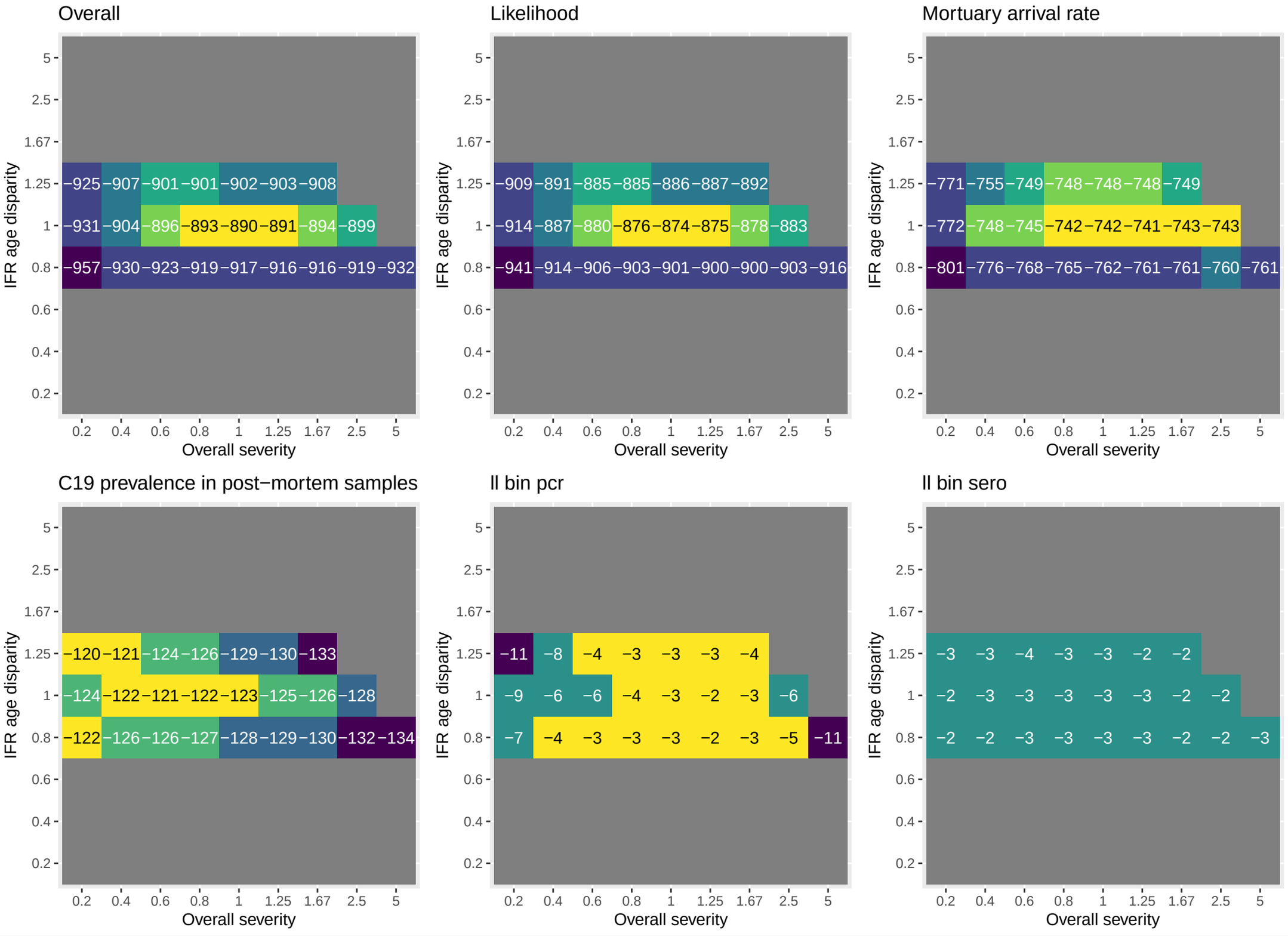
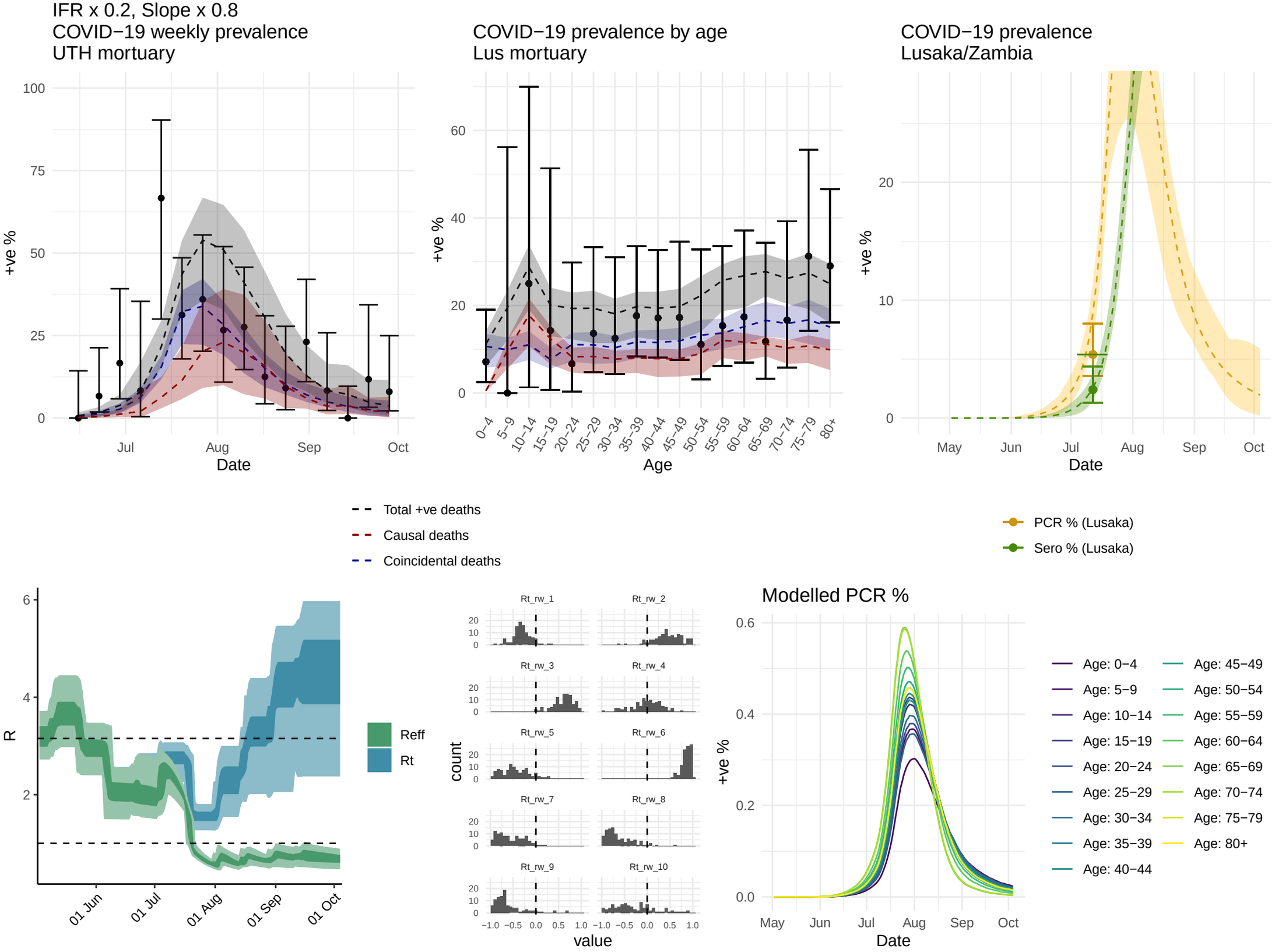
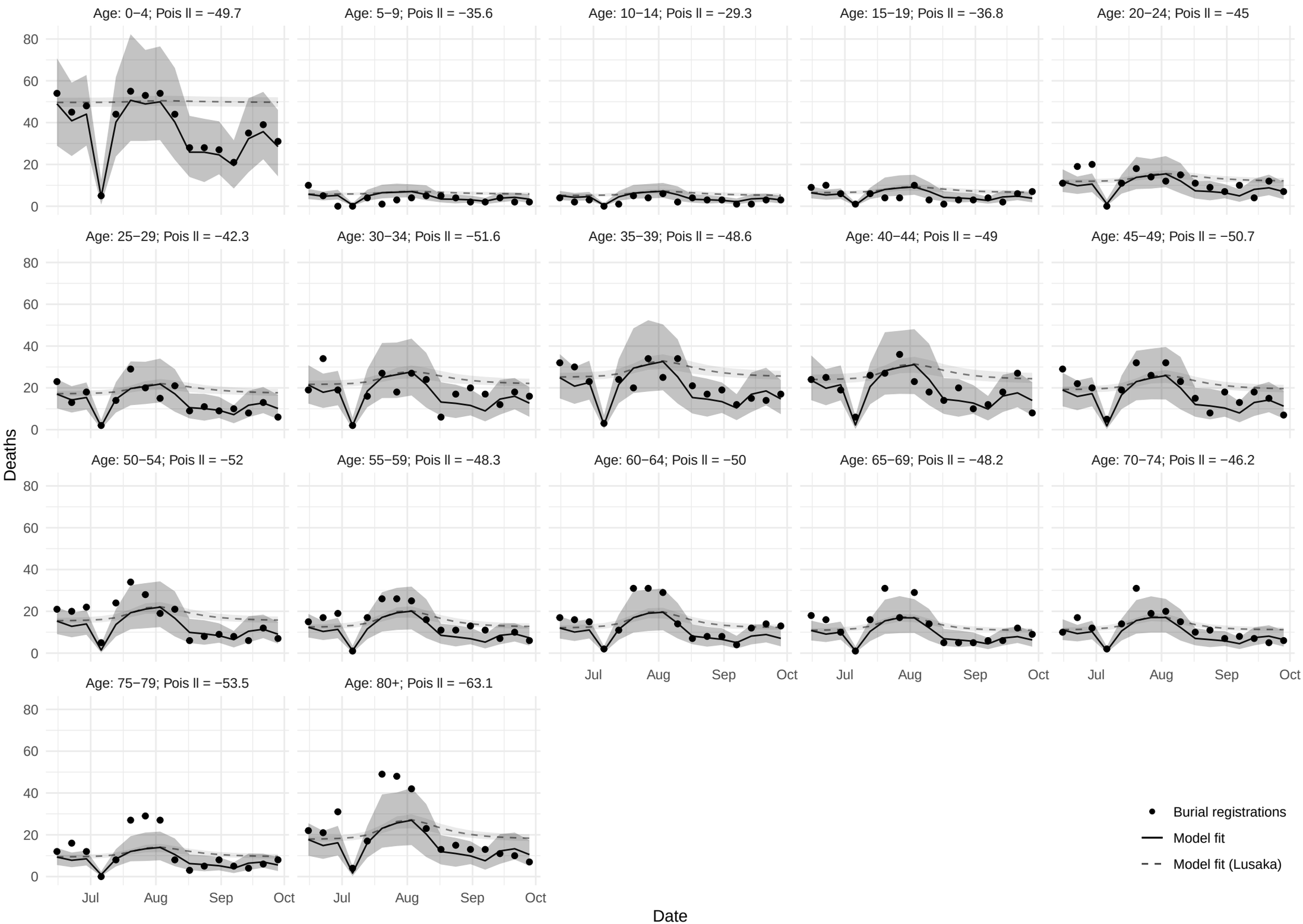
Disaggregated pcr and sero

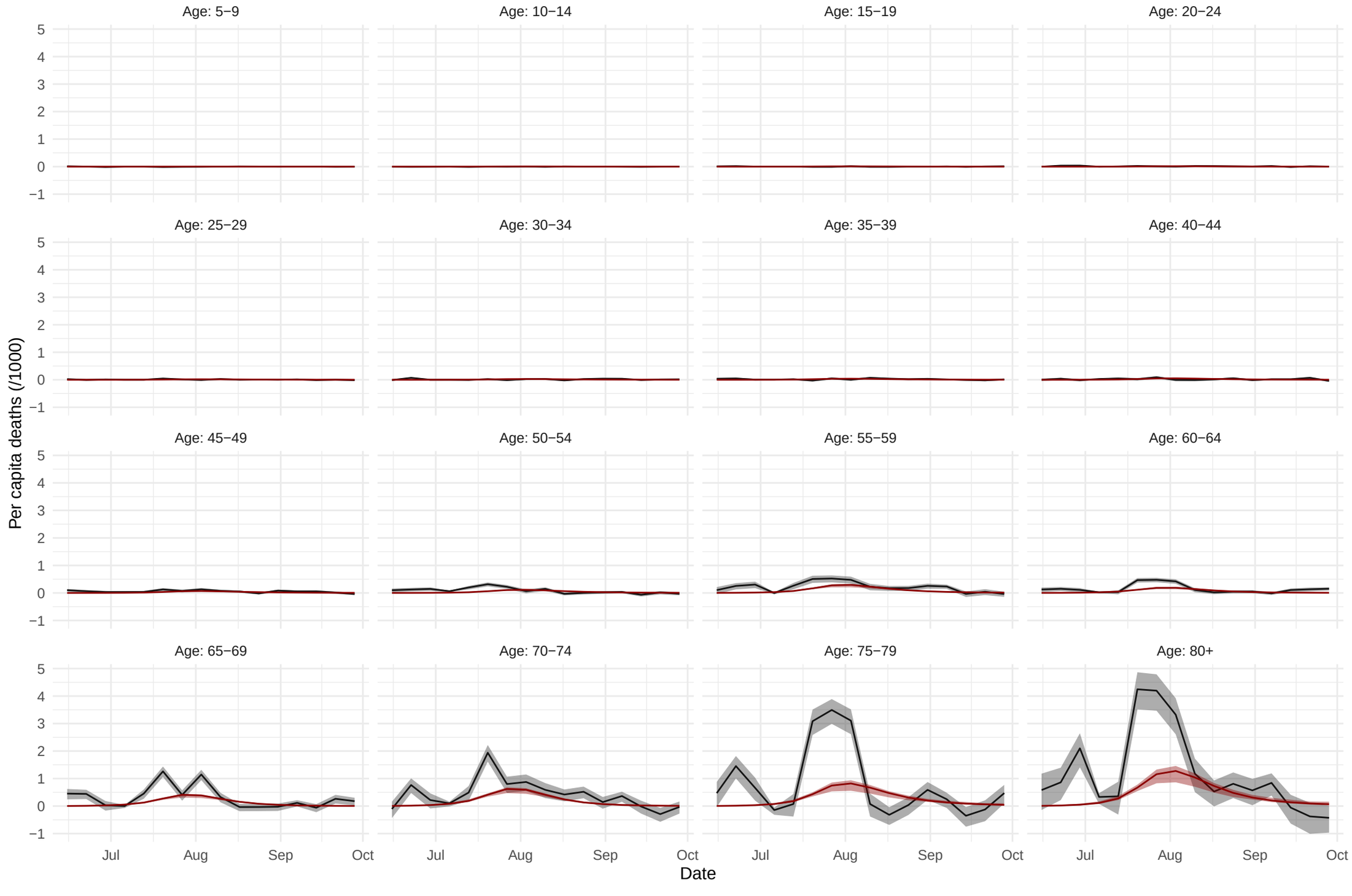


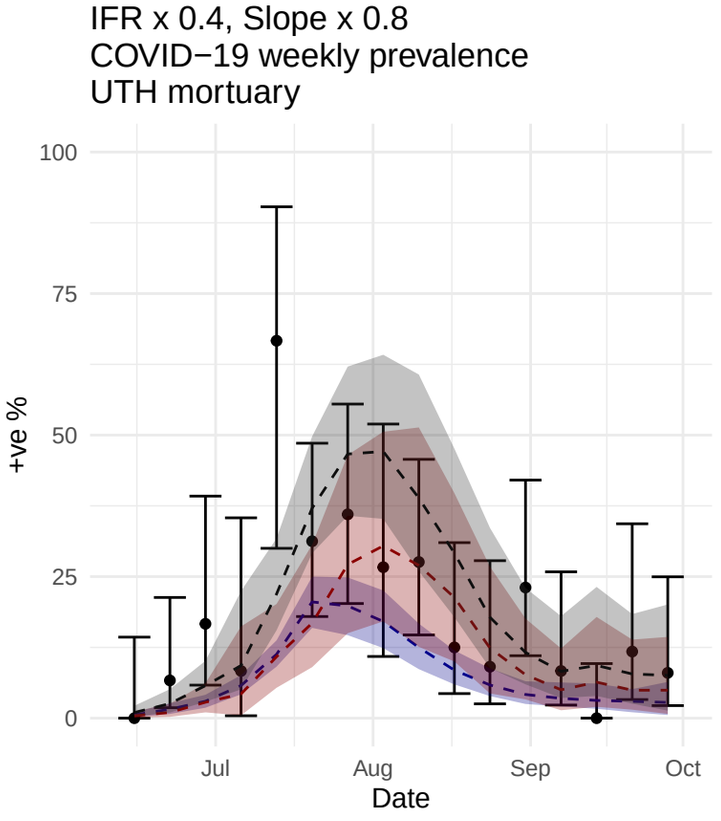

IFR x 0.2, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct
COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+
COVID−19 prevalence
Lusaka/Zambia
+ve %
May
Jun
Jul
Aug
Sep
Oct
Date
Total +ve deaths
Causal deaths
Coincidental deaths
PCR % (Lusaka)
Sero % (Lusaka)
R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt
Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value
Modelled PCR %
+ve %
Date
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

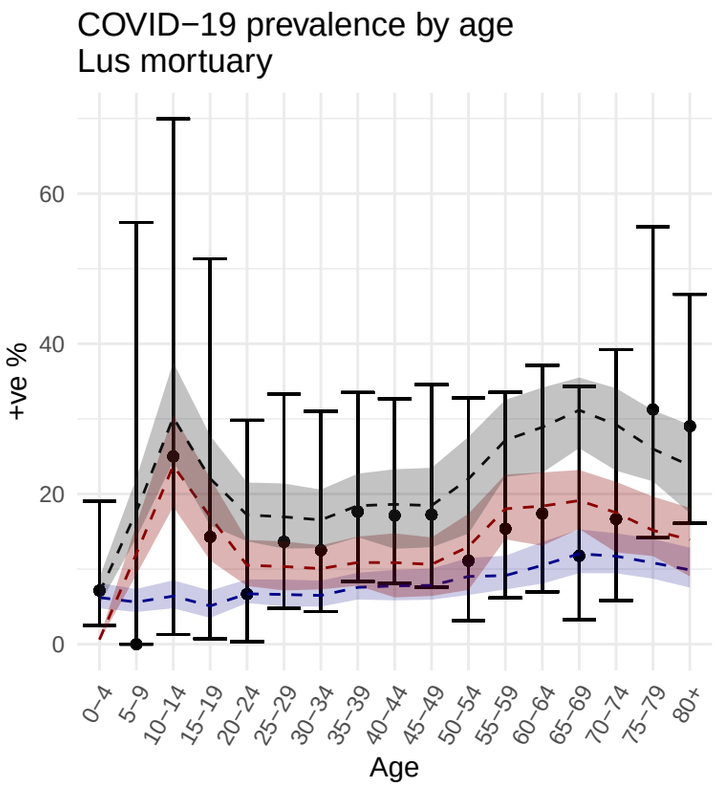
IFR x0.2, Slope x0.8
Lusaka weekly burial registrations

