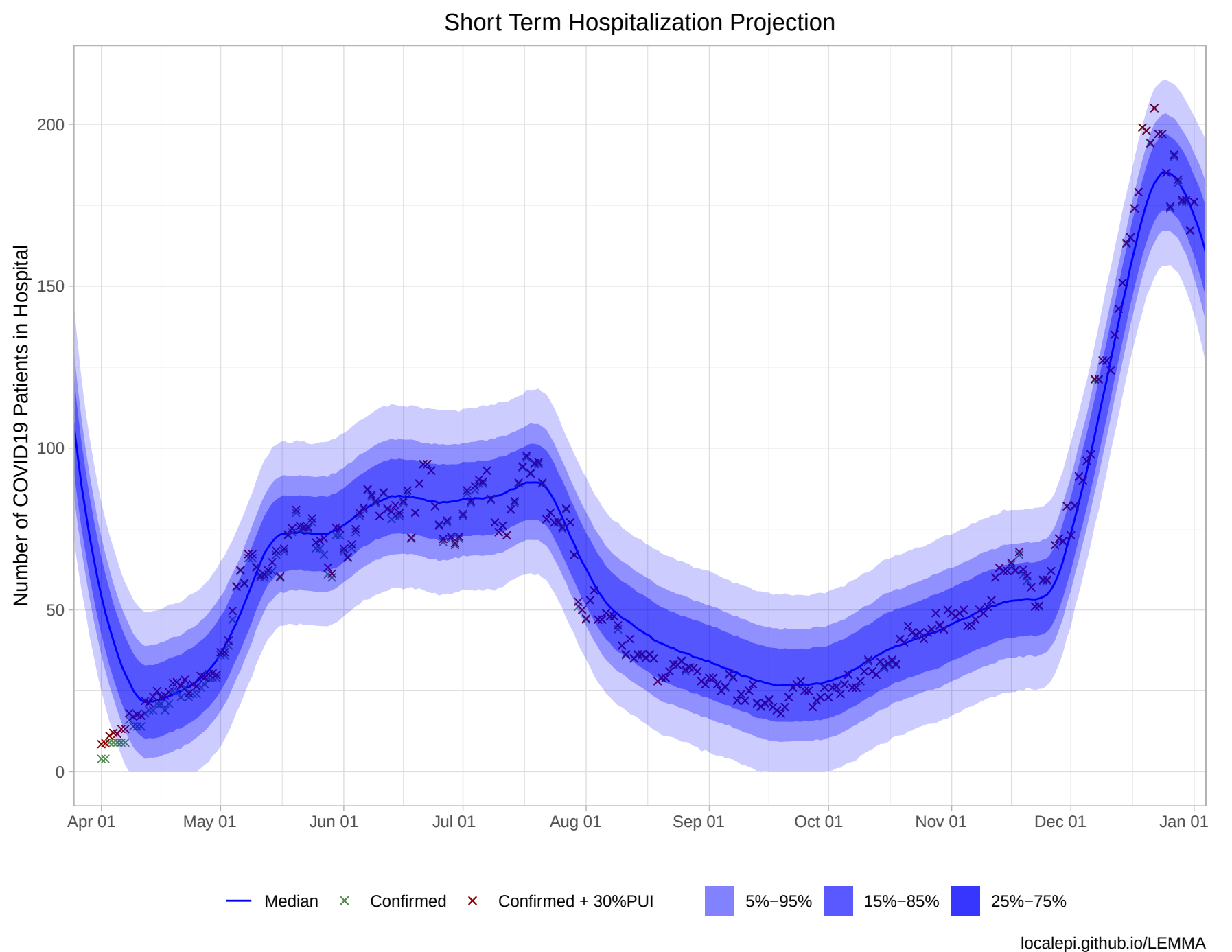
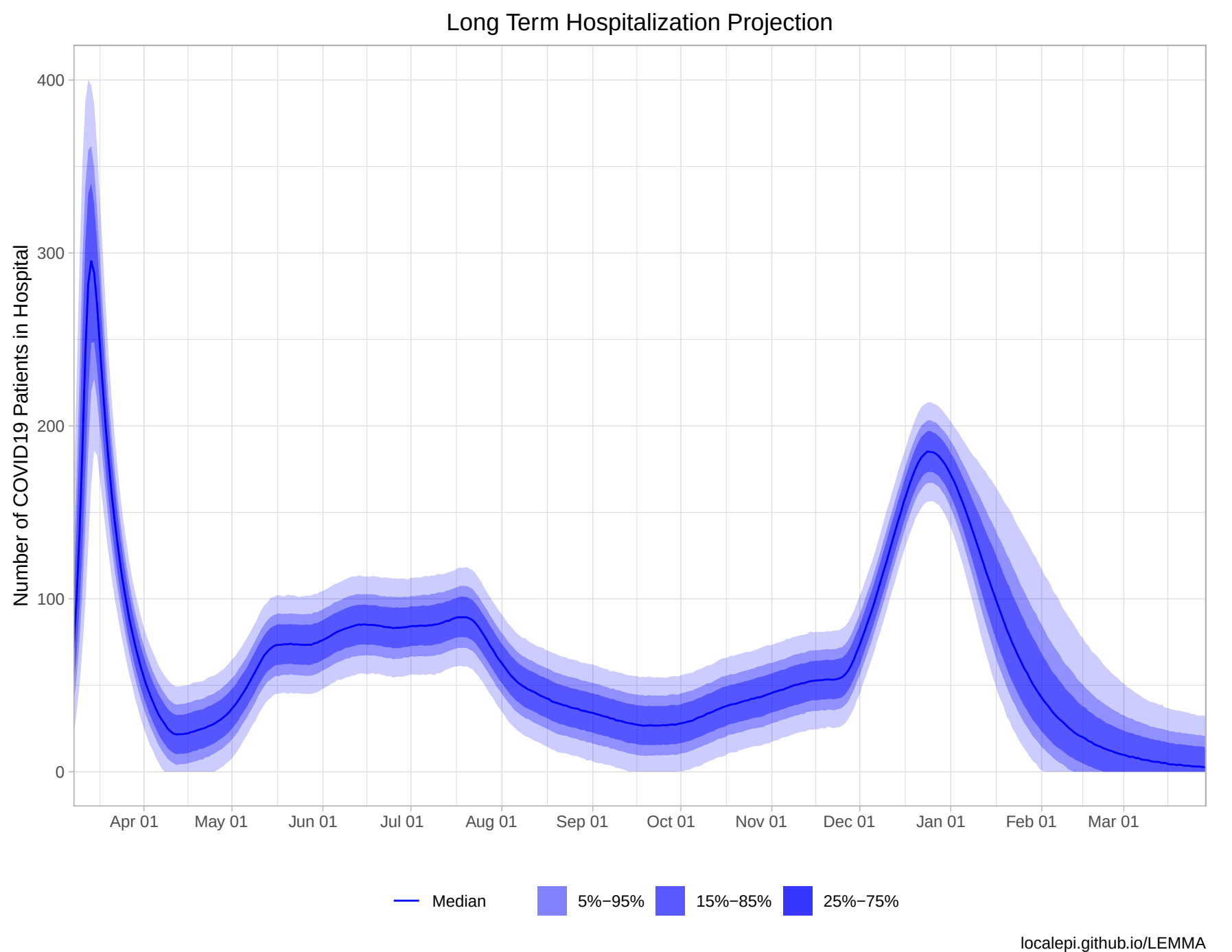
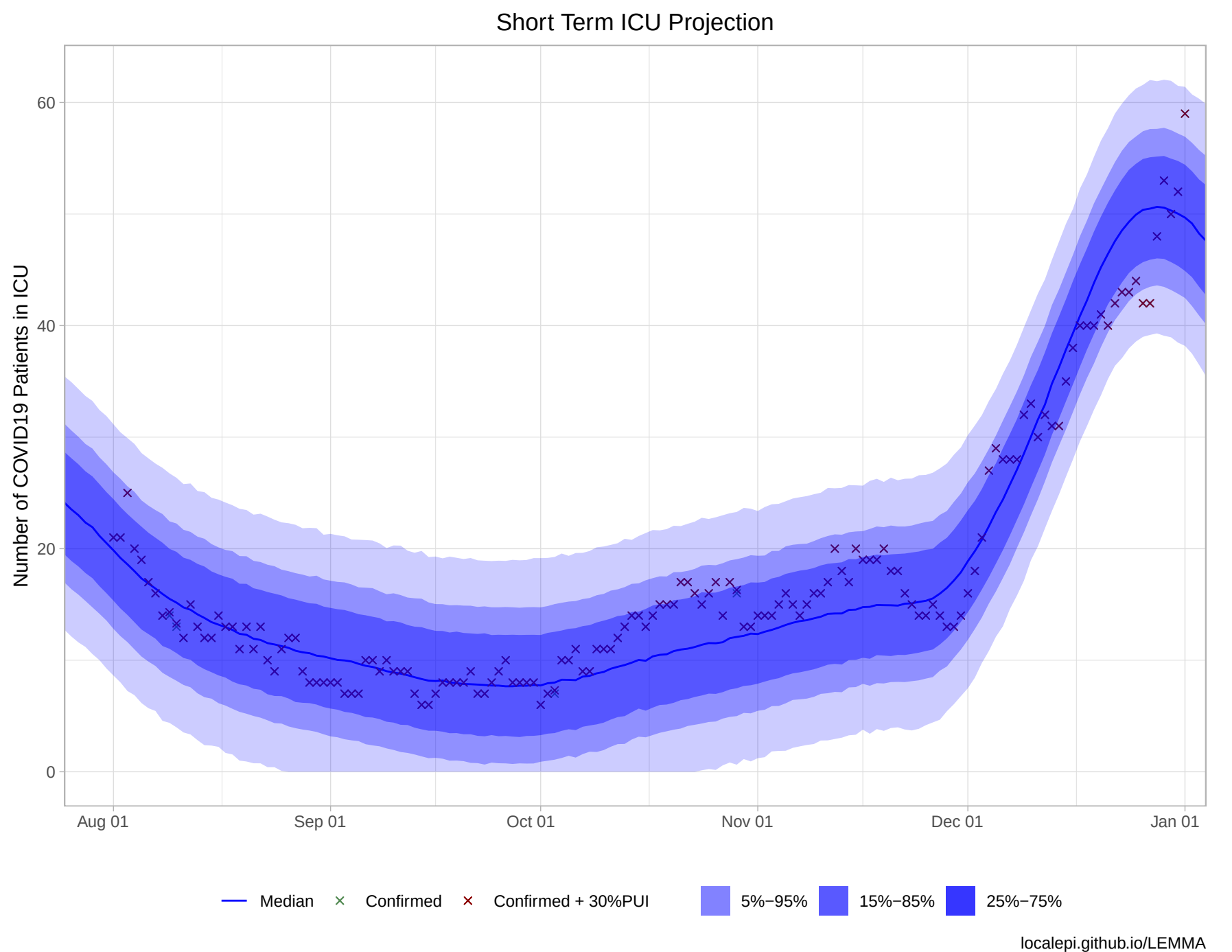
