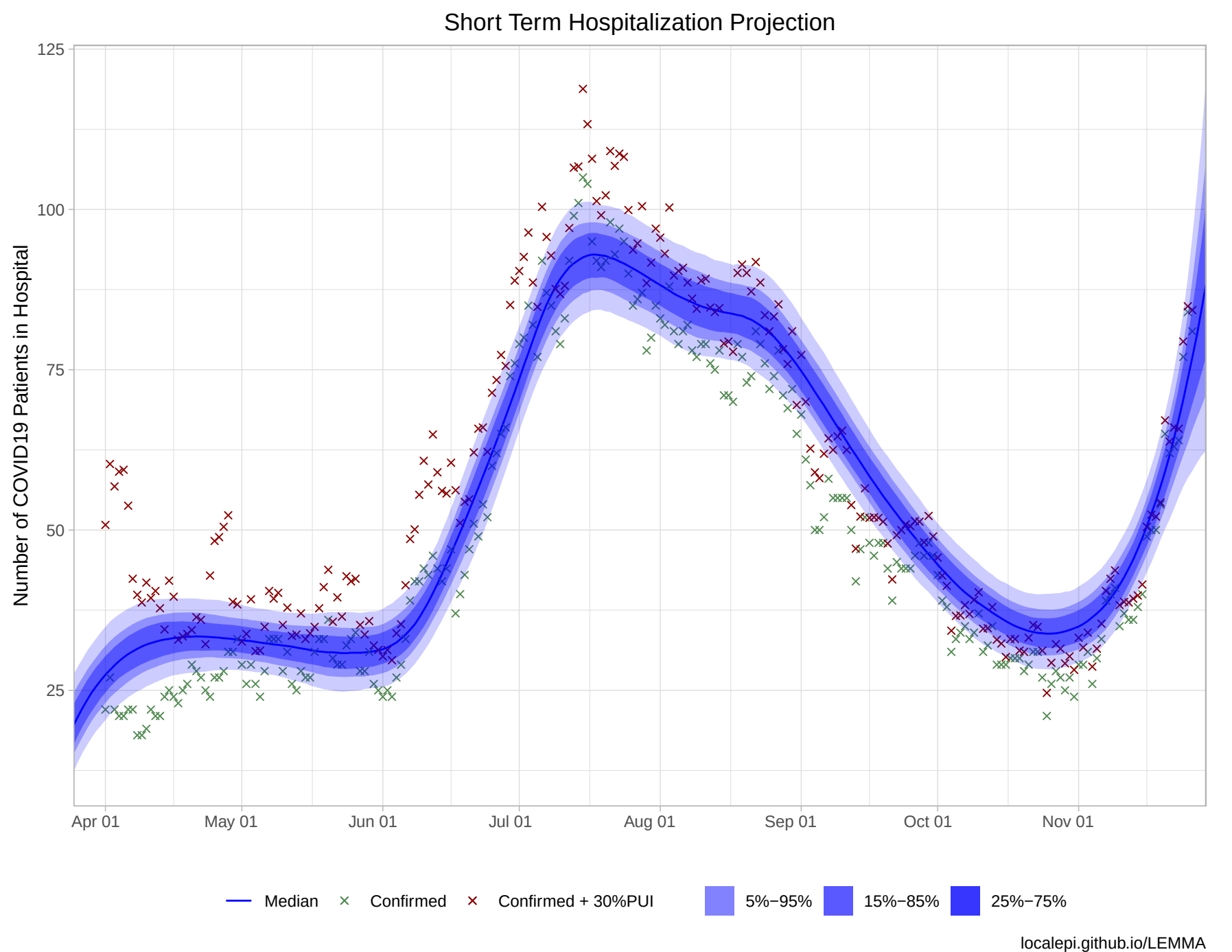
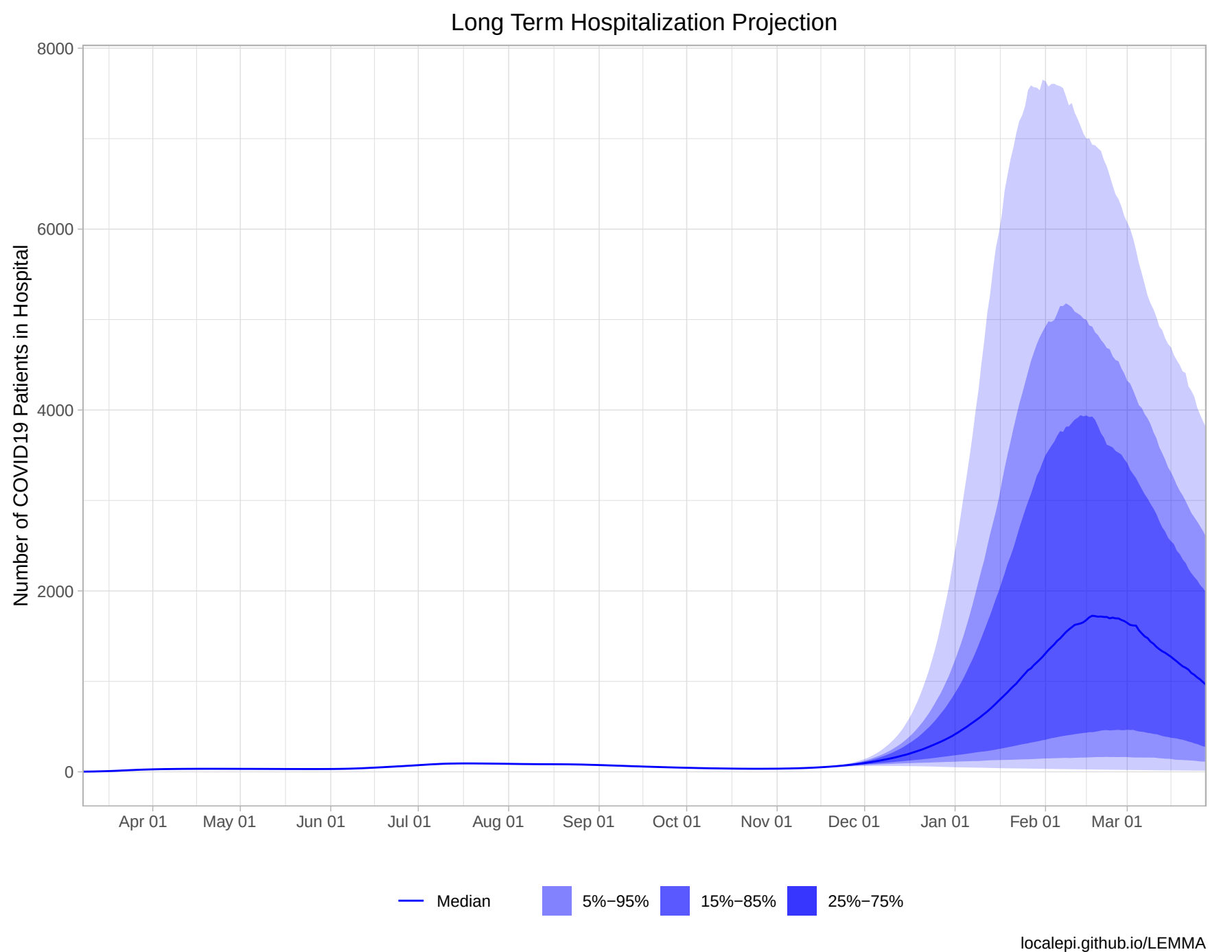
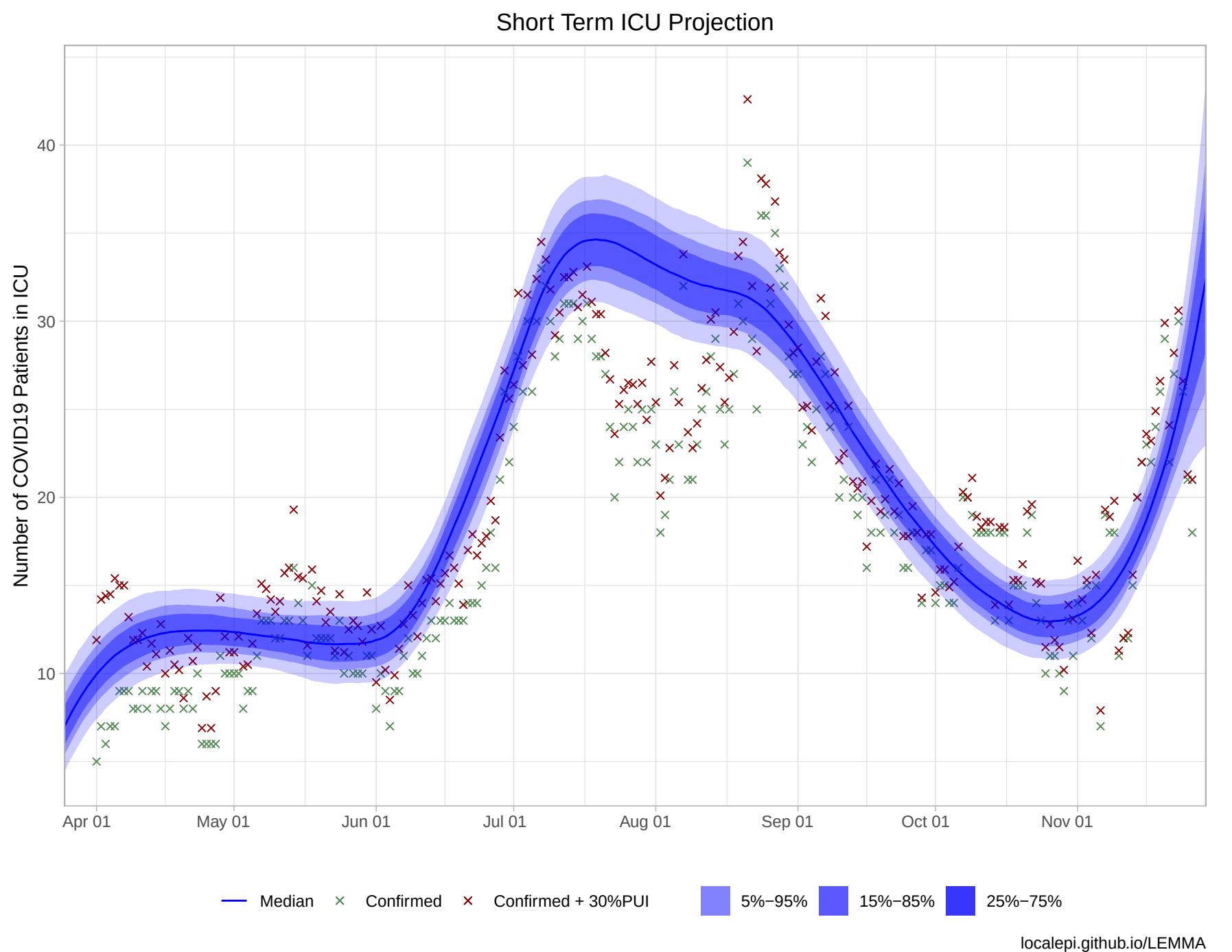