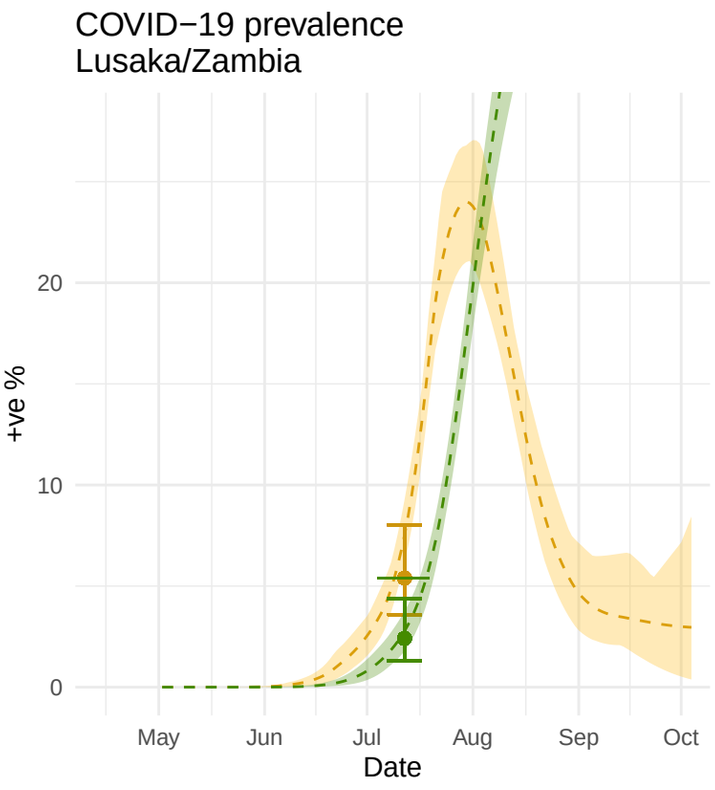


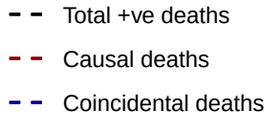
IFR x 0.2, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results

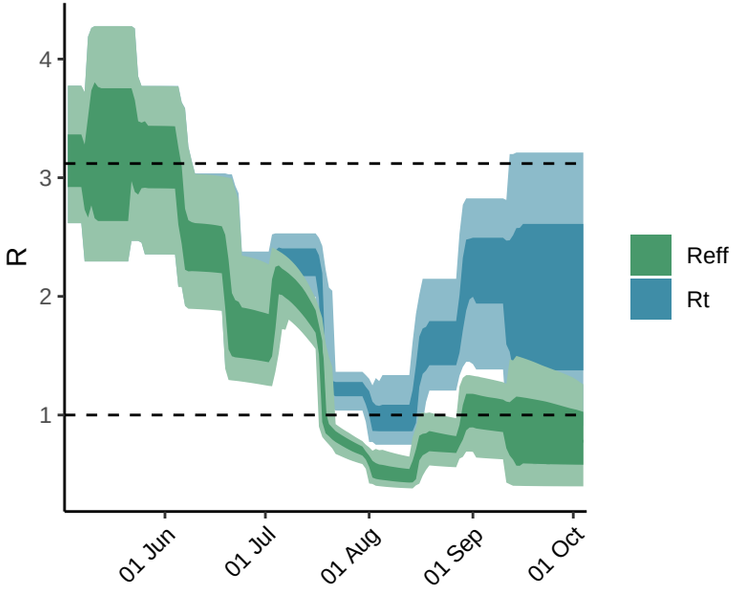


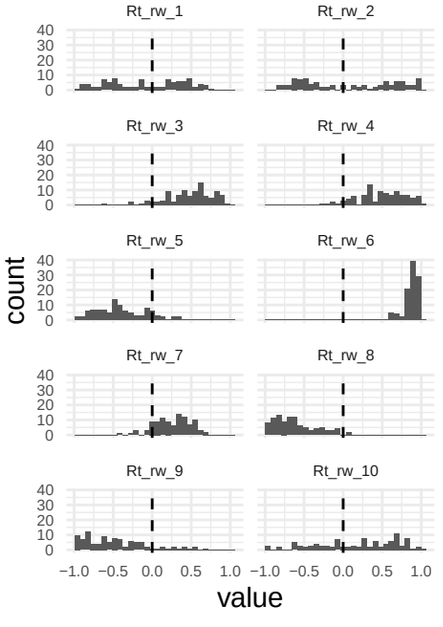

IFR x 0.4, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct

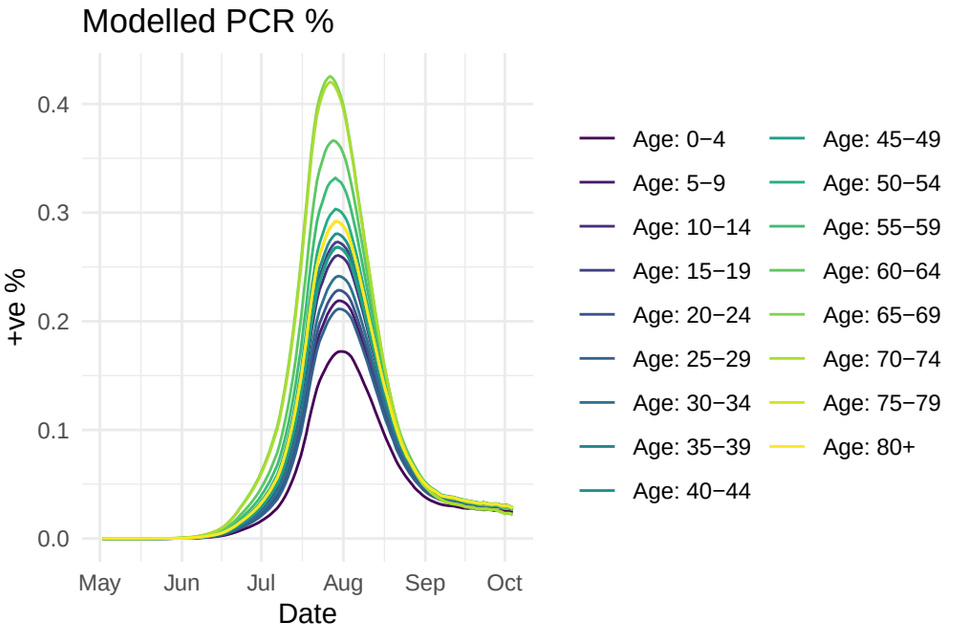

COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0−4
5−9
10−14
15−19
20−24
25−29
30−34
35−39
40−44
45−49
50−54
55−59
60−64
65−69
70−74
75−79
80+


COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
PCR % (Lusaka)
Sero % (Lusaka)

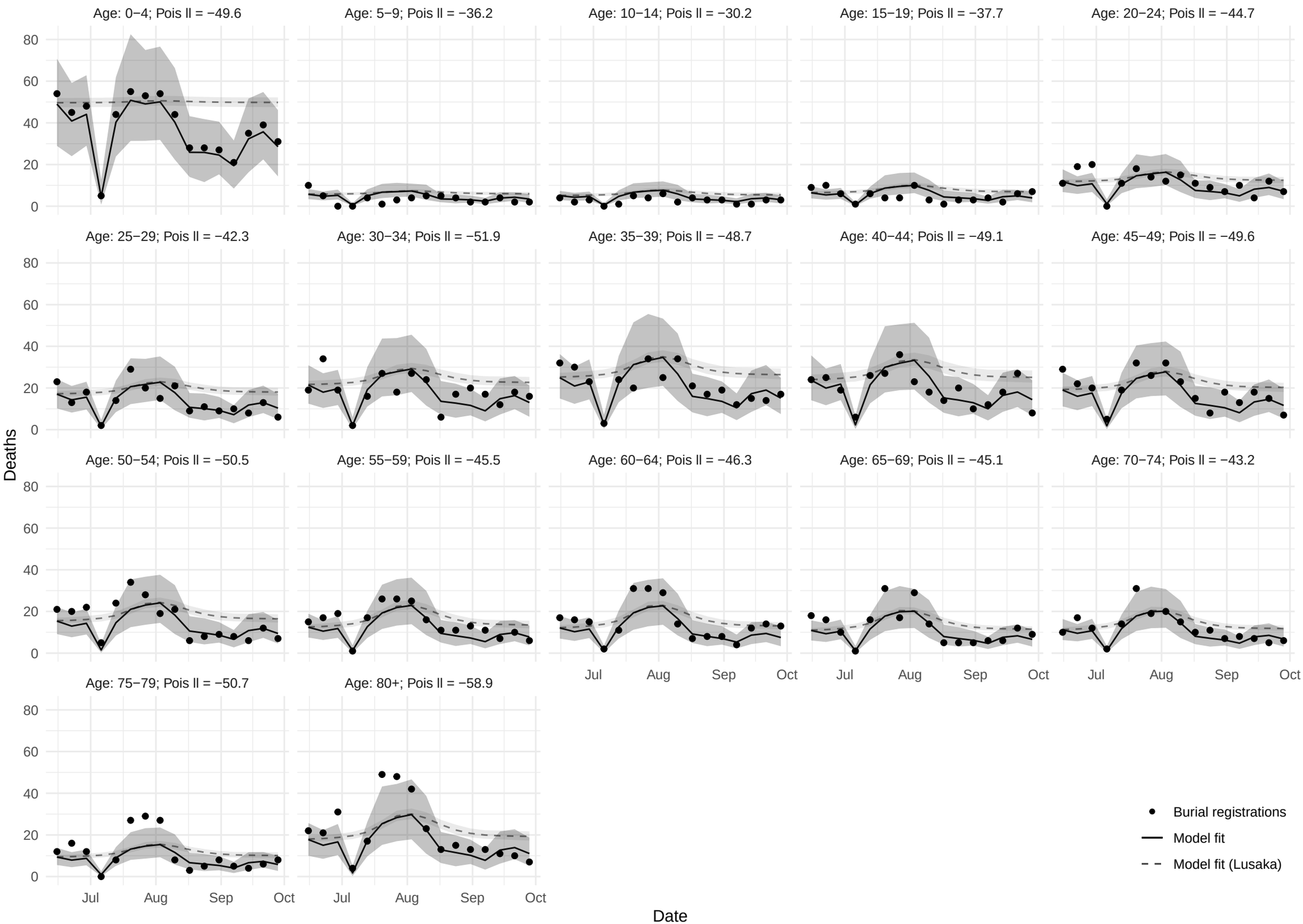

Total +ve deaths
Causal deaths
Coincidental deaths


R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt

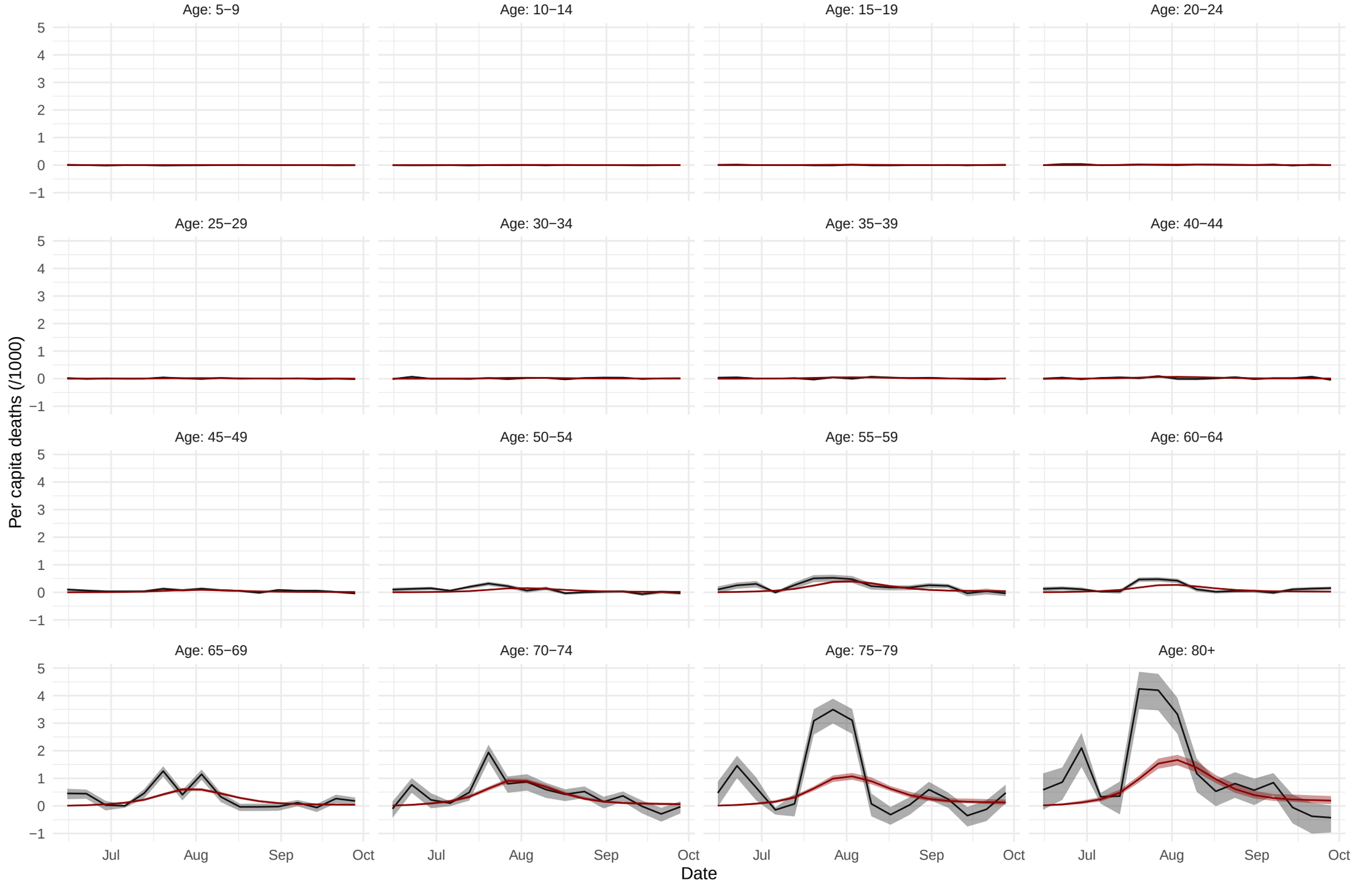

Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

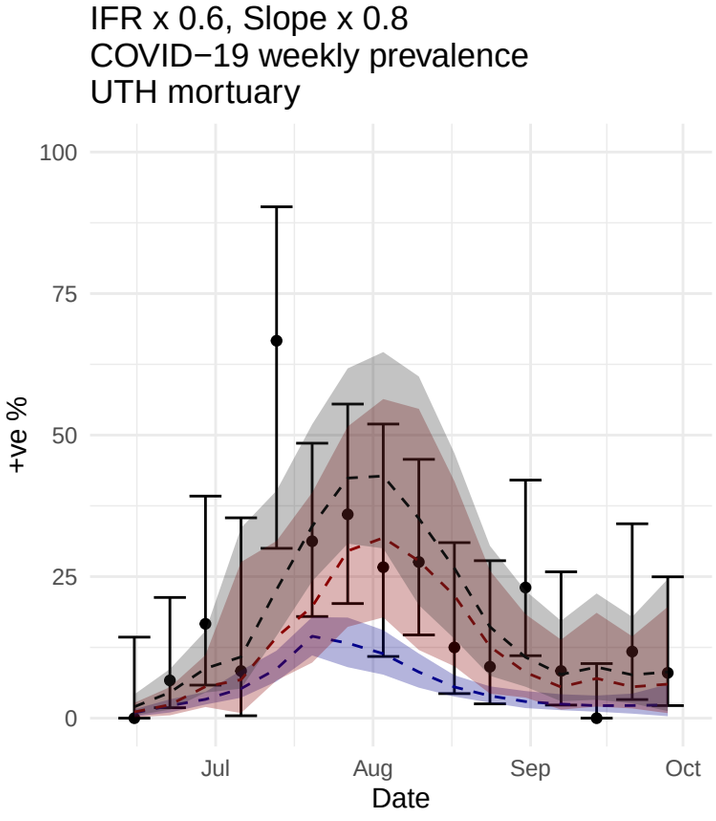

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

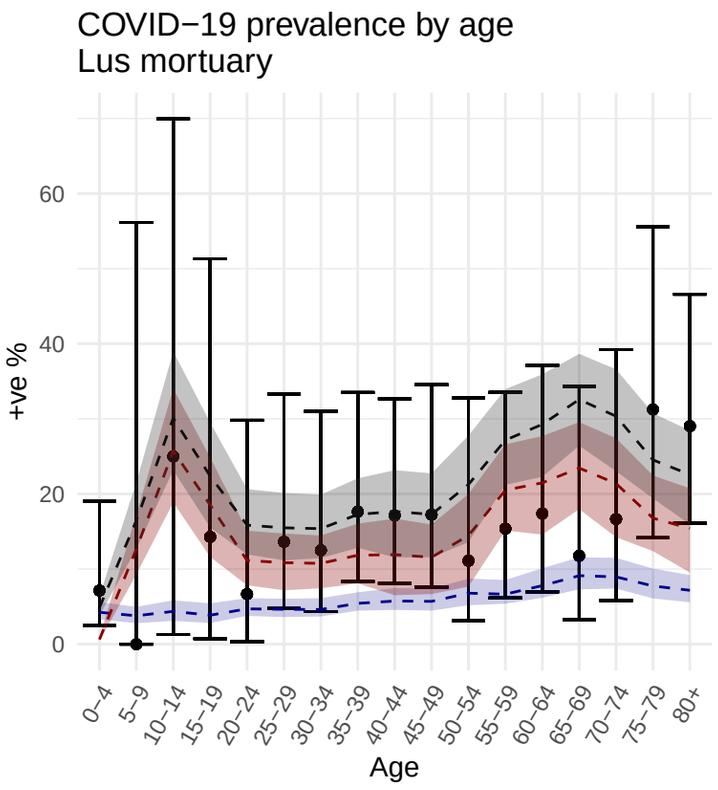
IFR x0.4, Slope x0.8
Lusaka weekly burial registrations

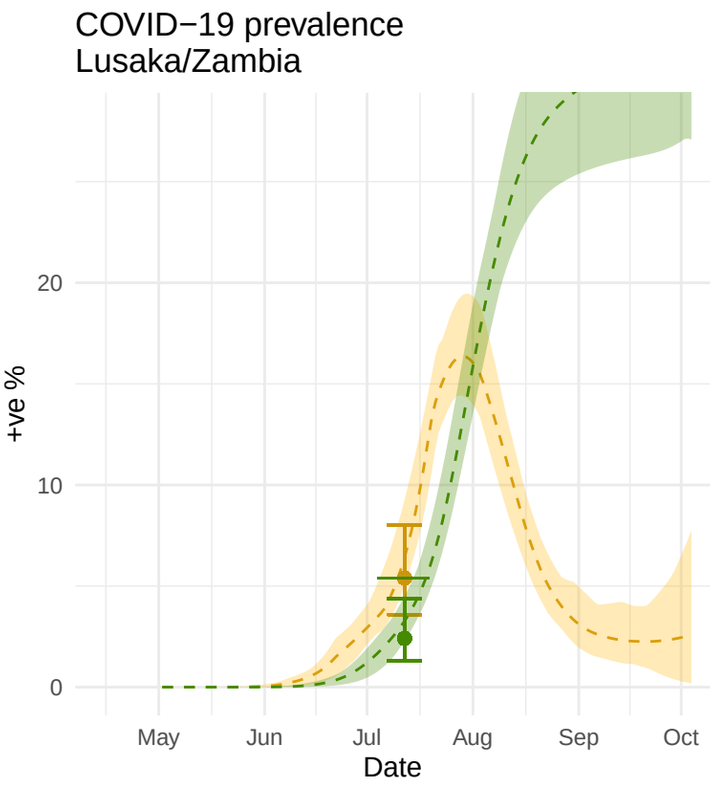


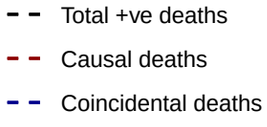
IFR x 0.4, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results

