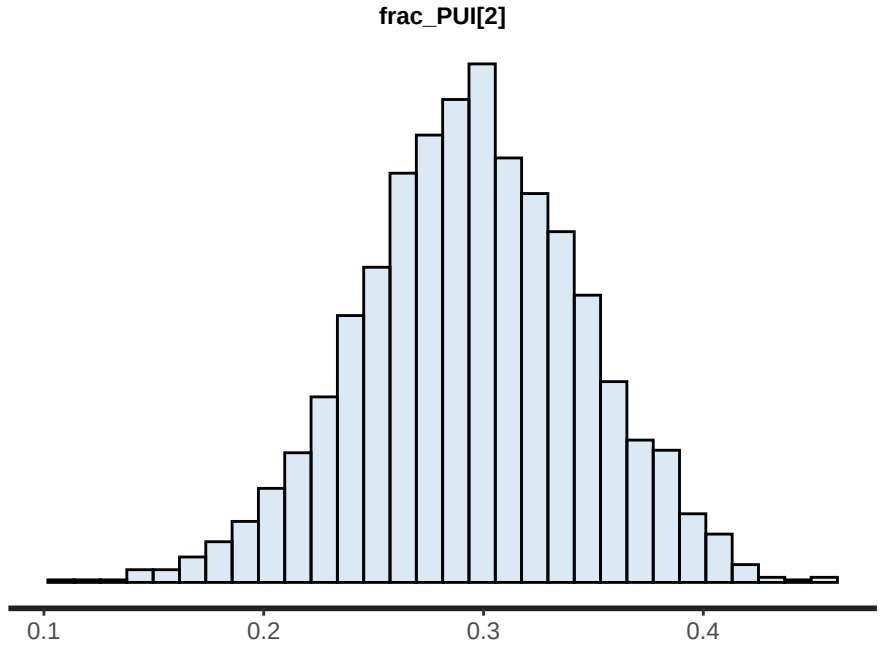

0.4
0.5
0.6
frac_mort


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]
0.6 0.8 1.0 1.2 1.4
beta_multiplier[4]
0.8 1.0 1.2
beta_multiplier[5]
0.8 1.0 1.2
beta_multiplier[6]
1 2 3
beta_multiplier[7]
1 2 3
beta_multiplier[8]
0.5 1.0 1.5 2.0 2.5
beta_multiplier[9]
0.5 1.0 1.5 2.0
beta_multiplier[10]
0.5 1.0 1.5 2.0
beta_multiplier[11]
0.5 1.0 1.5
beta_multiplier[12]
0.5 1.0 1.5 2.0
beta_multiplier[13]
0.5 1.0 1.5 2.0
beta_multiplier[14]
0.6 0.9 1.2 1.5 1.8
beta_multiplier[15]
0.4 0.8 1.2 1.6
beta_multiplier[16]
1.0 1.4 1.8 2.2
beta_multiplier[17]
0.75 1.00 1.25 1.50 1.75 2.00
beta_multiplier[18]
0.5 1.0 1.5
beta_multiplier[19]
0.8 1.0 1.2
beta_multiplier[20]
0.4996 0.4998 0.5000 0.5002


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


len_inter[1]
len_inter[2]
len_inter[3]
len_inter[4]
len_inter[5]
len_inter[6]
len_inter[7]
len_inter[8]
len_inter[9]
len_inter[10]
len_inter[11]
len_inter[12]
len_inter[13]
len_inter[14]
len_inter[15]
len_inter[16]
len_inter[17]
len_inter[18]
len_inter[19]
len_inter[20]