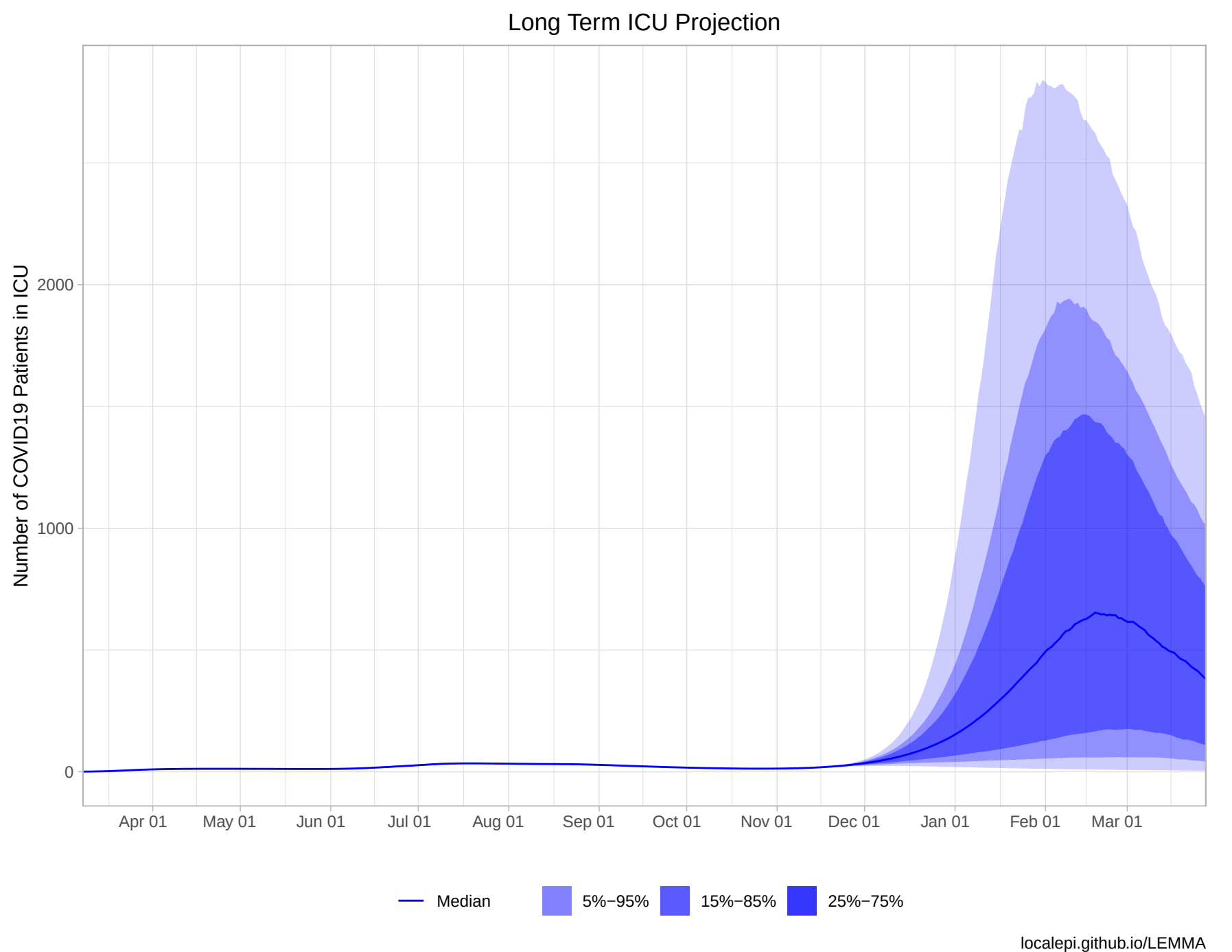
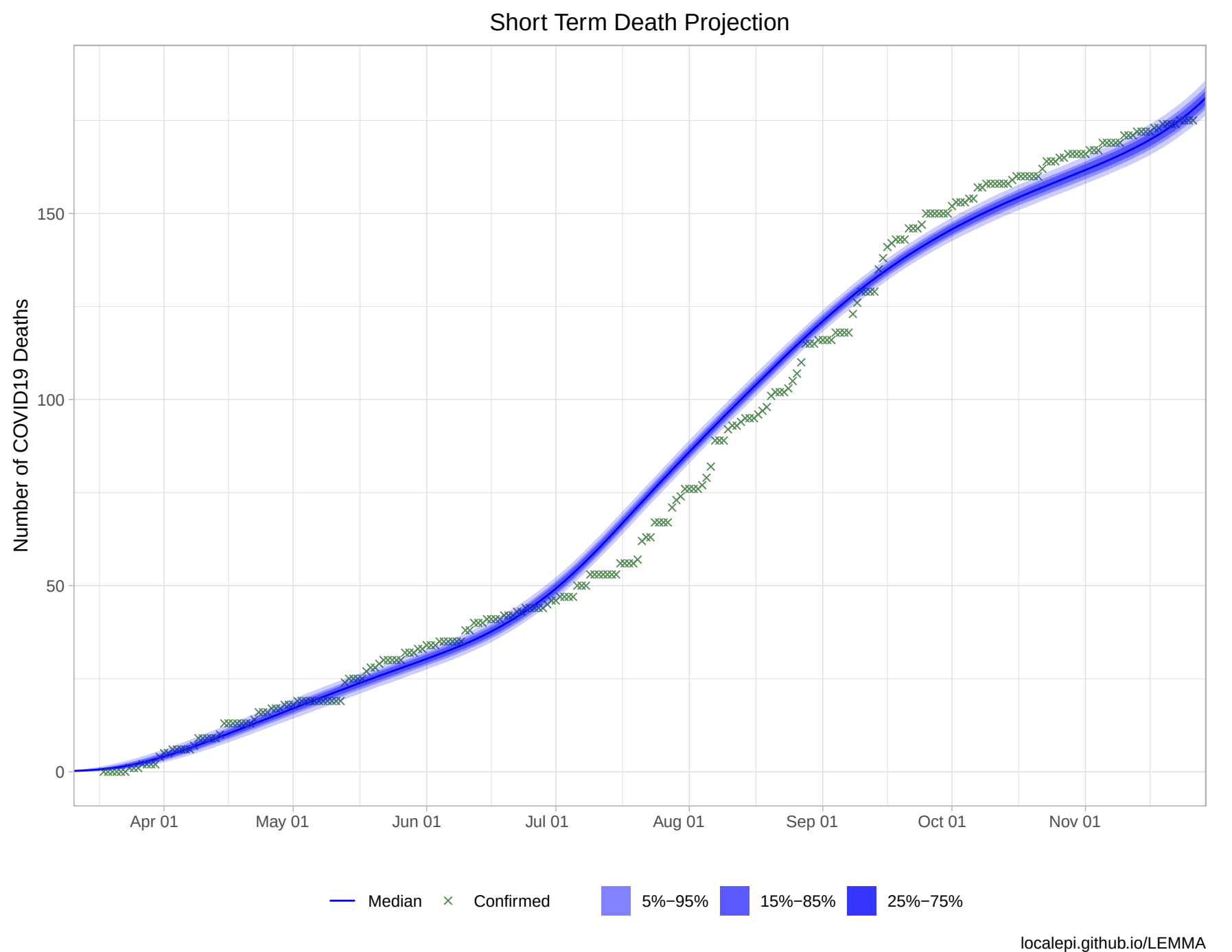
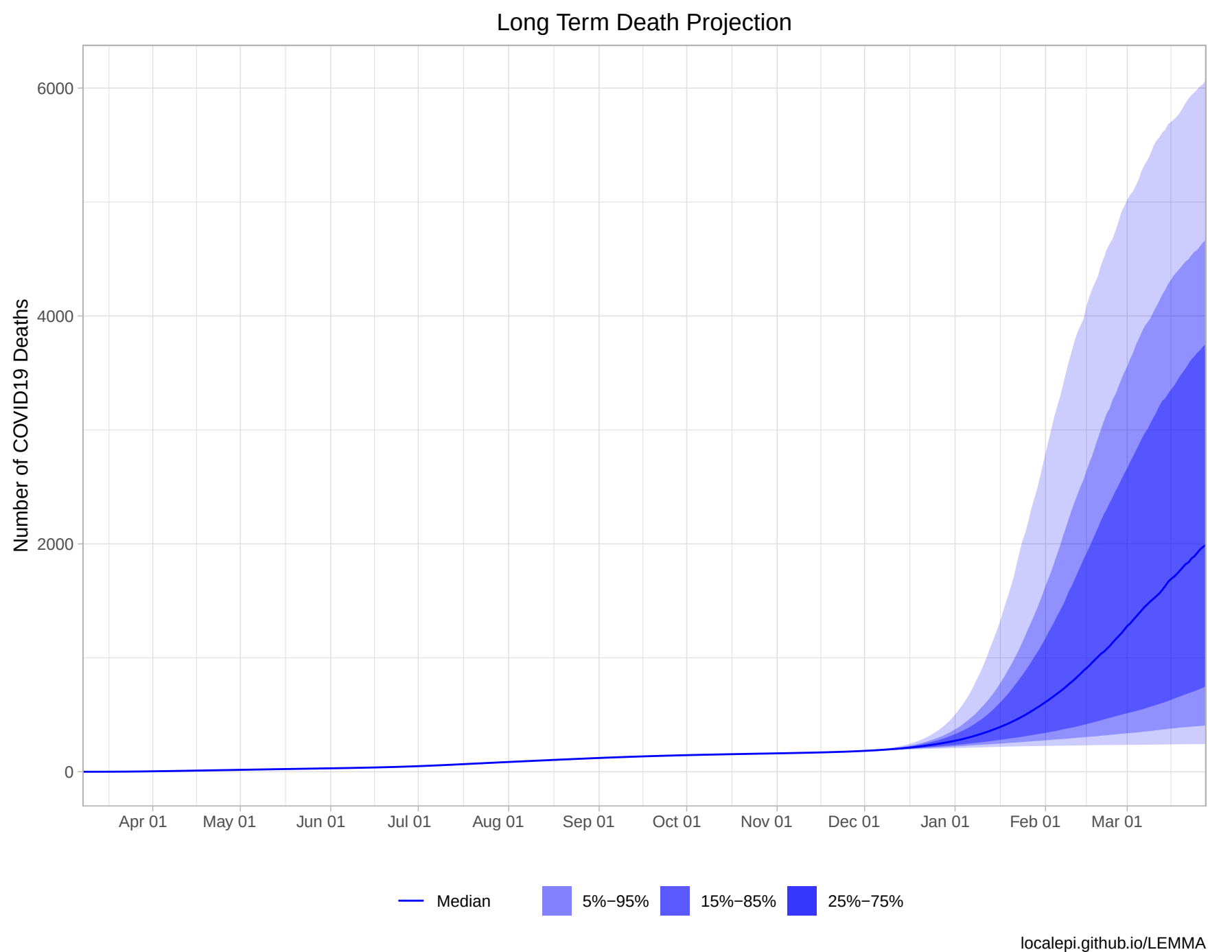