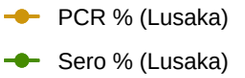


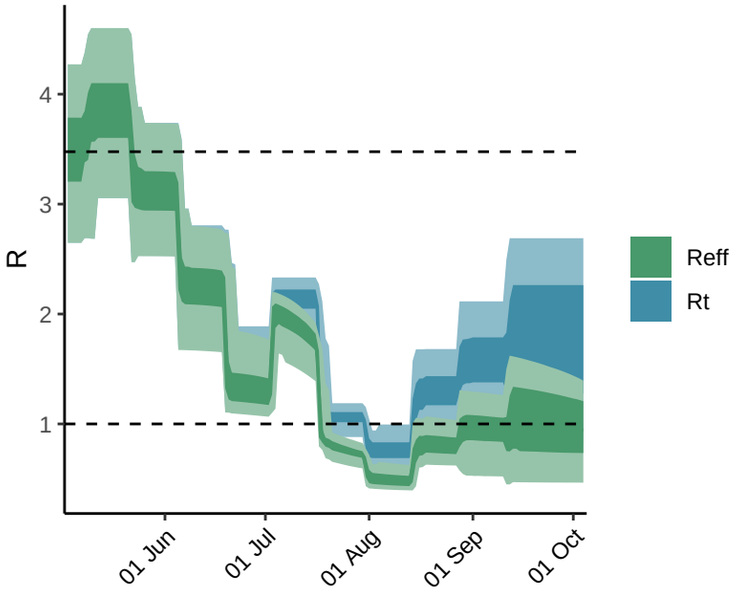

IFR x 0.6, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct

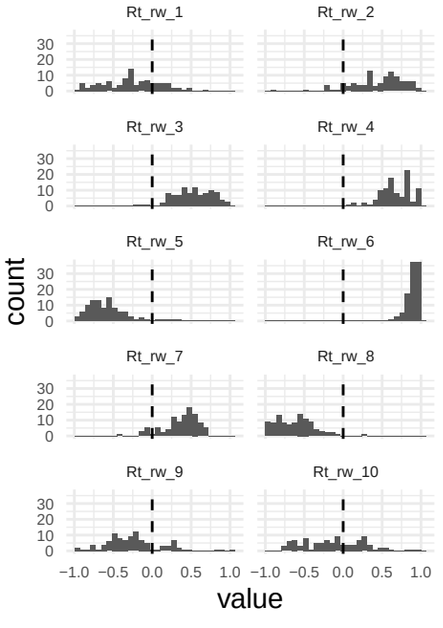

COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+

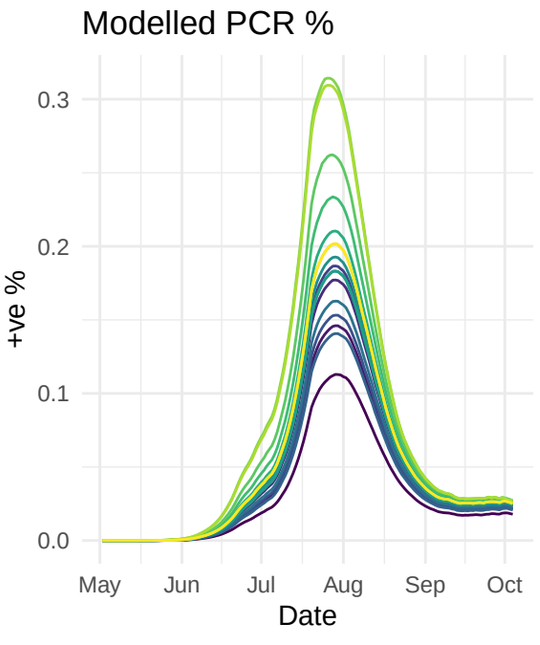

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

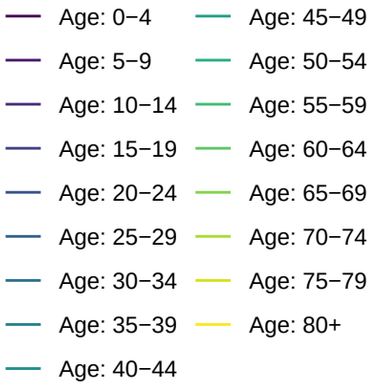

Total +ve deaths
Causal deaths
Coincidental deaths


PCR % (Lusaka)
Sero % (Lusaka)

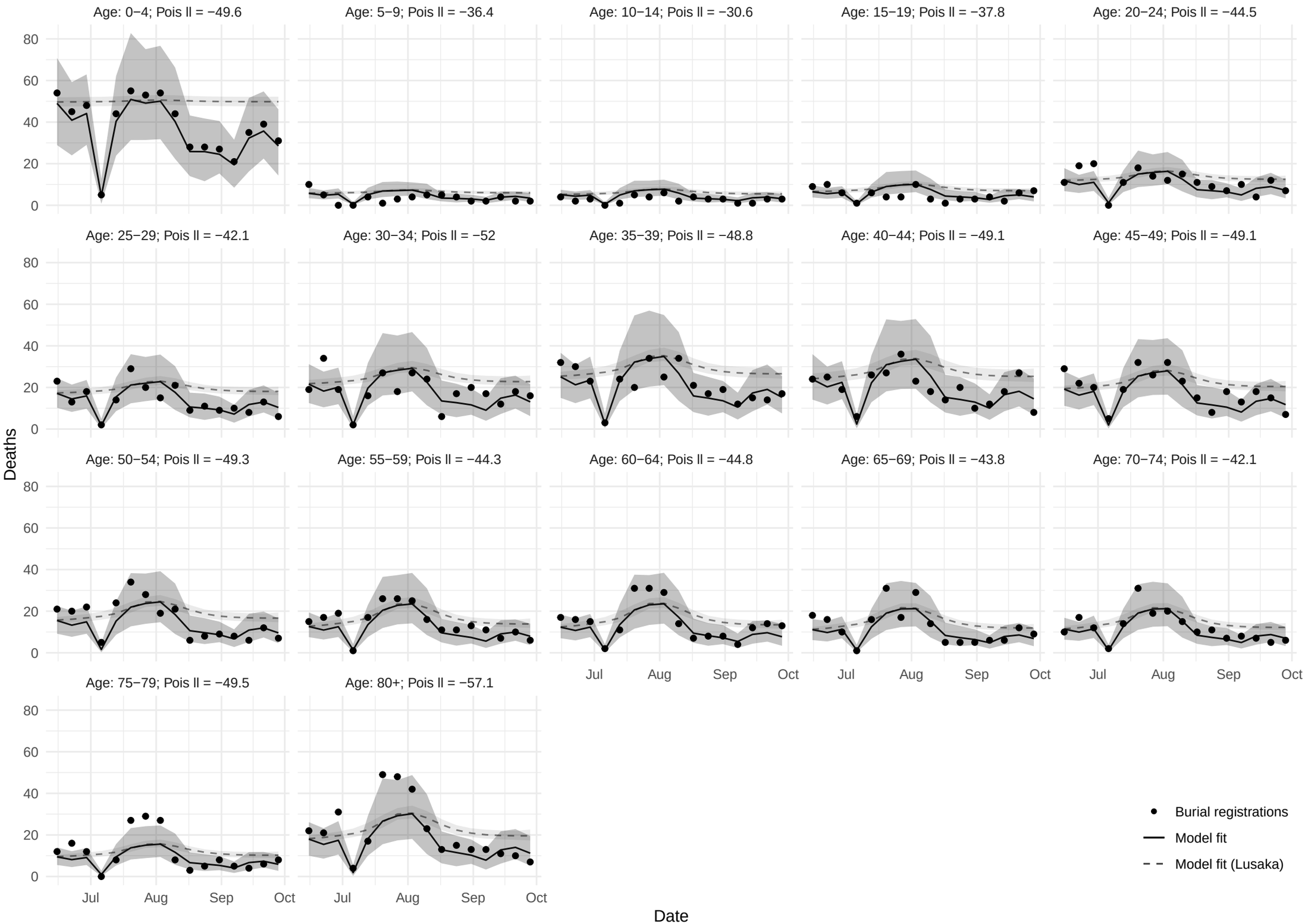

R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt


Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

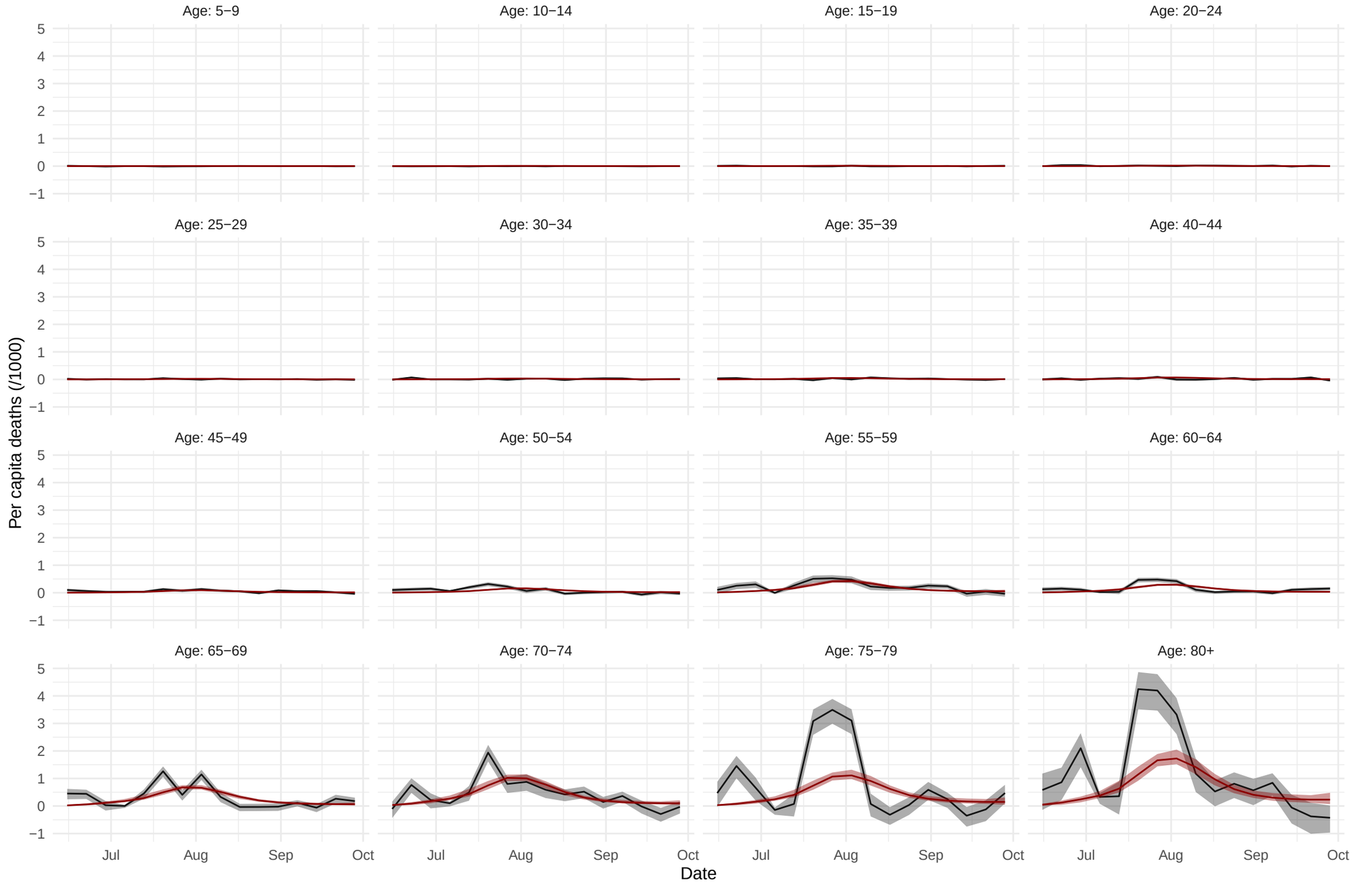

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

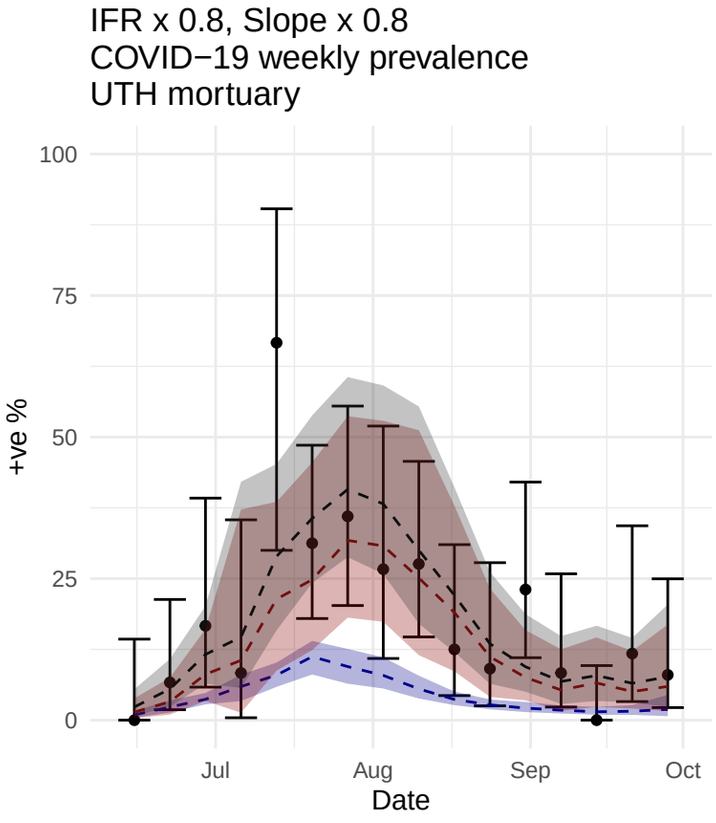

Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

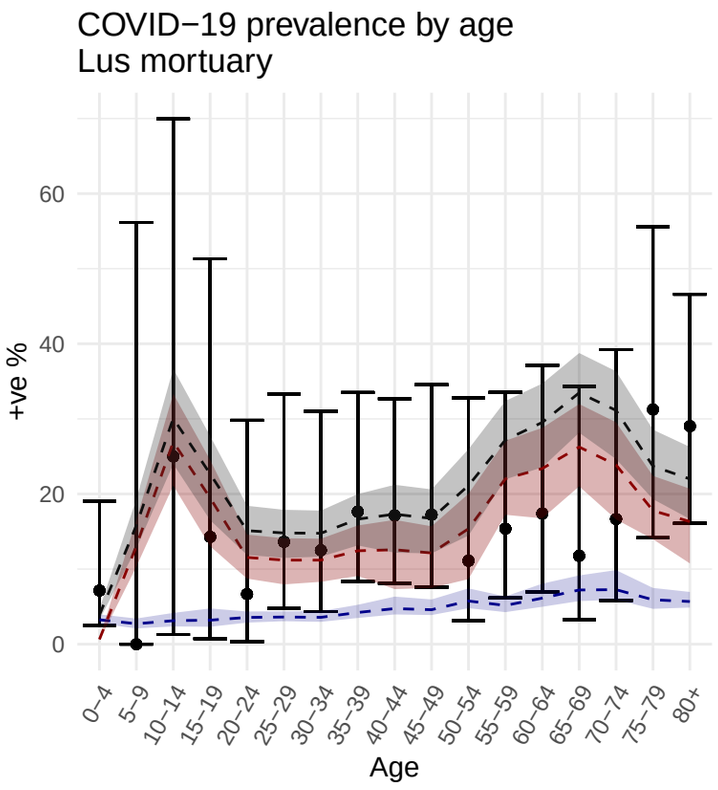
IFR x0.6, Slope x0.8
Lusaka weekly burial registrations

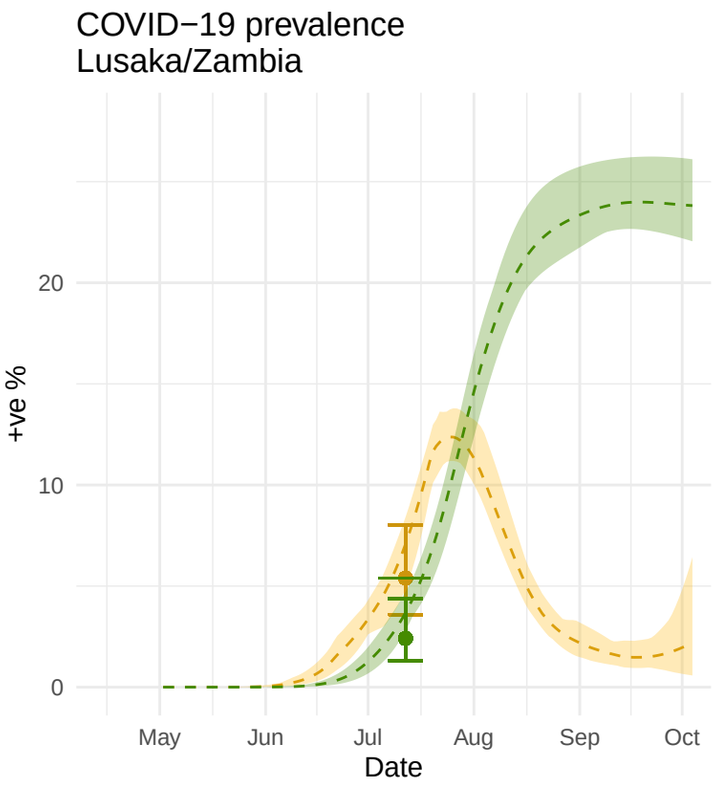


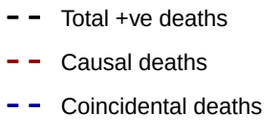
IFR x 0.6, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results