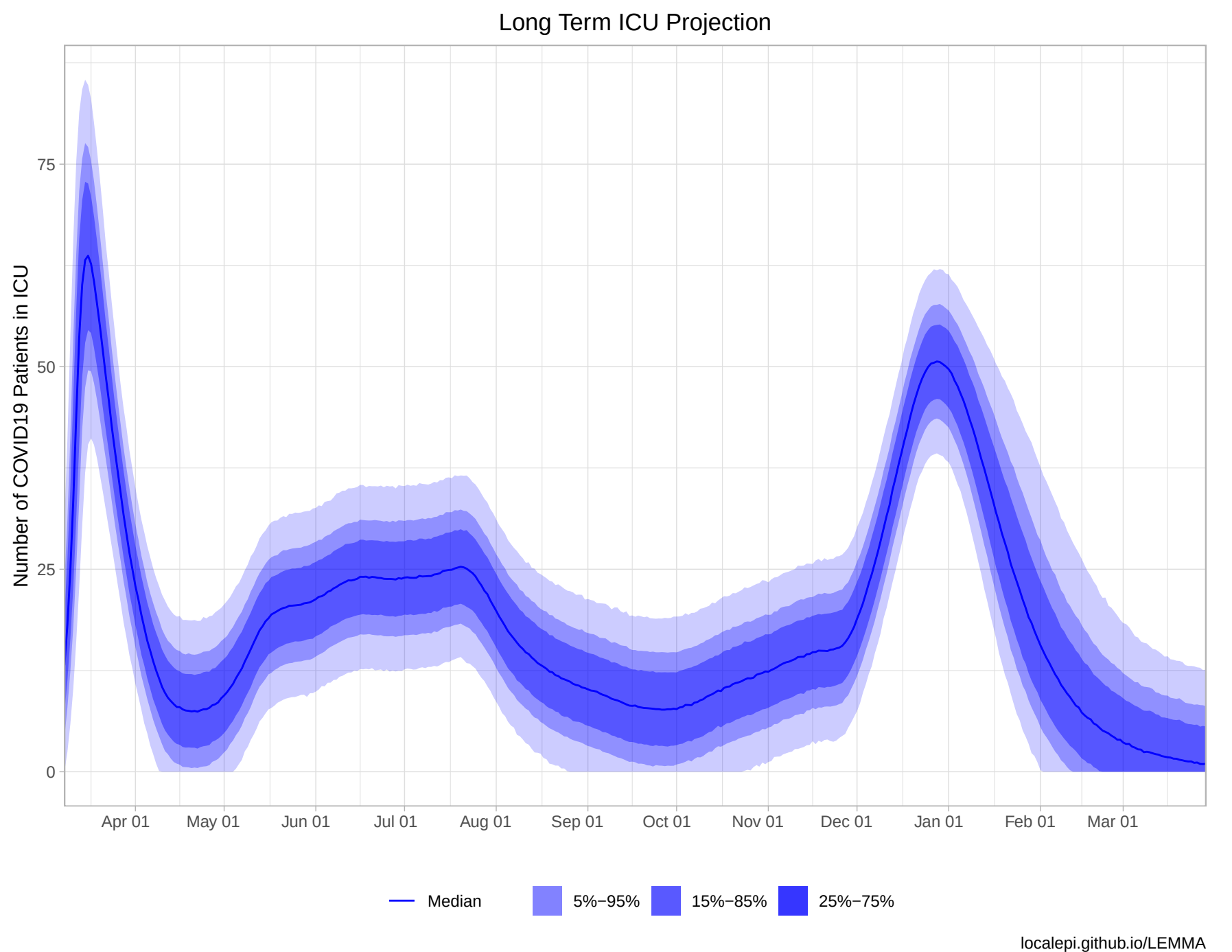
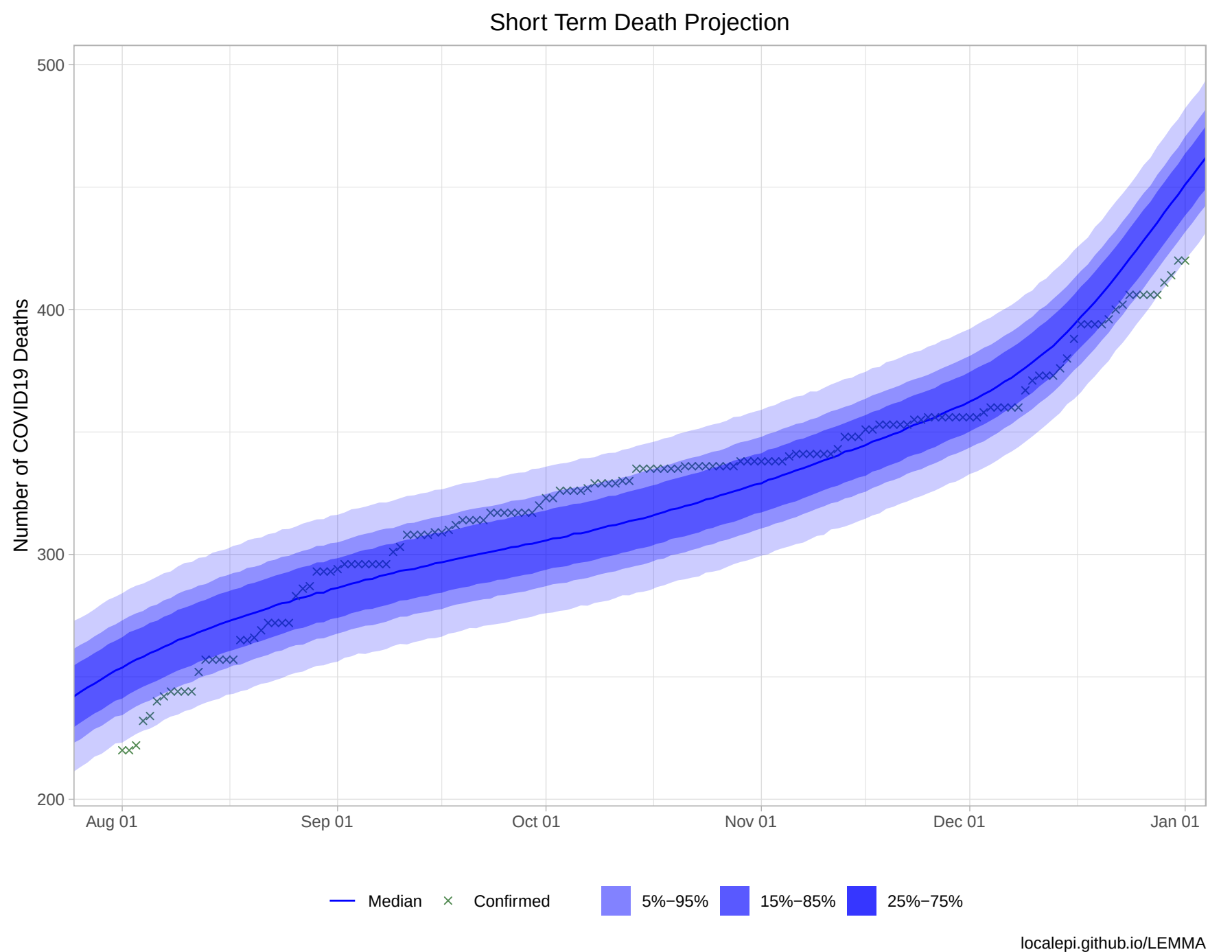
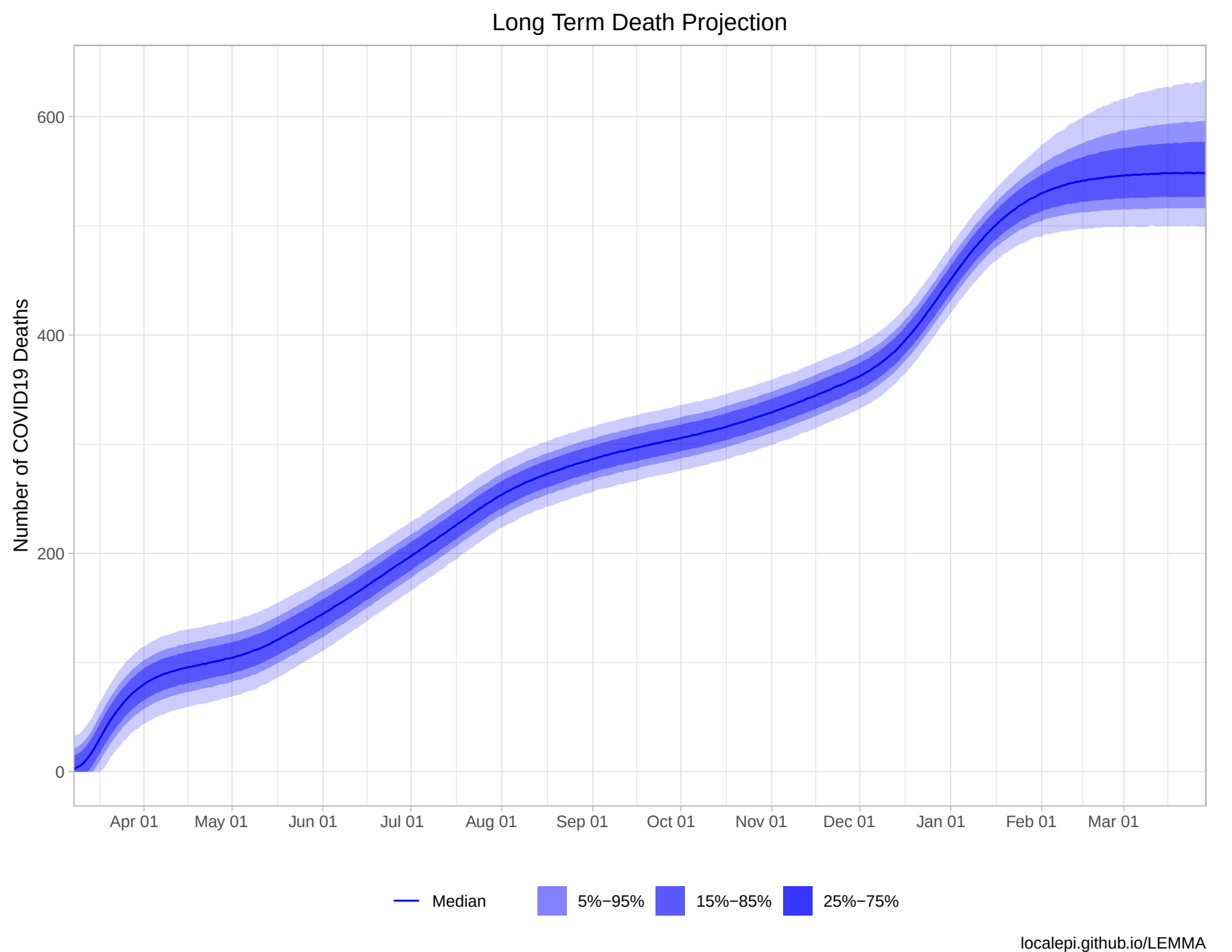