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
125
100
75
50
25
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

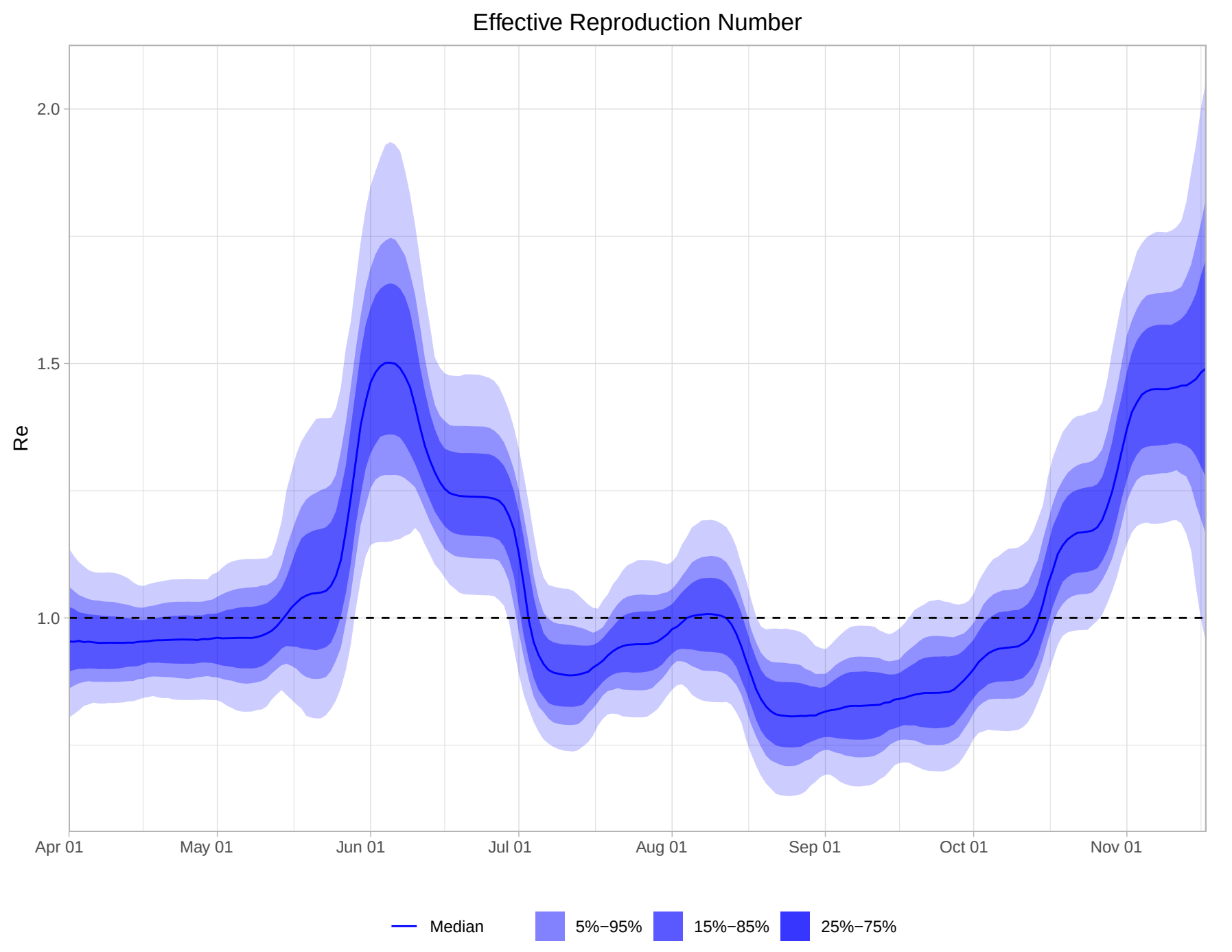

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
8000
6000
4000
2000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
40
30
20
10
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 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
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
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

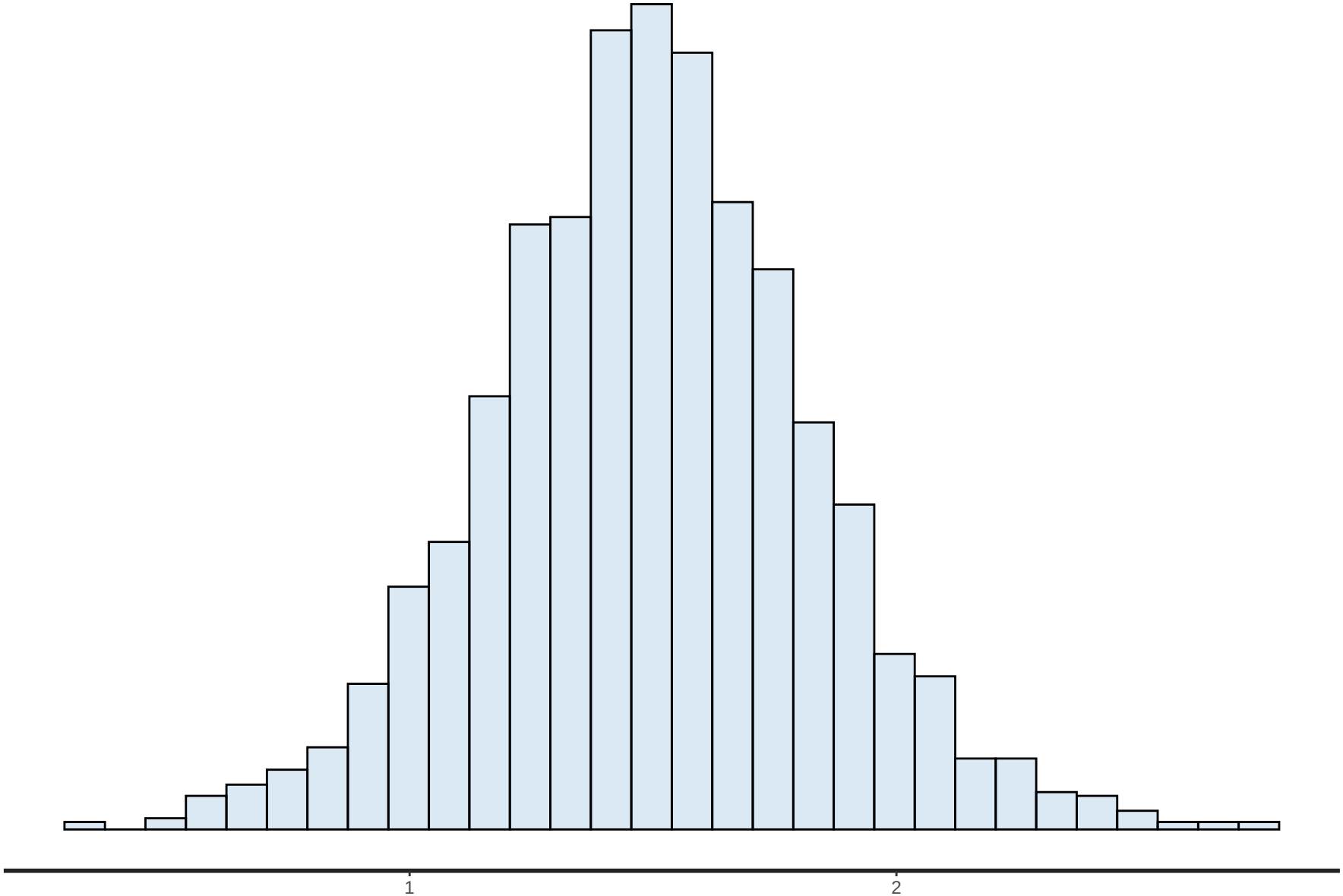

Short Term Death Projection
Number of COVID19 Deaths
150
100
50
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

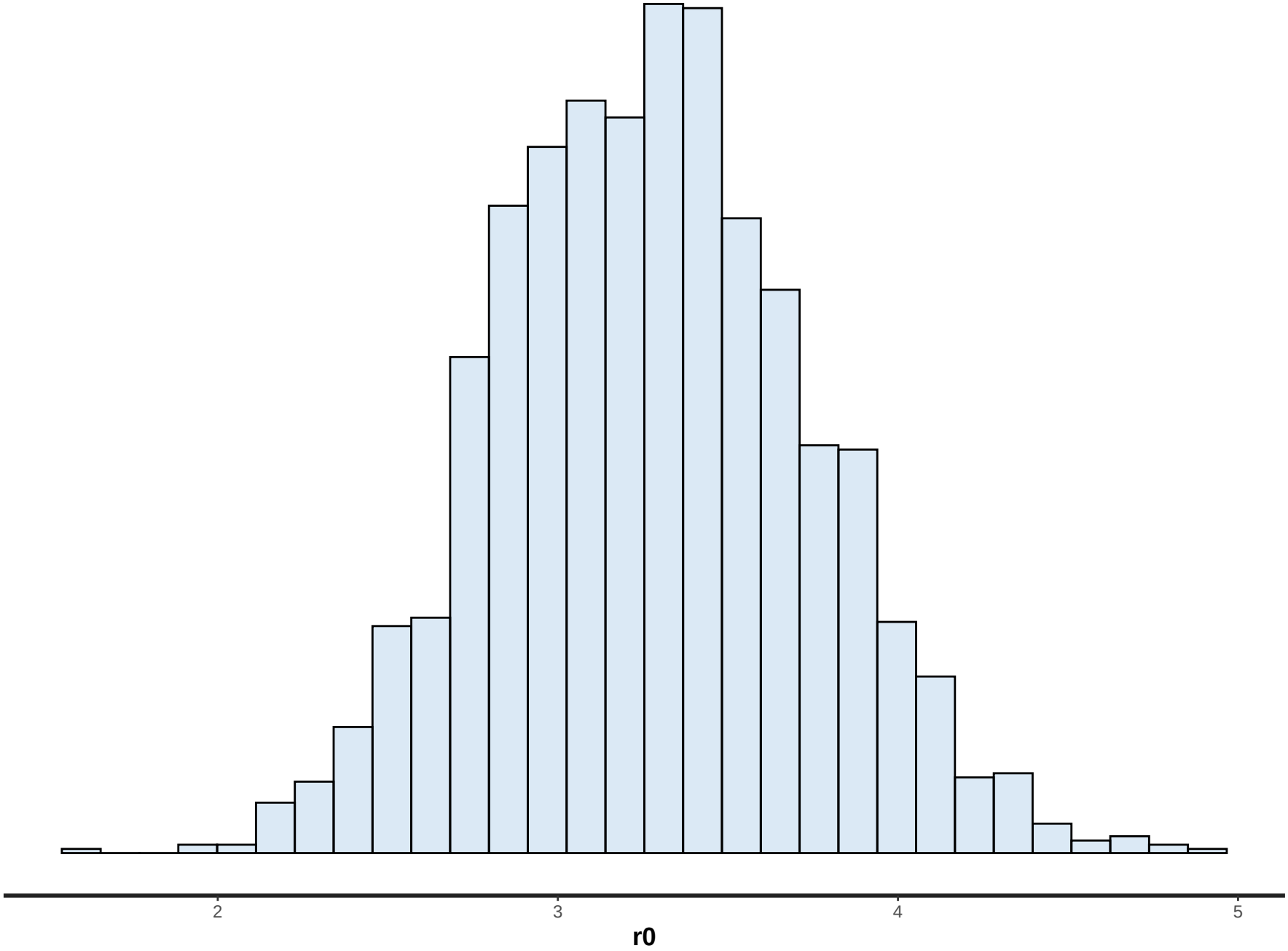

Long Term Death Projection
Number of COVID19 Deaths
6000
4000
2000
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