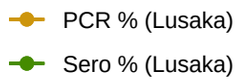


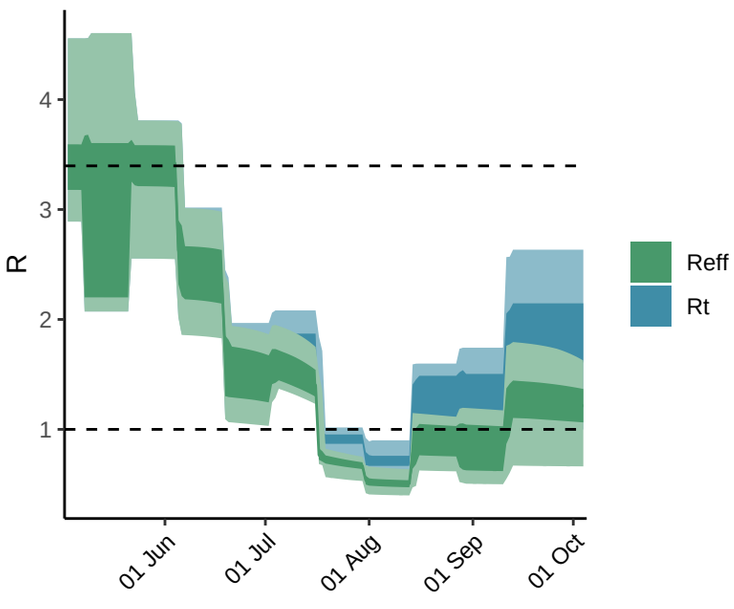

IFR x 0.8, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct

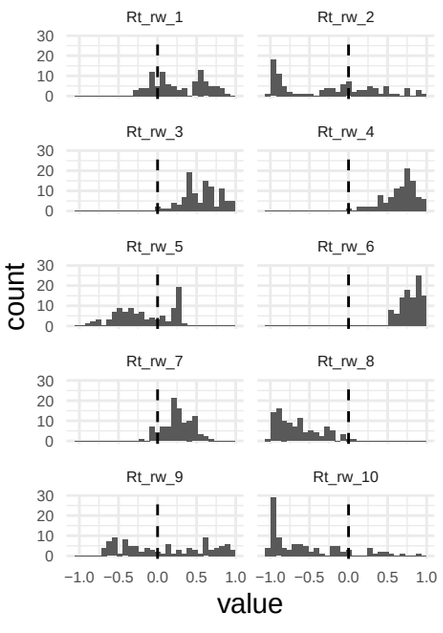

COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+

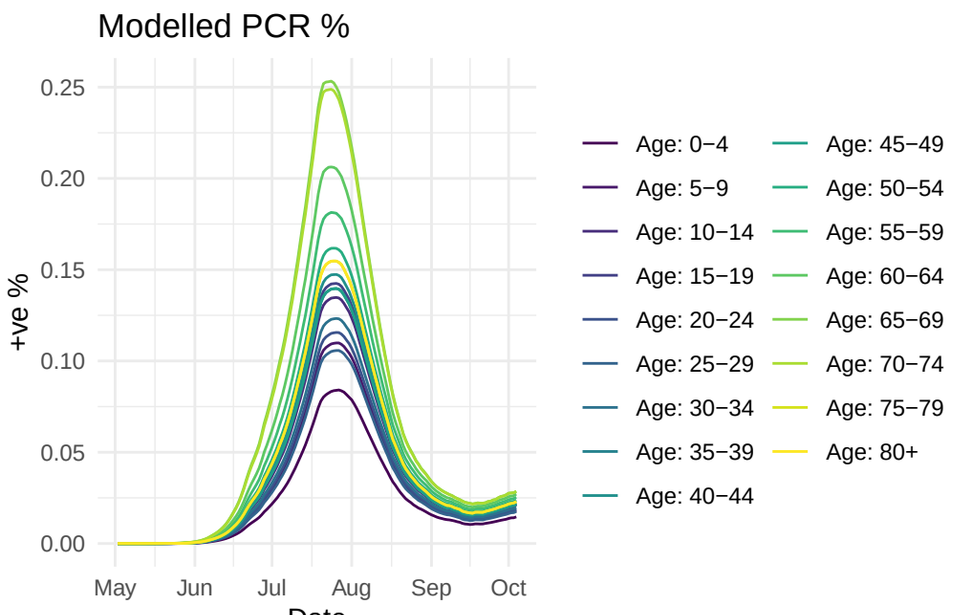

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

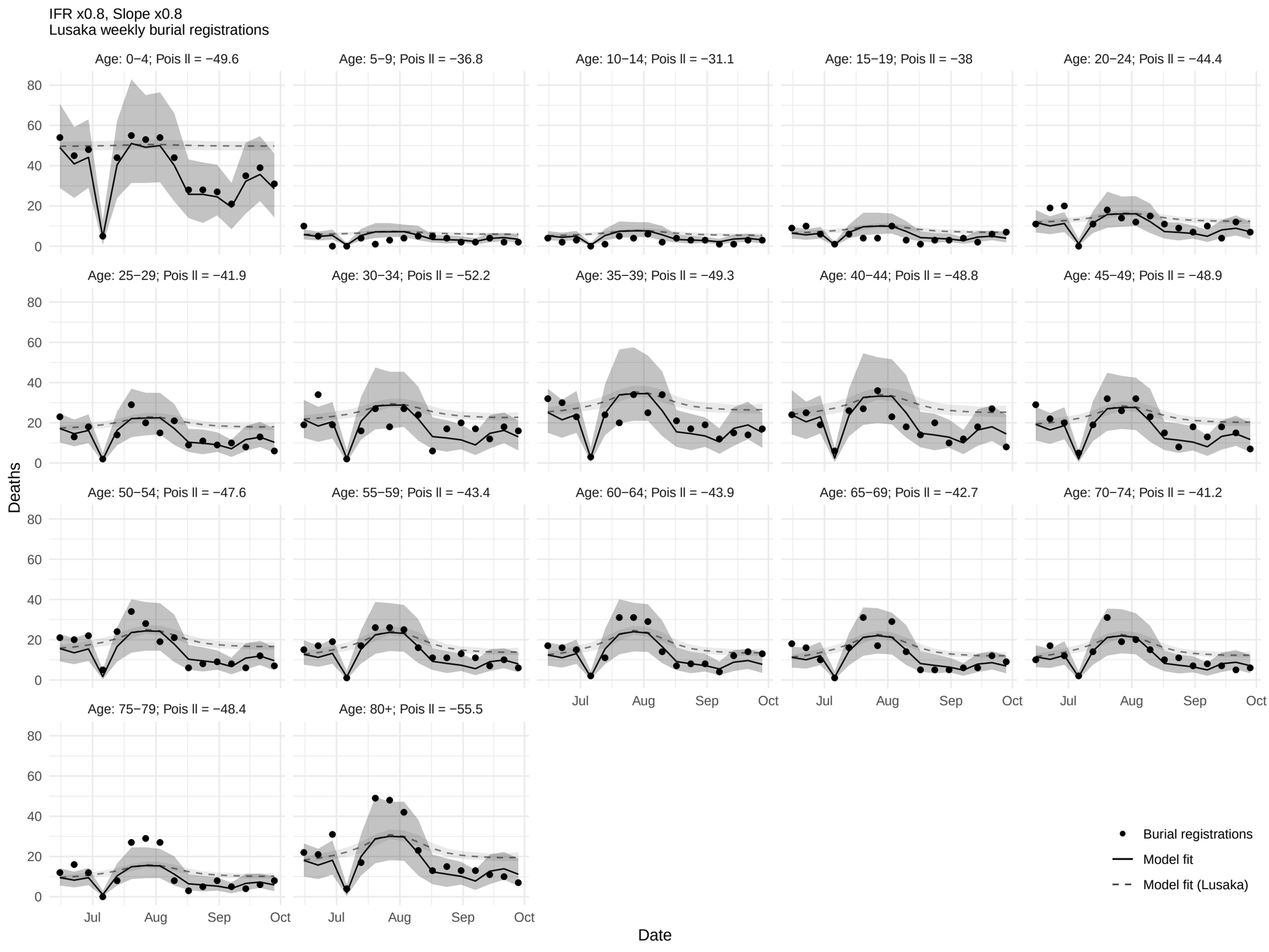

Total +ve deaths
Causal deaths
Coincidental deaths

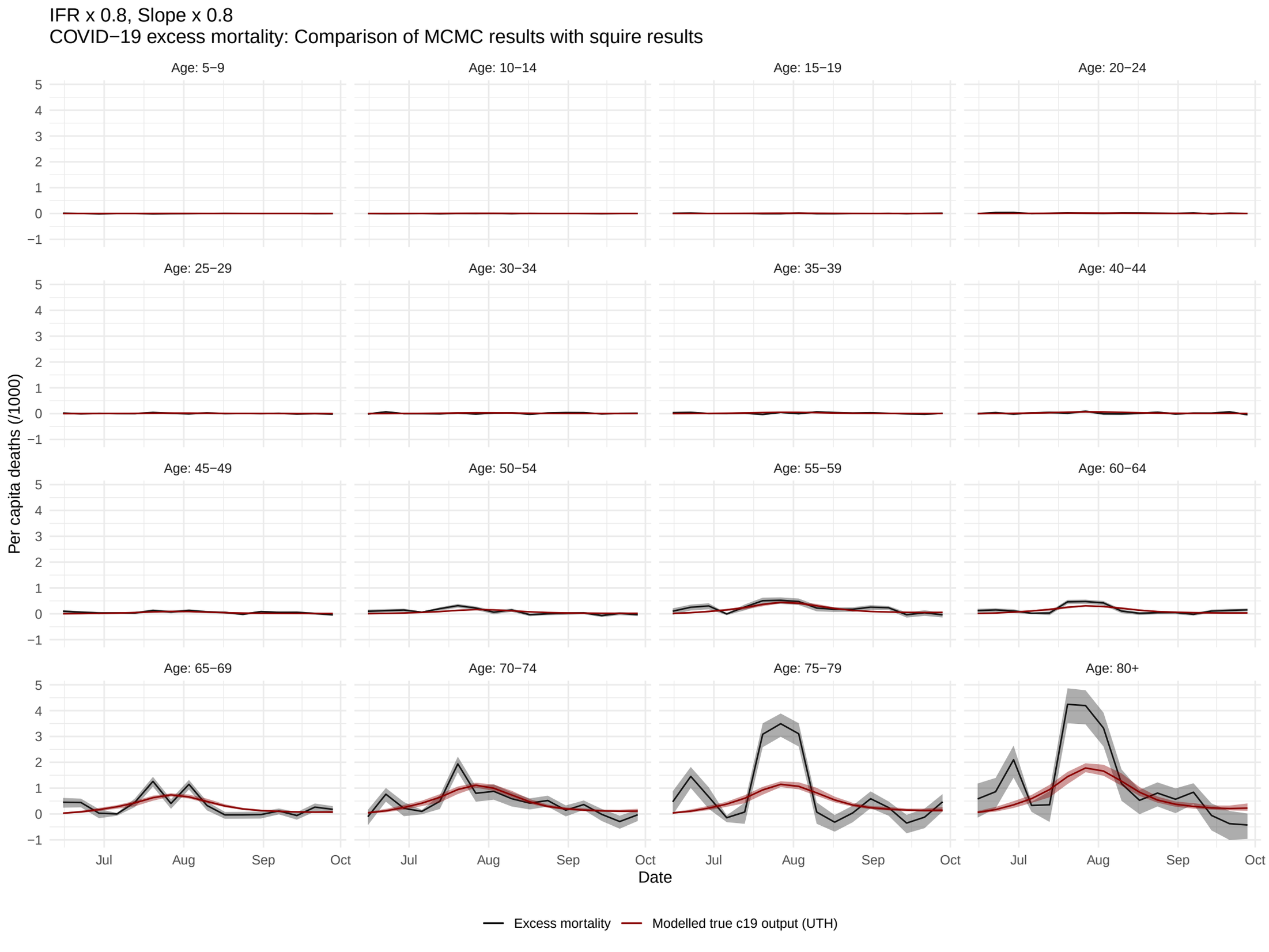

PCR % (Lusaka)
Sero % (Lusaka)

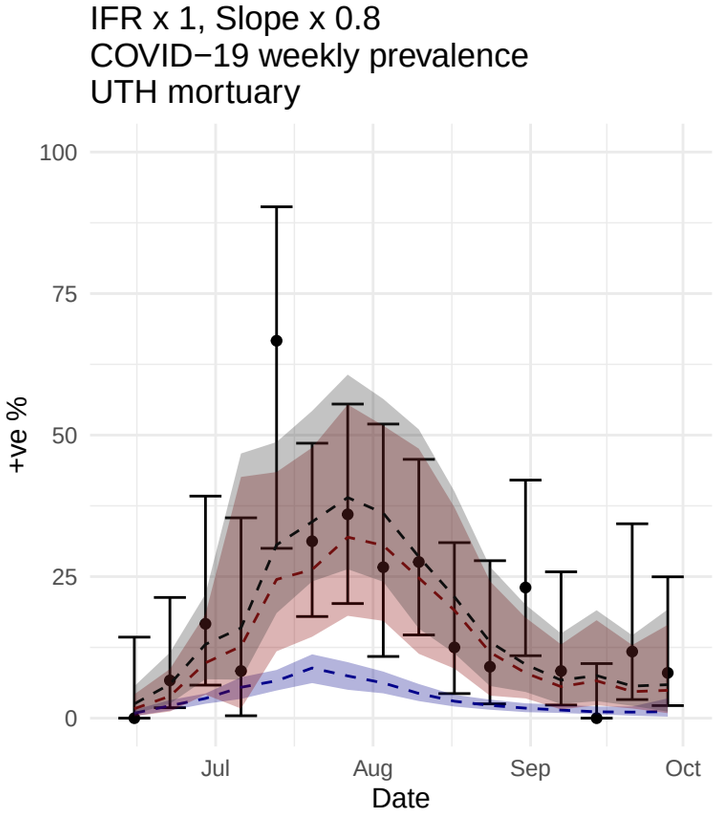

R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt

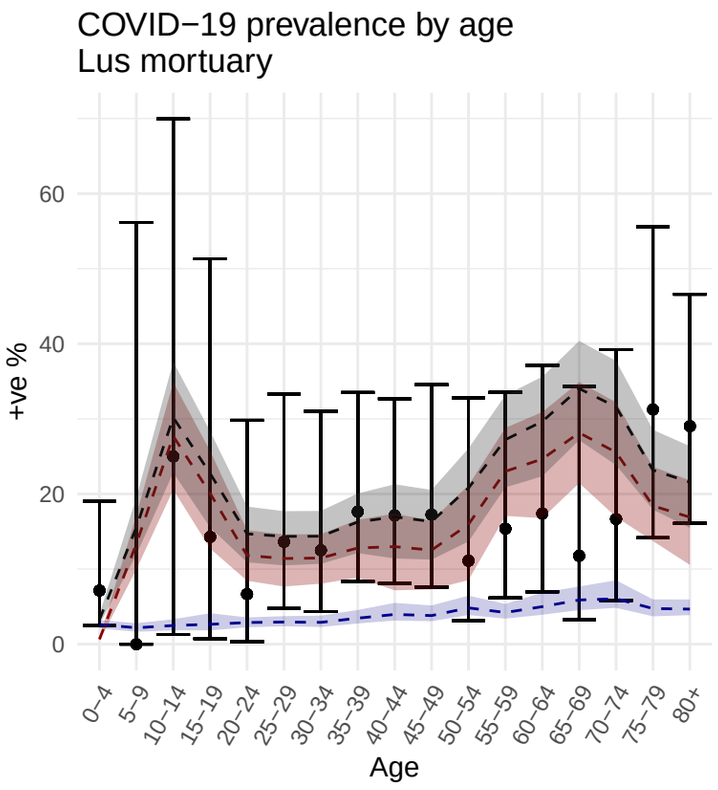

Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

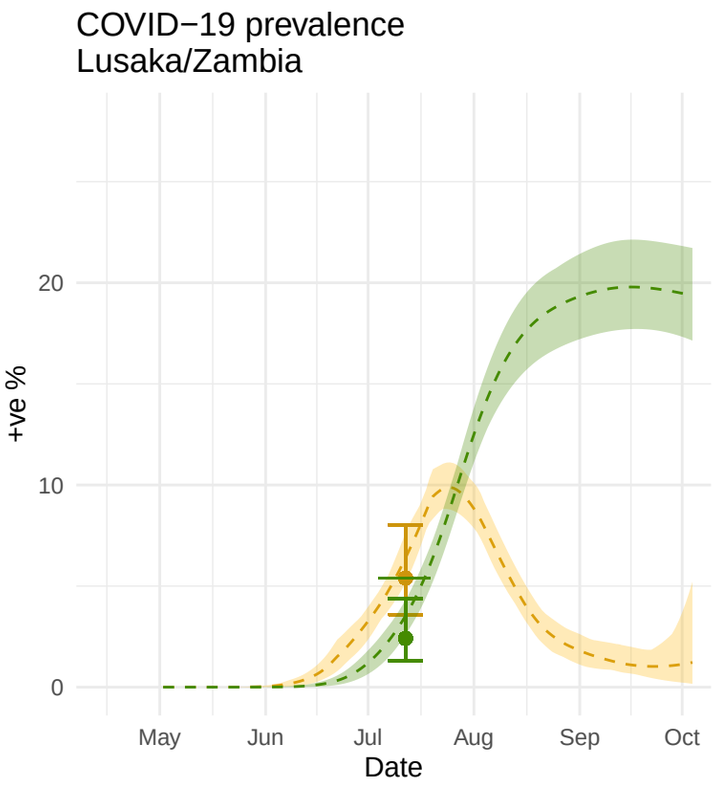

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

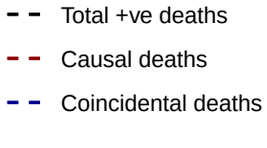

IFR x0.8, Slope x0.8
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.6
Age: 5−9; Pois ll = −36.8
Age: 10−14; Pois ll = −31.1
Age: 15−19; Pois ll = −38
Age: 20−24; Pois ll = −44.4
Age: 25−29; Pois ll = −41.9
Age: 30−34; Pois ll = −52.2
Age: 35−39; Pois ll = −49.3
Age: 40−44; Pois ll = −48.8
Age: 45−49; Pois ll = −48.9
Age: 50−54; Pois ll = −47.6
Age: 55−59; Pois ll = −43.4
Age: 60−64; Pois ll = −43.9
Age: 65−69; Pois ll = −42.7
Age: 70−74; Pois ll = −41.2
Age: 75−79; Pois ll = −48.4
Age: 80+; Pois ll = −55.5
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

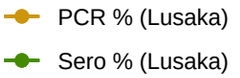

IFR x 0.8, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+
Per capita deaths (/1000)
5
4
3
2
1
0
−1
Jul
Aug
Sep
Oct
Date
Excess mortality
Modelled true c19 output (UTH)

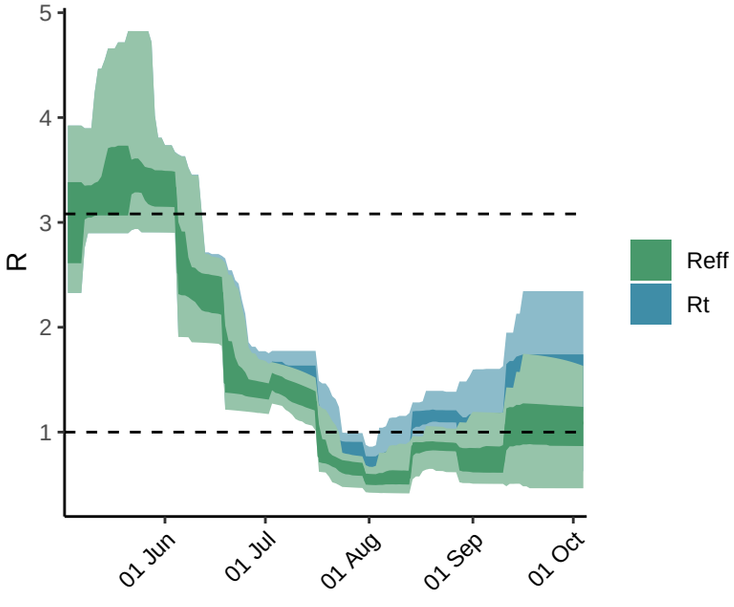

IFR x 1, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct


COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0−4
5−9
10−14
15−19
20−24
25−29
30−34
35−39
40−44
45−49
50−54
55−59
60−64
65−69
70−74
75−79
80+

