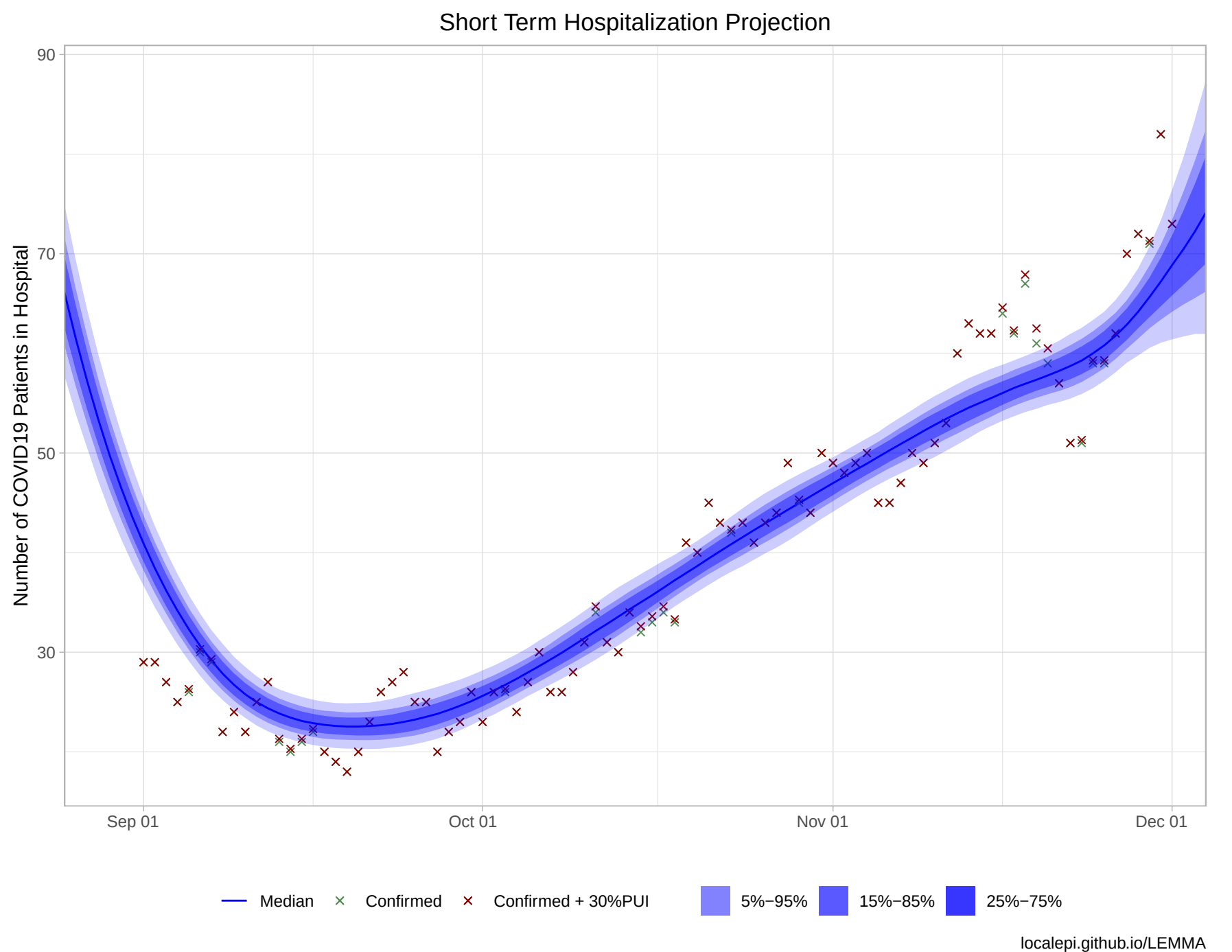
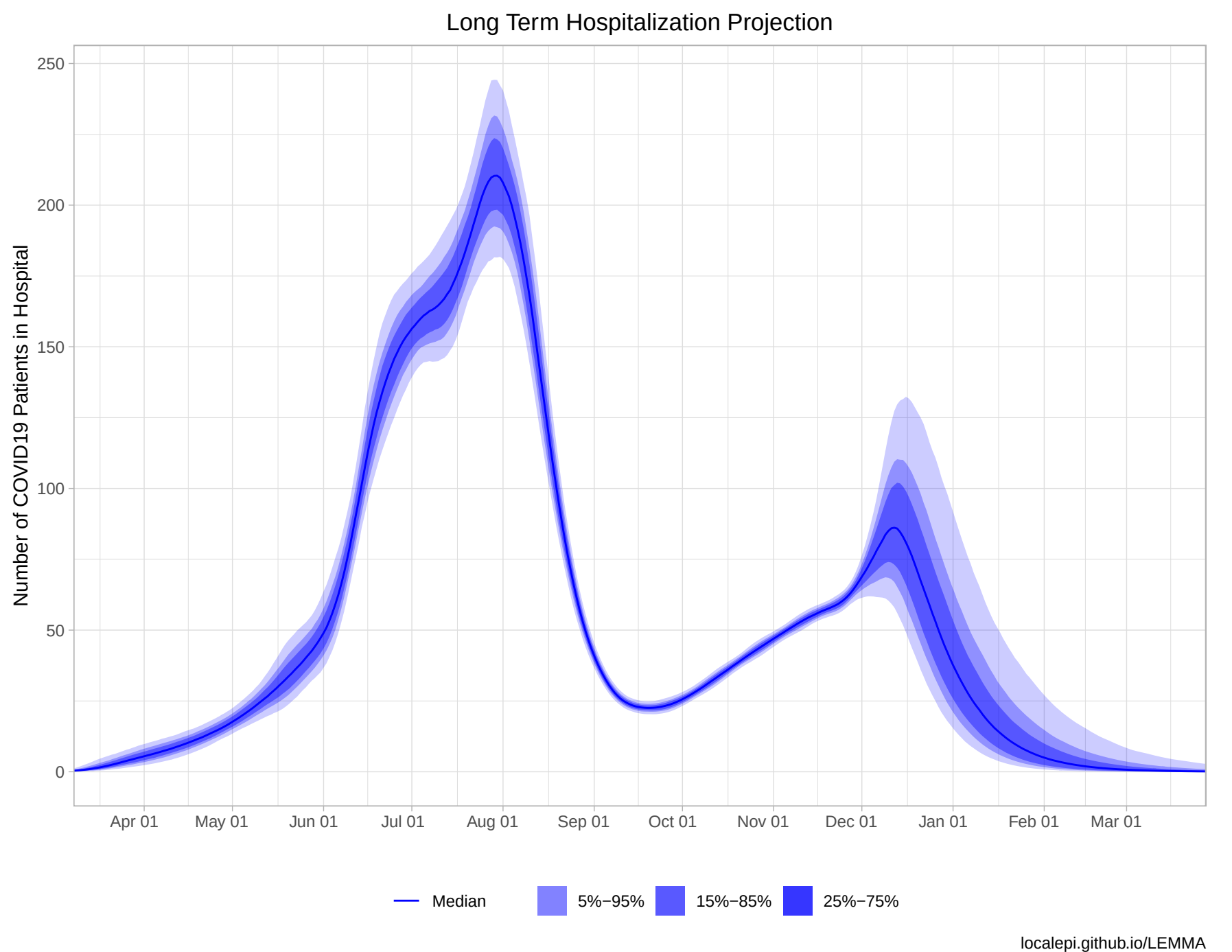
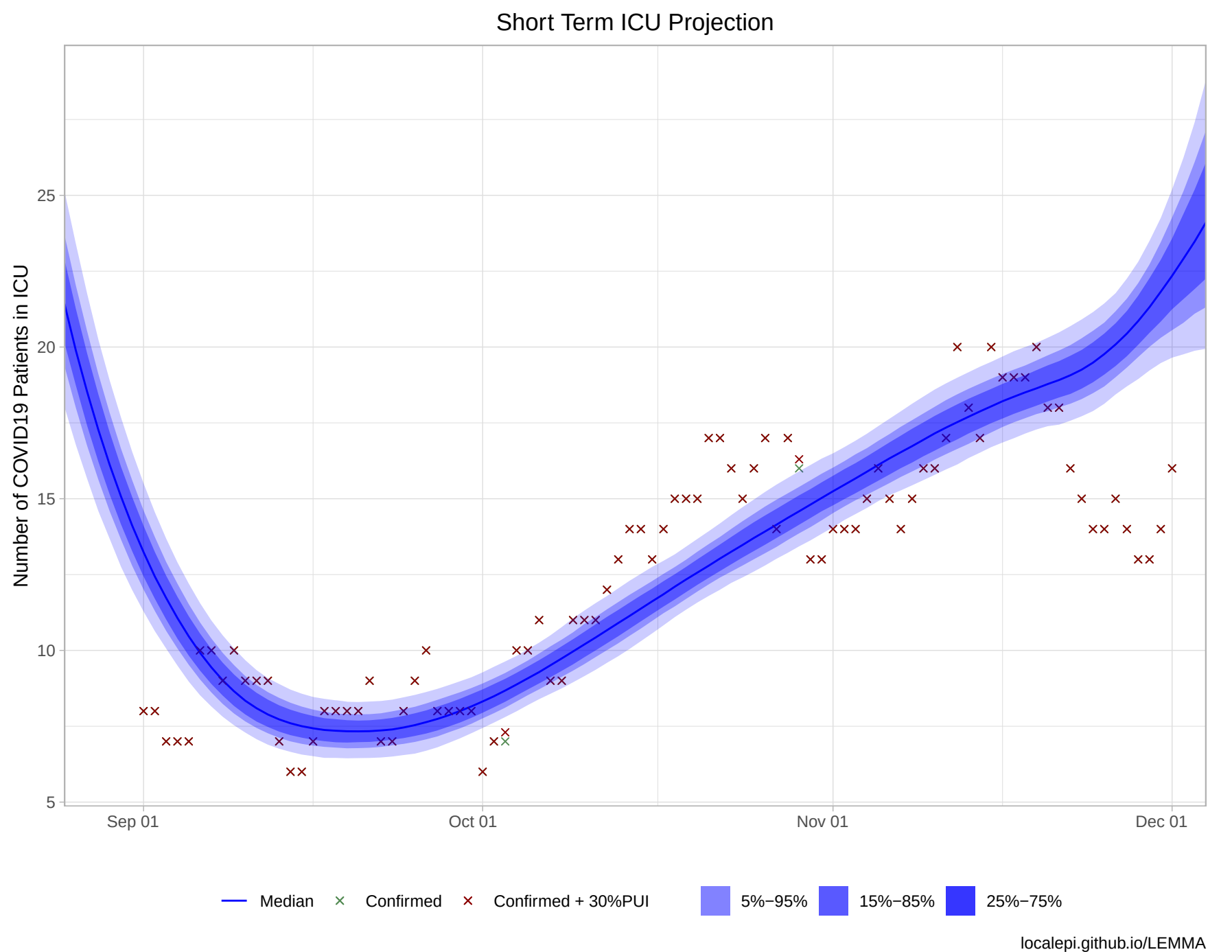