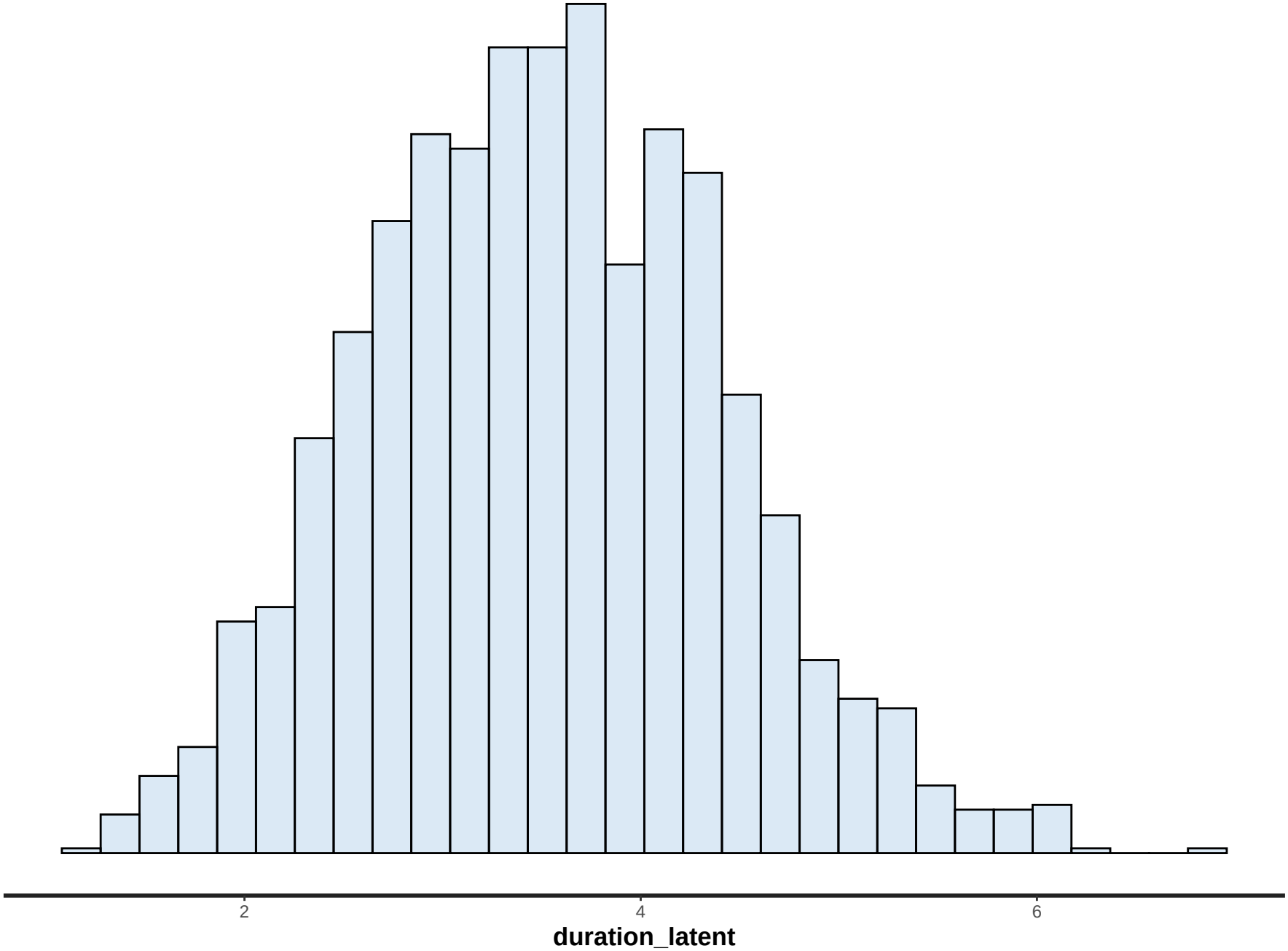

Effective Reproduction Number
Re
2.0
1.5
1.0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Median
5%−95%
15%−85%
25%−75%

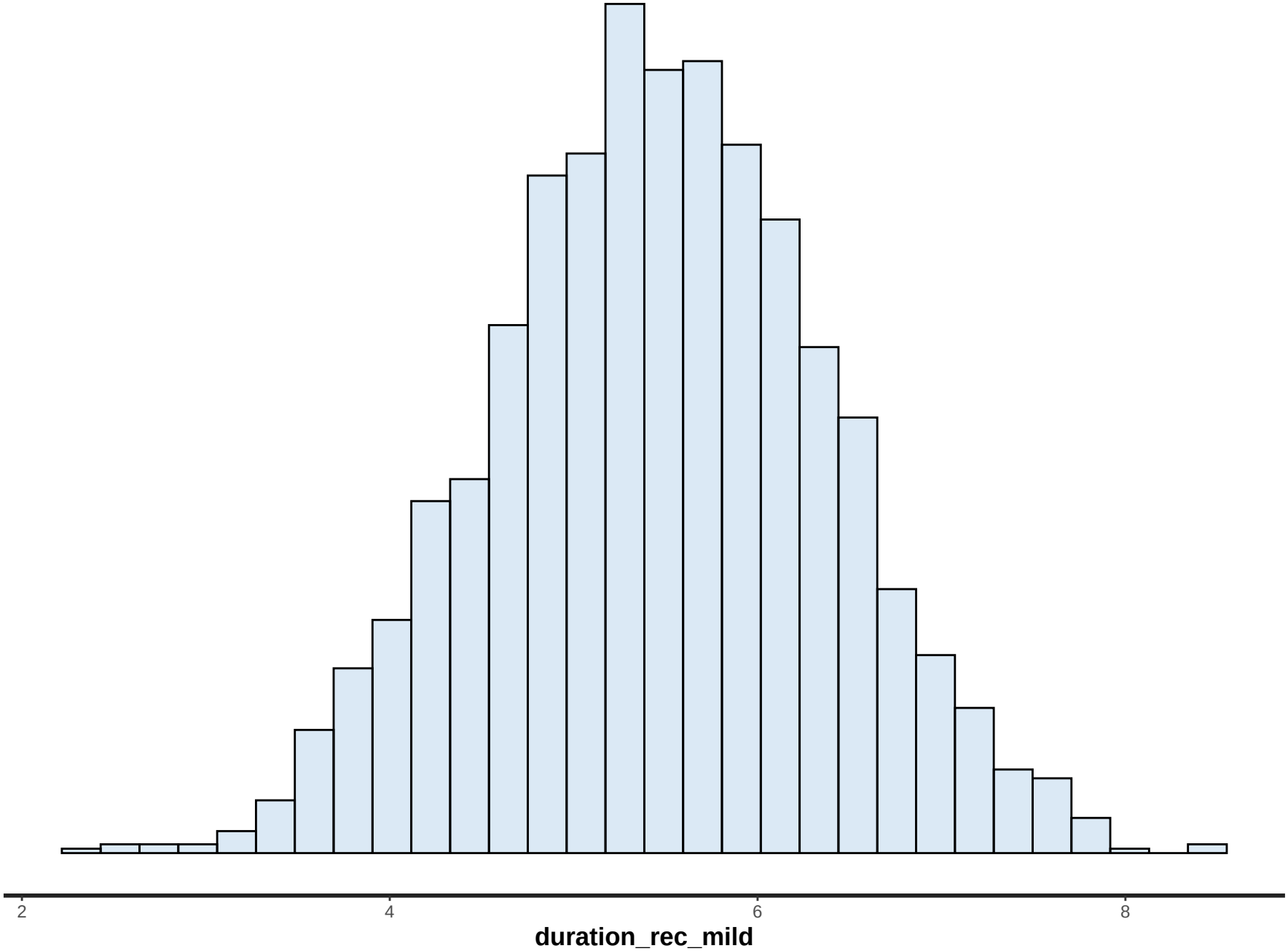
Rt as of 2020−11−17

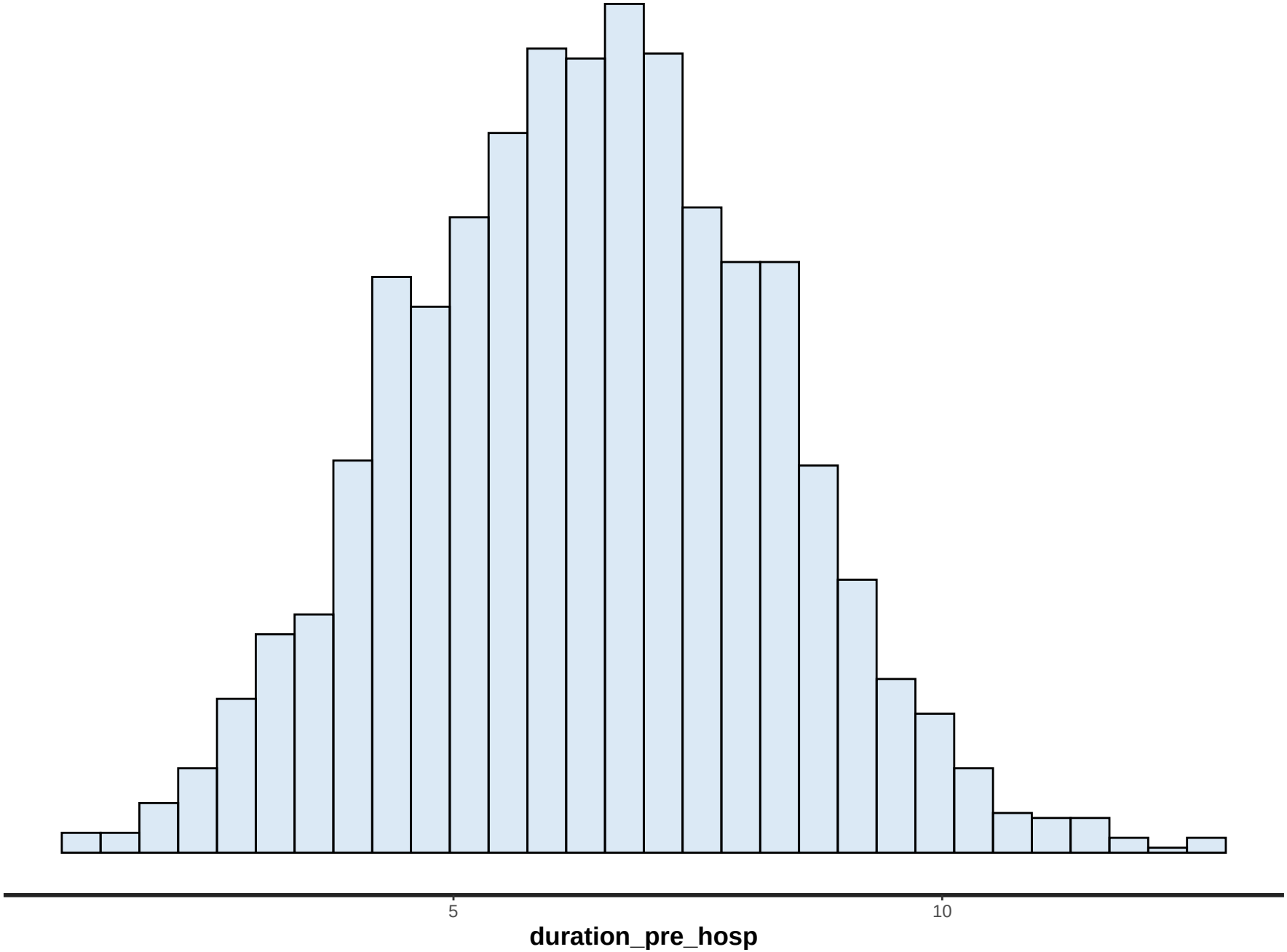
5%	10%	25%	50%	75%	90%	95%
0.95	1.08	1.28	1.49	1.71	1.91	2.06