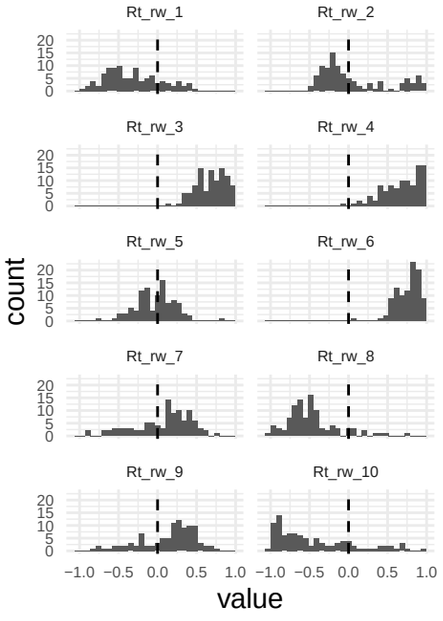

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

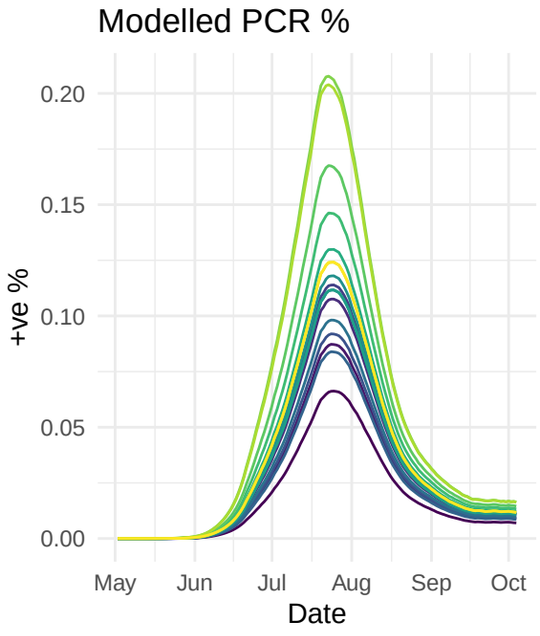

Total +ve deaths
Causal deaths
Coincidental deaths

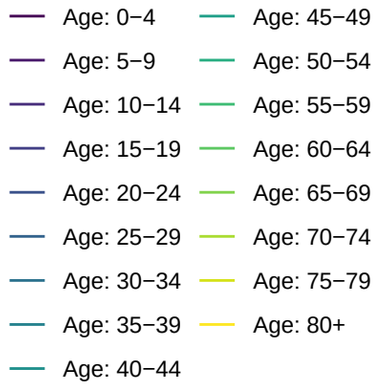

PCR % (Lusaka)
Sero % (Lusaka)