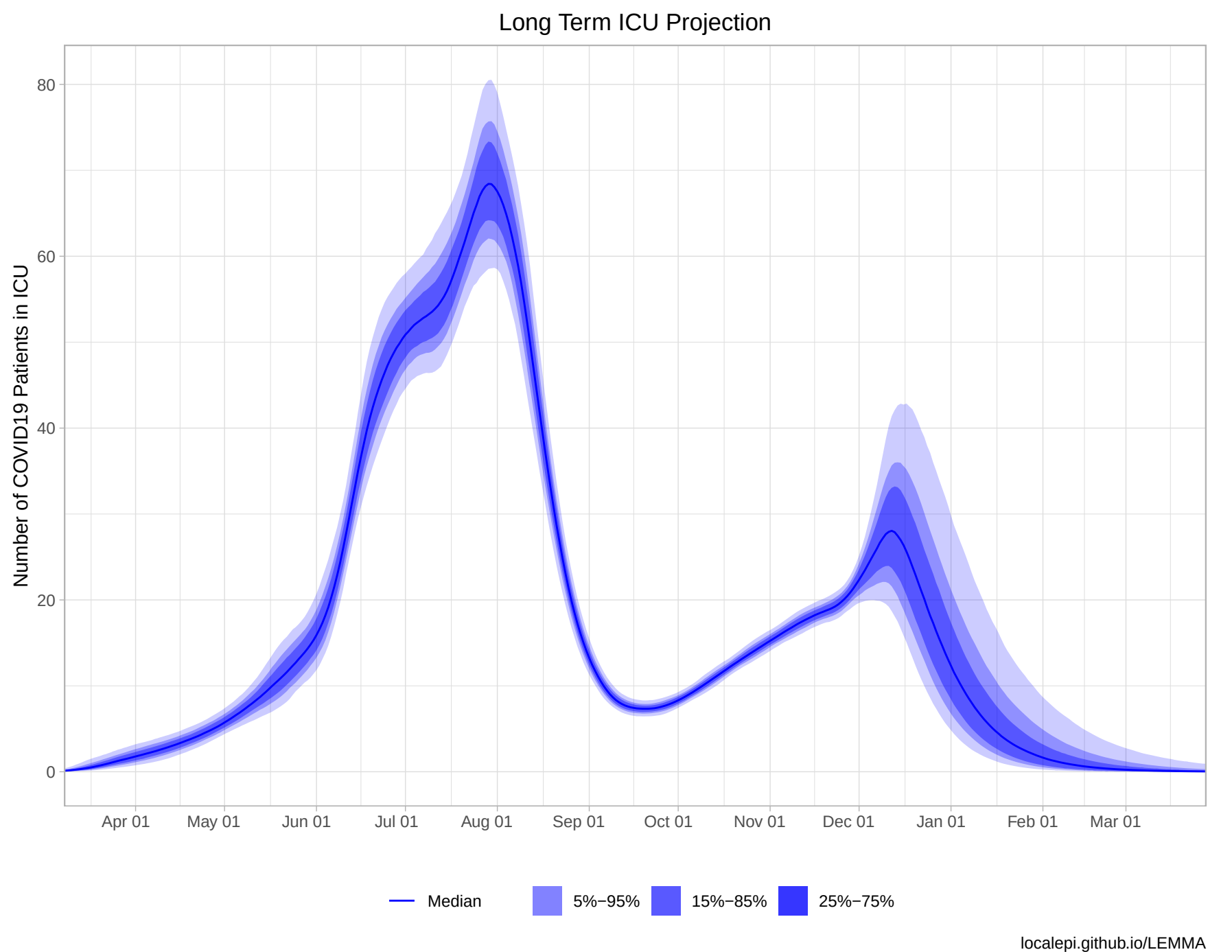
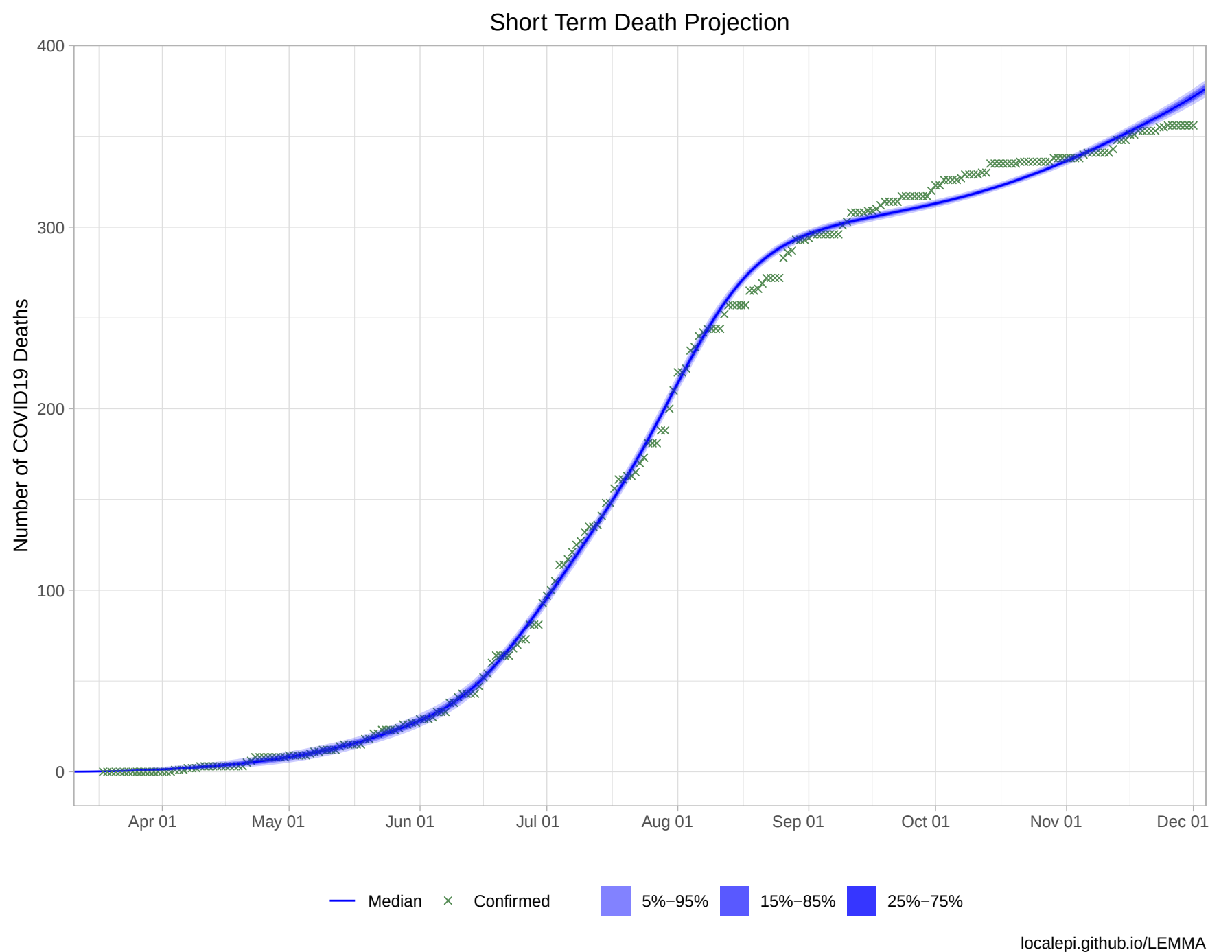
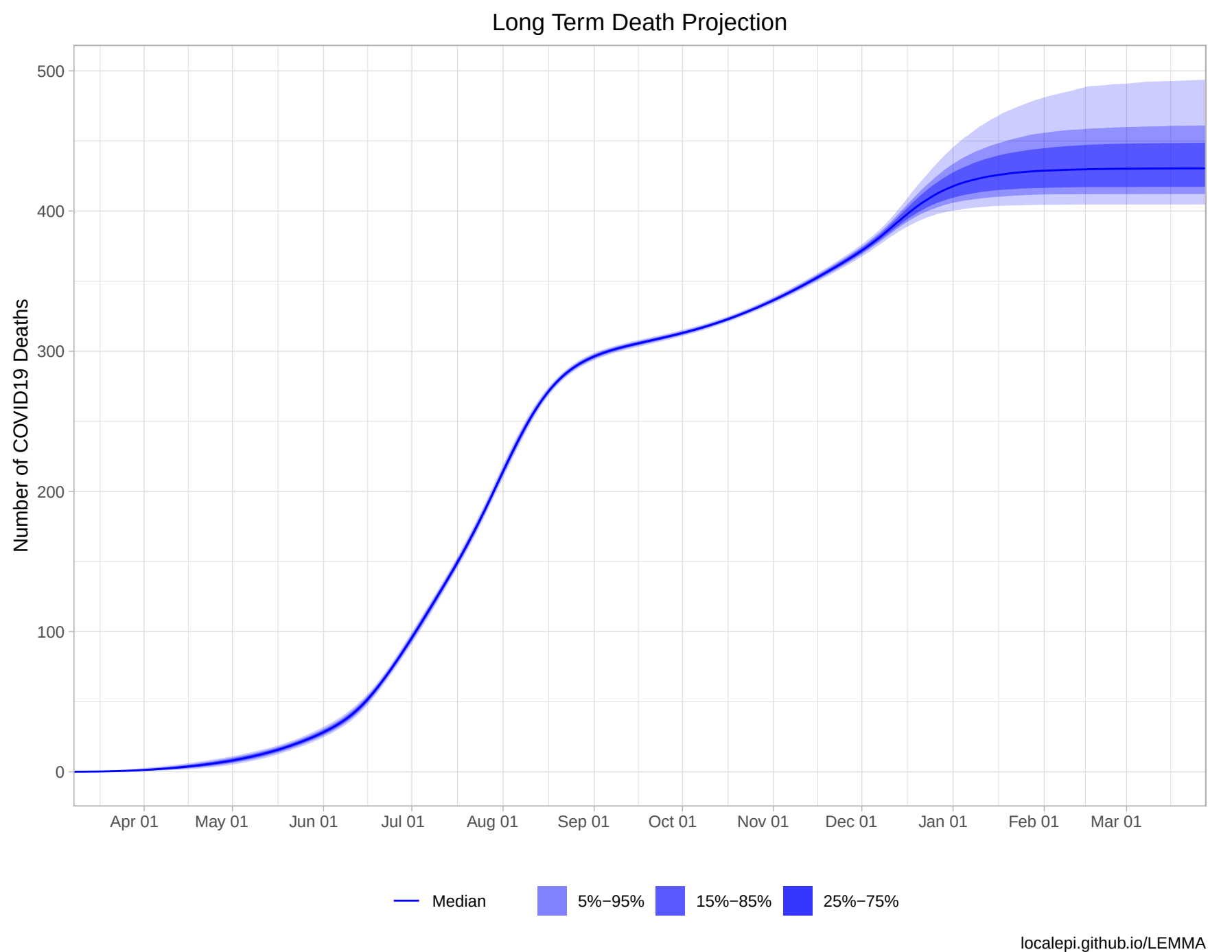