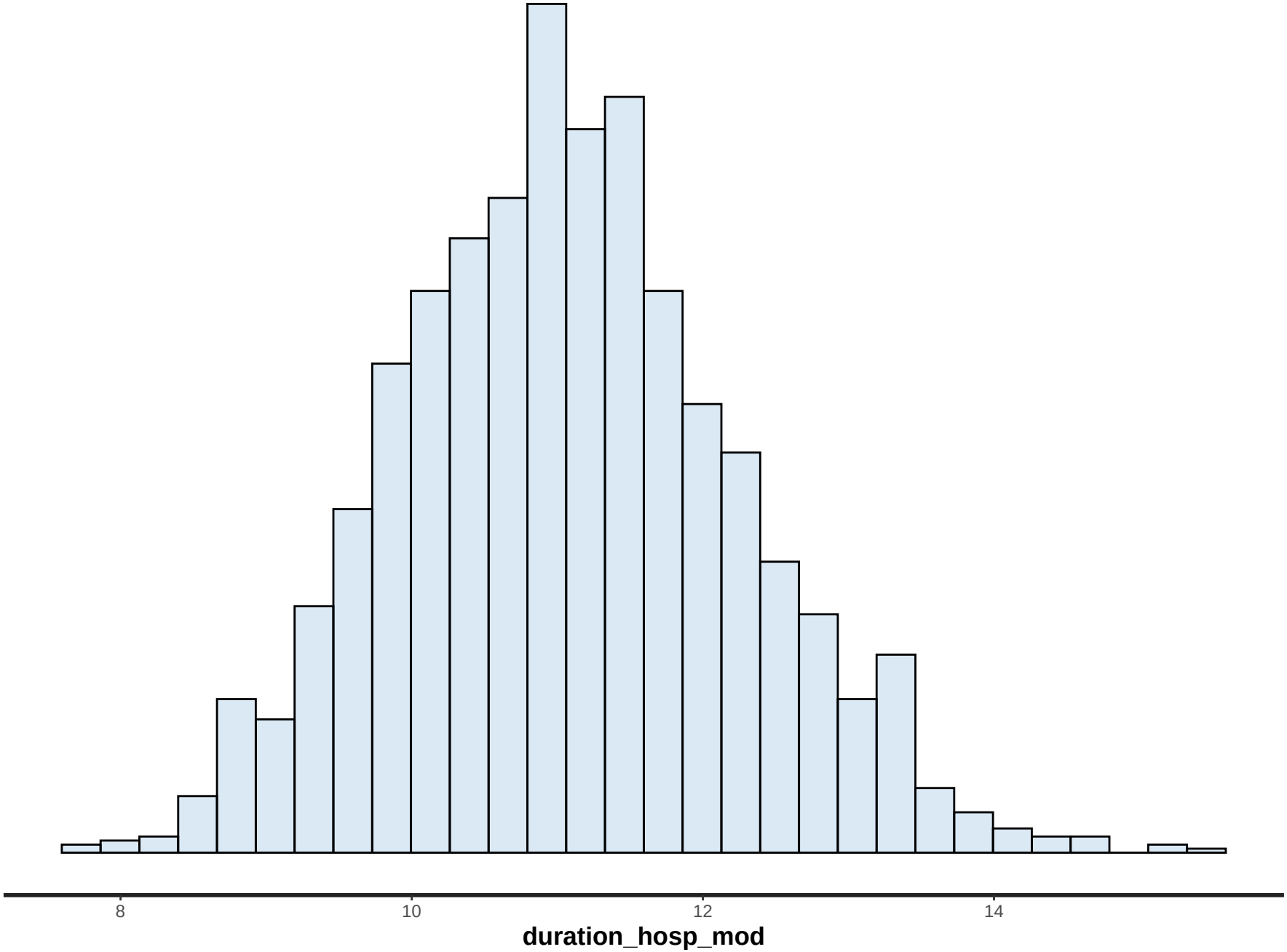


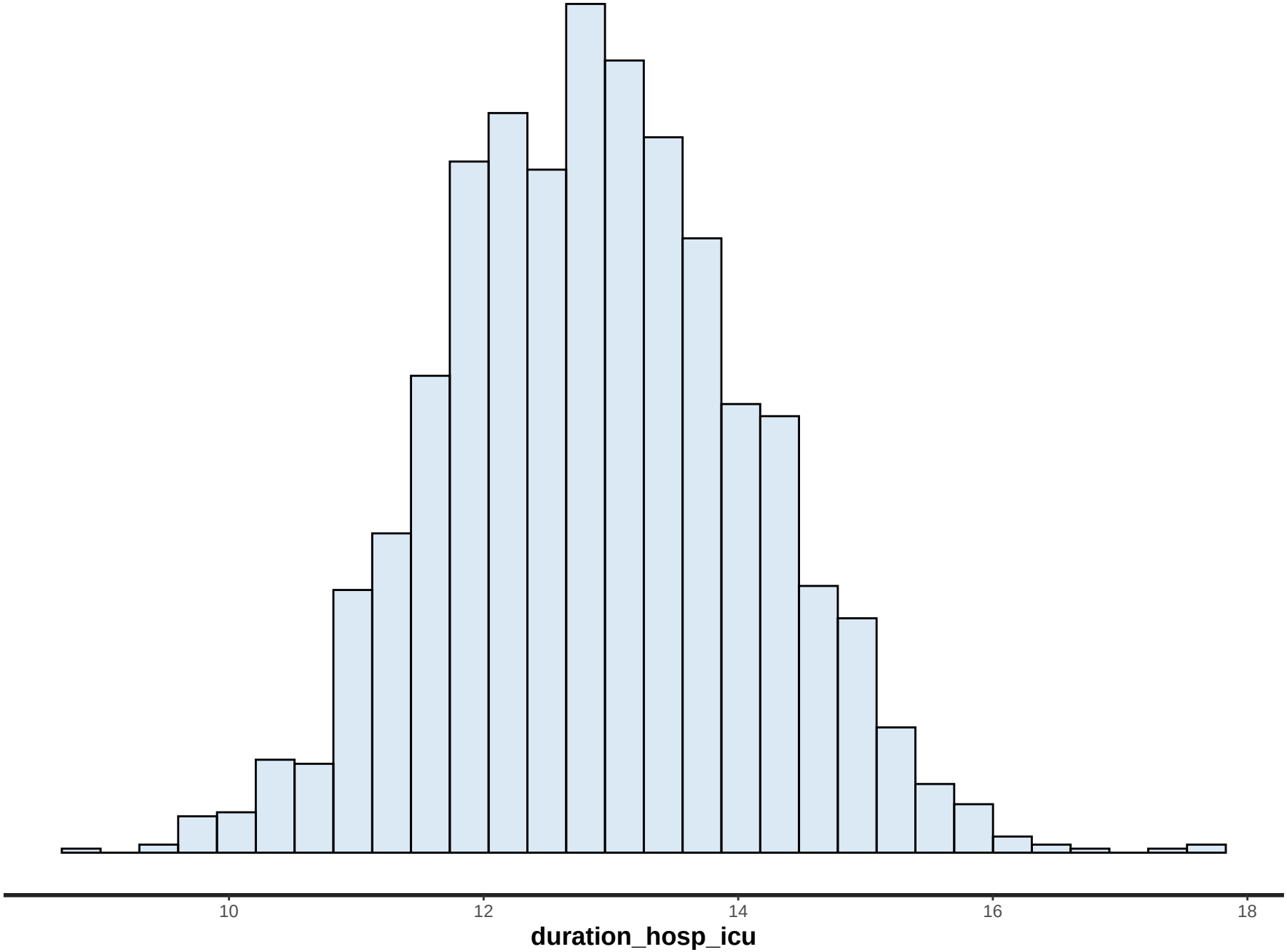

2
3
4
5
r0

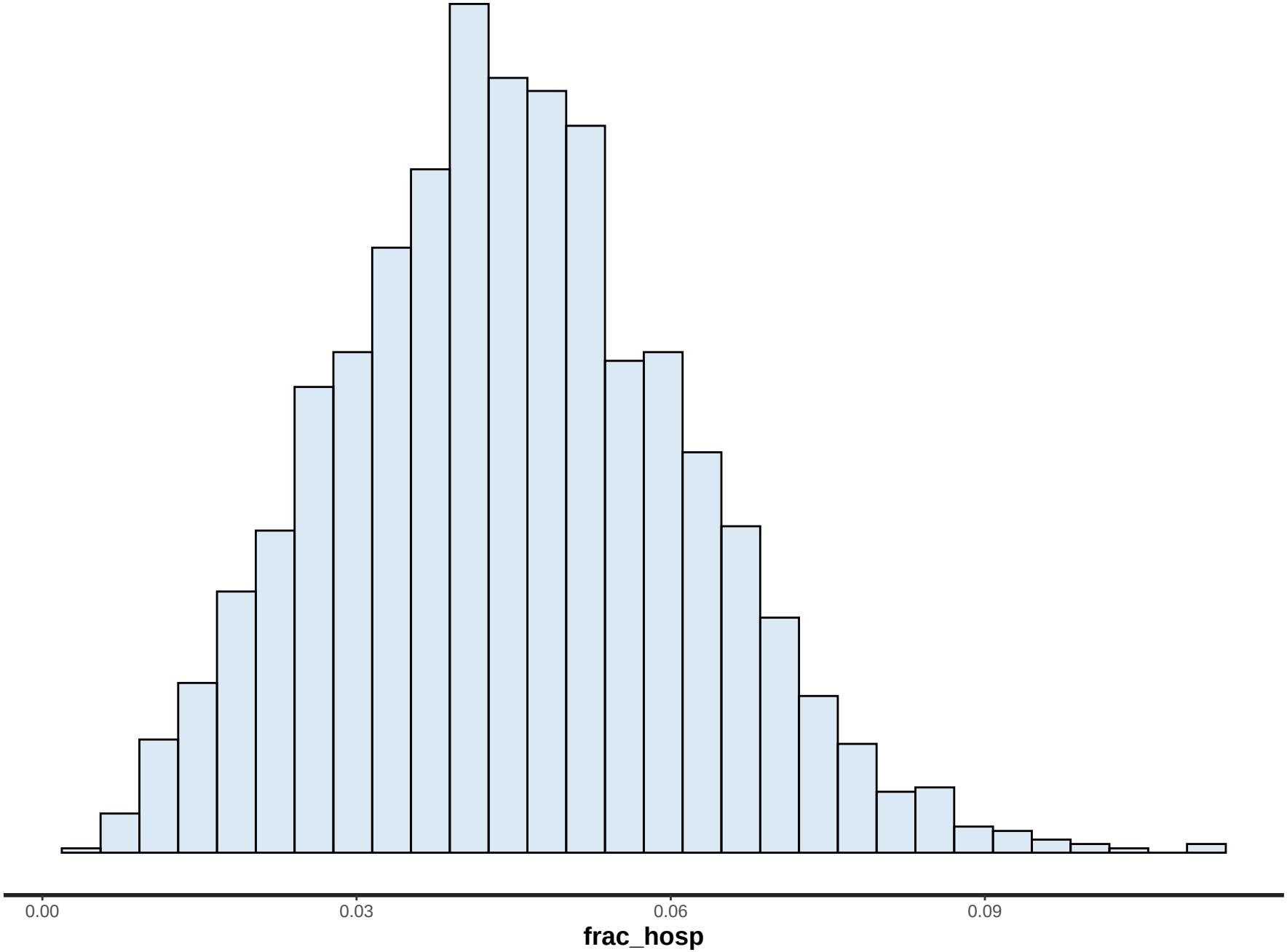

2
4
6
duration_latent

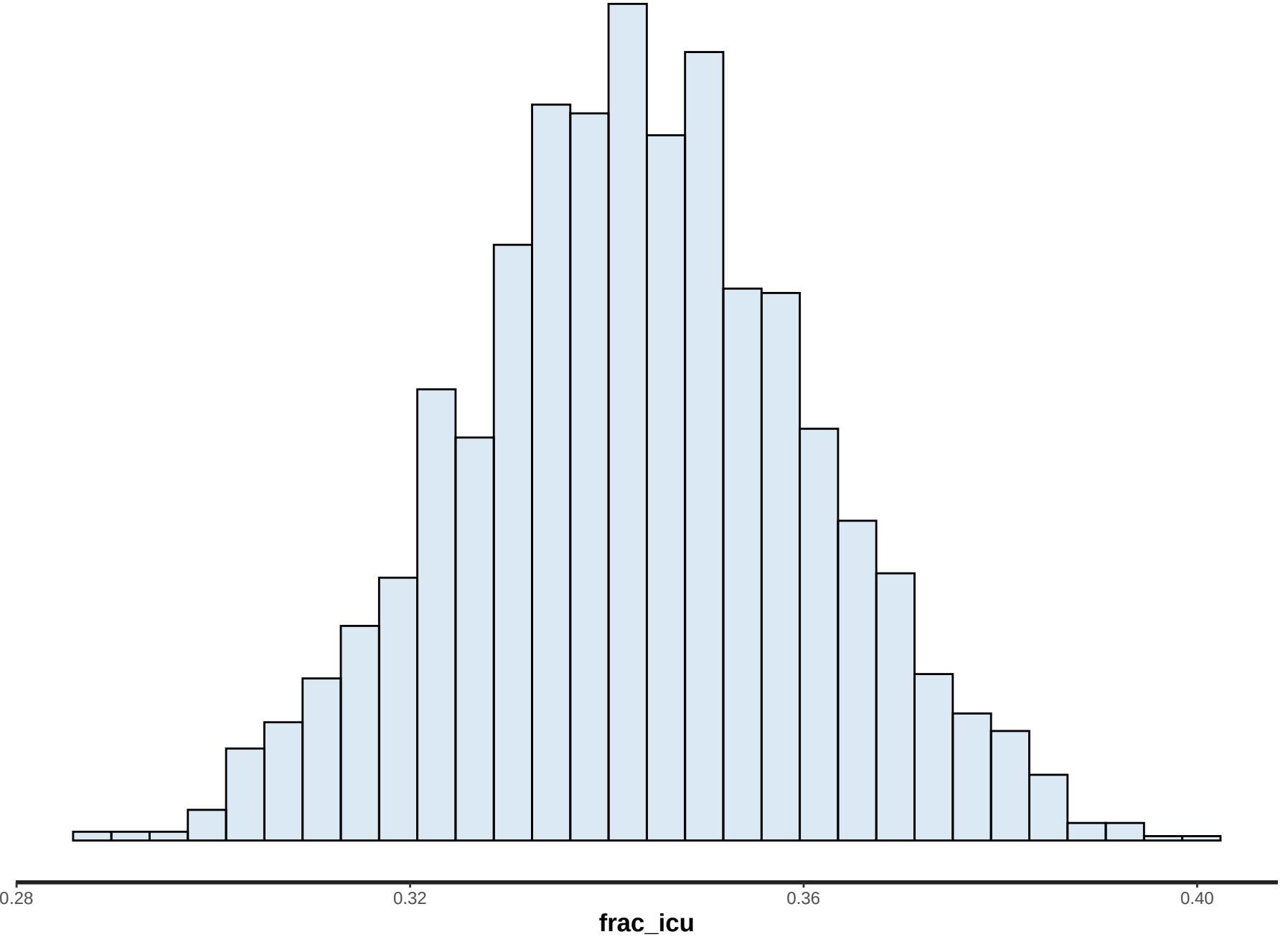

2
4
6
8
duration_rec_mild

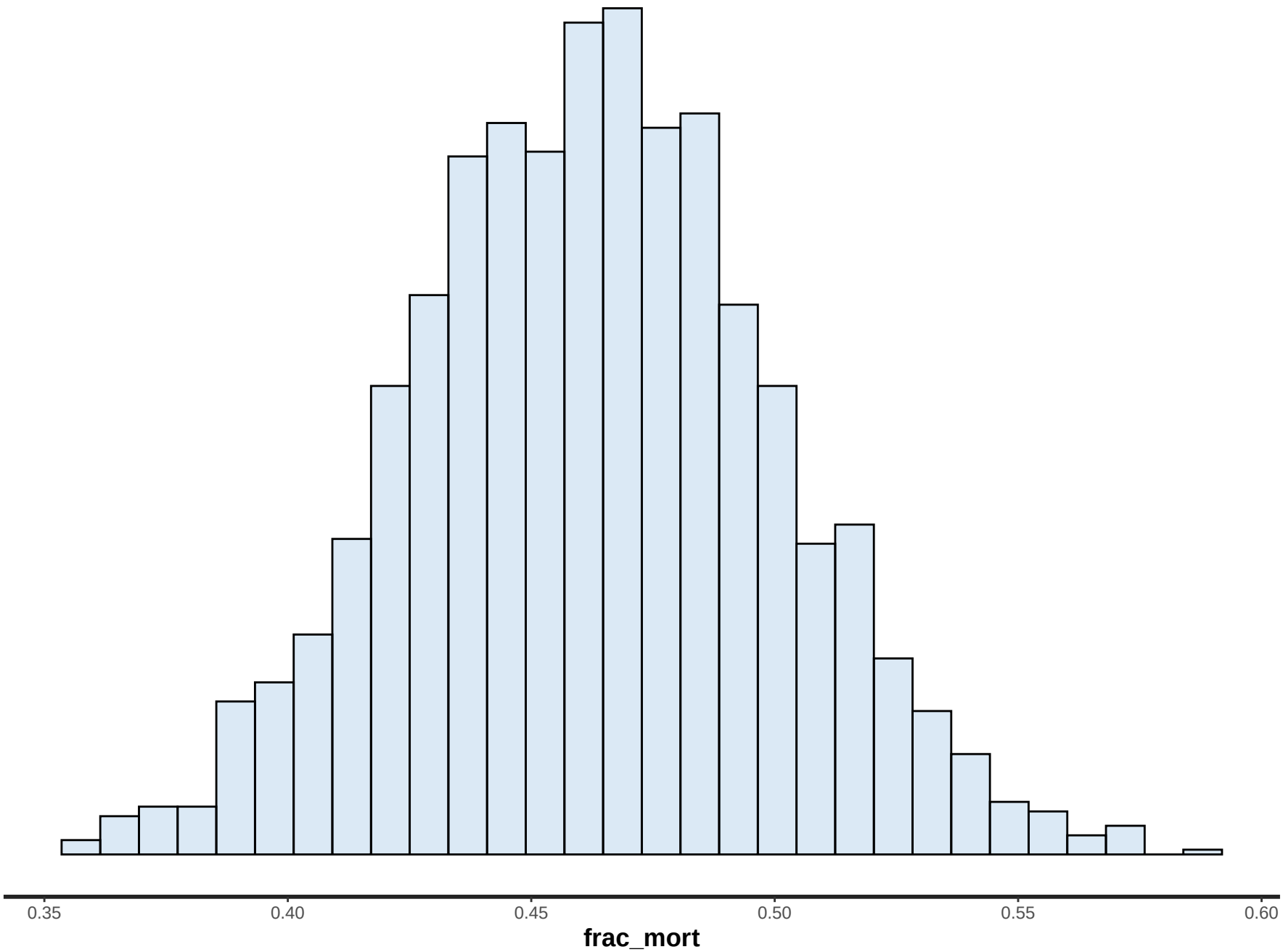

5
10
duration_pre_hosp

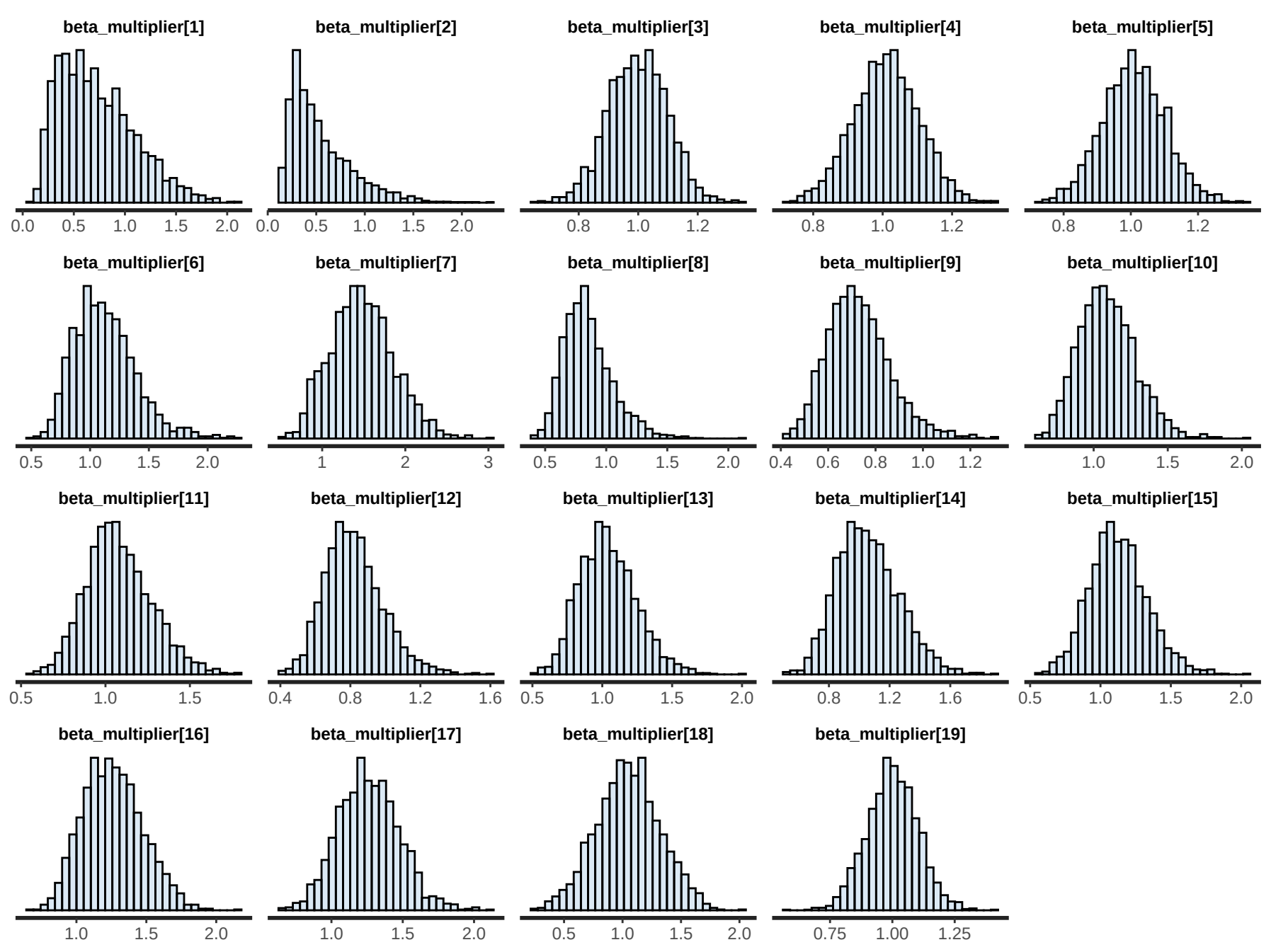

8
10
12
14
duration_hosp_mod

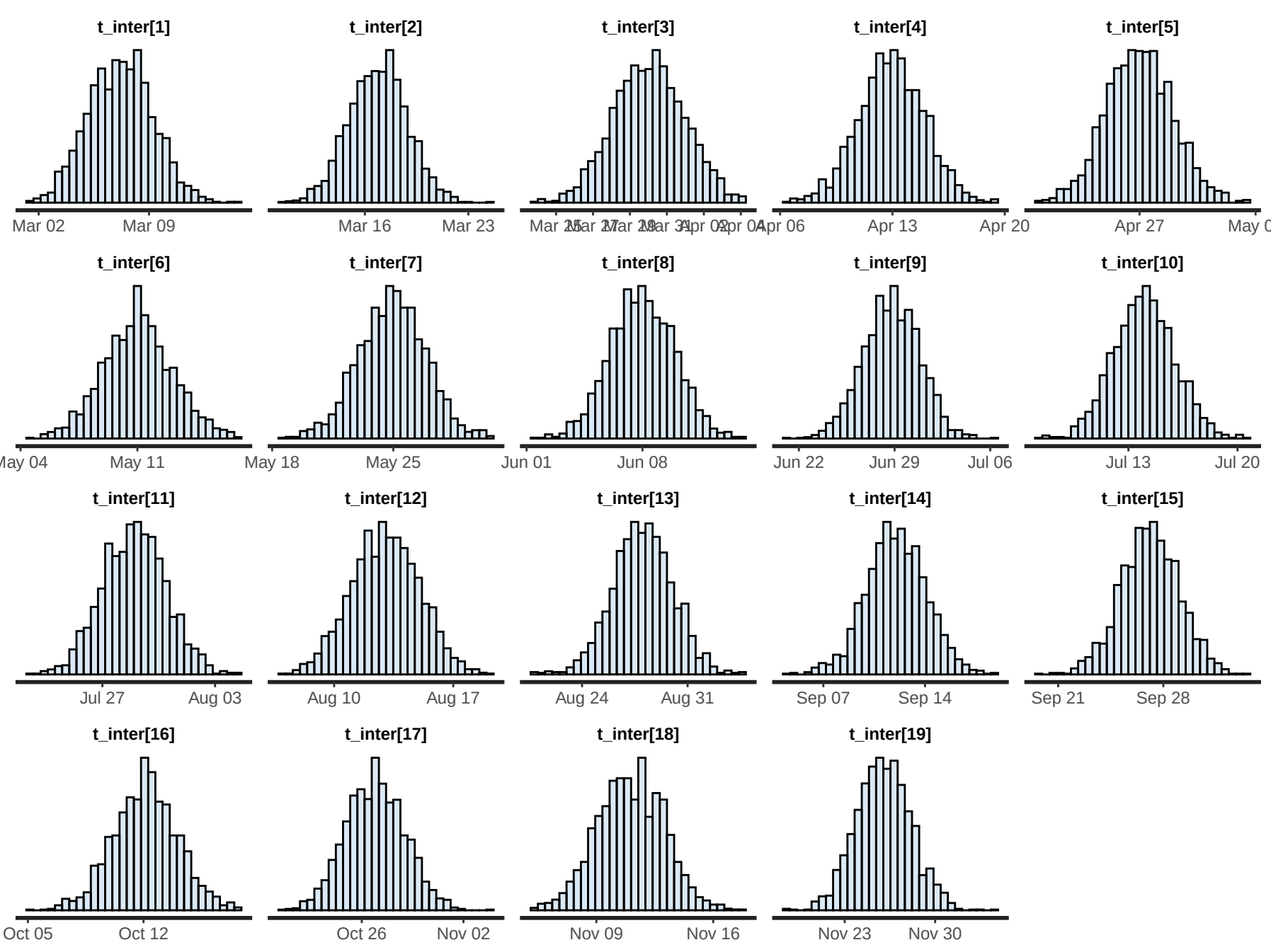

10
12
14
16
18
duration_hosp_icu

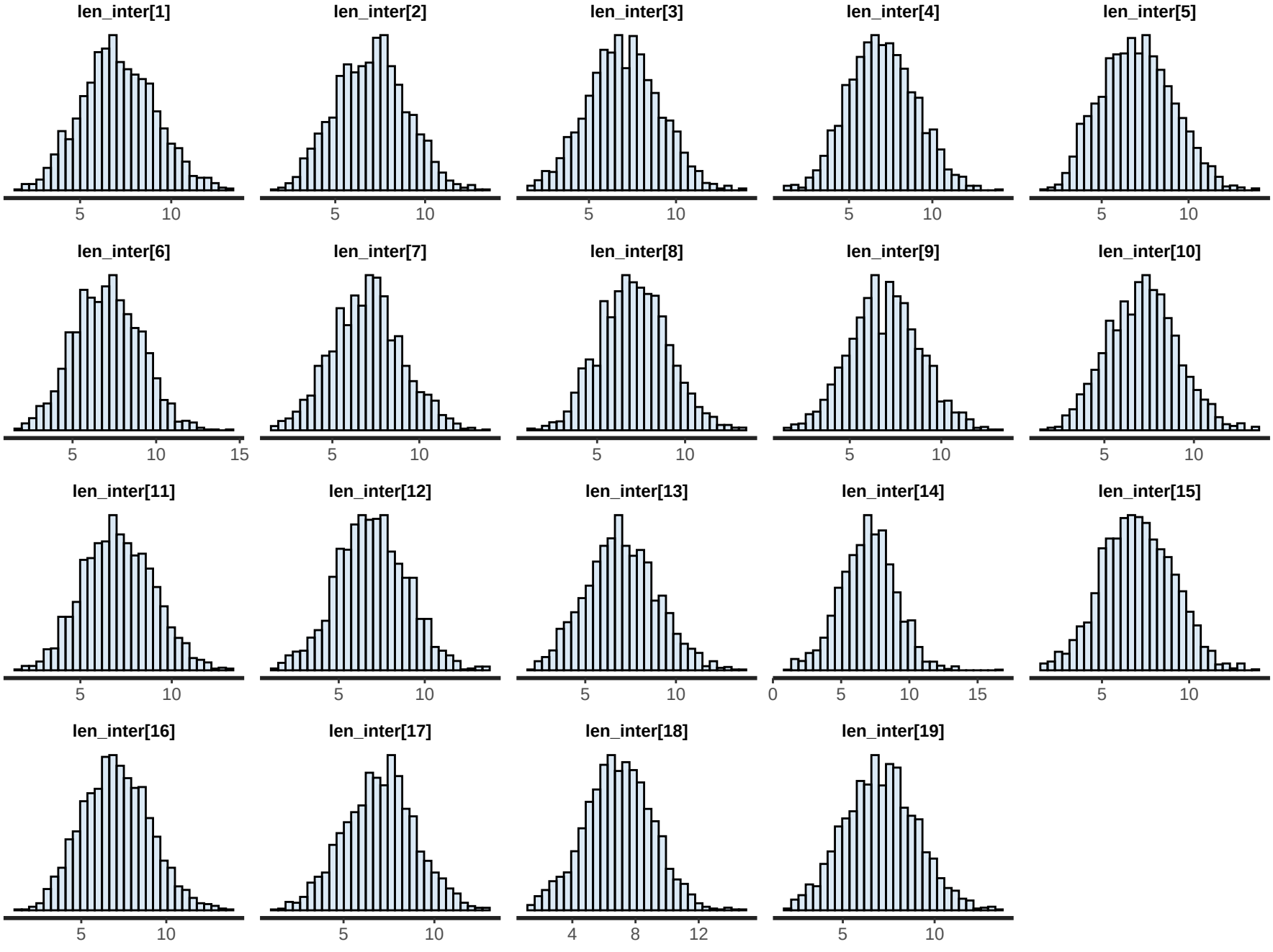

0.00
0.03
0.06
0.09
frac_hosp


0.28
0.32
0.36
0.40
frac_icu


0.35
0.40
0.45
0.50
0.55
0.60
frac_mort


beta_multiplier[1]
0.0 0.5 1.0 1.5 2.0