Short Term Hospitalization Projection
Number of COVID19 Patients in Hospital
200
150
100
50
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Median
Confirmed
Confirmed + 30%PUI
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

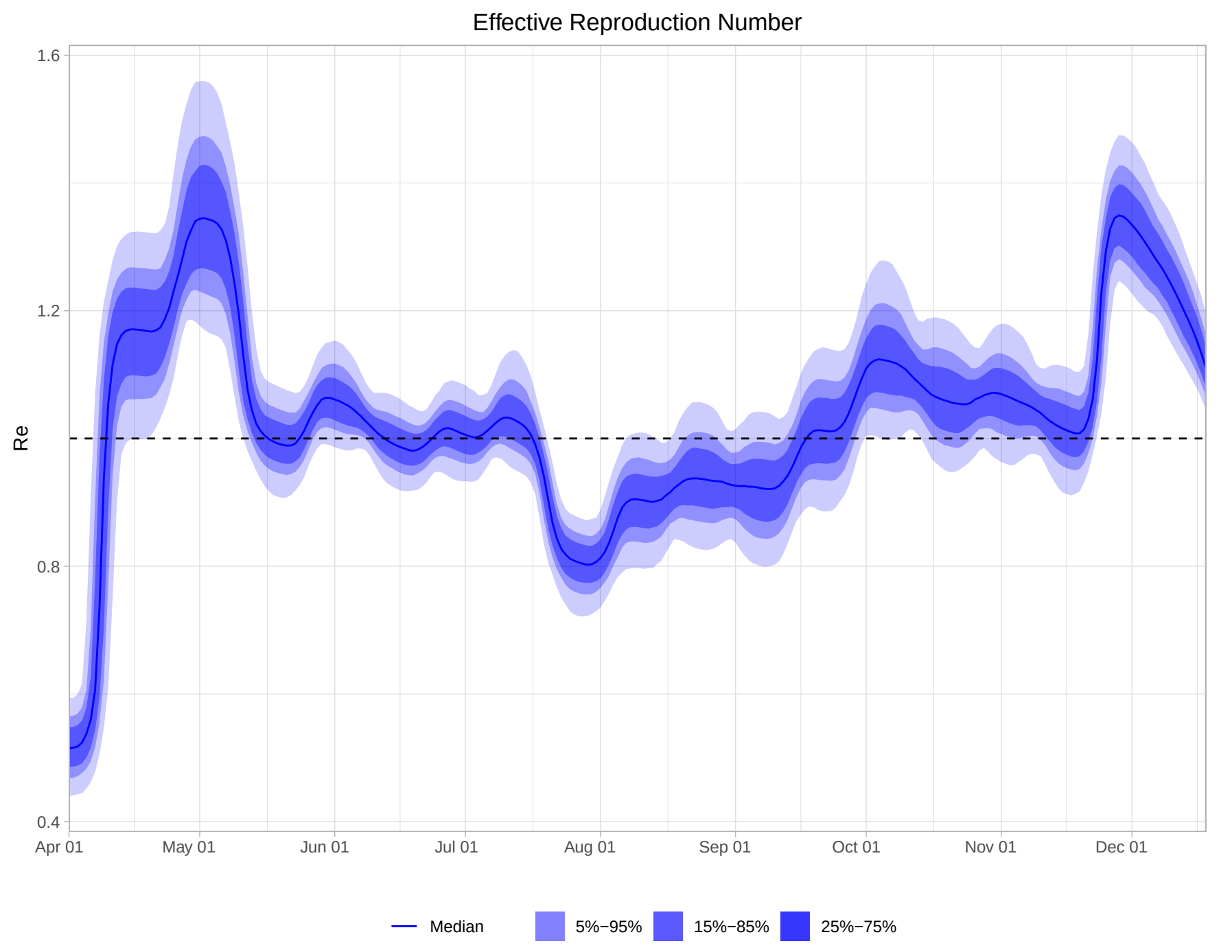

Long Term Hospitalization Projection
Number of COVID19 Patients in Hospital
400
300
200
100
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA


Short Term ICU Projection
Number of COVID19 Patients in ICU
60
40
20
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
0
25
50
75
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

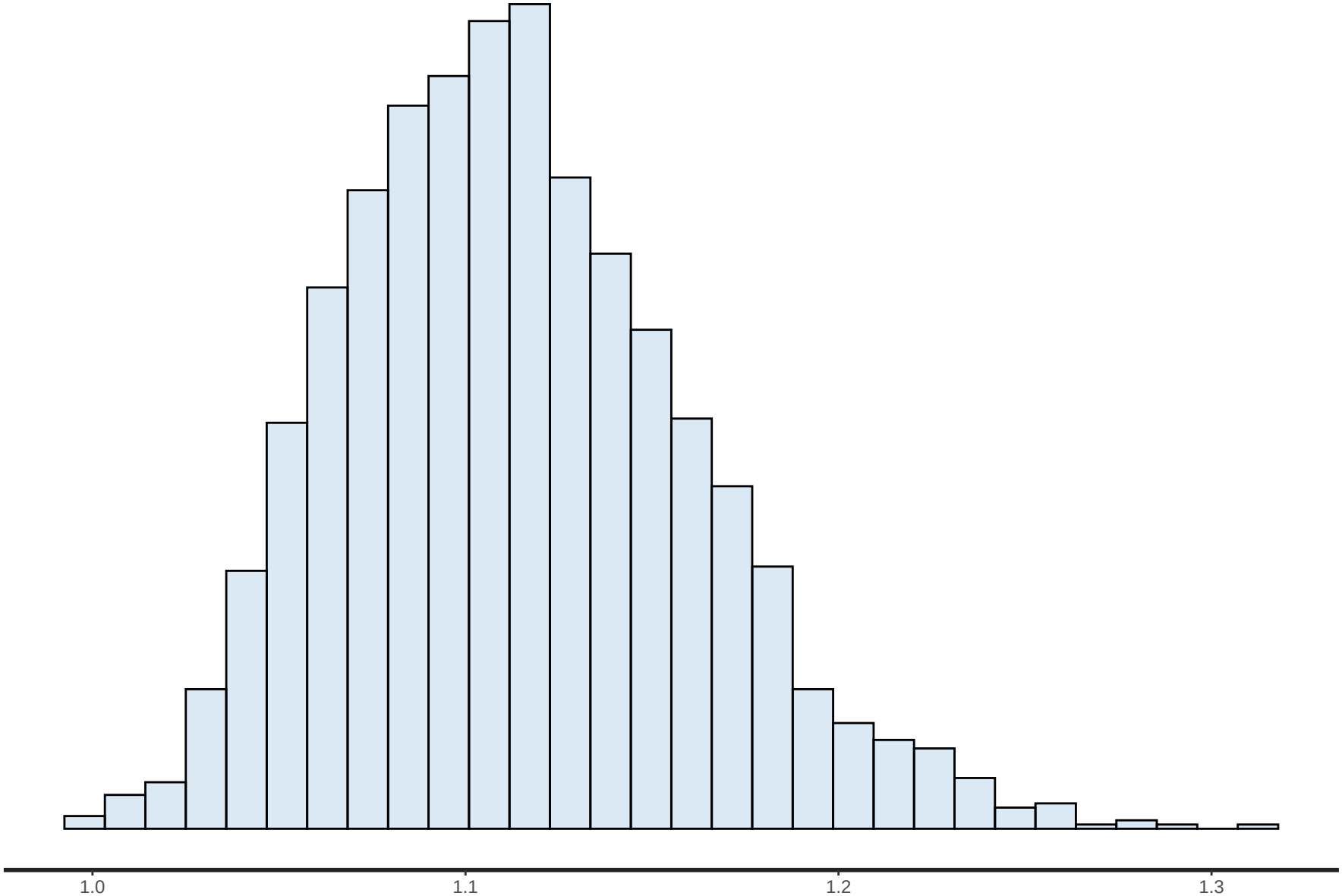

Short Term Death Projection
Number of COVID19 Deaths
500
400
300
200
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Median
Confirmed
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