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
90
70
50
30
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

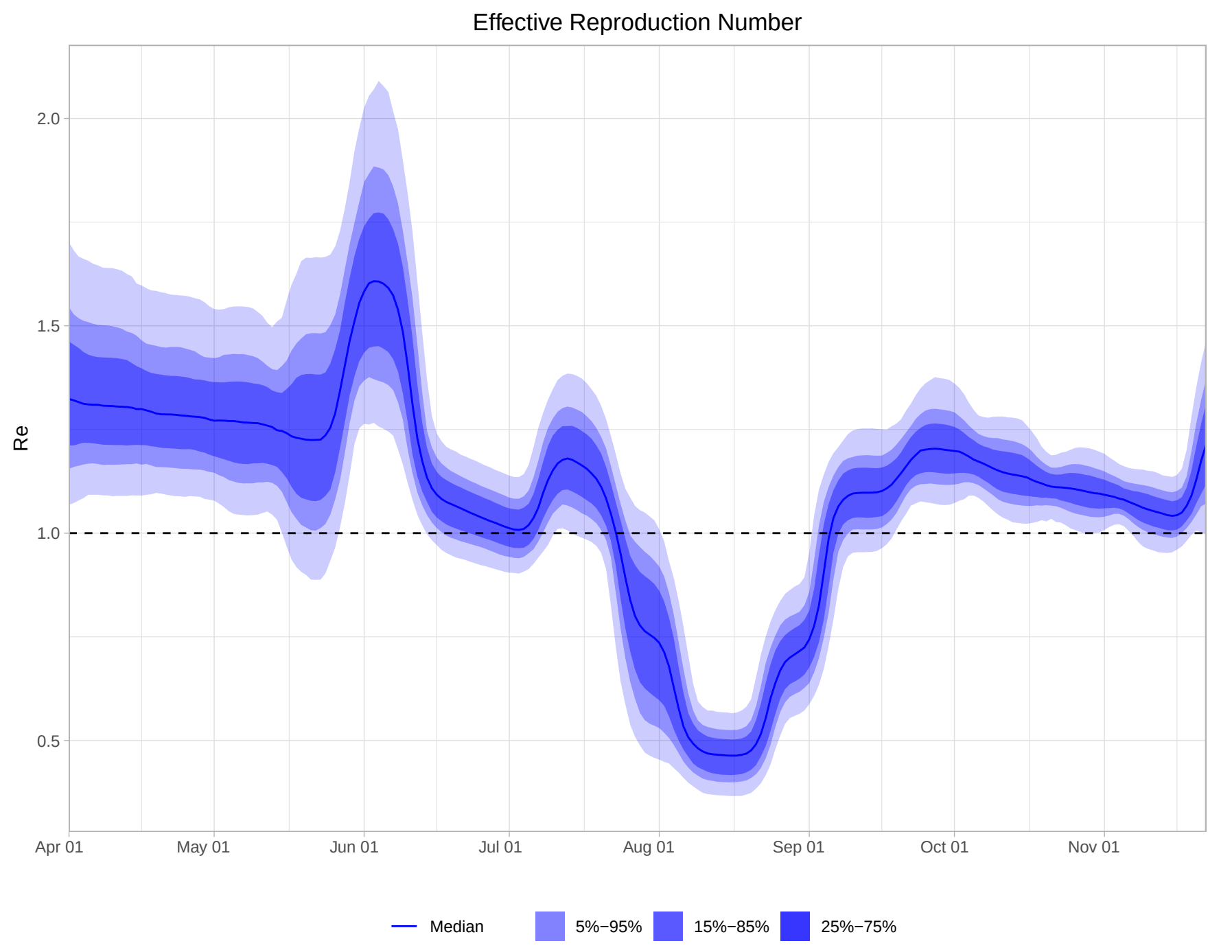

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
250
200
150
100
50
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
25
20
15
10
5
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
80
60
40
20
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

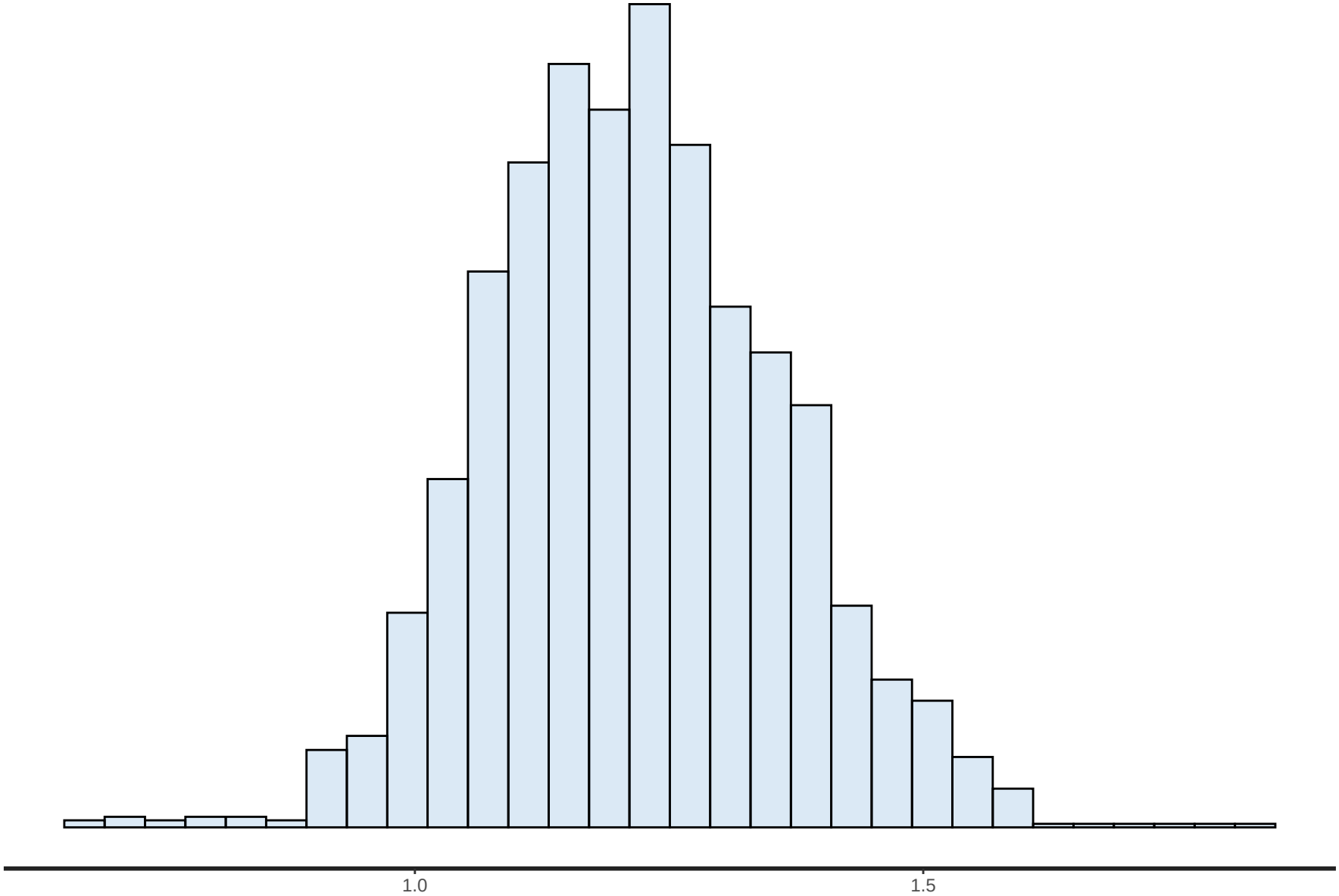

Short Term Death Projection
Number of COVID19 Deaths
400
300
200
100
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

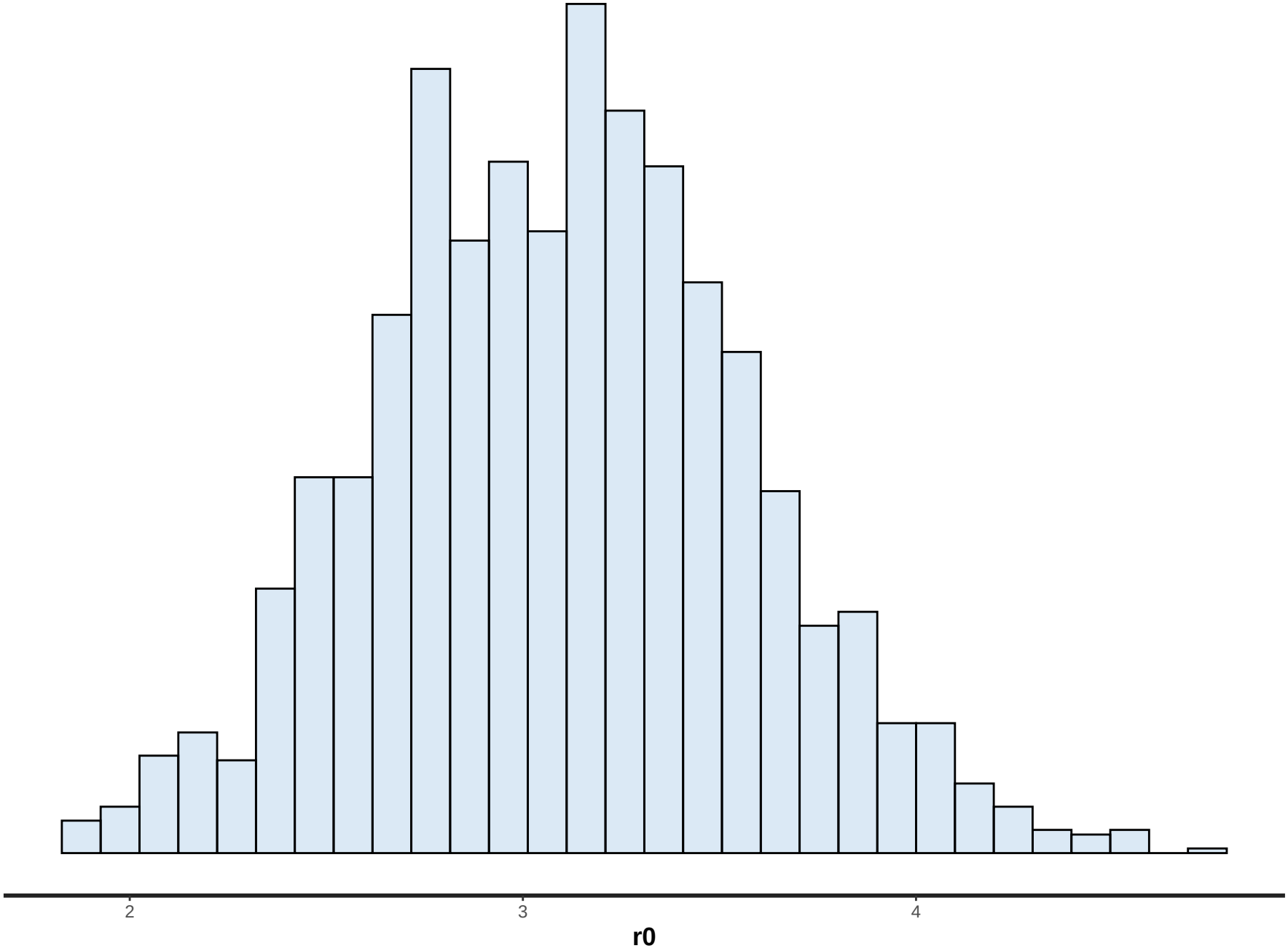

Long Term Death Projection
Number of COVID19 Deaths
500
400
300
200
100
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