beta_multiplier[2]
0.0 0.5 1.0 1.5 2.0
beta_multiplier[3]
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]
0.5 1.0 1.5 2.0
beta_multiplier[7]
1 2 3
beta_multiplier[8]
0.5 1.0 1.5 2.0
beta_multiplier[9]
0.4 0.6 0.8 1.0 1.2
beta_multiplier[10]
1.0 1.5 2.0
beta_multiplier[11]
0.5 1.0 1.5
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]
0.5 1.0 1.5 2.0
beta_multiplier[16]
1.0 1.5 2.0
beta_multiplier[17]
1.0 1.5 2.0
beta_multiplier[18]
0.5 1.0 1.5 2.0
beta_multiplier[19]
0.75 1.00 1.25


t_inter[1]
Mar 02
Mar 09
t_inter[2]
Mar 16
Mar 23
t_inter[3]
Mar 25
Mar 27
Mar 29
Mar 31
Apr 02
Apr 04
t_inter[4]
Apr 06
Apr 13
Apr 20
t_inter[5]
Apr 27
t_inter[6]
May 04
May 11
t_inter[7]
May 18
May 25
t_inter[8]
Jun 01
Jun 08
t_inter[9]
Jun 22
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
t_inter[13]
Aug 24
Aug 31
t_inter[14]
Sep 07
Sep 14
t_inter[15]
Sep 21
Sep 28
t_inter[16]
Oct 05
Oct 12
t_inter[17]
Oct 26
Nov 02
t_inter[18]
Nov 09
Nov 16
t_inter[19]
Nov 23
Nov 30


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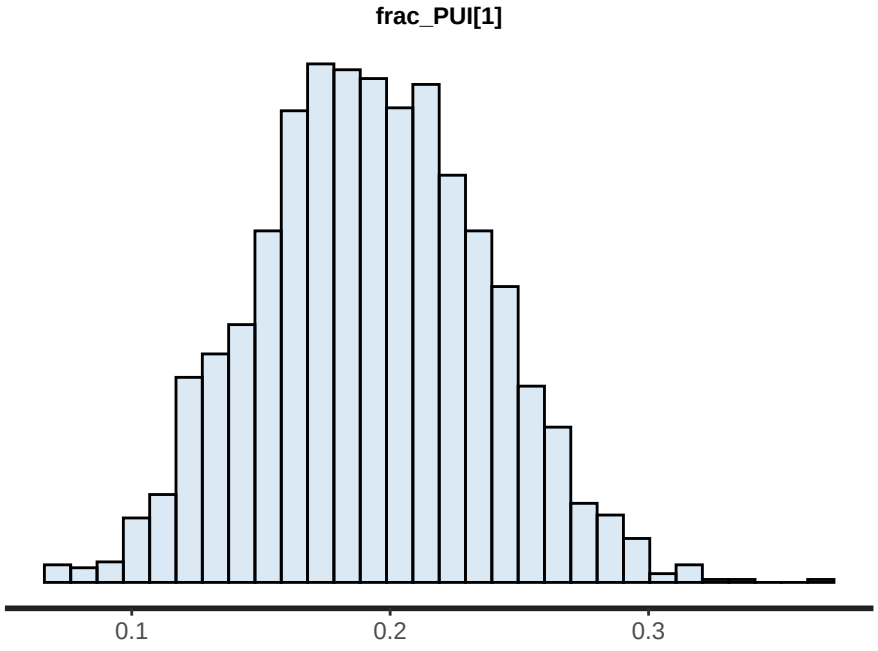
len_inter[18]
4
8
12
len_inter[19]
5
10


frac_PUI[1]
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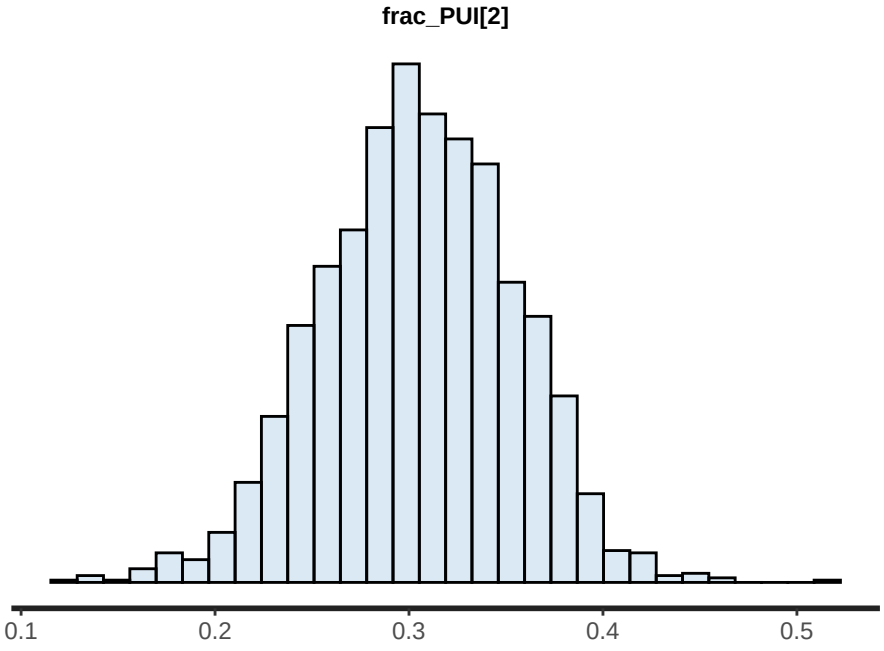
0.2
0.3