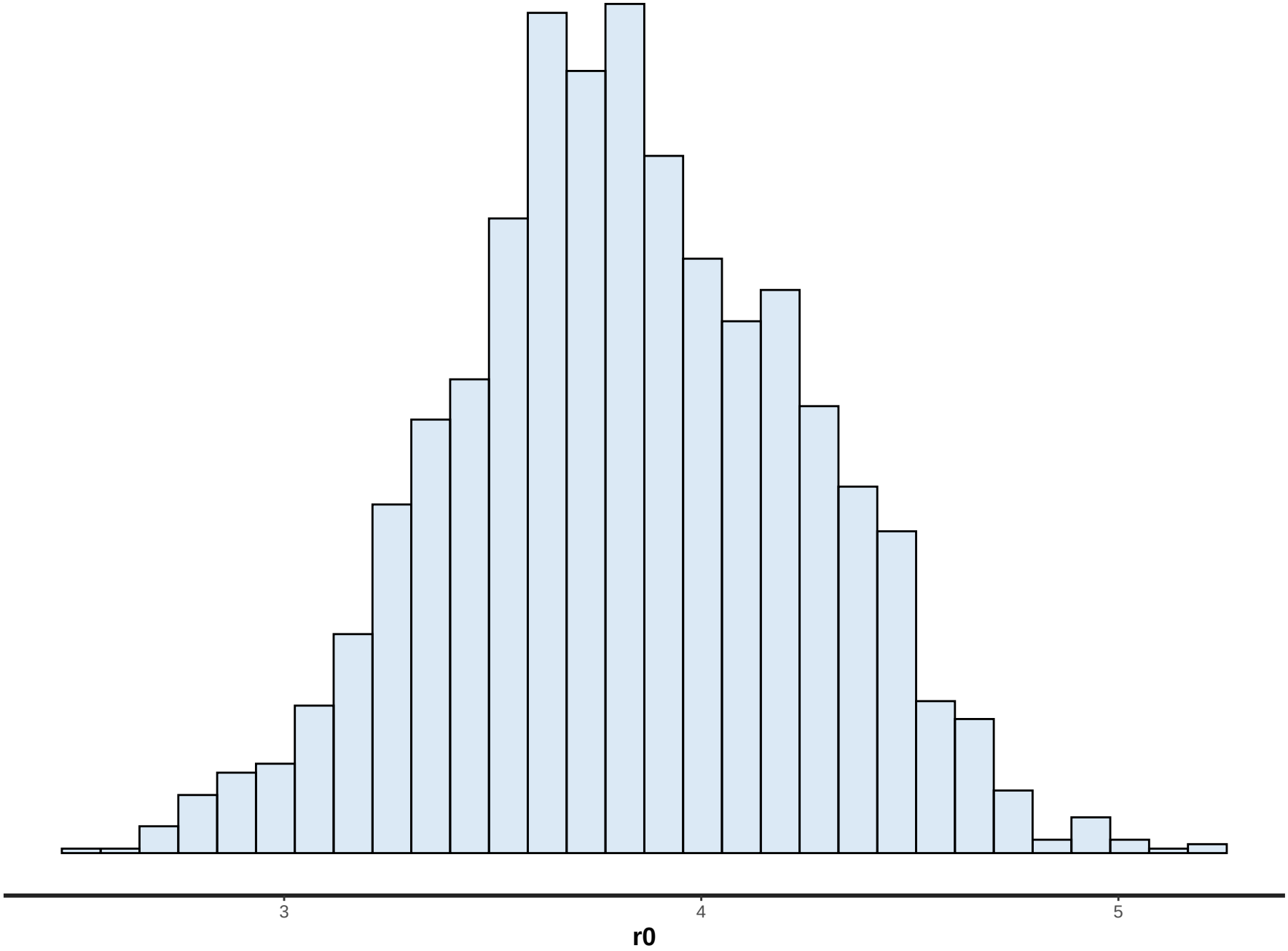

Long Term Death Projection
Number of COVID19 Deaths
600
400
200
0
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Median
5%−95%
15%−85%
25%−75%
localepi.github.io/LEMMA

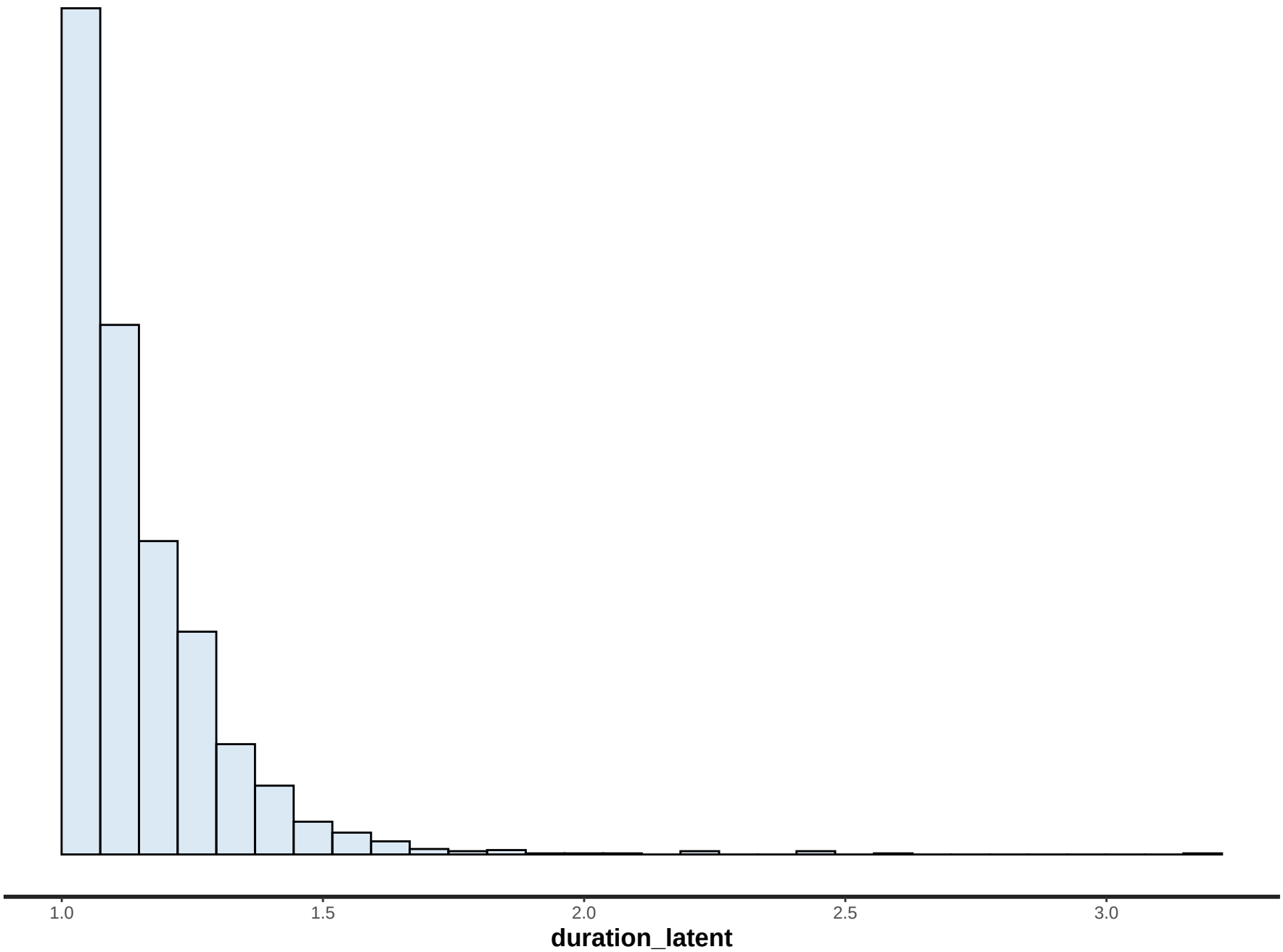

Effective Reproduction Number
Re
1.6
1.2
0.8
0.4
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Oct 01
Nov 01
Dec 01
Median
5%−95%
15%−85%
25%−75%