frac_PUI[1]
0.1
0.2
0.3
0.4
0.5


frac_PUI[2]
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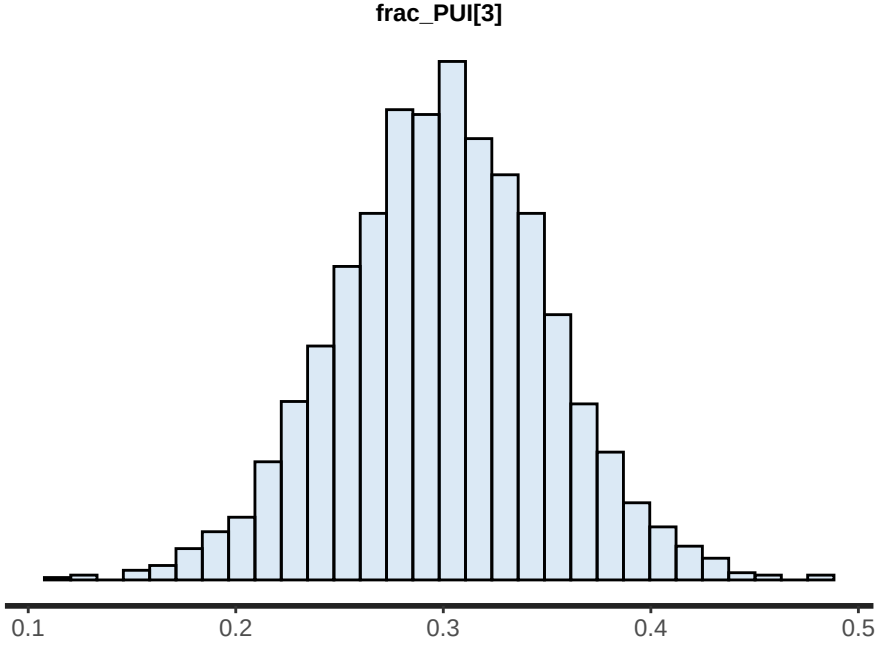
0.2
0.3
0.4