frac_PUI[2]
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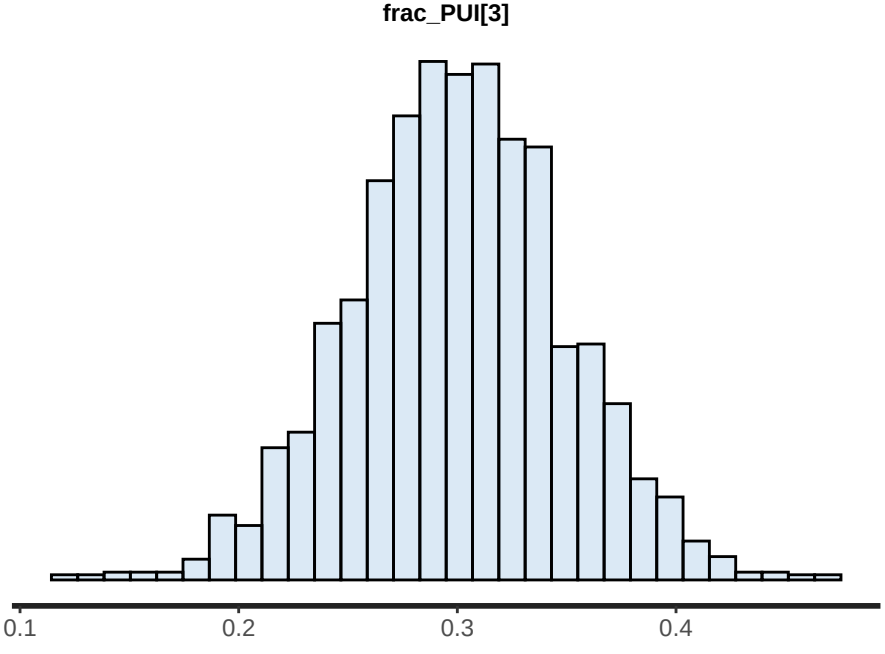
0.2
0.3
0.4
0.5


frac_PUI[3]
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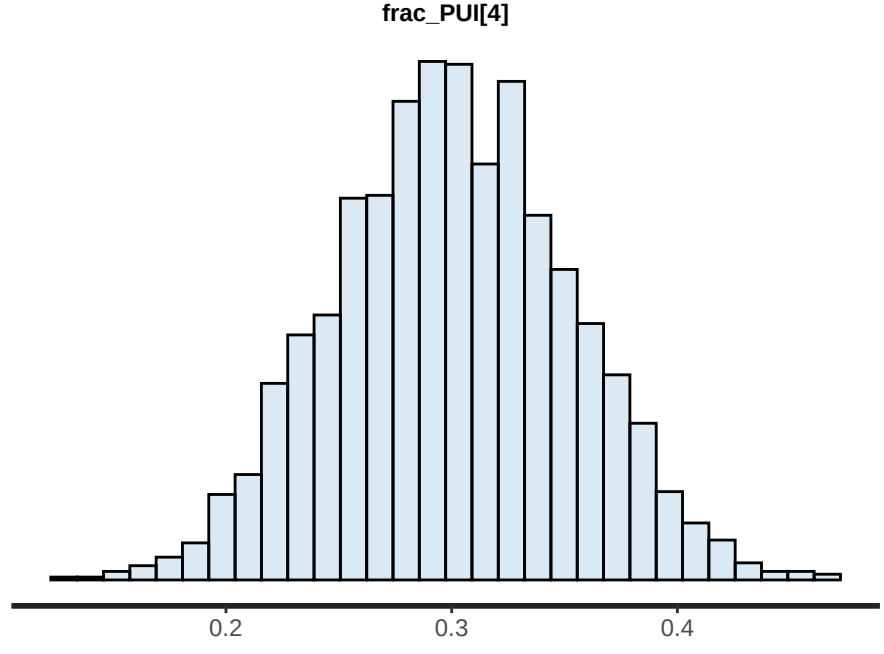
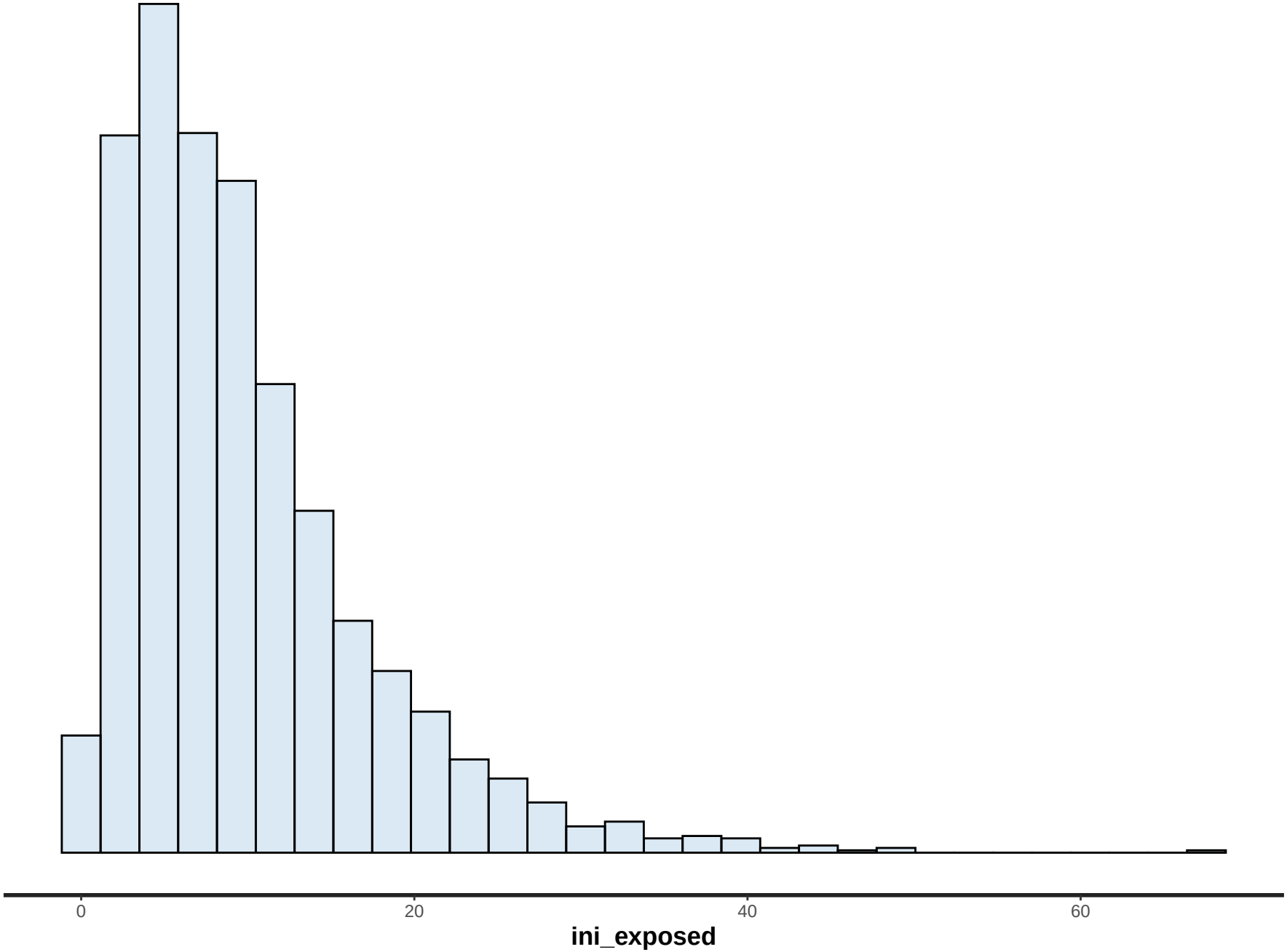
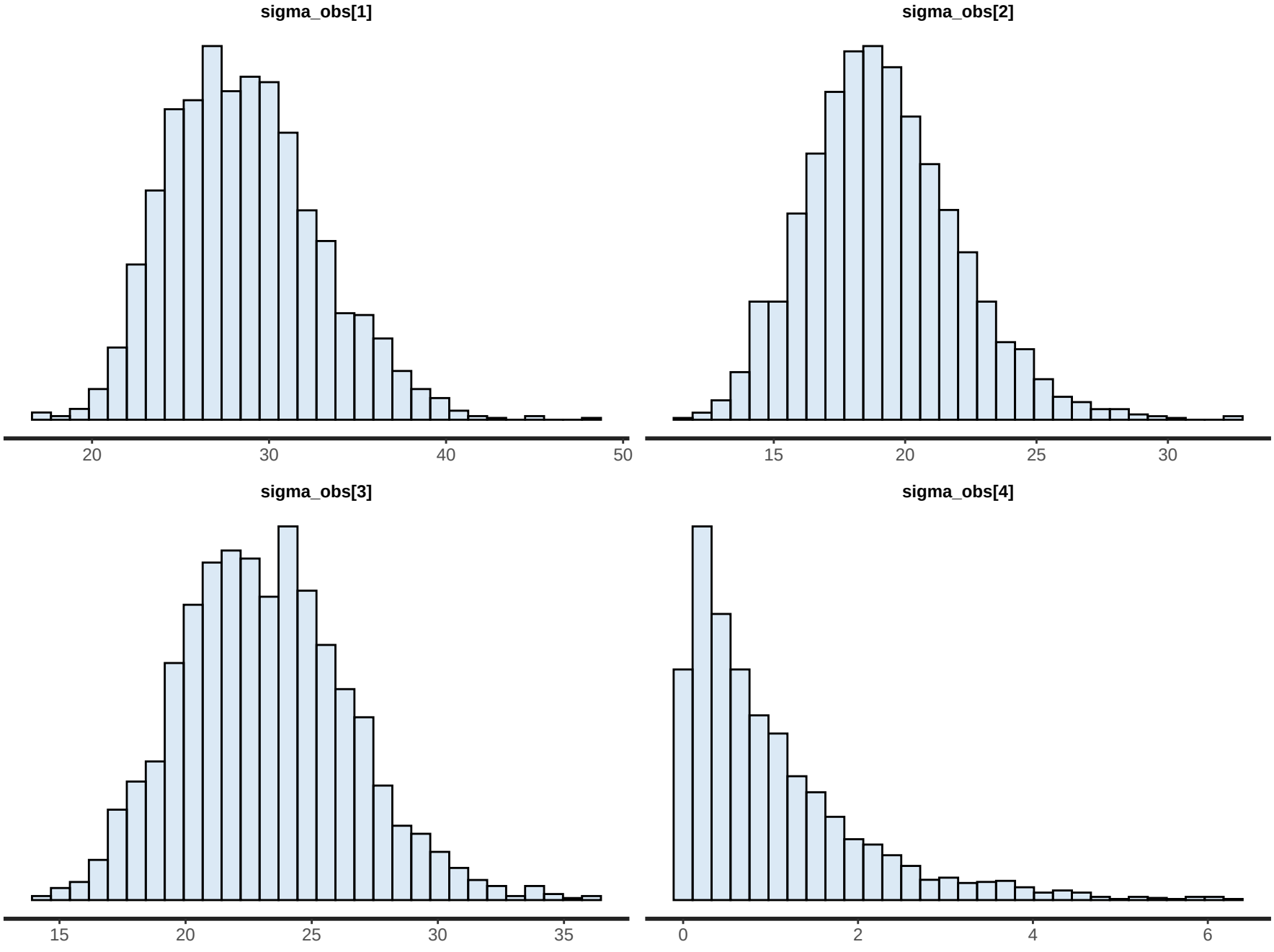
0.2
0.3
0.4


frac_PUI[4]
0.2
0.3
0.4


0
20
40
60
ini_exposed


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