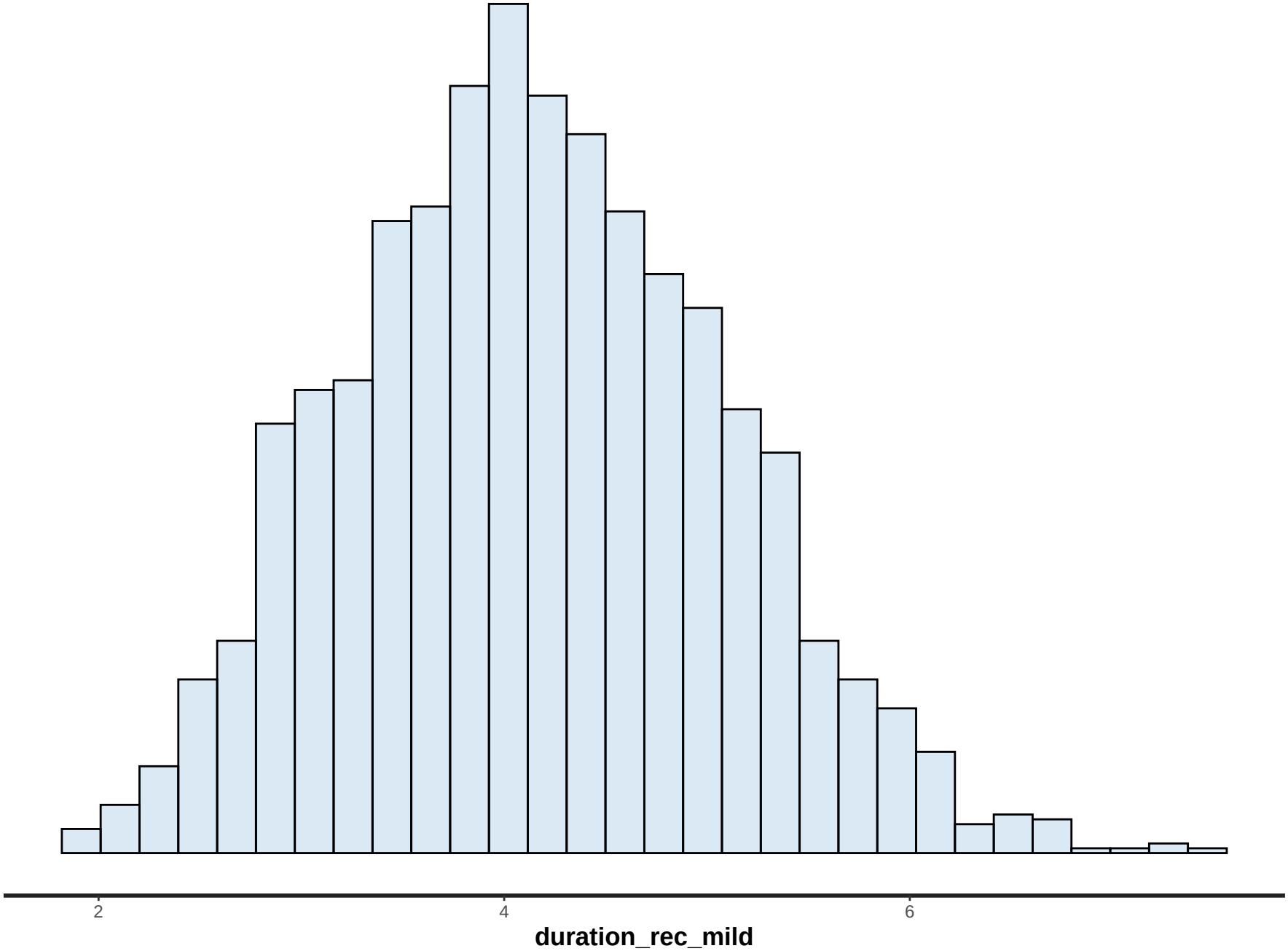
Rt as of 2020−12−18

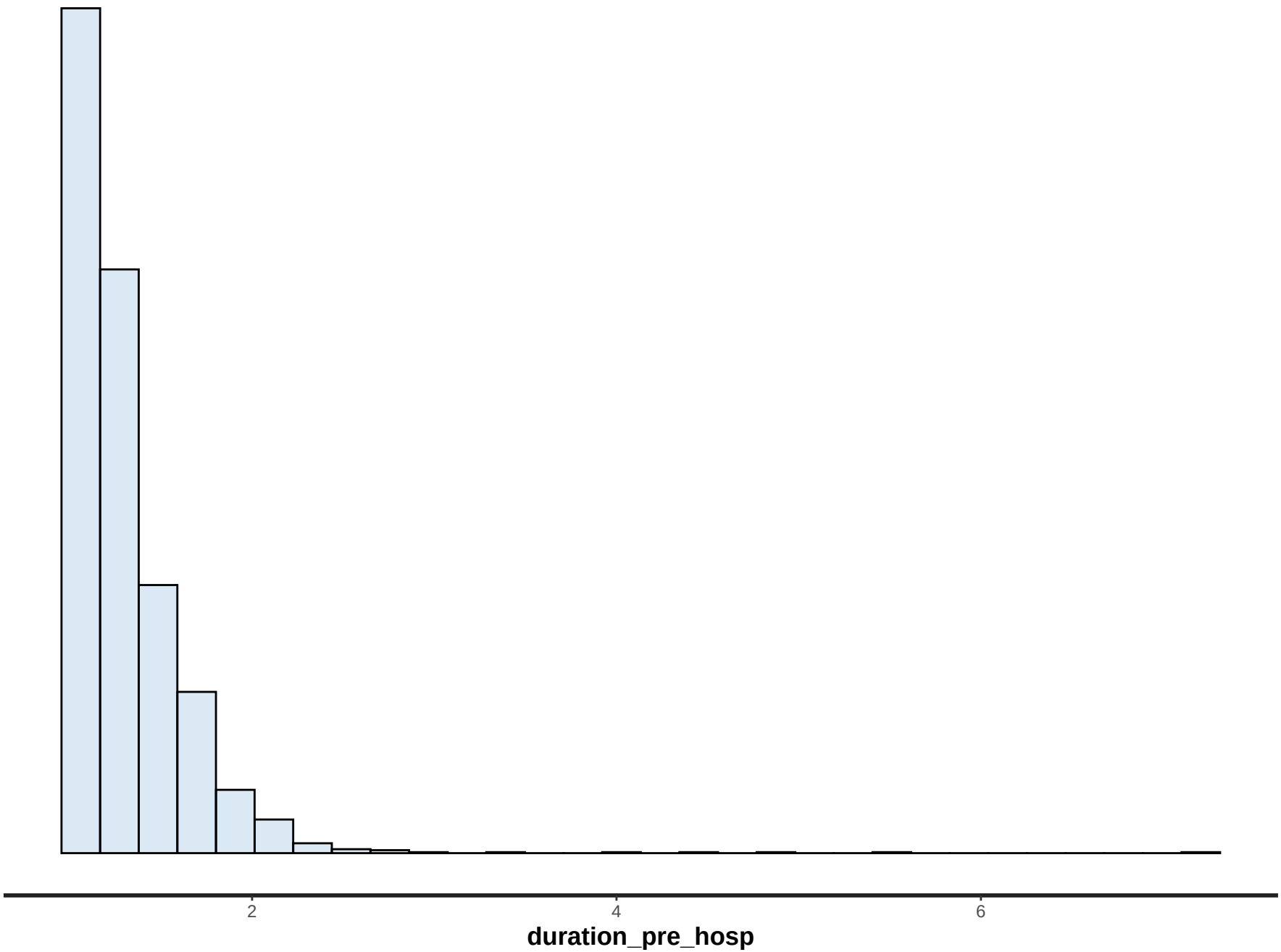
5%	10%	25%	50%	75%	90%	95%
1.04	1.06	1.08	1.11	1.14	1.18	1.19