R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct

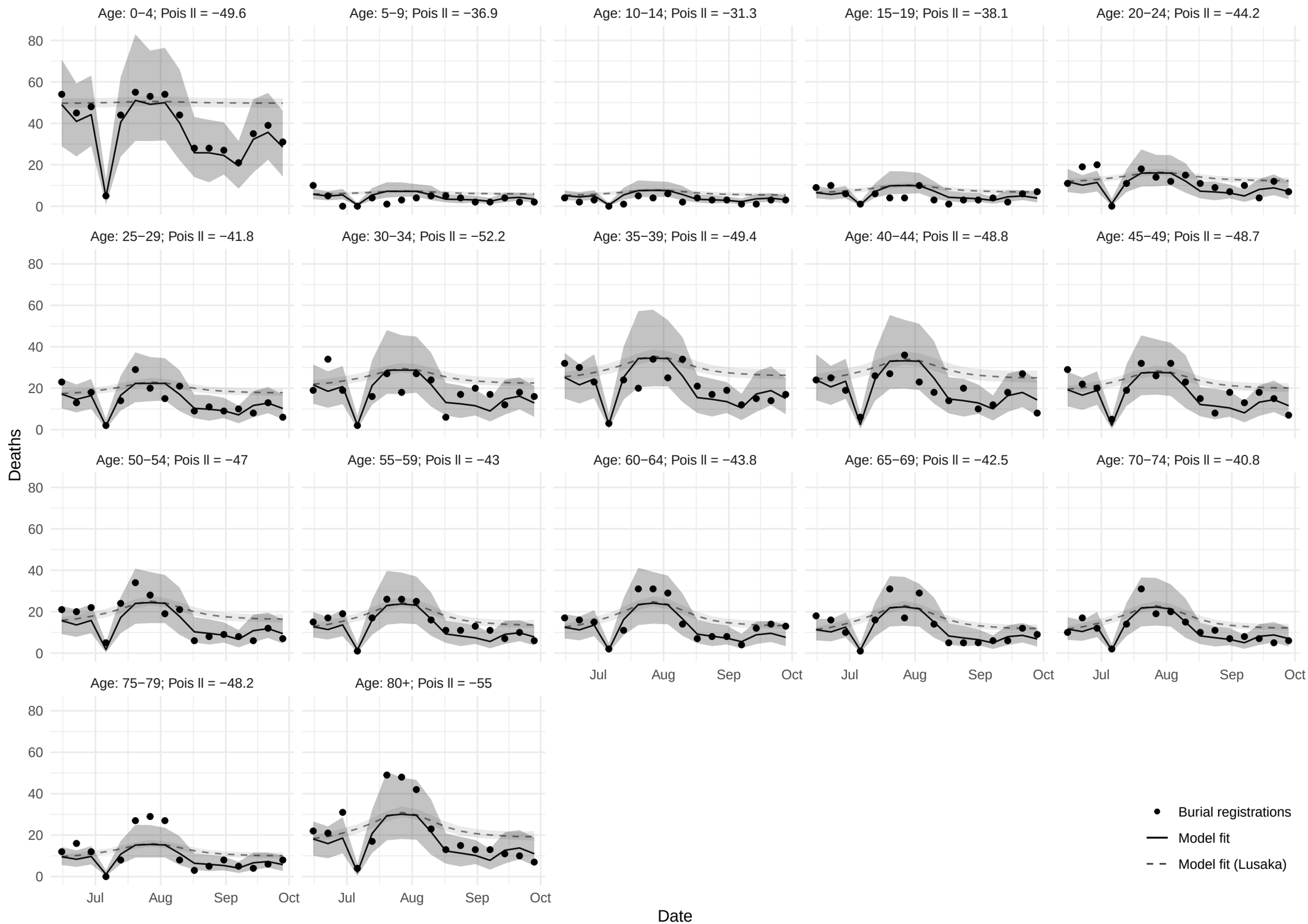
Reff
Rt


Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

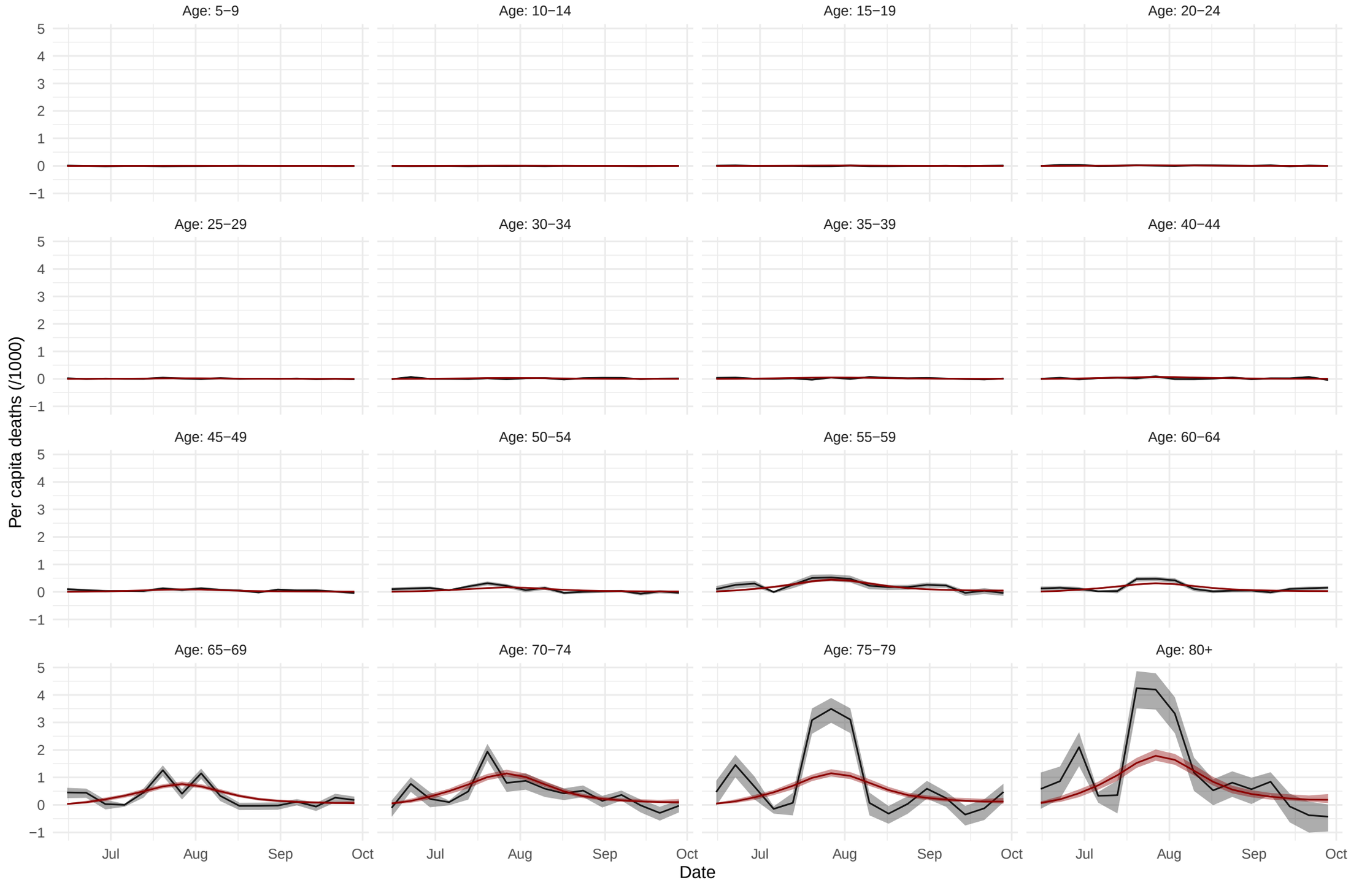

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

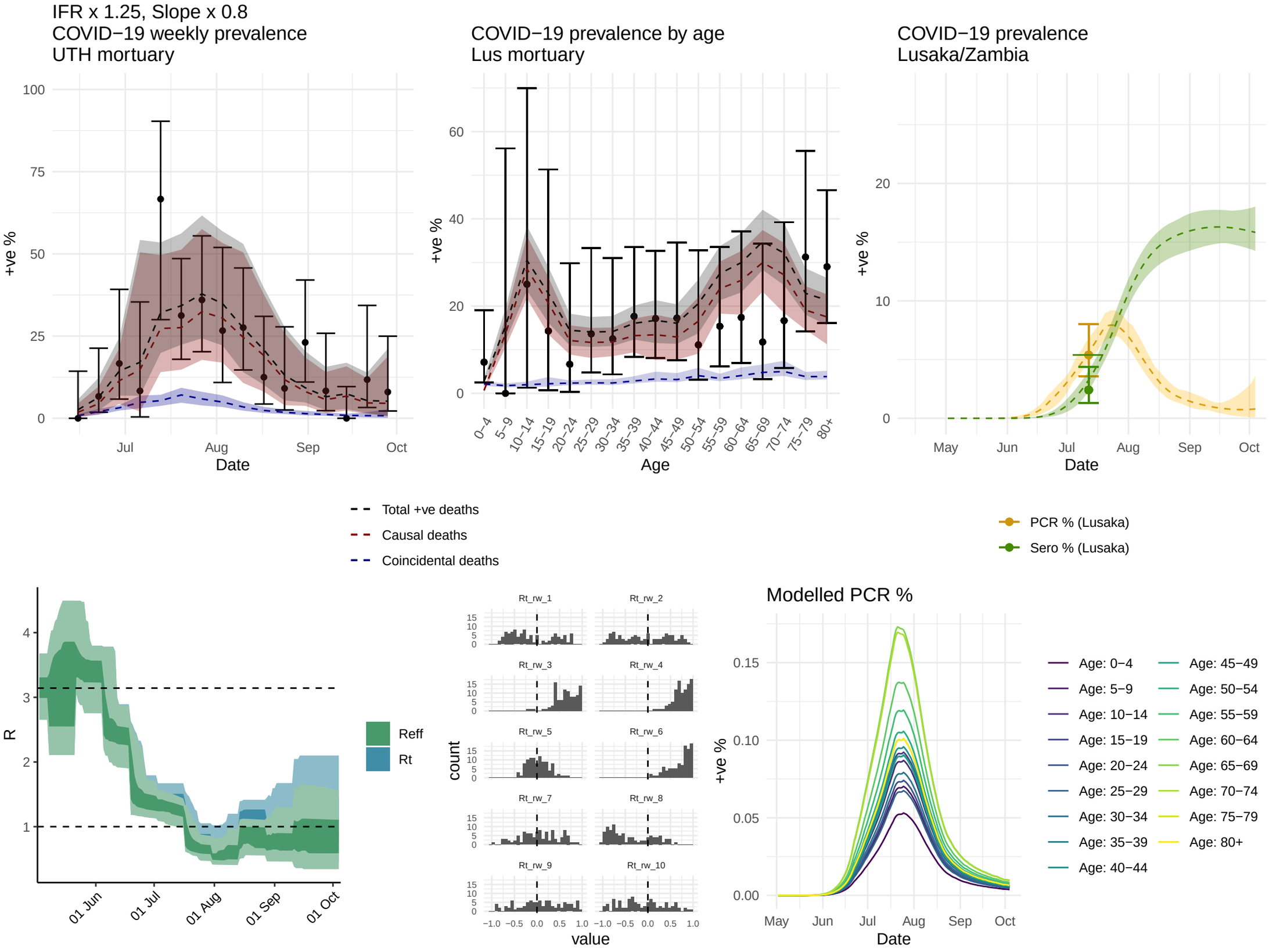

Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

IFR x1, Slope x0.8
Lusaka weekly burial registrations

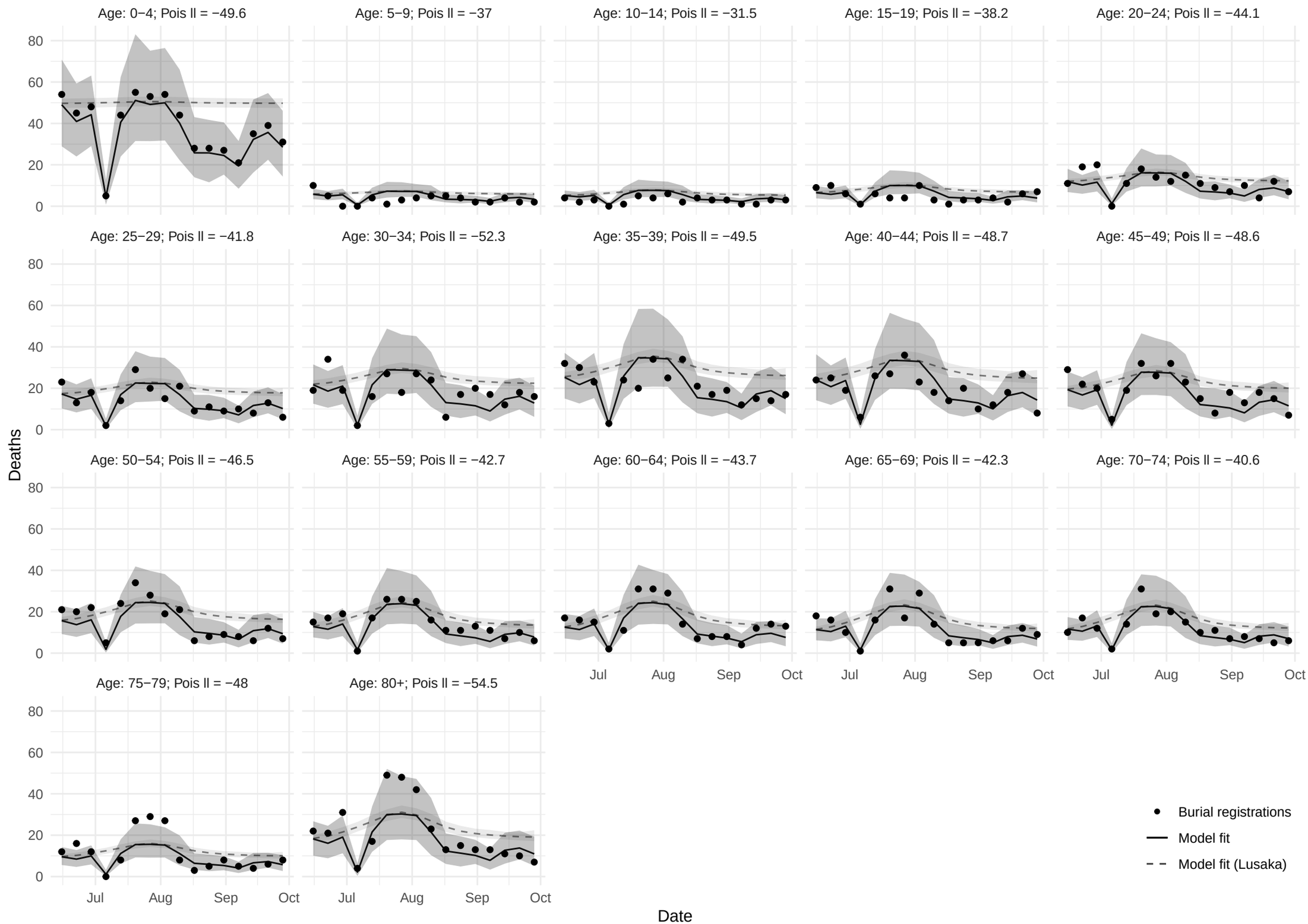


IFR x 1, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results

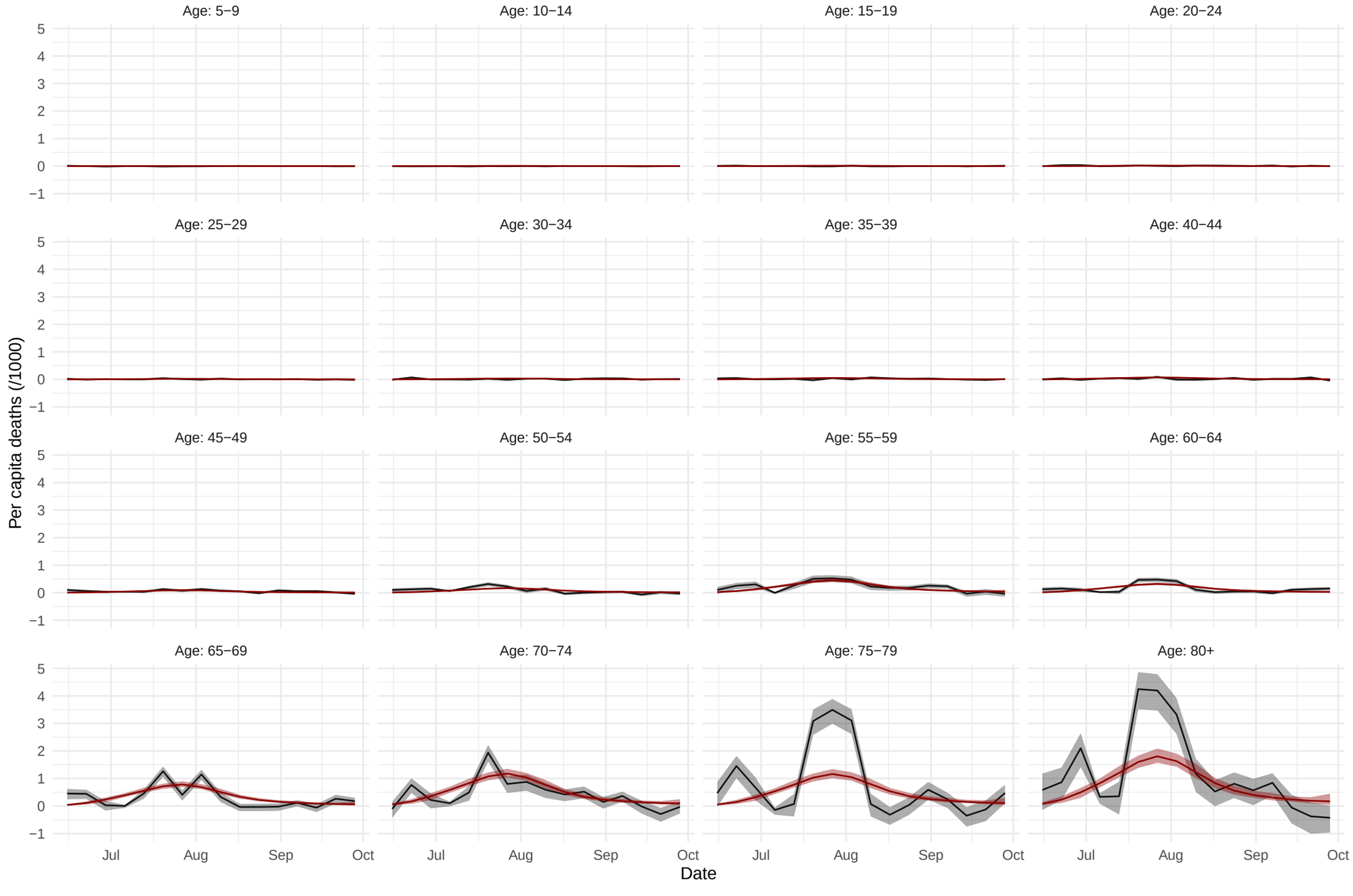


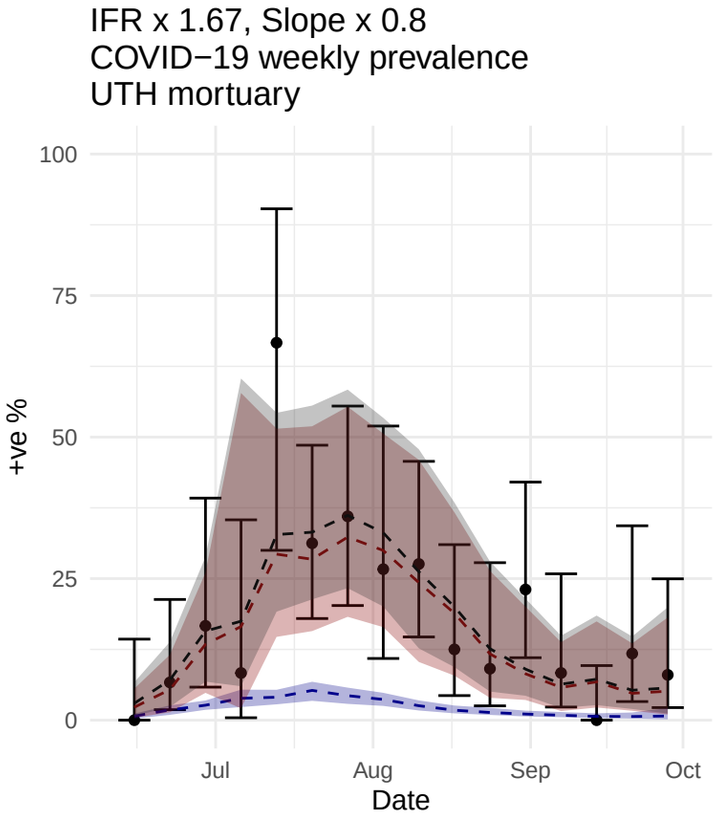

IFR x 1.25, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct
COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+
COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Total +ve deaths
Causal deaths
Coincidental deaths
PCR % (Lusaka)
Sero % (Lusaka)
R
Reff
Rt
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value
Modelled PCR %
+ve %
Date
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

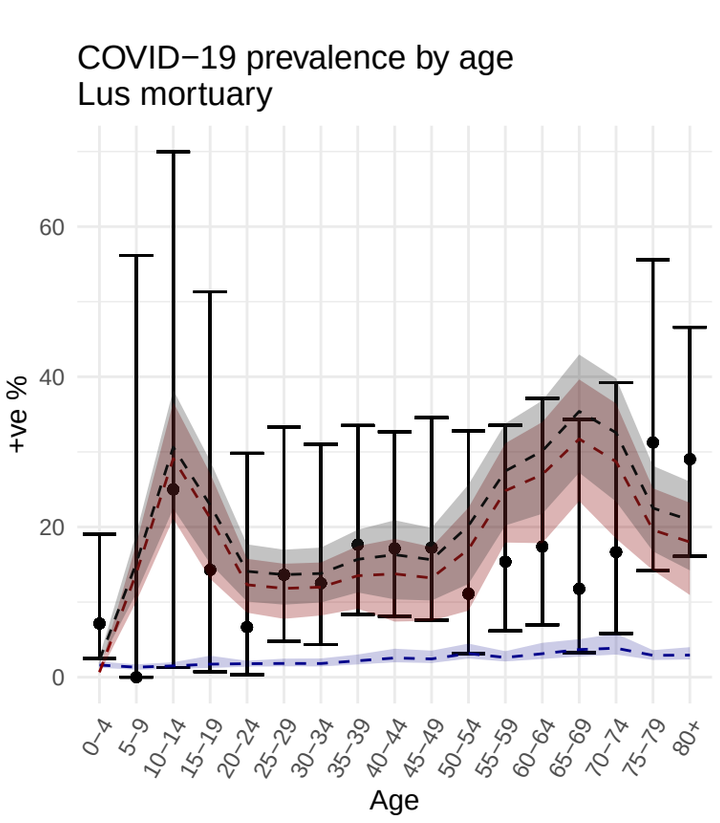
IFR x1.25, Slope x0.8
Lusaka weekly burial registrations

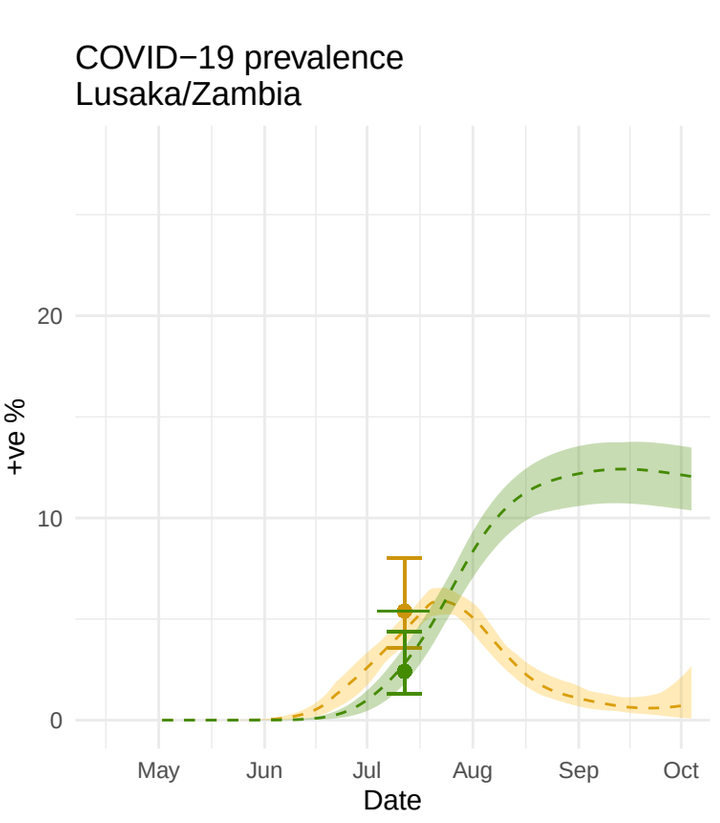


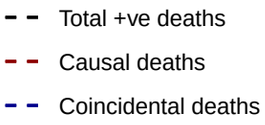
IFR x 1.25, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results

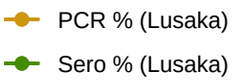


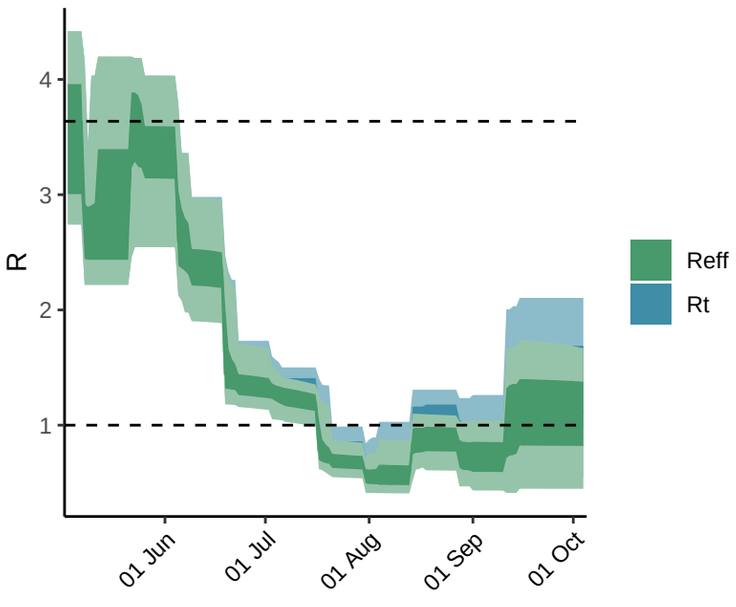

IFR x 1.67, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct


COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+

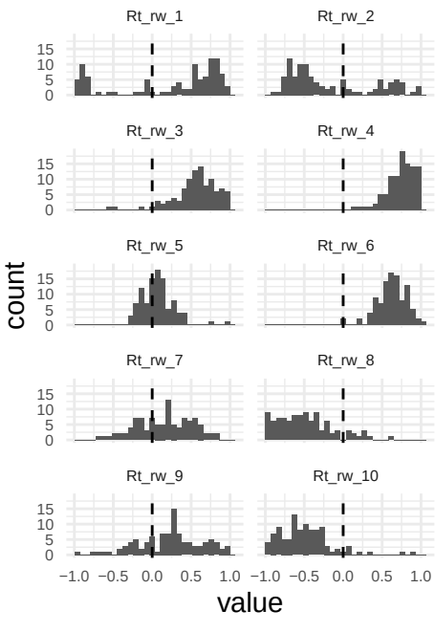

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

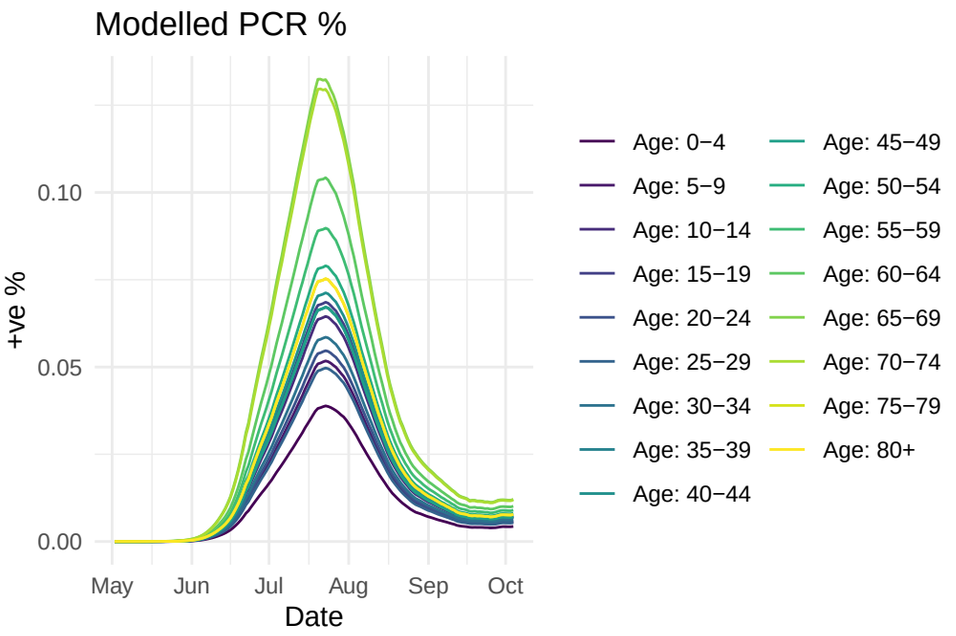

Total +ve deaths
Causal deaths
Coincidental deaths


PCR % (Lusaka)
Sero % (Lusaka)