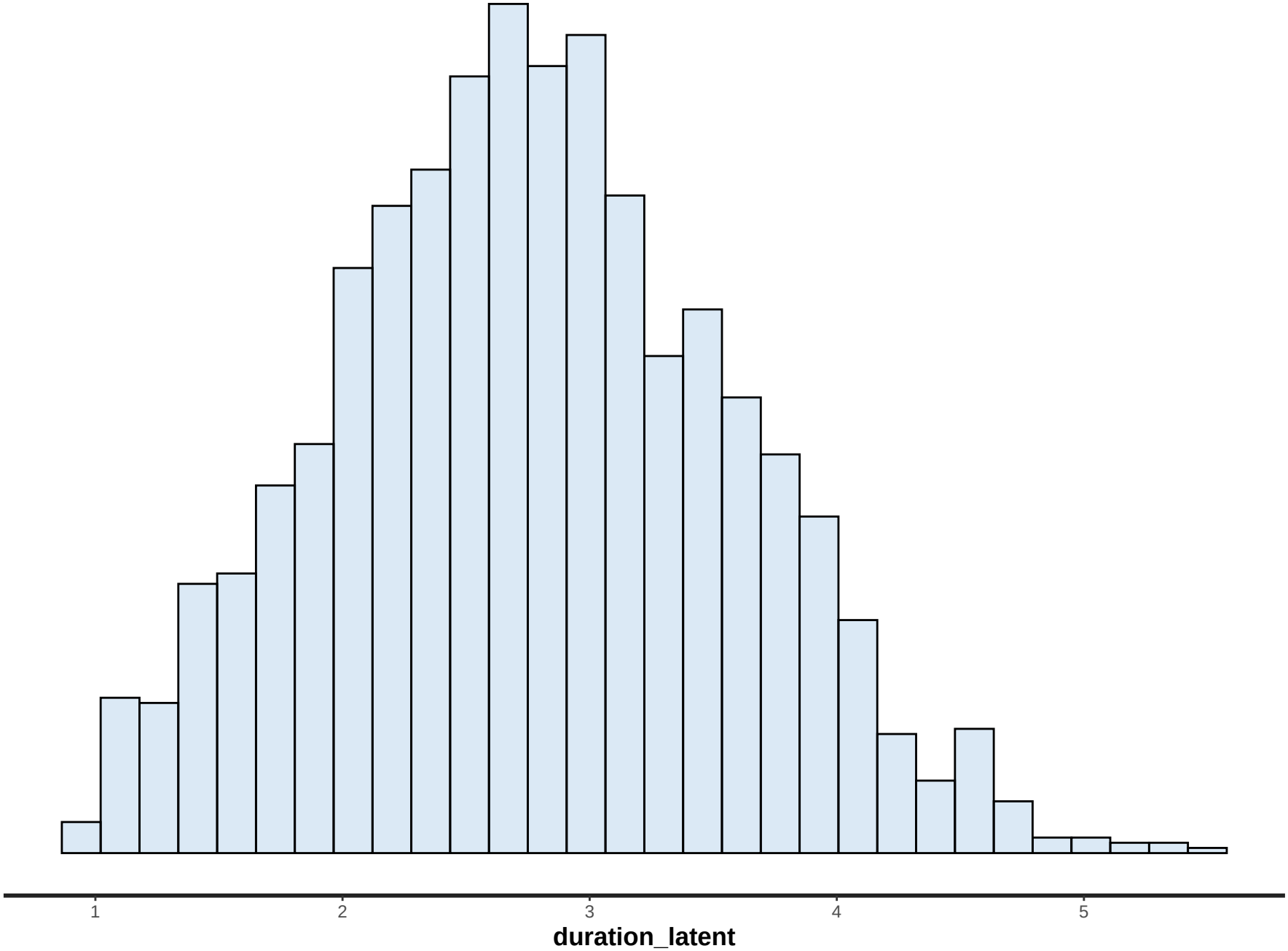

Effective Reproduction Number
Re
2.0
1.5
1.0
0.5
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Median
5%−95%
15%−85%
25%−75%

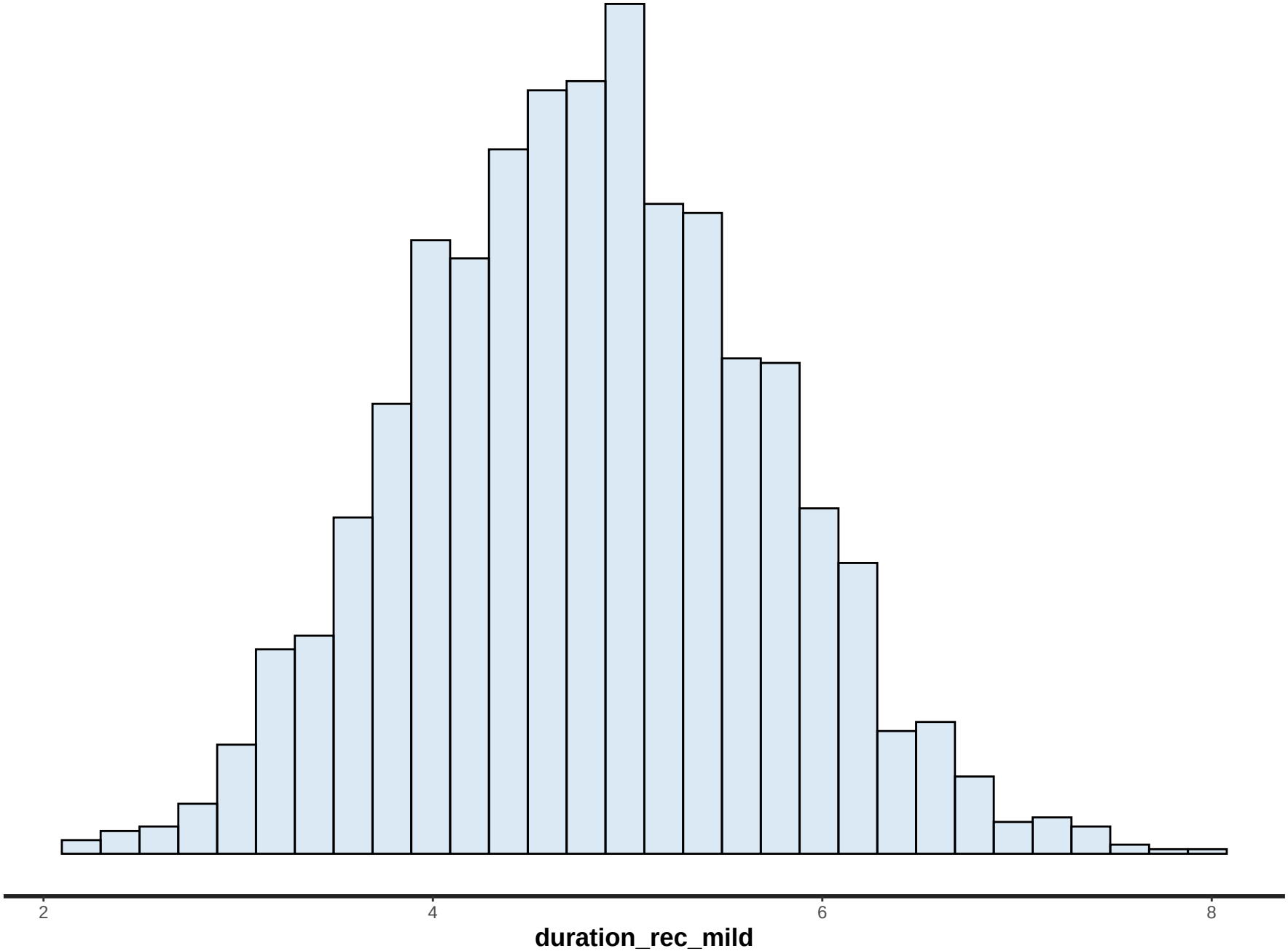
Rt as of 2020−11−22

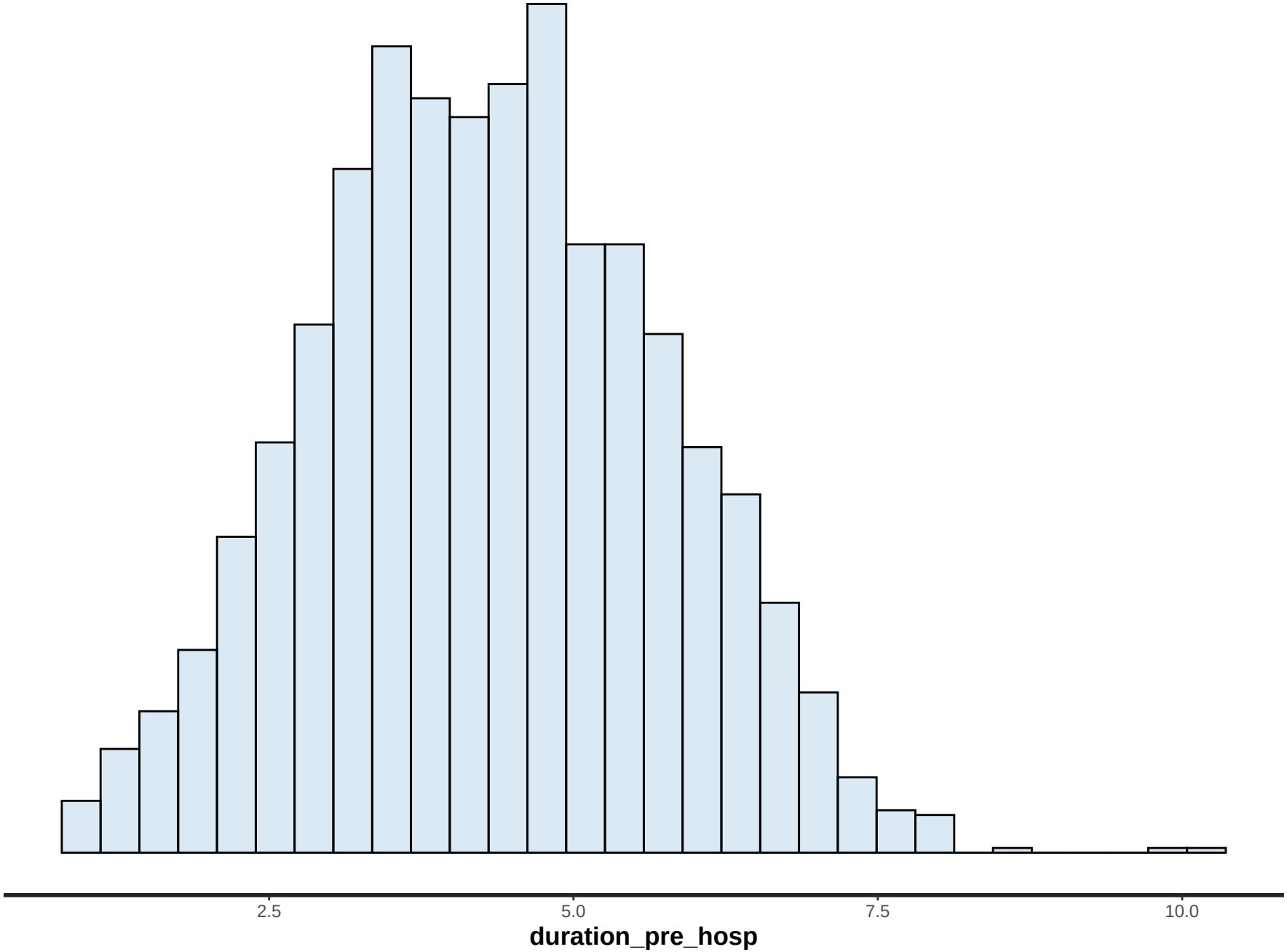
5%	10%	25%	50%	75%	90%	95%
1.00	1.04	1.12	1.21	1.31	1.40	1.46