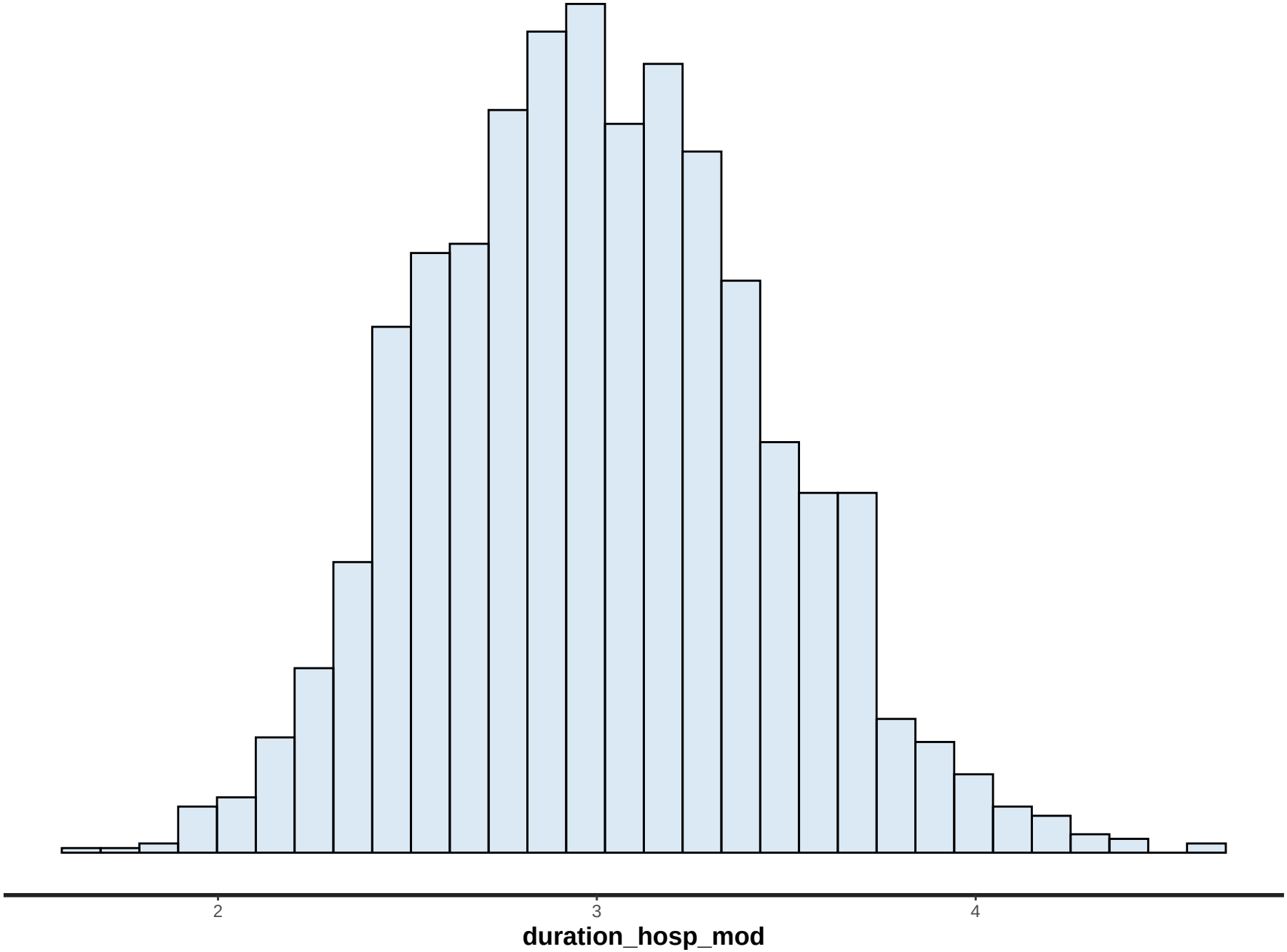


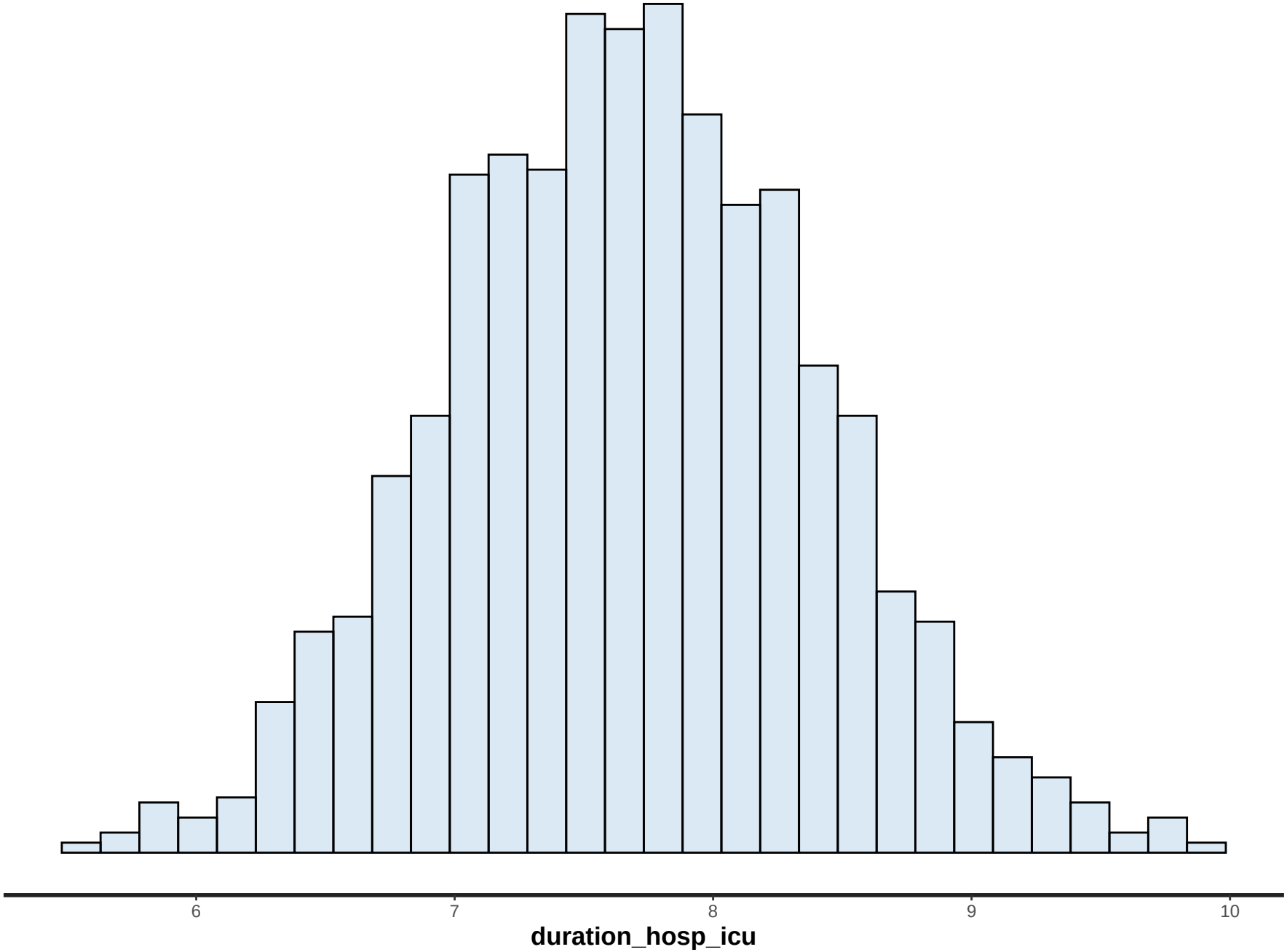

3
4
5
r0

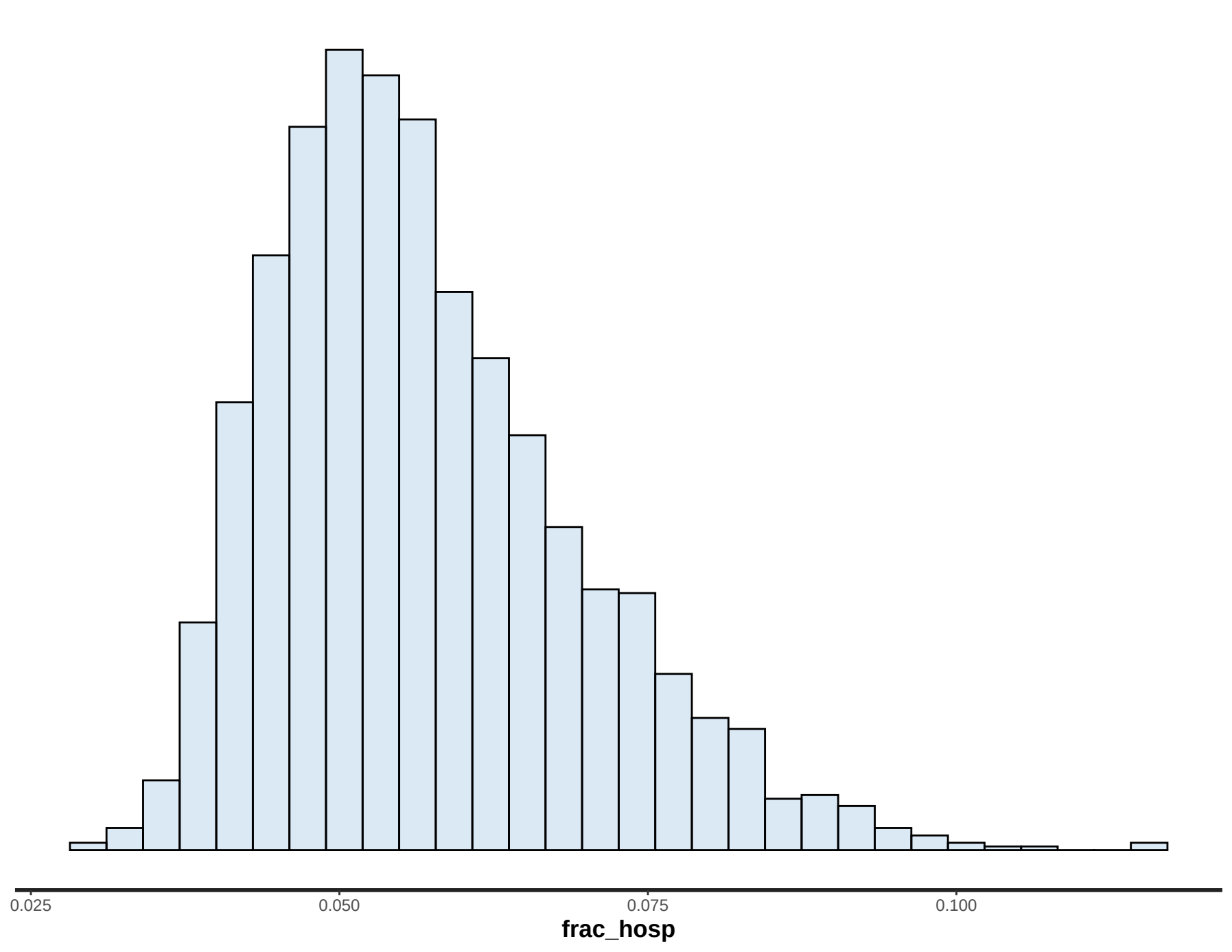

1.0
1.5
2.0
2.5
3.0
duration_latent

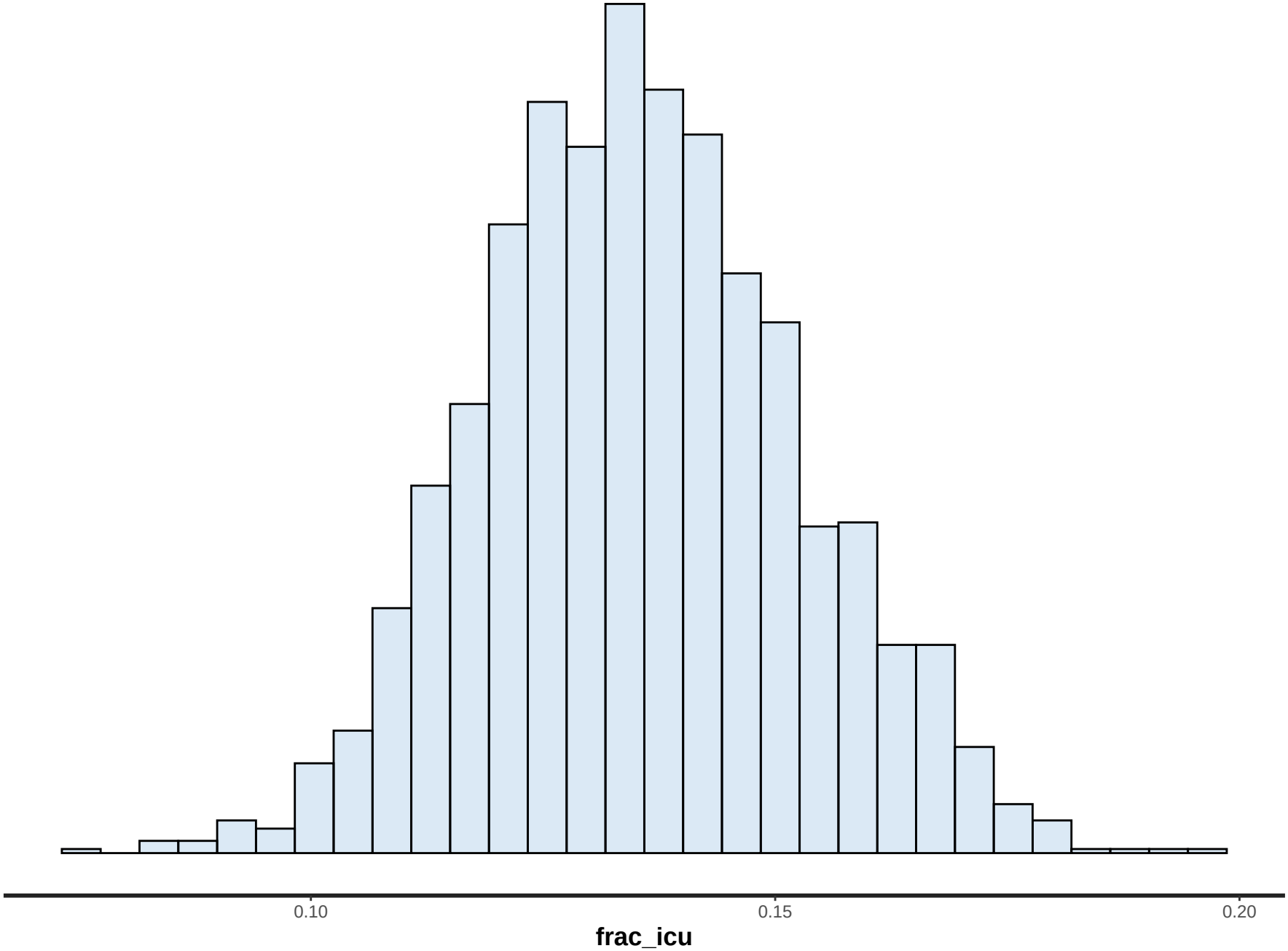

2
4
6
duration_rec_mild

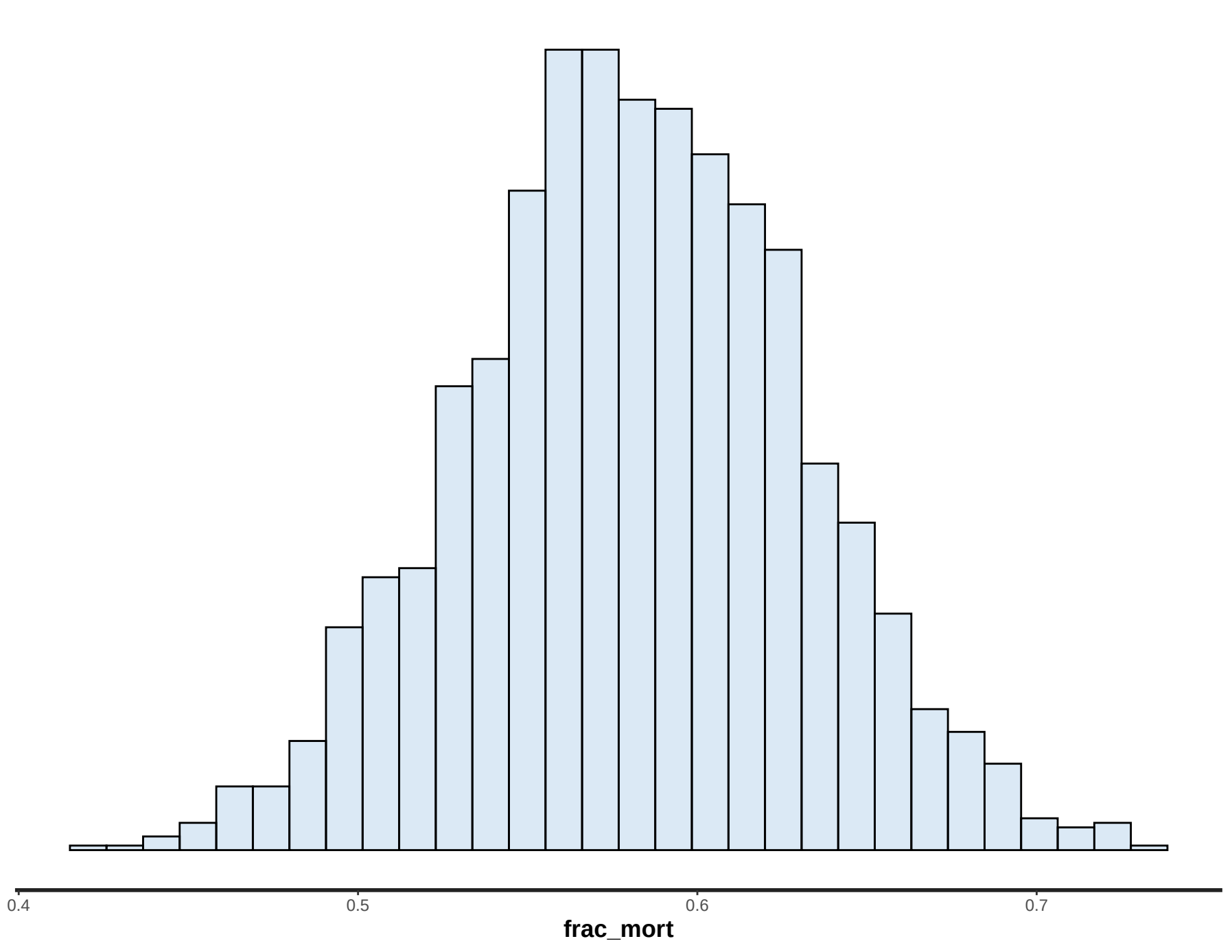

2
4
6
duration_pre_hosp

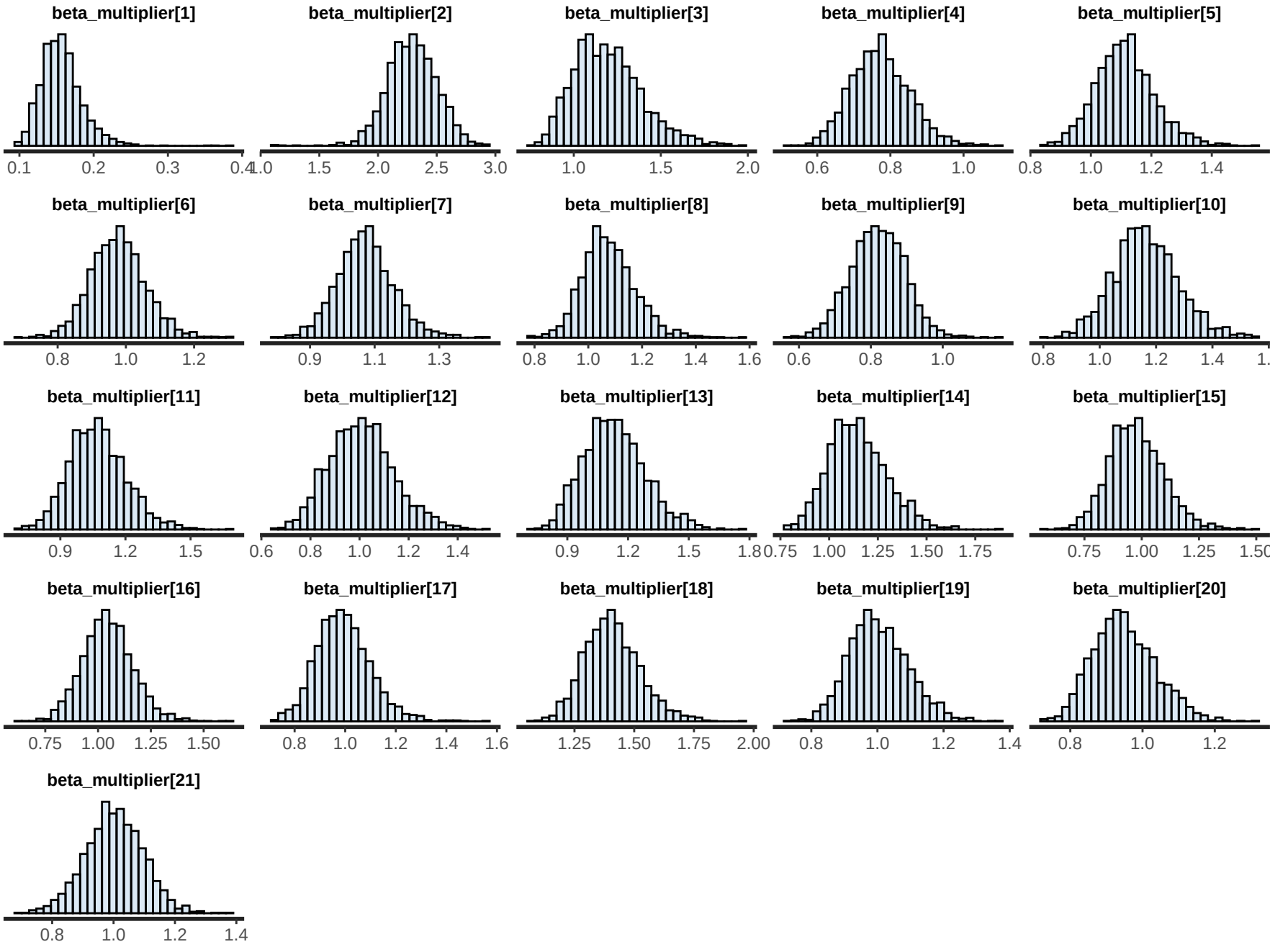

2
3
4
duration_hosp_mod

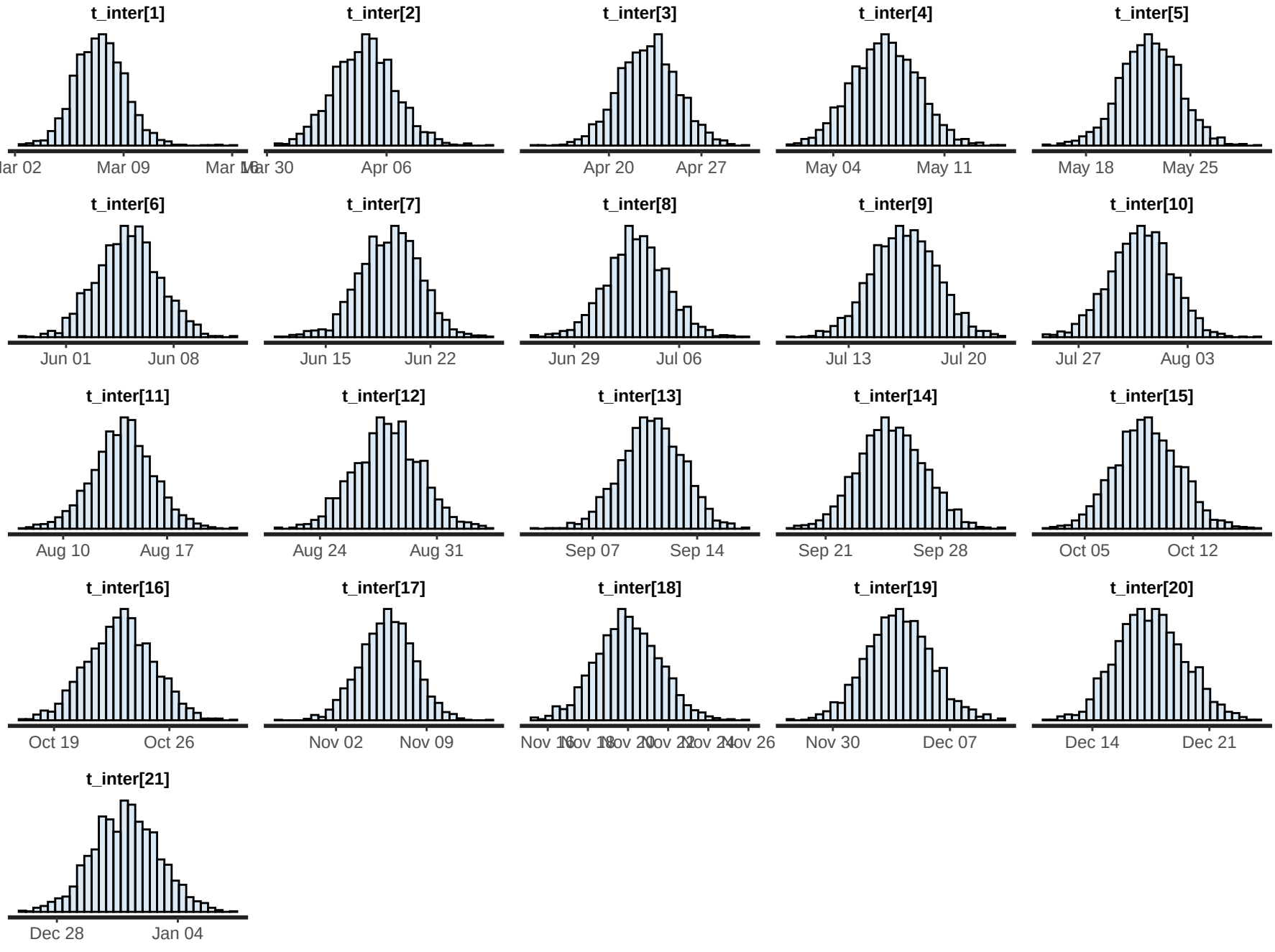

6
7
8
9
10
duration_hosp_icu

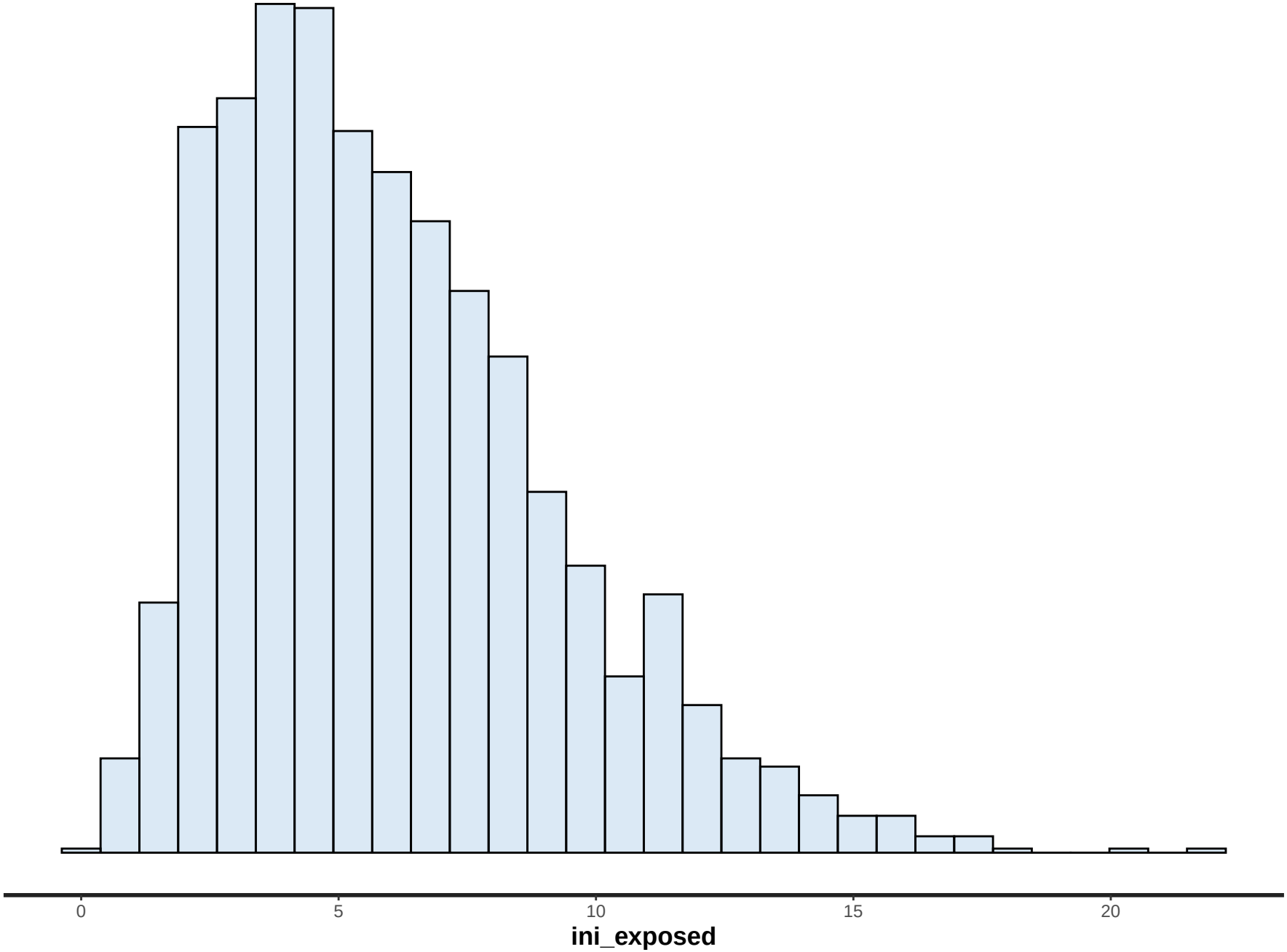

0.025
0.050
0.075
0.100
frac_hosp

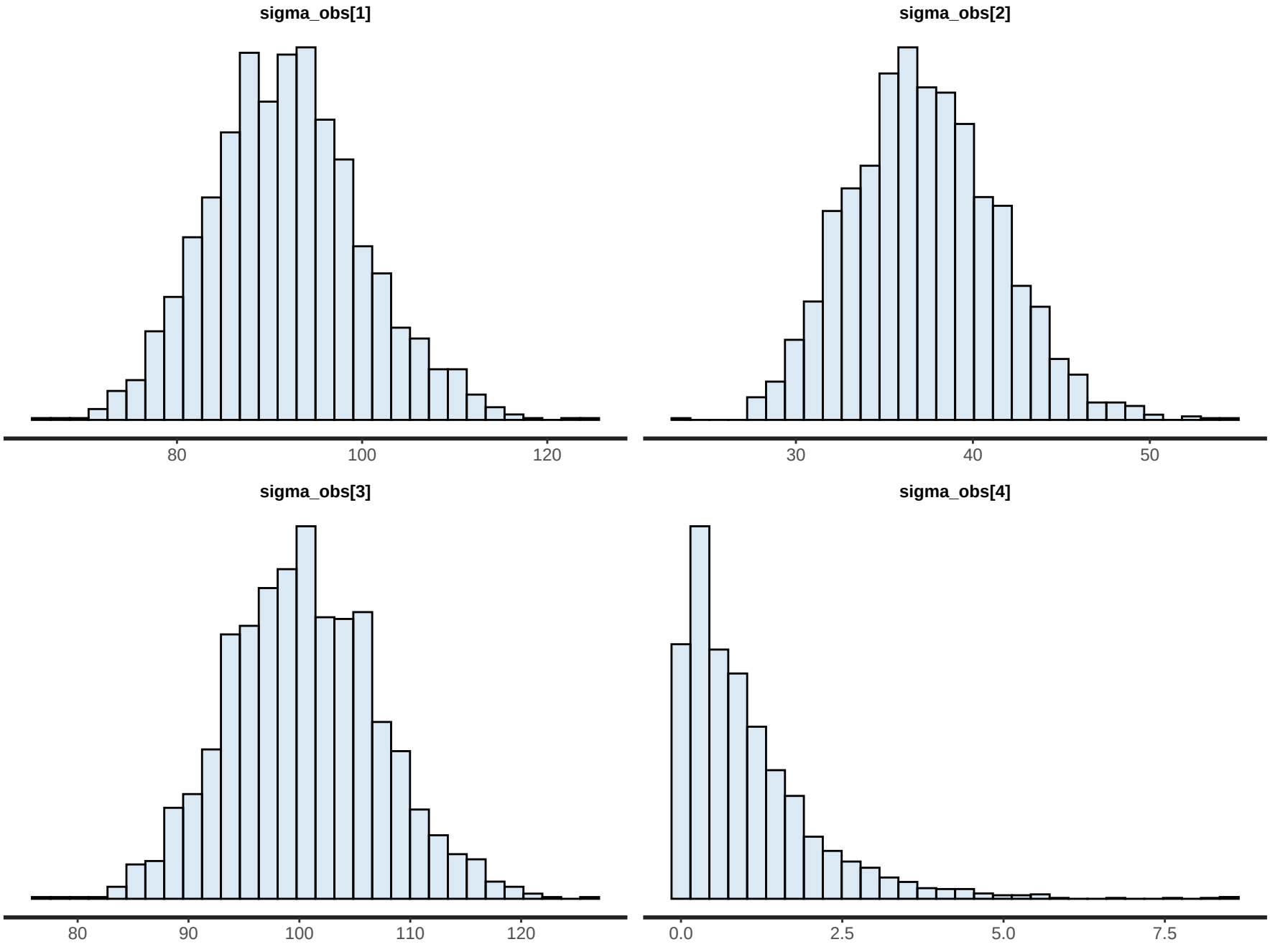

0.10
0.15
0.20
frac_icu


0.4
0.5
0.6
0.7
frac_mort


beta_multiplier[1]
0.1 0.2 0.3 0.4