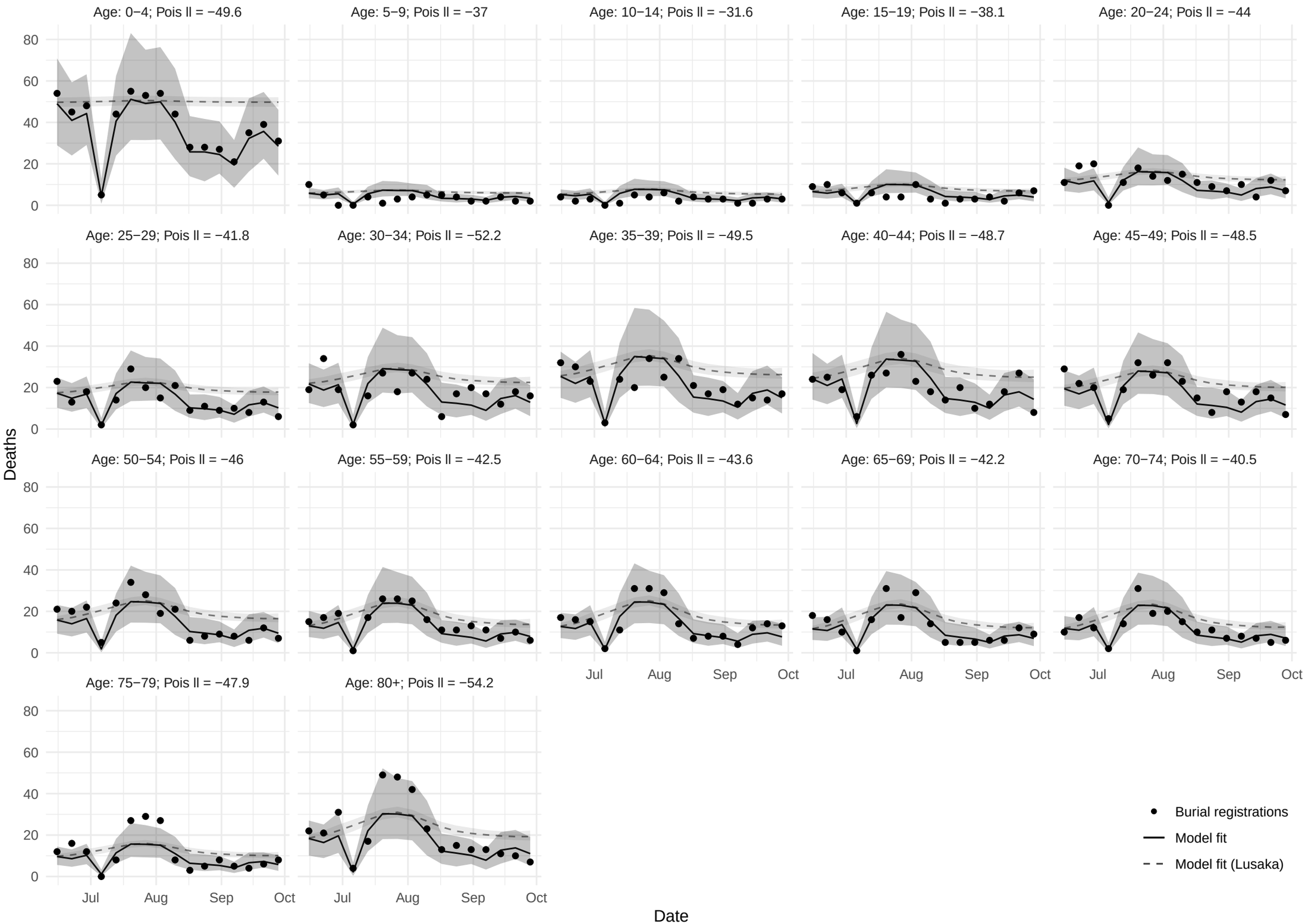

R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct

Reff
Rt

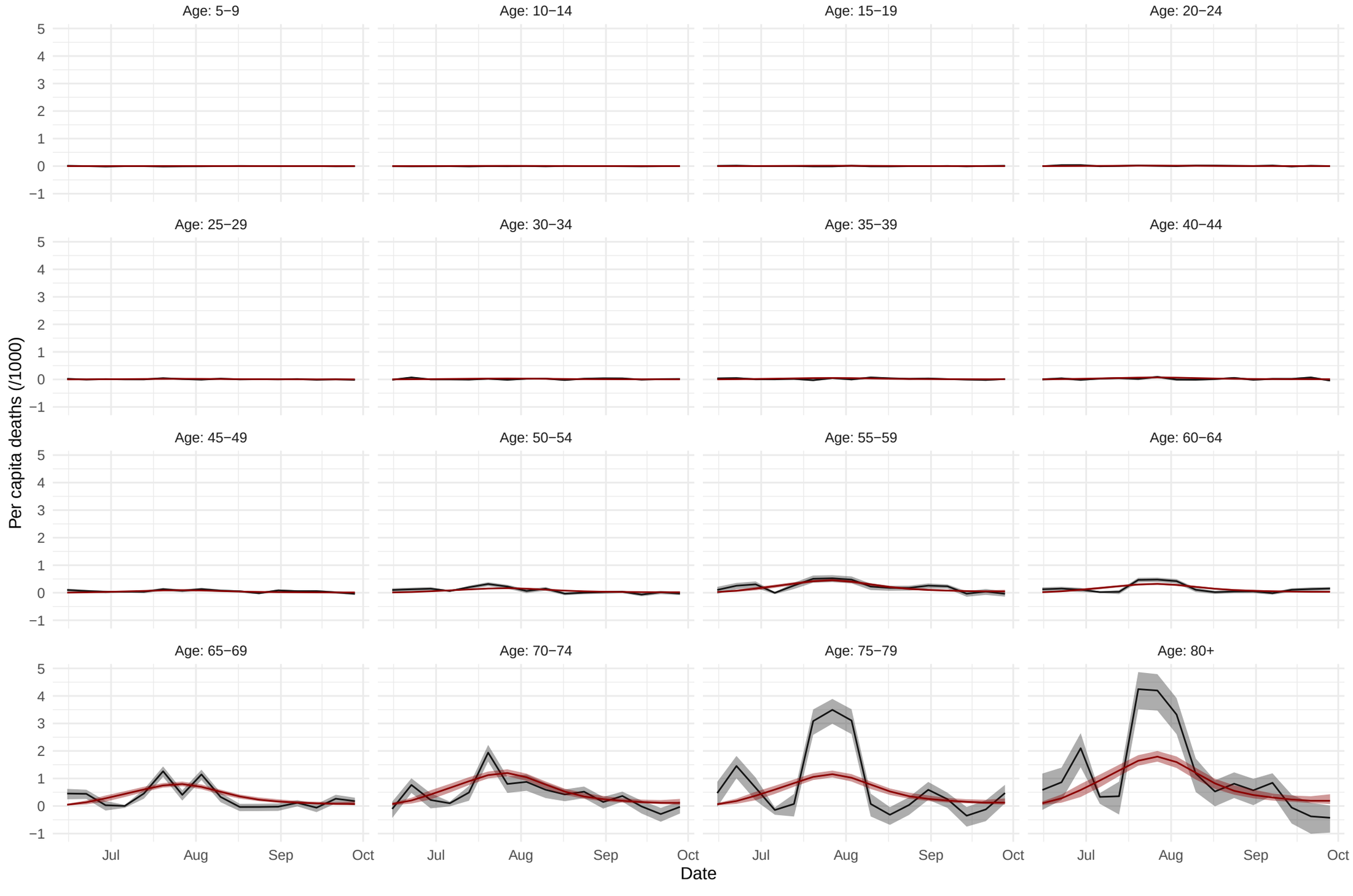

Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

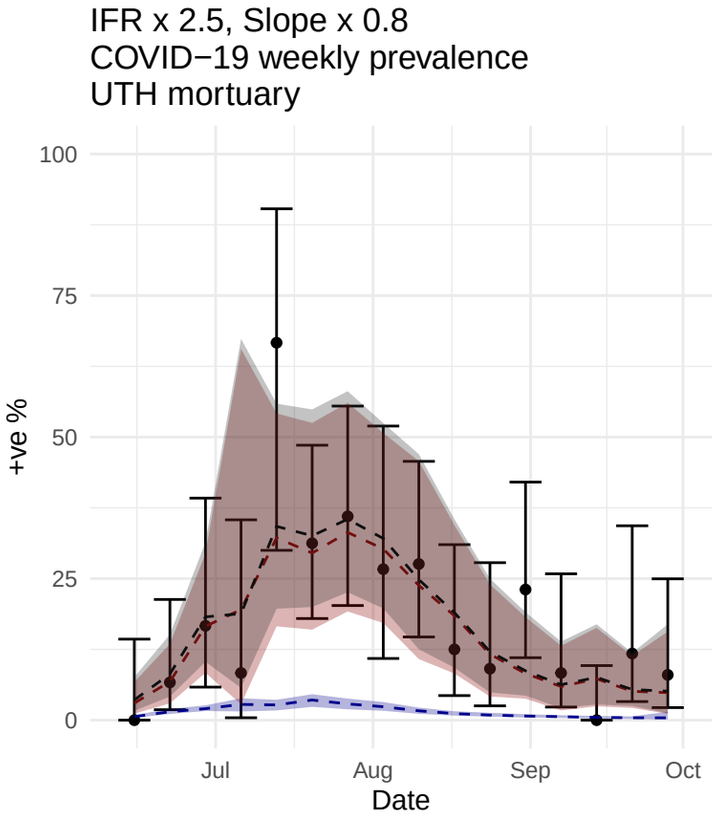

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

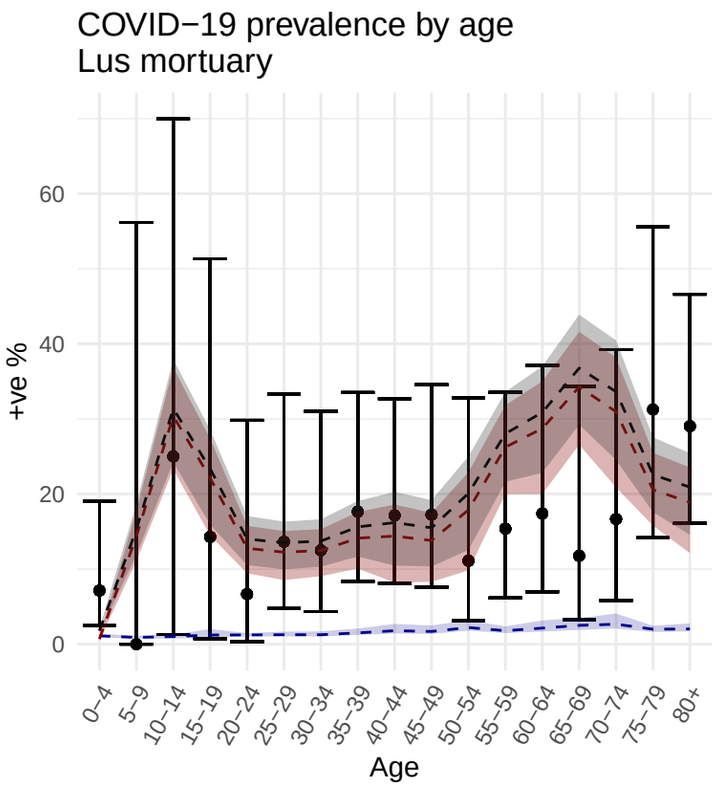
IFR x1.67, Slope x0.8
Lusaka weekly burial registrations

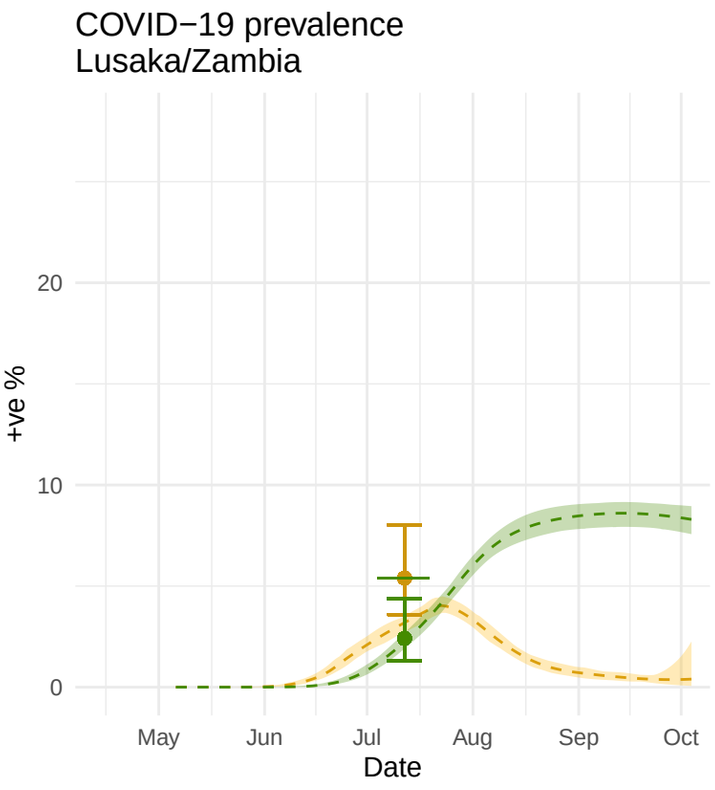


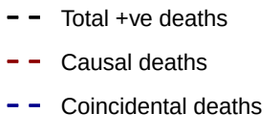
IFR x 1.67, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results

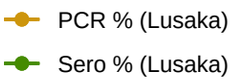


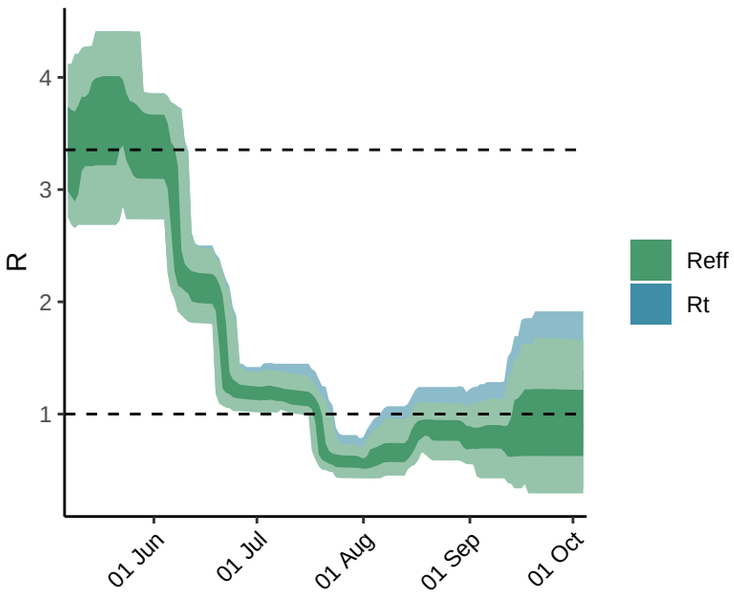

IFR x 2.5, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct


COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+

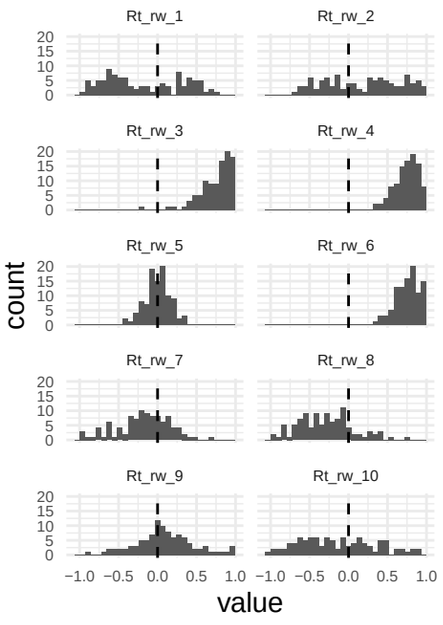

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

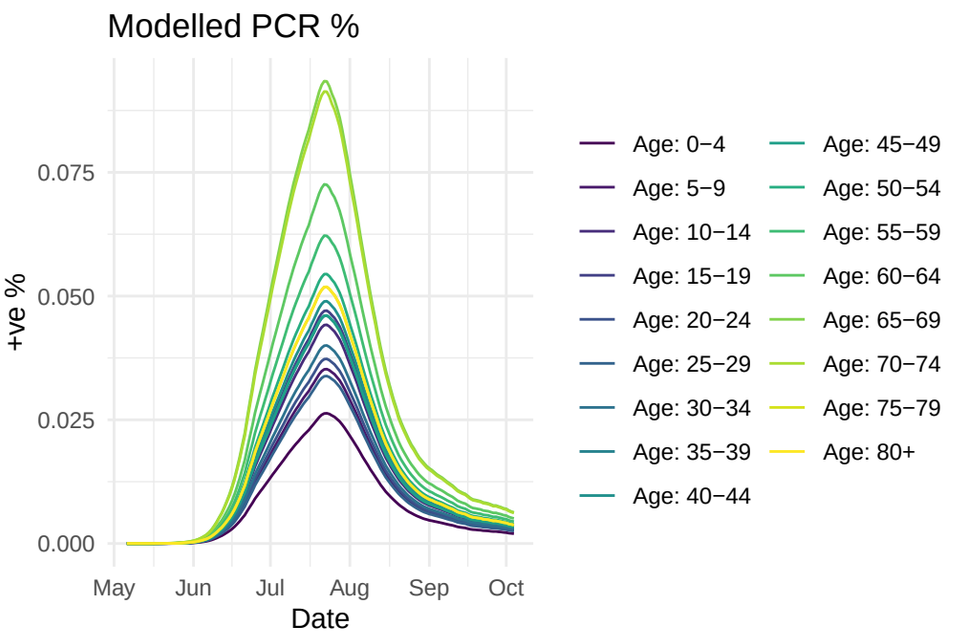

Total +ve deaths
Causal deaths
Coincidental deaths

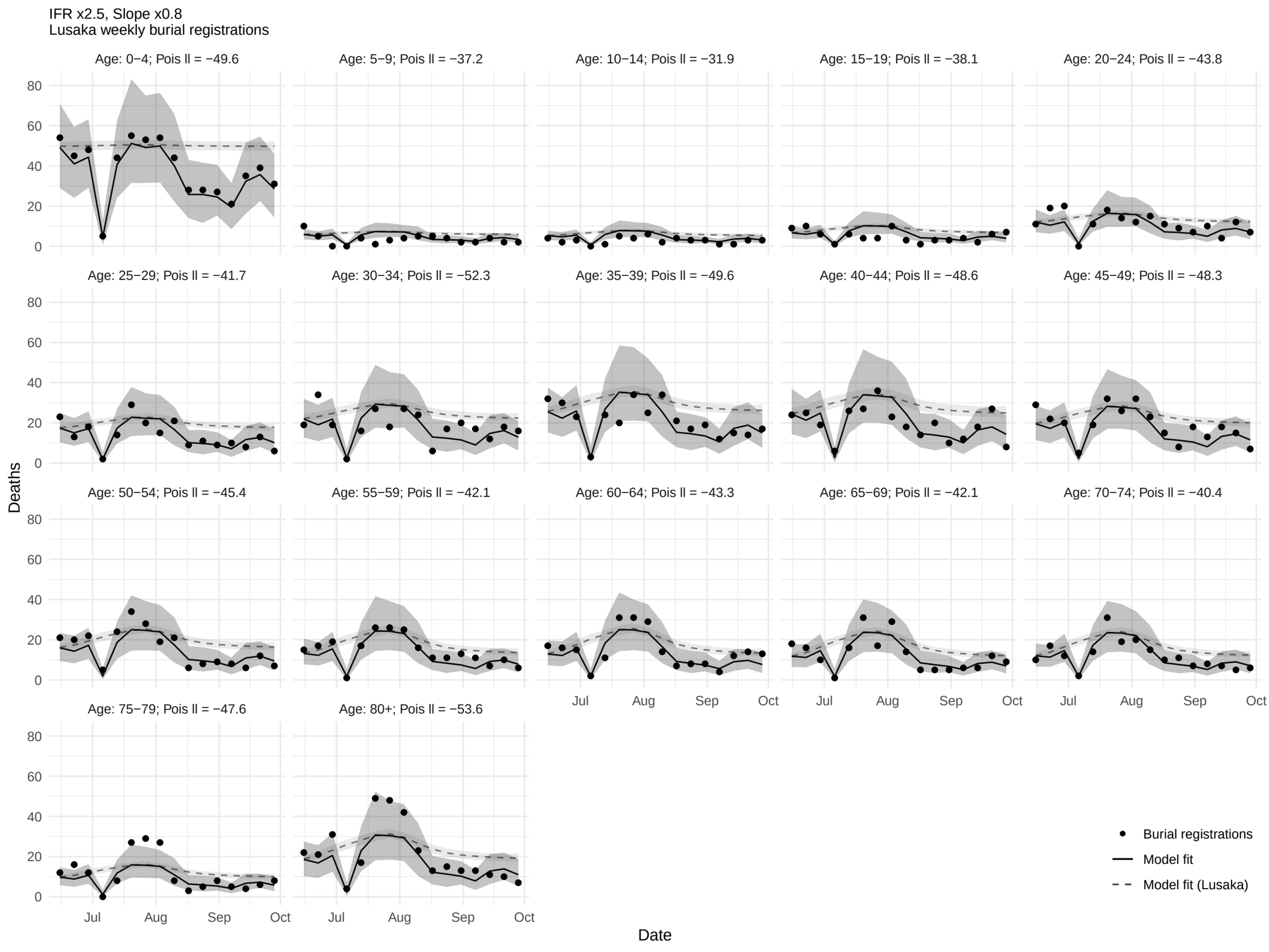

PCR % (Lusaka)
Sero % (Lusaka)