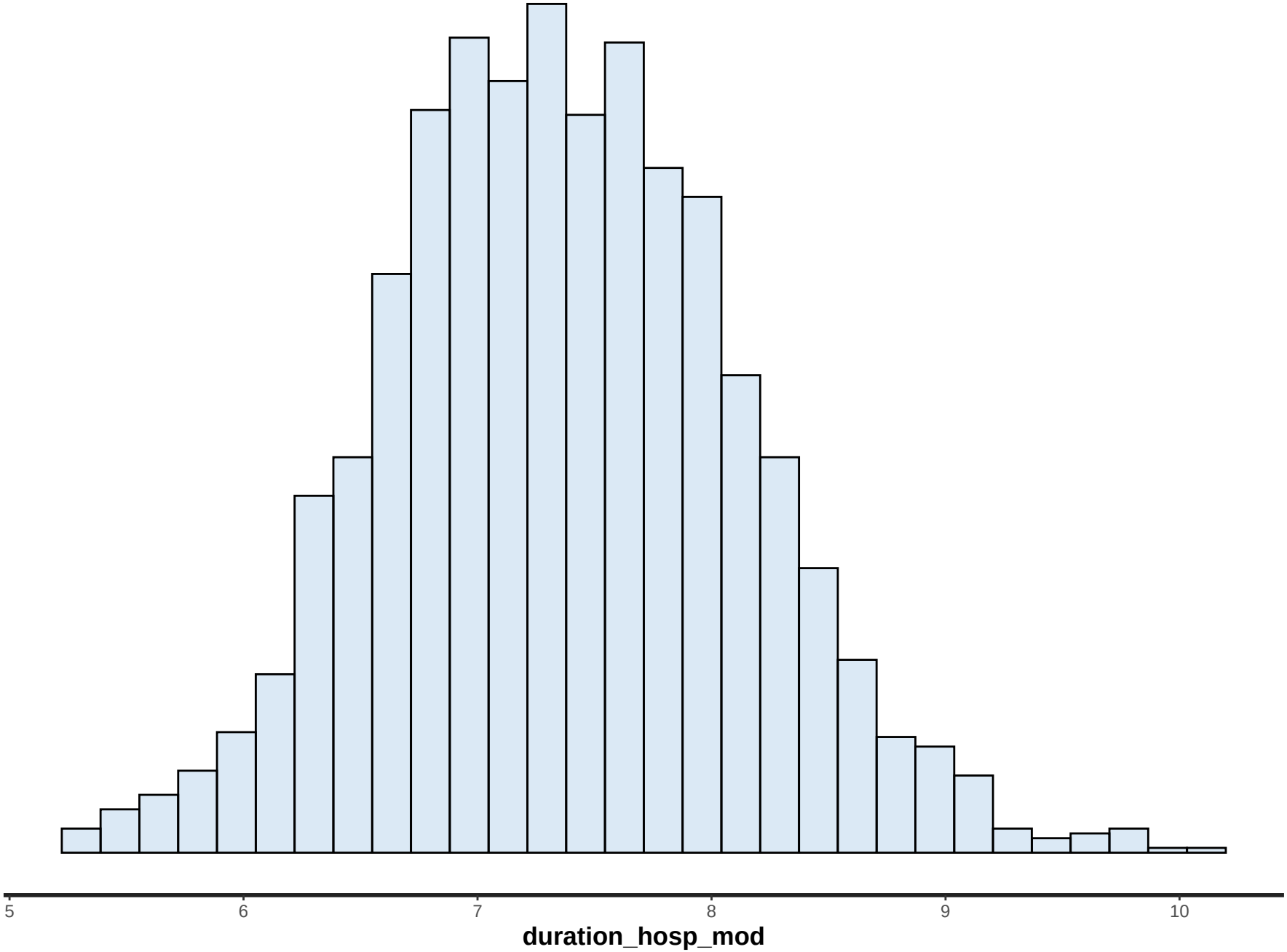


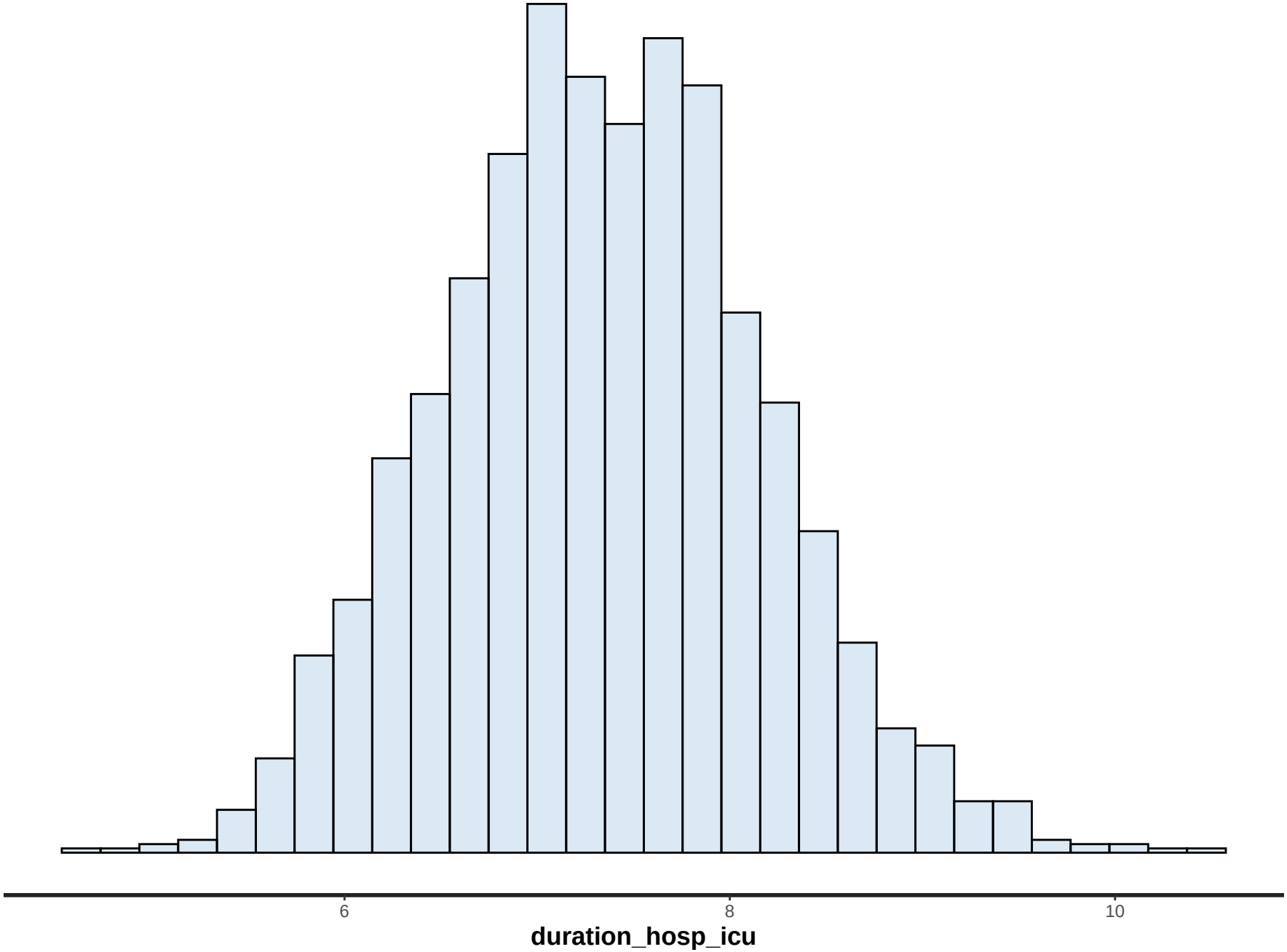

2
3
4
r0

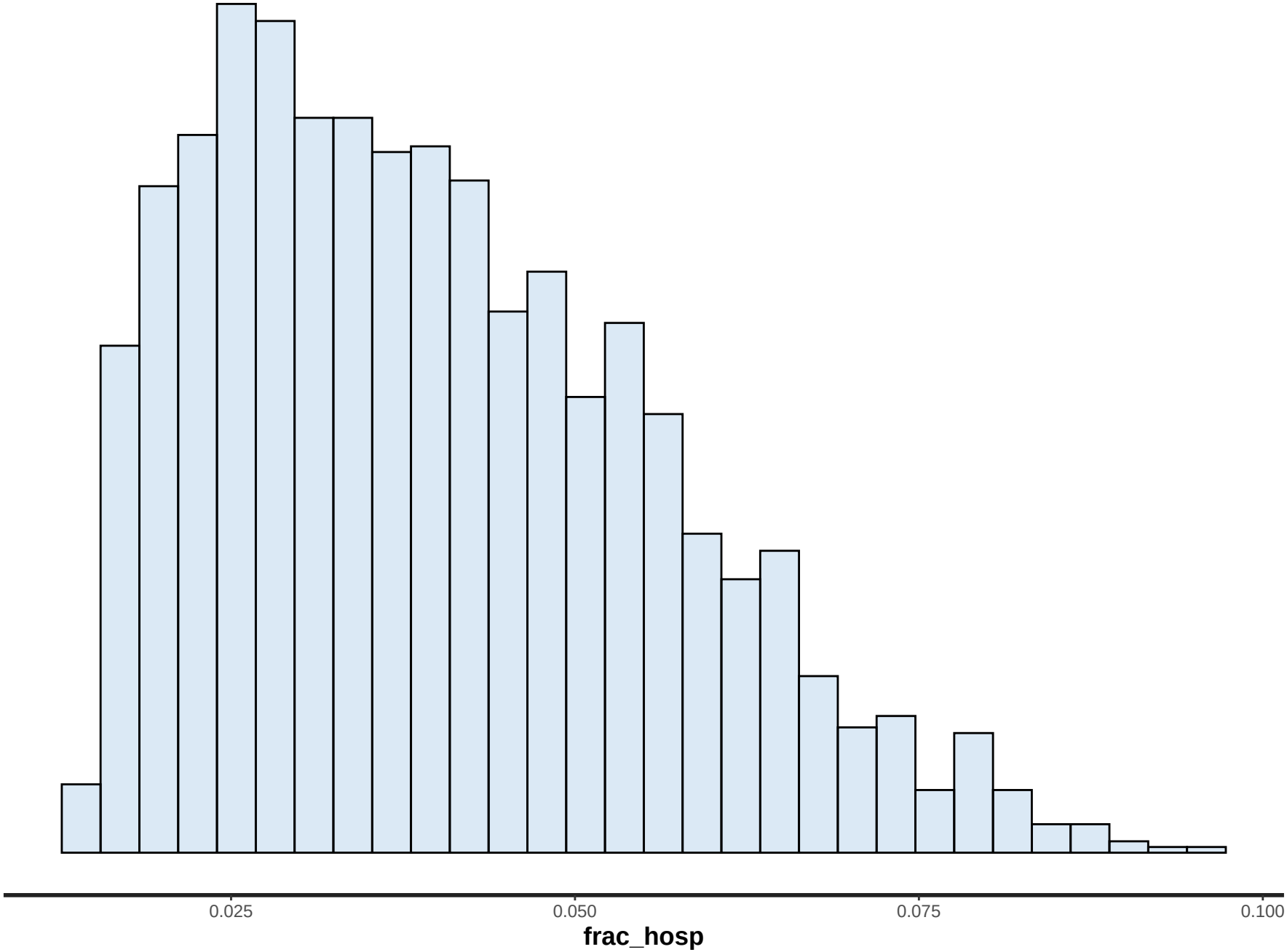

1
2
3
4
5
duration_latent

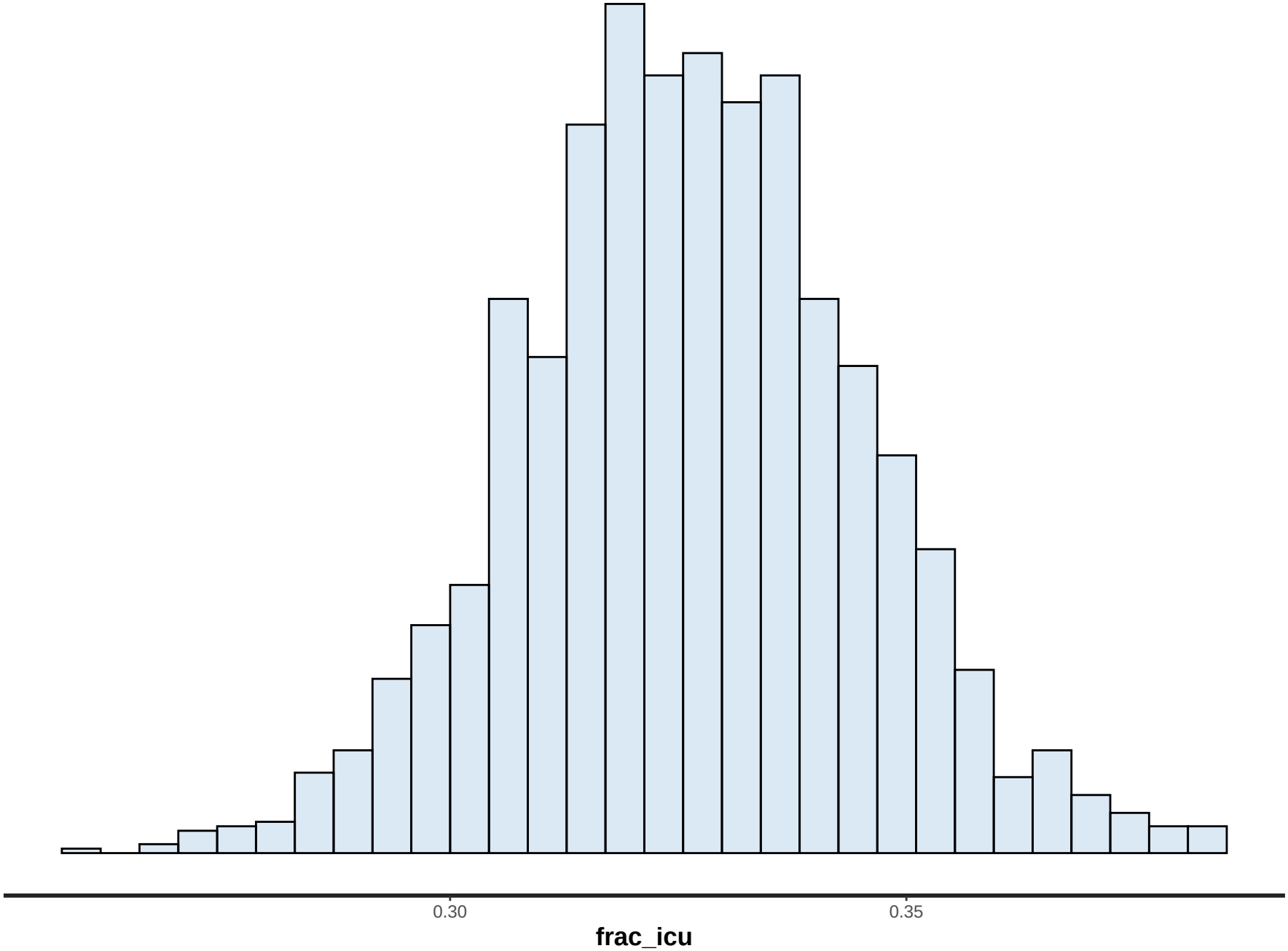

2
4
6
8
duration_rec_mild

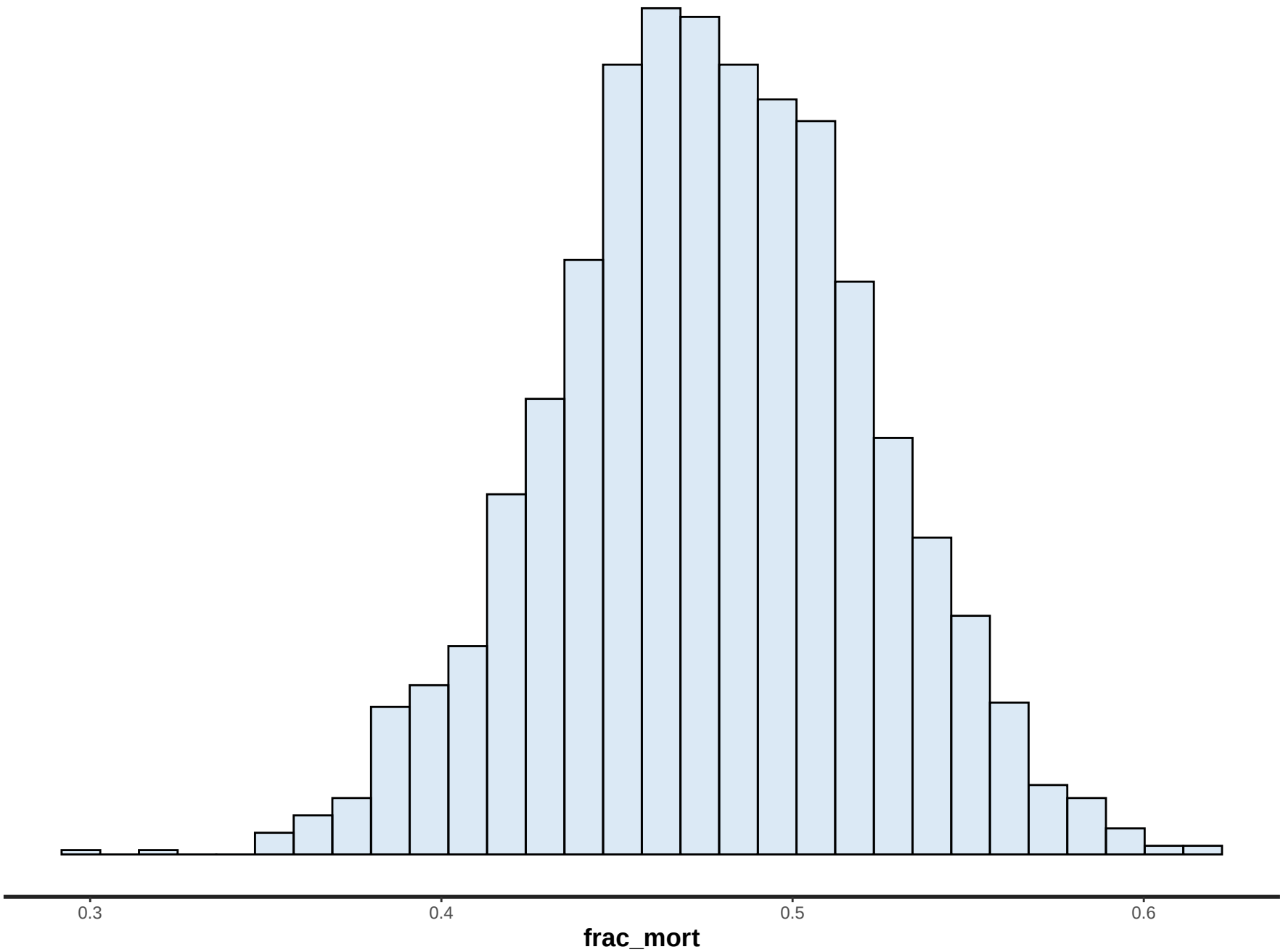

2.5
5.0
7.5
10.0
duration_pre_hosp

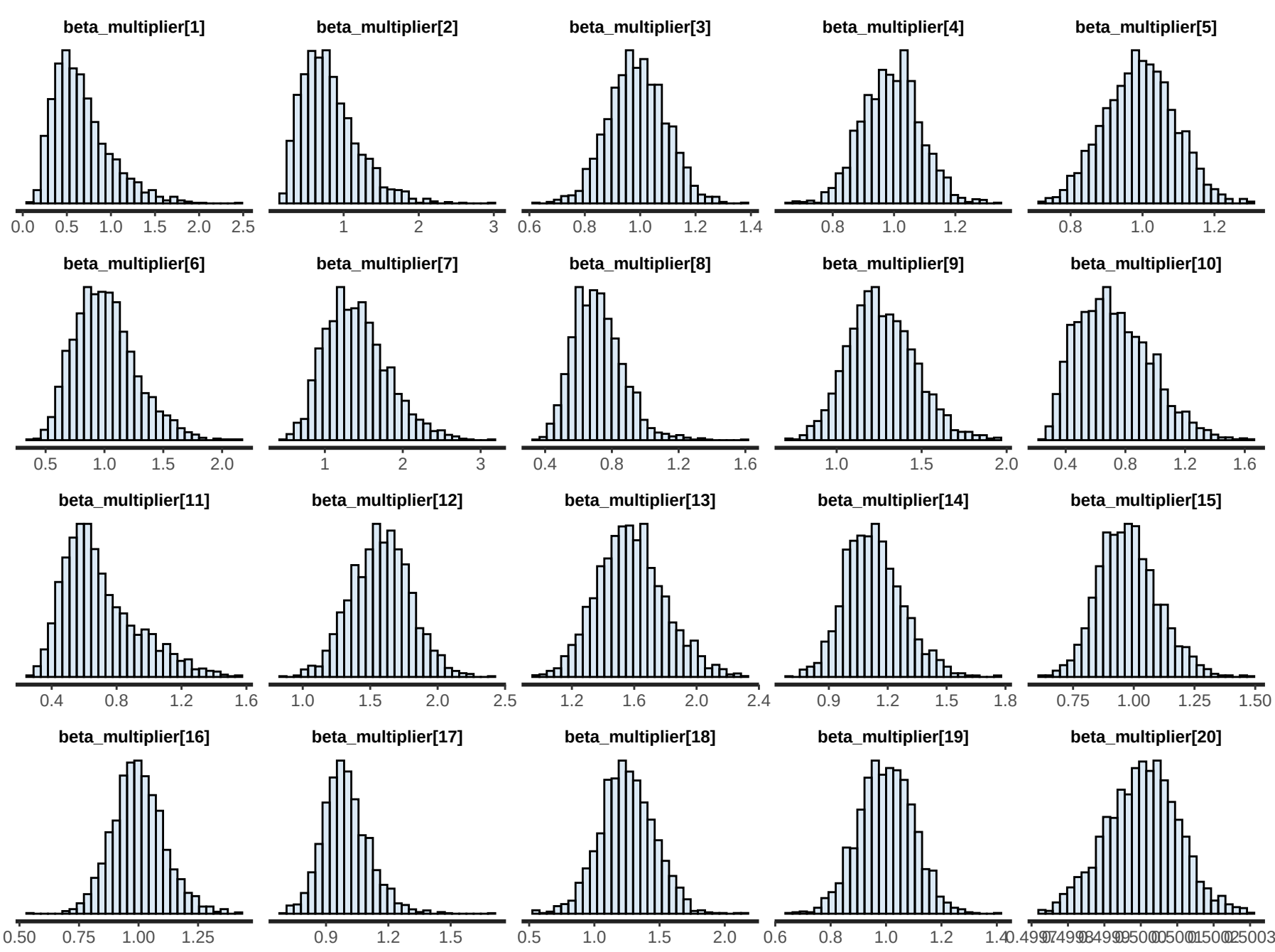

5