beta_multiplier[2]
1.0 1.5 2.0 2.5 3.0
beta_multiplier[3]
1.0 1.5 2.0
beta_multiplier[4]
0.6 0.8 1.0
beta_multiplier[5]
0.8 1.0 1.2 1.4
beta_multiplier[6]
0.8 1.0 1.2
beta_multiplier[7]
0.9 1.1 1.3
beta_multiplier[8]
0.8 1.0 1.2 1.4 1.6
beta_multiplier[9]
0.6 0.8 1.0
beta_multiplier[10]
0.8 1.0 1.2 1.4 1.6
beta_multiplier[11]
0.9 1.2 1.5
beta_multiplier[12]
0.6 0.8 1.0 1.2 1.4
beta_multiplier[13]
0.9 1.2 1.5 1.8
beta_multiplier[14]
0.75 1.00 1.25 1.50 1.75
beta_multiplier[15]
0.75 1.00 1.25 1.50
beta_multiplier[16]
0.75 1.00 1.25 1.50
beta_multiplier[17]
0.8 1.0 1.2 1.4 1.6
beta_multiplier[18]
1.25 1.50 1.75 2.00
beta_multiplier[19]
0.8 1.0 1.2 1.4
beta_multiplier[20]
0.8 1.0 1.2
beta_multiplier[21]
0.8 1.0 1.2 1.4


t_inter[1]
Mar 02
Mar 09
t_inter[2]
Mar 30
Apr 06
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 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 10
Aug 17
t_inter[12]
Aug 24
Aug 31
t_inter[13]
Sep 07
Sep 14
t_inter[14]
Sep 21
Sep 28
t_inter[15]
Oct 05
Oct 12
t_inter[16]
Oct 19
Oct 26
t_inter[17]
Nov 02
Nov 09
t_inter[18]
Nov 16
Nov 18
Nov 20
Nov 22
Nov 24
Nov 26
t_inter[19]
Nov 30
Dec 07
t_inter[20]
Dec 14
Dec 21
t_inter[21]
Dec 28
Jan 04


0
5
10
15
20
ini_exposed


sigma_obs[1]
80
100
120
sigma_obs[2]
30
40
50
sigma_obs[3]
80
90
100
110
120
sigma_obs[4]
0.0
2.5
5.0
7.5