frac_PUI[3]
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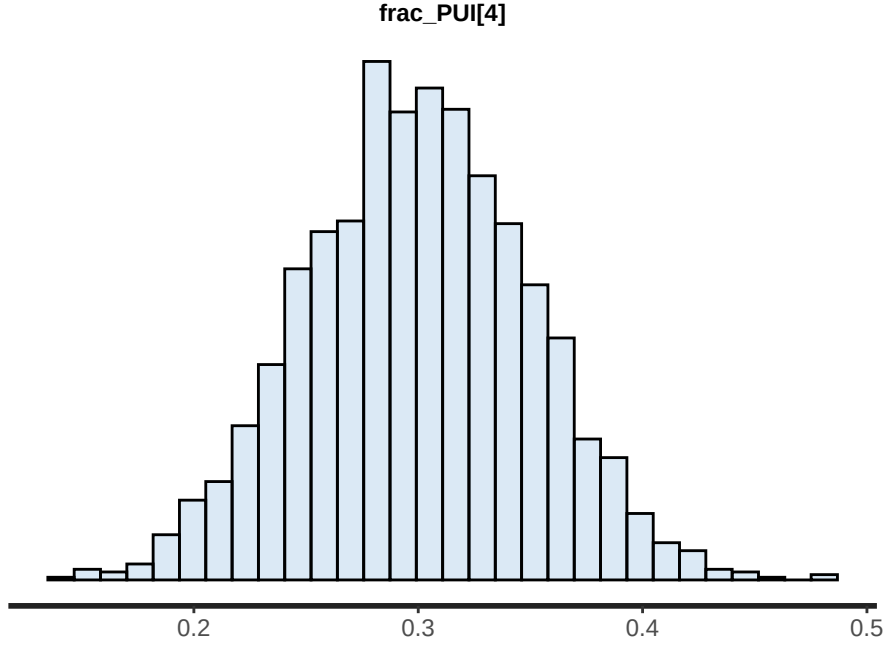
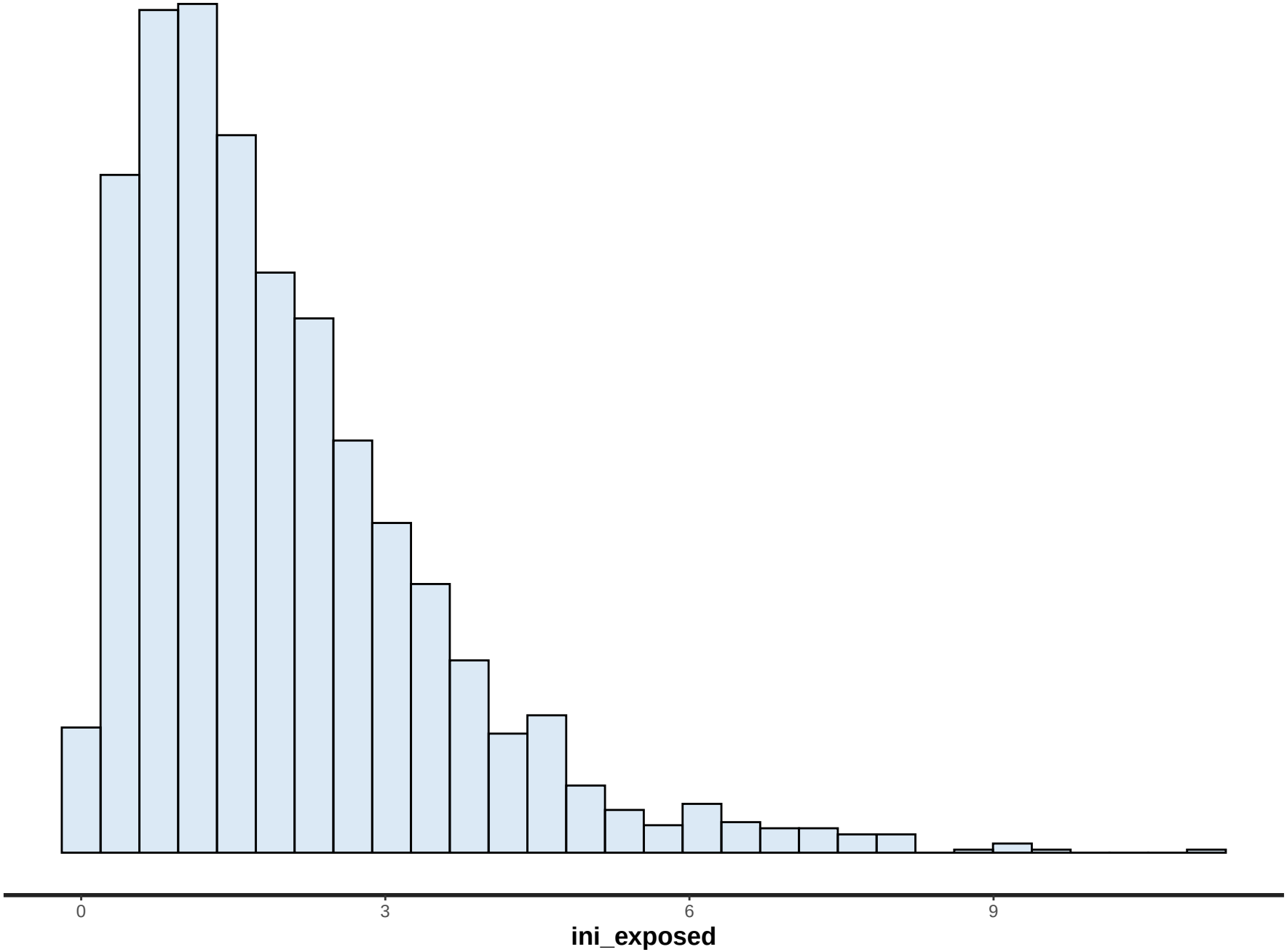
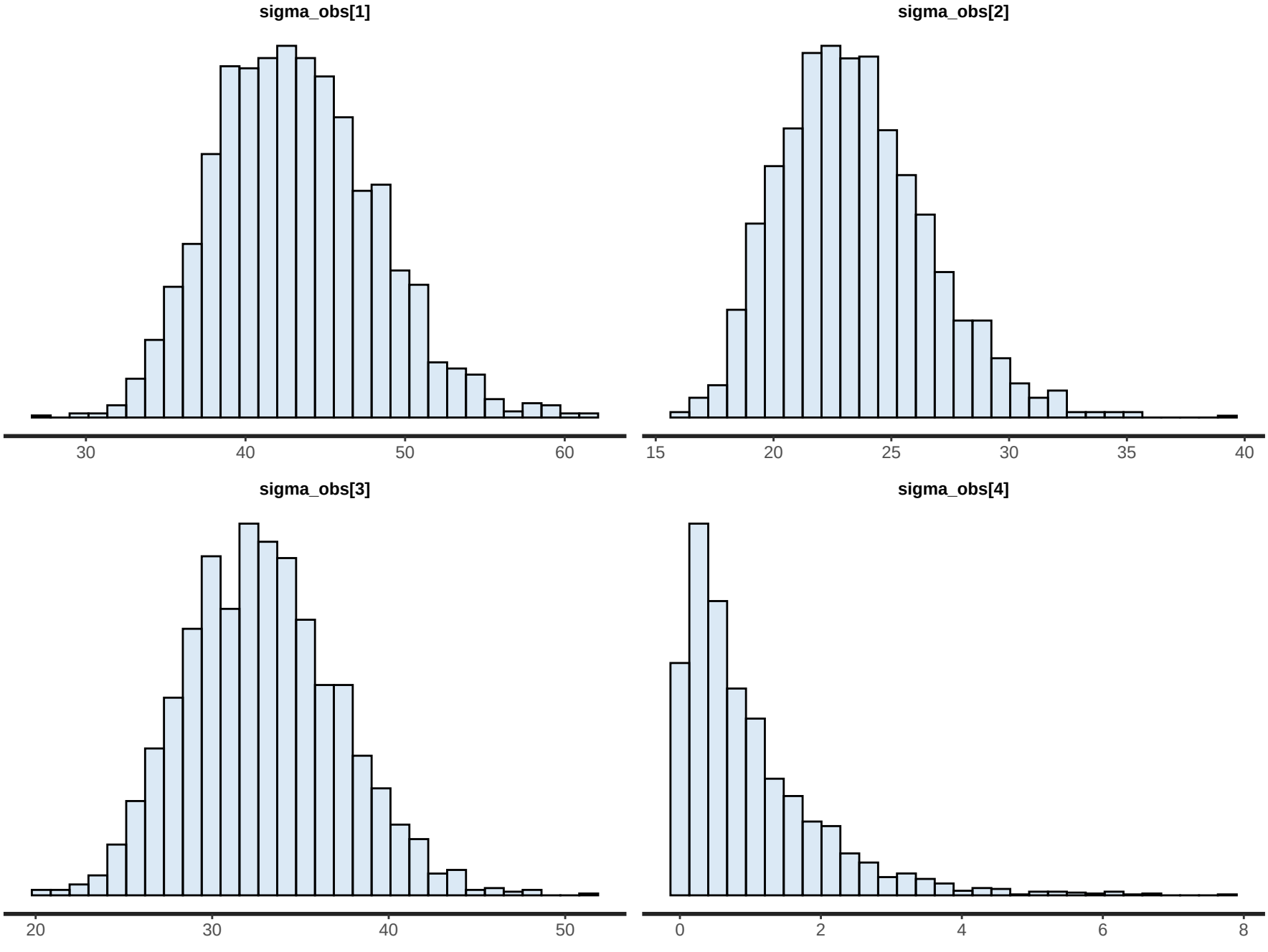
0.2
0.3
0.4
0.5


frac_PUI[4]
0.2
0.3
0.4
0.5


0
3
6
9
ini_exposed


sigma_obs[1]
30
40
50
60
sigma_obs[2]
15
20
25
30
35
40
sigma_obs[3]
20
30
40
50
sigma_obs[4]
0
2
4
6
8