6
7
8
9
10
duration_hosp_mod

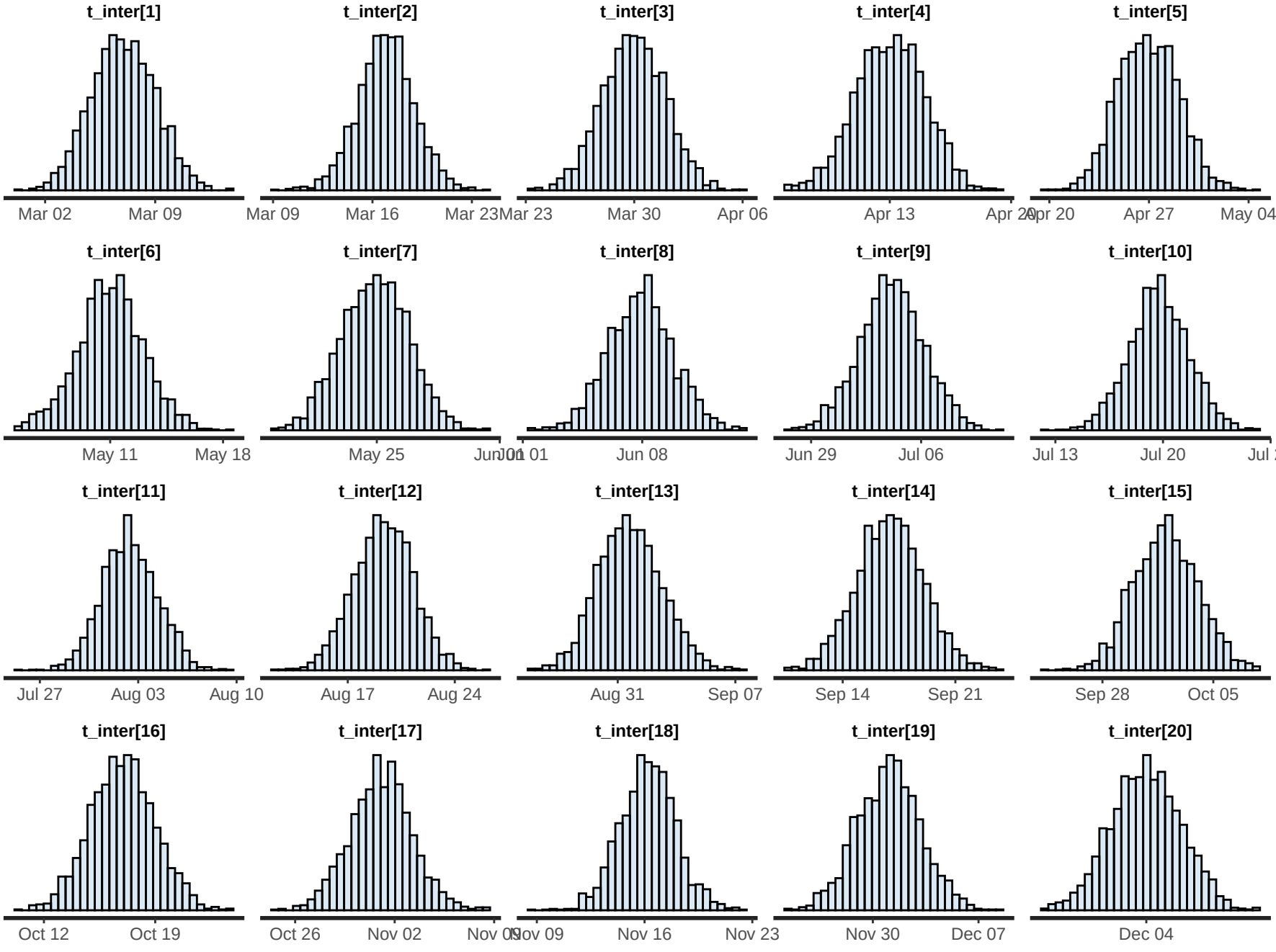

6
8
10
duration_hosp_icu

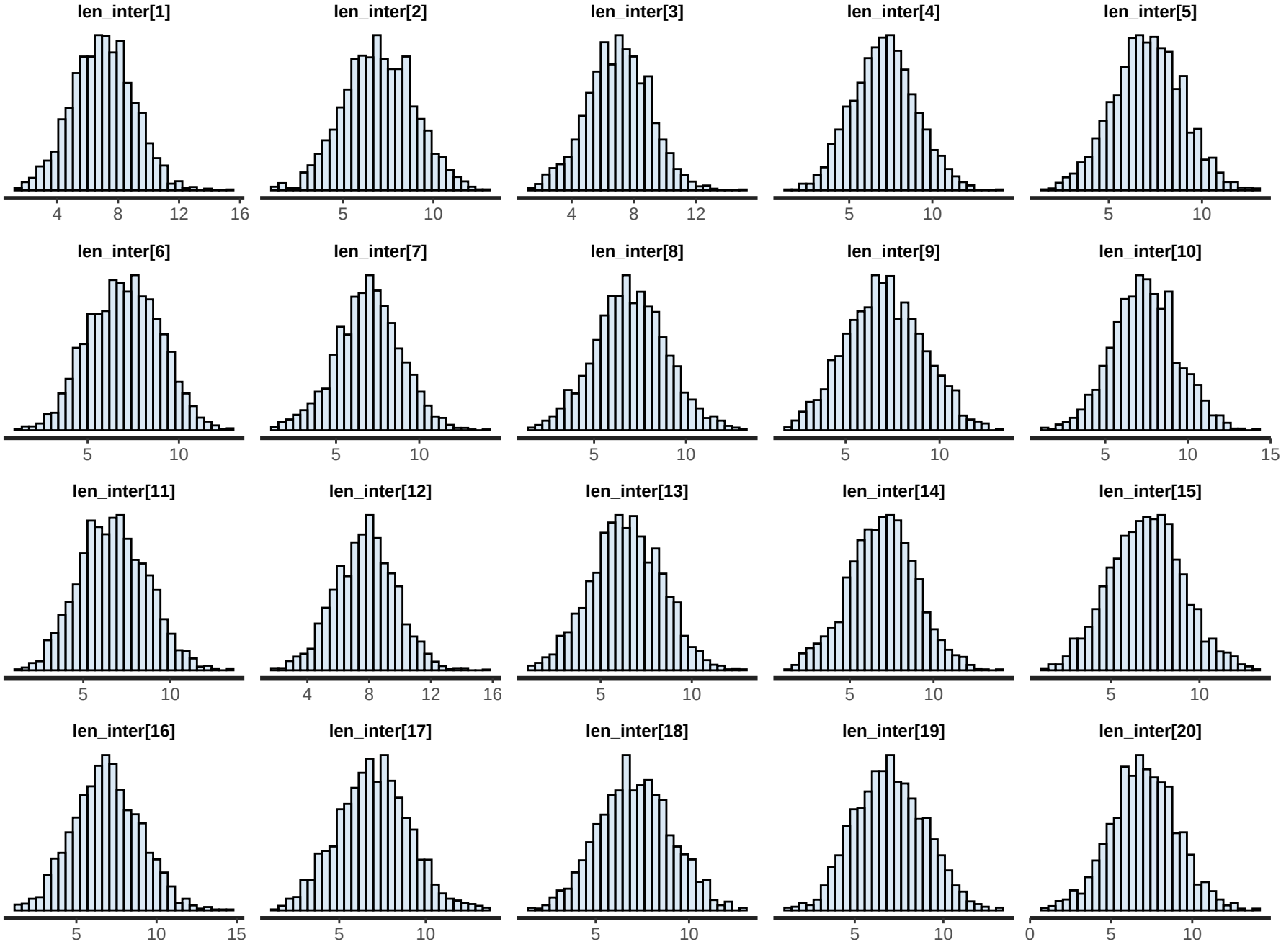

0.025
0.050
0.075
0.100
frac_hosp

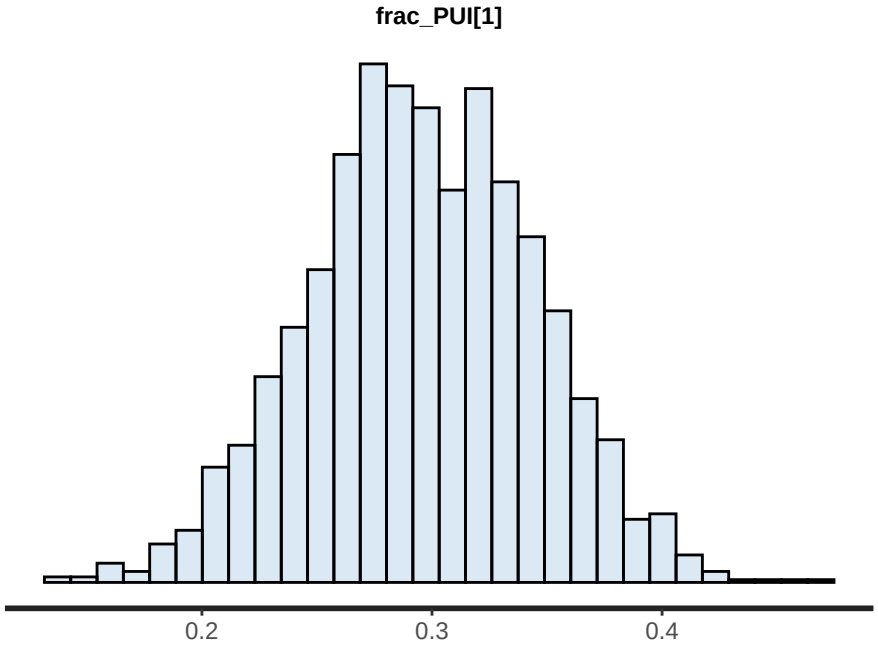

0.30
0.35
frac_icu

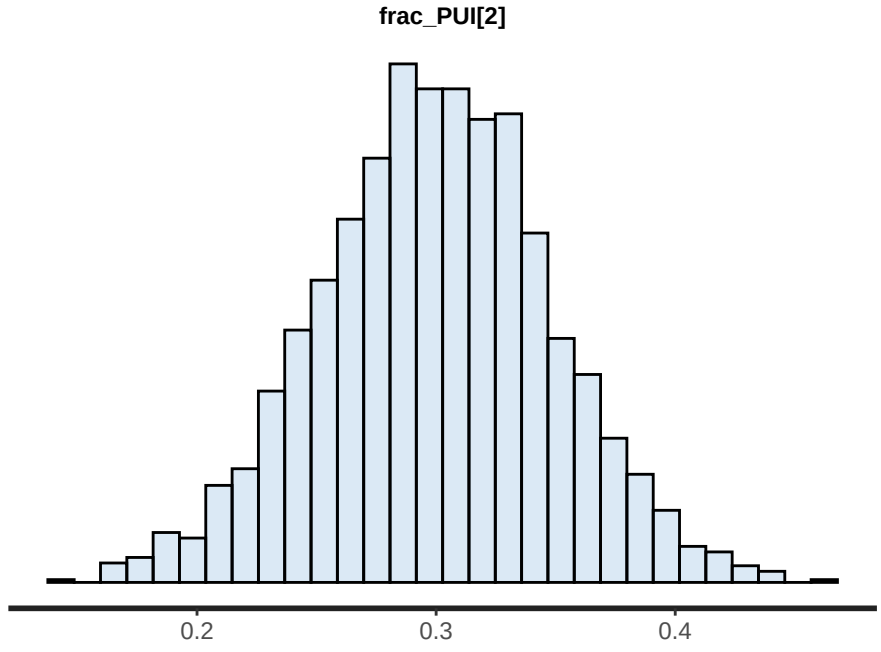

0.3
0.4
0.5
0.6
frac_mort

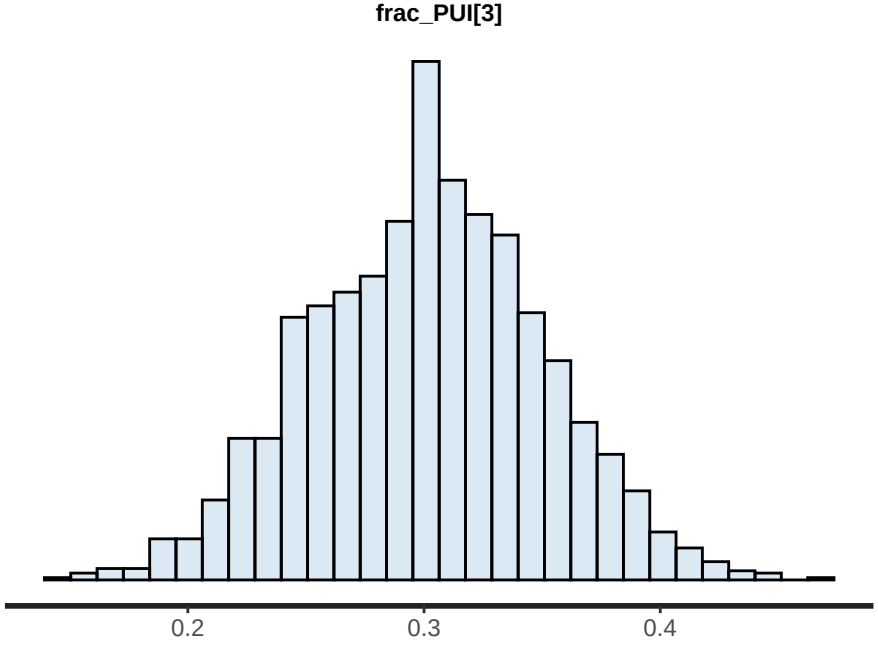

beta_multiplier[1]
beta_multiplier[2]
beta_multiplier[3]
beta_multiplier[4]
beta_multiplier[5]
beta_multiplier[6]
beta_multiplier[7]
beta_multiplier[8]
beta_multiplier[9]
beta_multiplier[10]
beta_multiplier[11]
beta_multiplier[12]
beta_multiplier[13]
beta_multiplier[14]
beta_multiplier[15]
beta_multiplier[16]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

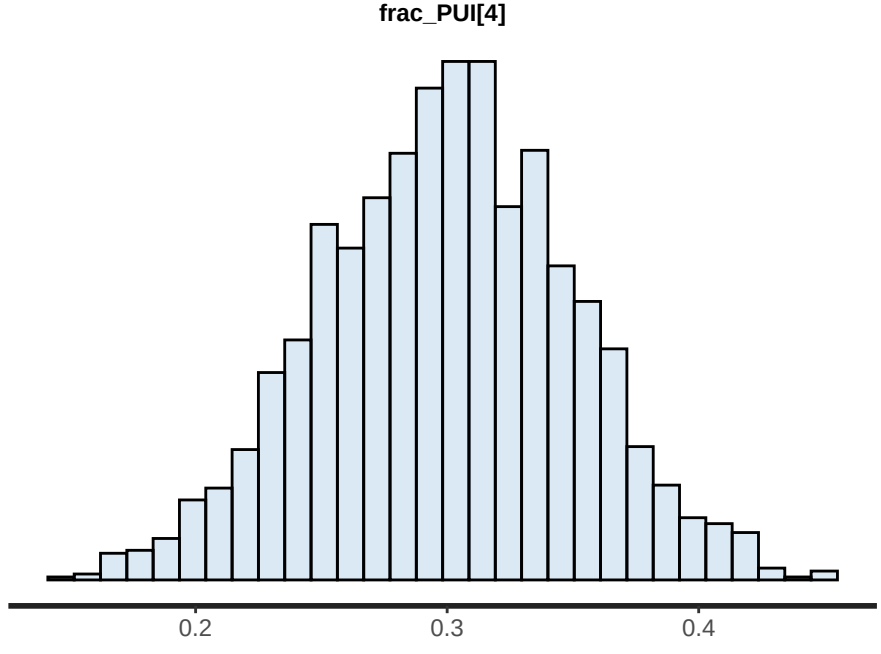

t_inter[1]
Mar 02
Mar 09
t_inter[2]
Mar 09
Mar 16
Mar 23
t_inter[3]
Mar 23
Mar 30
Apr 06
t_inter[4]
Apr 13
Apr 20
t_inter[5]
Apr 20
Apr 27
May 04
t_inter[6]
May 11
May 18
t_inter[7]
May 25
Jun 01
t_inter[8]
Jun 01
Jun 08
t_inter[9]
Jun 29
Jul 06
t_inter[10]
Jul 13
Jul 20
Jul 2
t_inter[11]
Jul 27
Aug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


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


frac_PUI[1]
0.2
0.3
0.4


frac_PUI[2]
0.2
0.3
0.4


frac_PUI[3]
0.2
0.3
0.4


frac_PUI[4]
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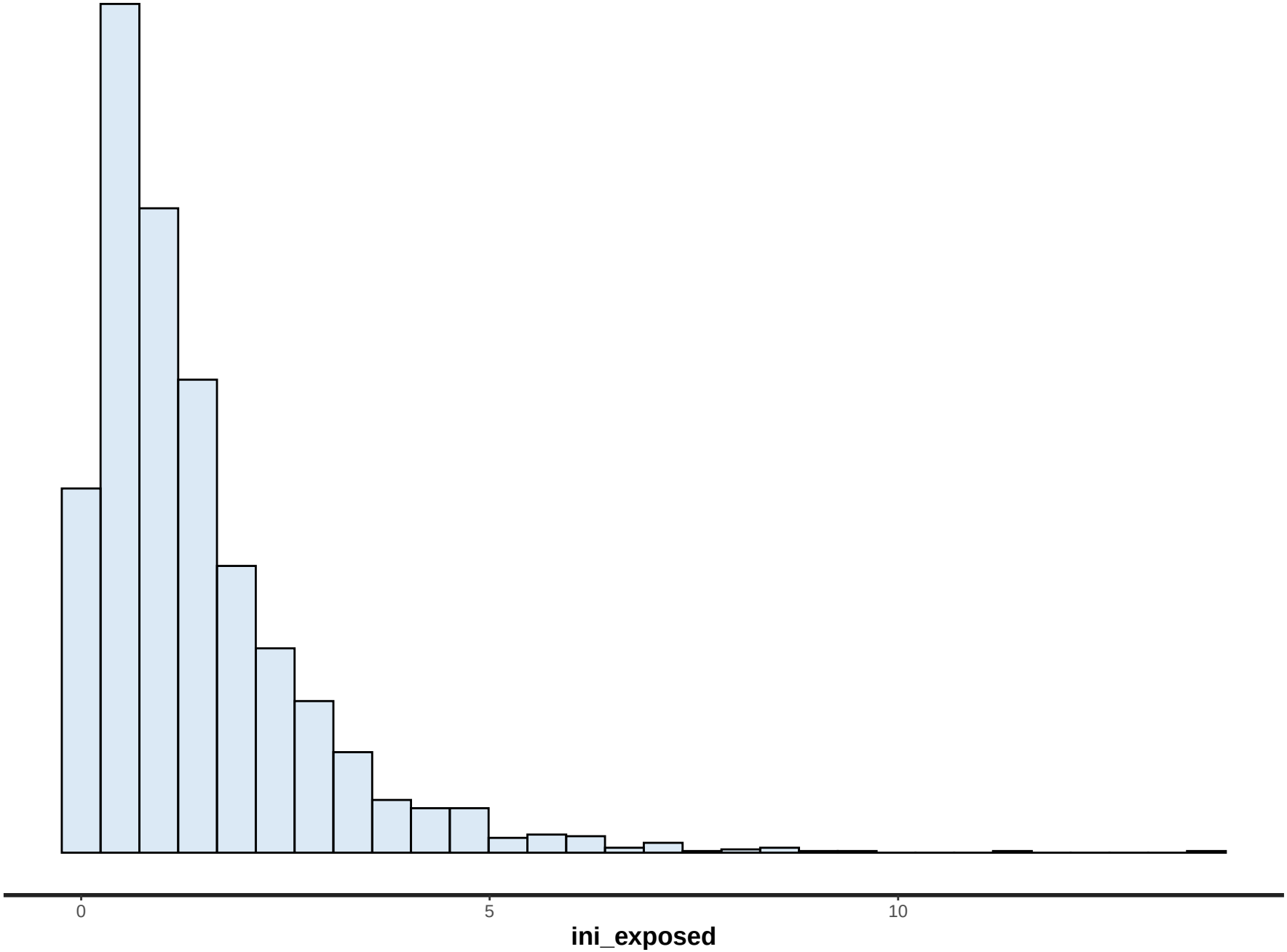
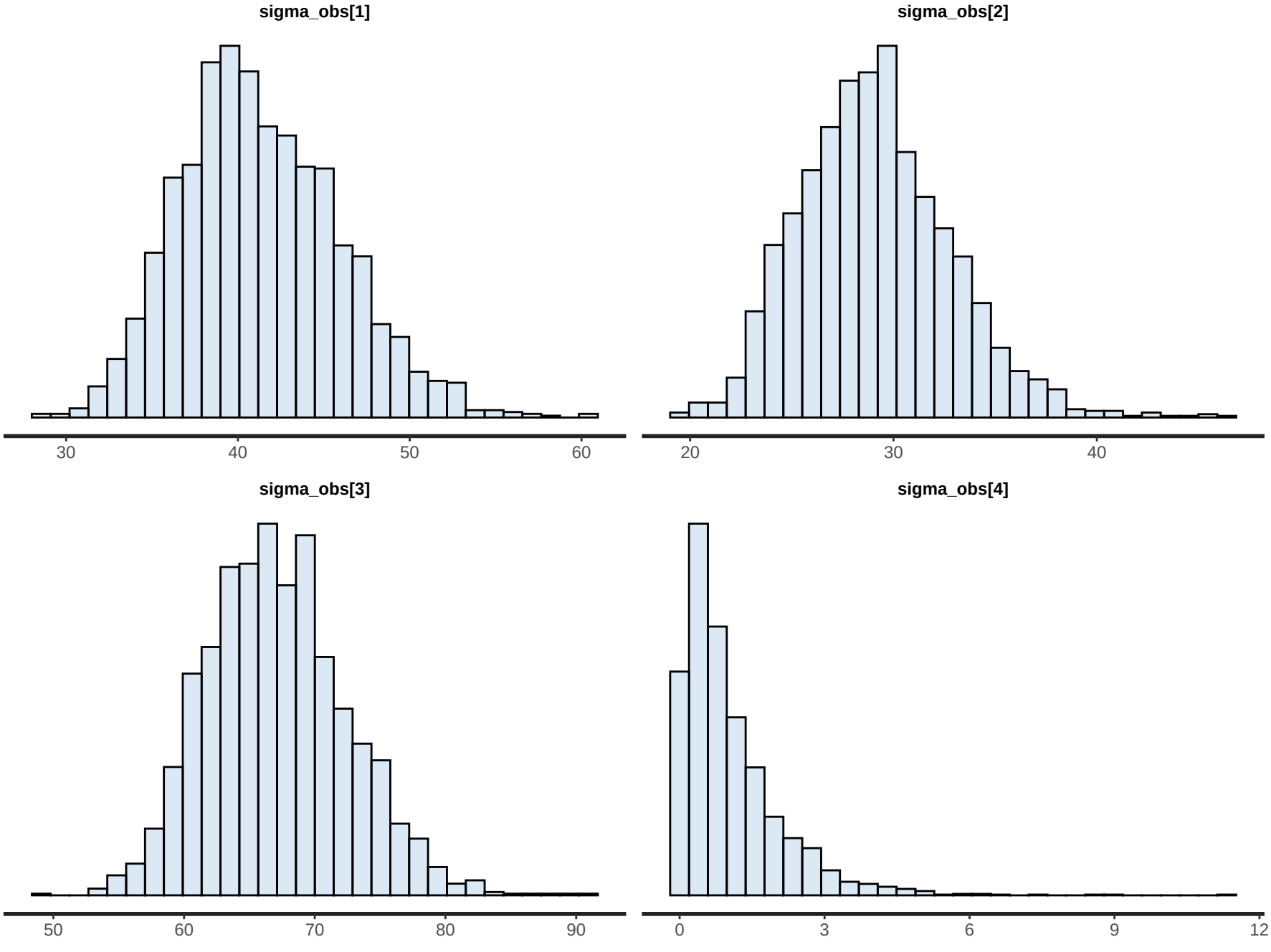
0.3
0.4


0
5
10
ini_exposed


sigma_obs[1]
30
40
50
60
sigma_obs[2]
20
30
40
sigma_obs[3]
50
60
70
80
90
sigma_obs[4]
0
3
6
9
12