R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct

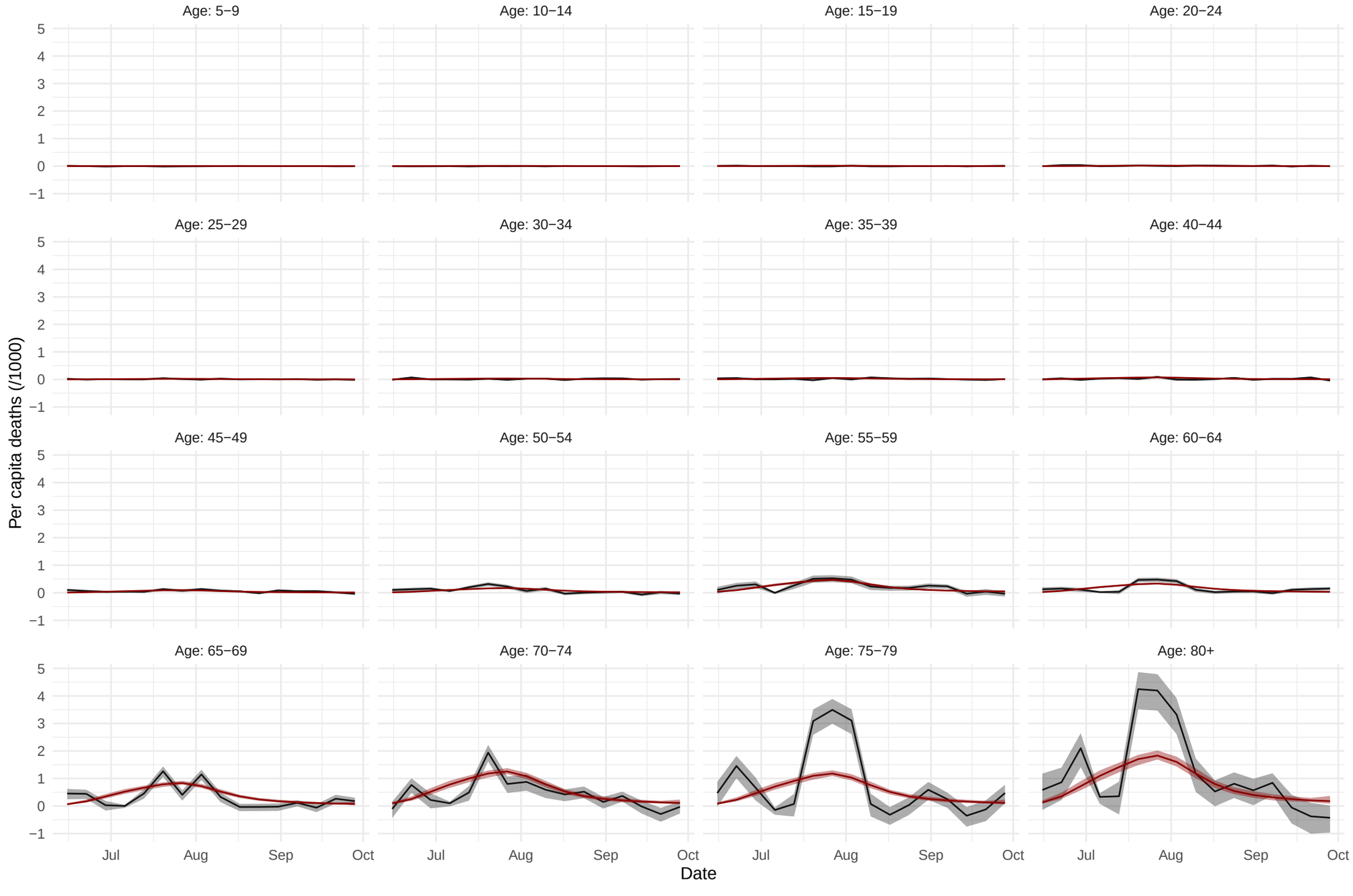
Reff
Rt

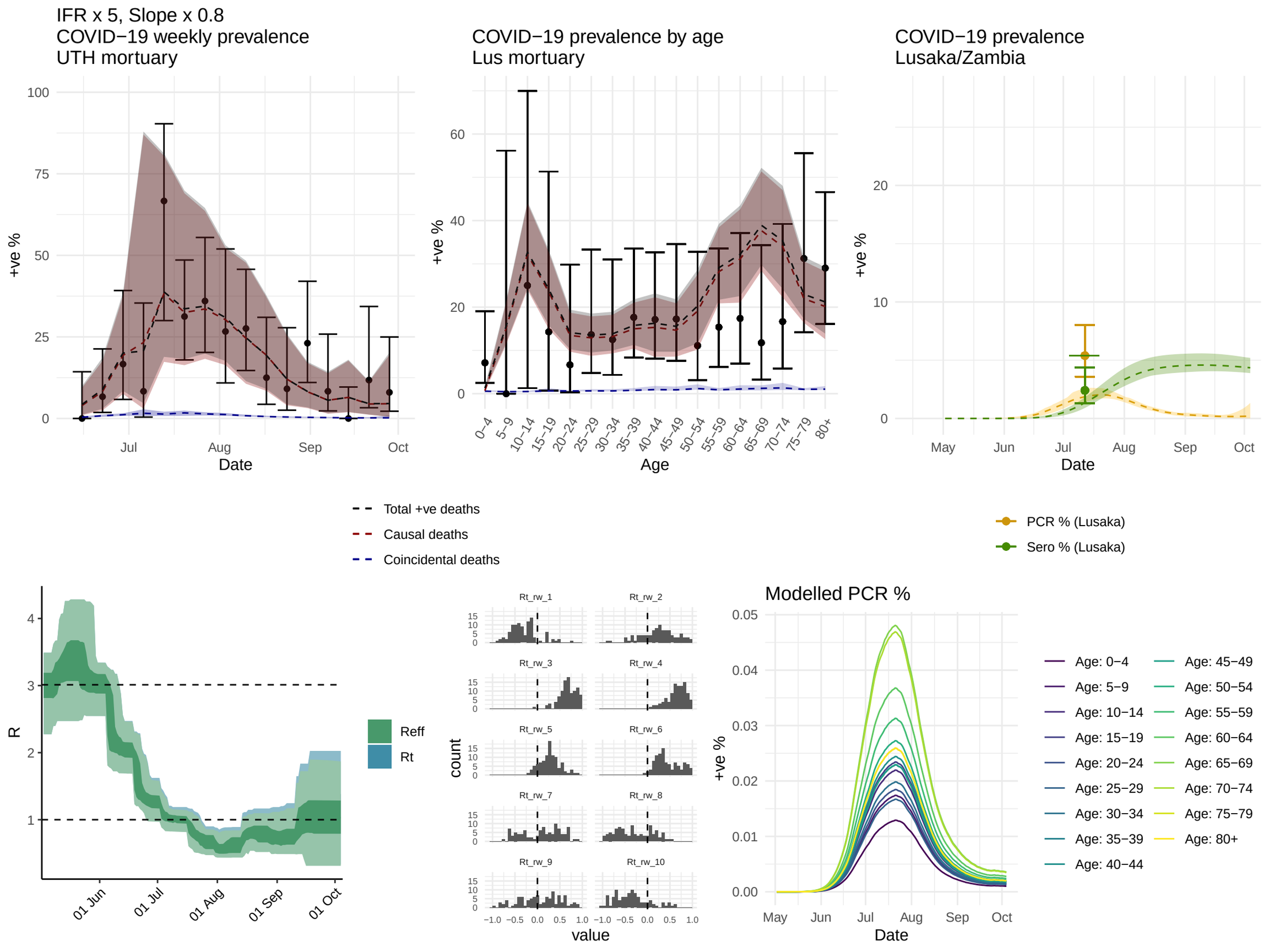

Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

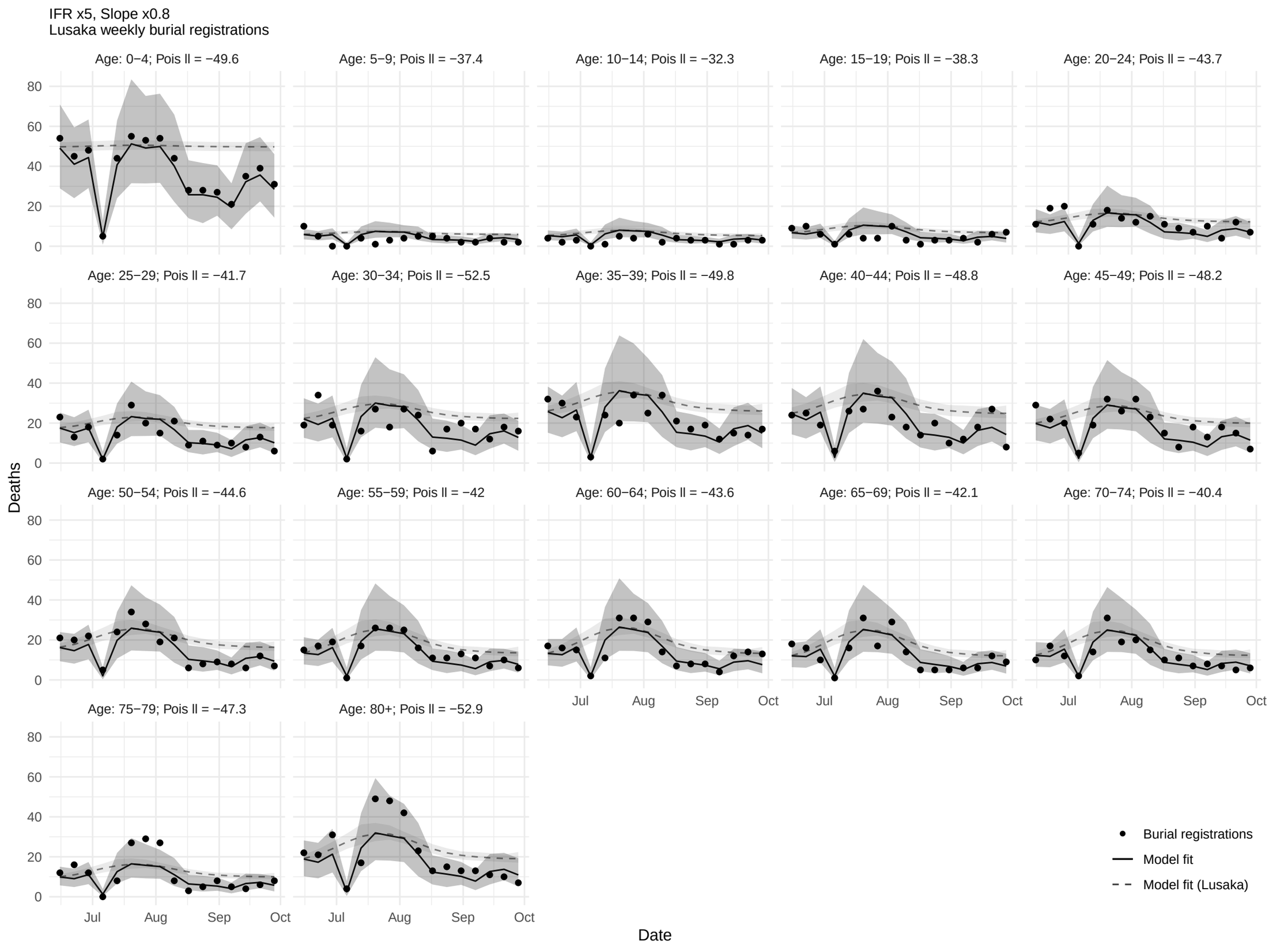

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+


IFR x2.5, Slope x0.8
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.6
Age: 5−9; Pois ll = −37.2
Age: 10−14; Pois ll = −31.9
Age: 15−19; Pois ll = −38.1
Age: 20−24; Pois ll = −43.8
Age: 25−29; Pois ll = −41.7
Age: 30−34; Pois ll = −52.3
Age: 35−39; Pois ll = −49.6
Age: 40−44; Pois ll = −48.6
Age: 45−49; Pois ll = −48.3
Age: 50−54; Pois ll = −45.4
Age: 55−59; Pois ll = −42.1
Age: 60−64; Pois ll = −43.3
Age: 65−69; Pois ll = −42.1
Age: 70−74; Pois ll = −40.4
Age: 75−79; Pois ll = −47.6
Age: 80+; Pois ll = −53.6
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

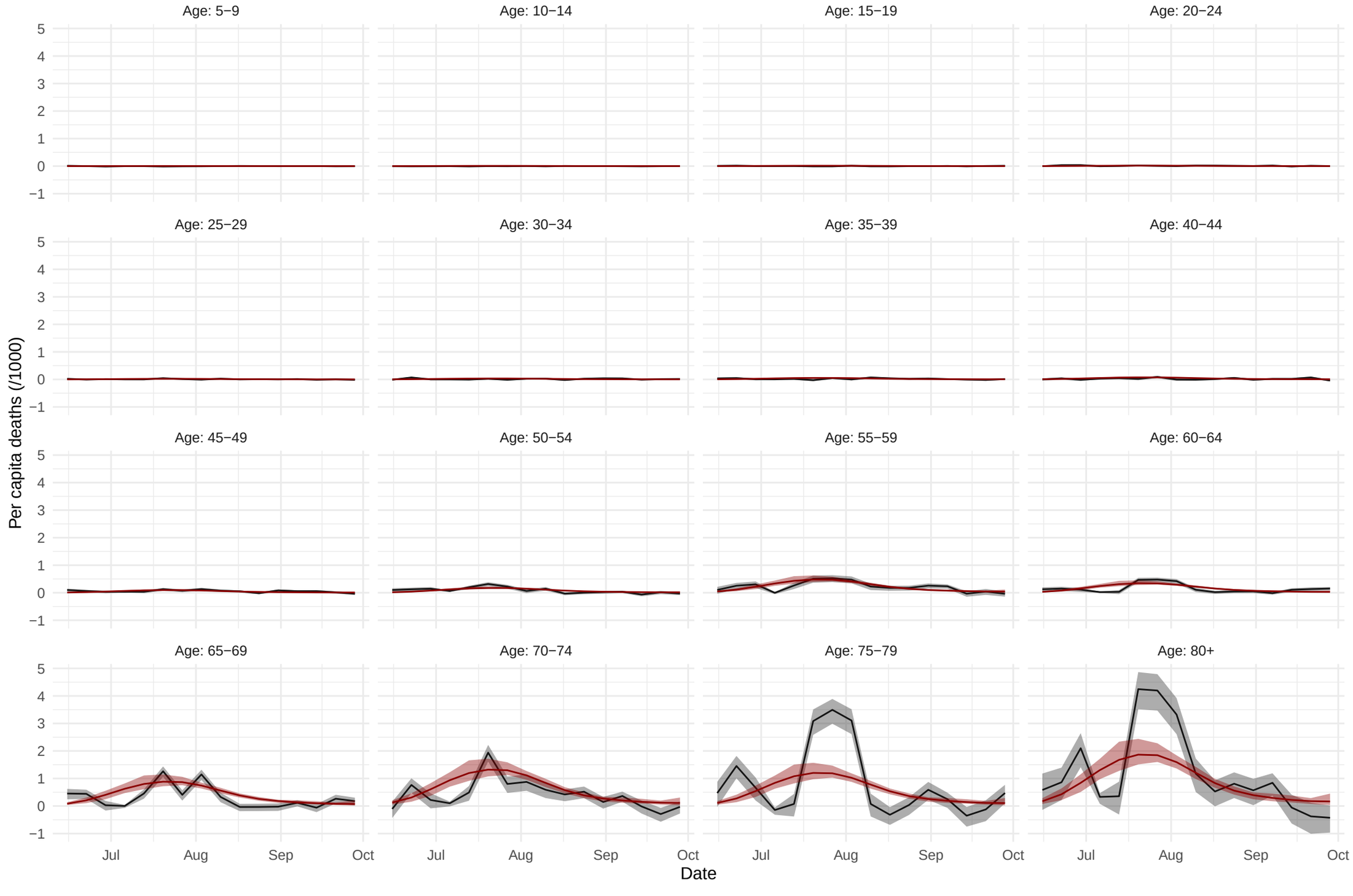
IFR x 2.5, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results

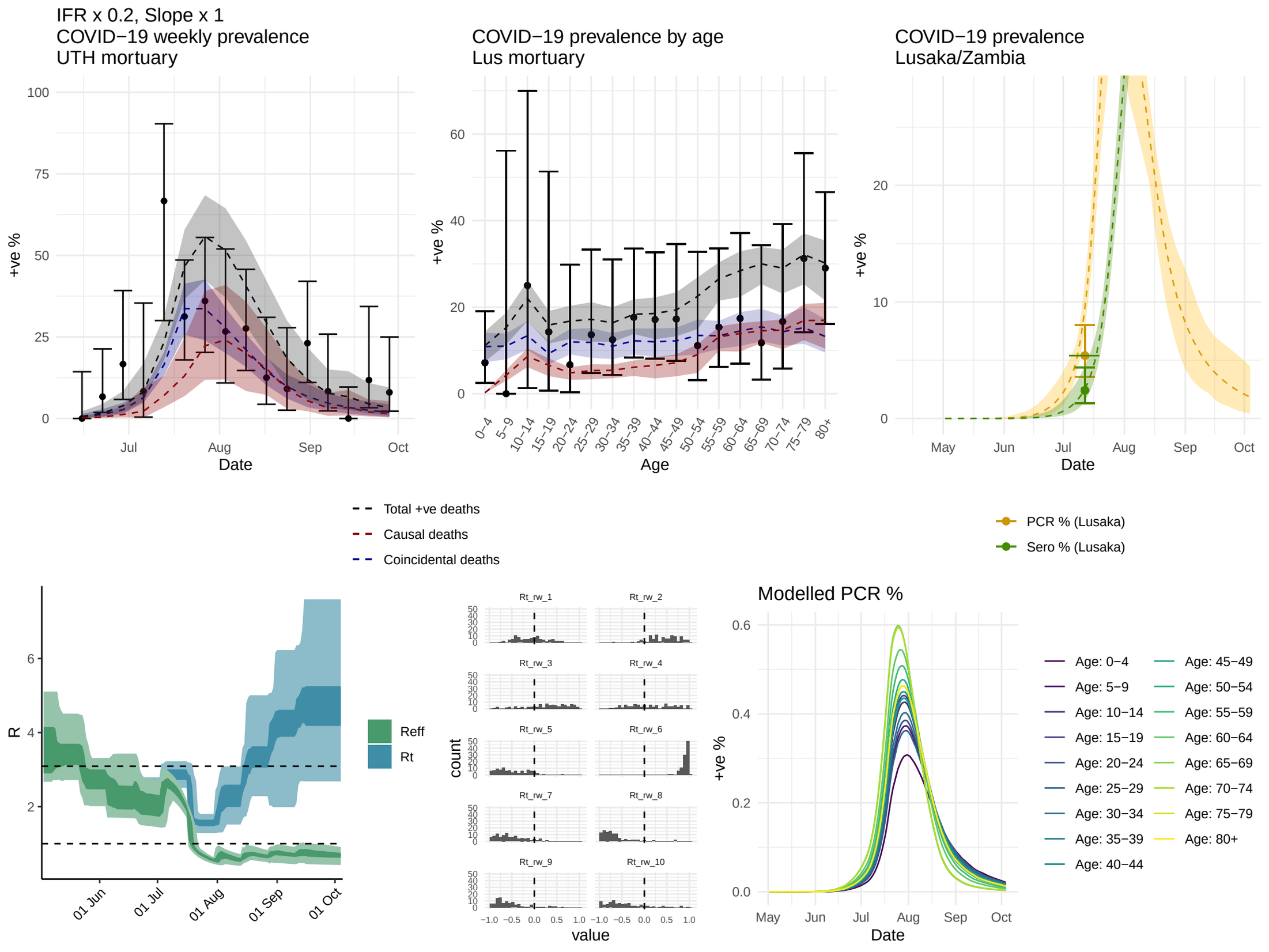


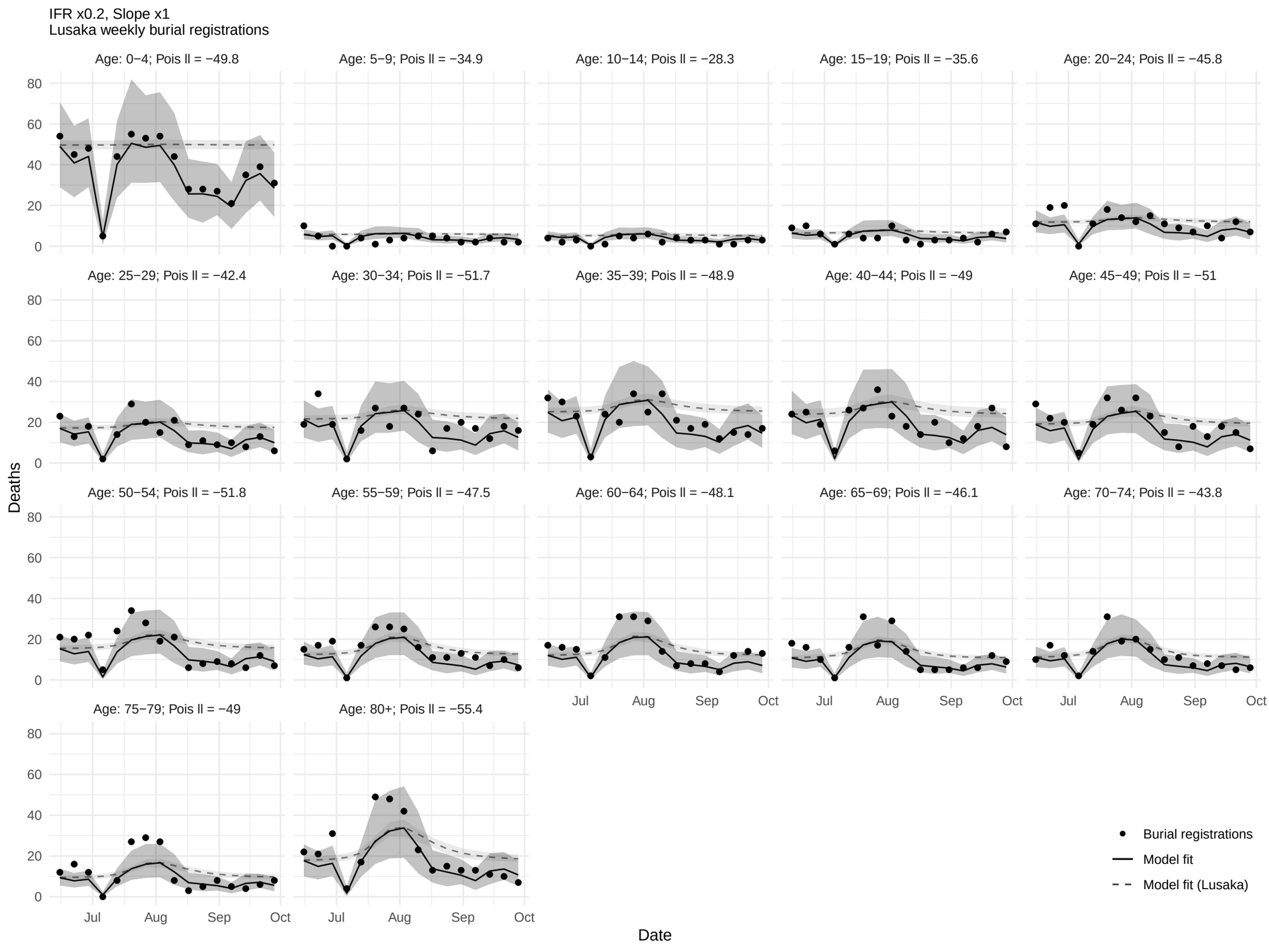

IFR x 5, Slope x 0.8
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct
COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+
COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Total +ve deaths
Causal deaths
Coincidental deaths
PCR % (Lusaka)
Sero % (Lusaka)
R
Reff
Rt
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value
Modelled PCR %
+ve %
Date
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+


IFR x5, Slope x0.8
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.6
Age: 5−9; Pois ll = −37.4
Age: 10−14; Pois ll = −32.3
Age: 15−19; Pois ll = −38.3
Age: 20−24; Pois ll = −43.7
Age: 25−29; Pois ll = −41.7
Age: 30−34; Pois ll = −52.5
Age: 35−39; Pois ll = −49.8
Age: 40−44; Pois ll = −48.8
Age: 45−49; Pois ll = −48.2
Age: 50−54; Pois ll = −44.6
Age: 55−59; Pois ll = −42
Age: 60−64; Pois ll = −43.6
Age: 65−69; Pois ll = −42.1
Age: 70−74; Pois ll = −40.4
Age: 75−79; Pois ll = −47.3
Age: 80+; Pois ll = −52.9
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

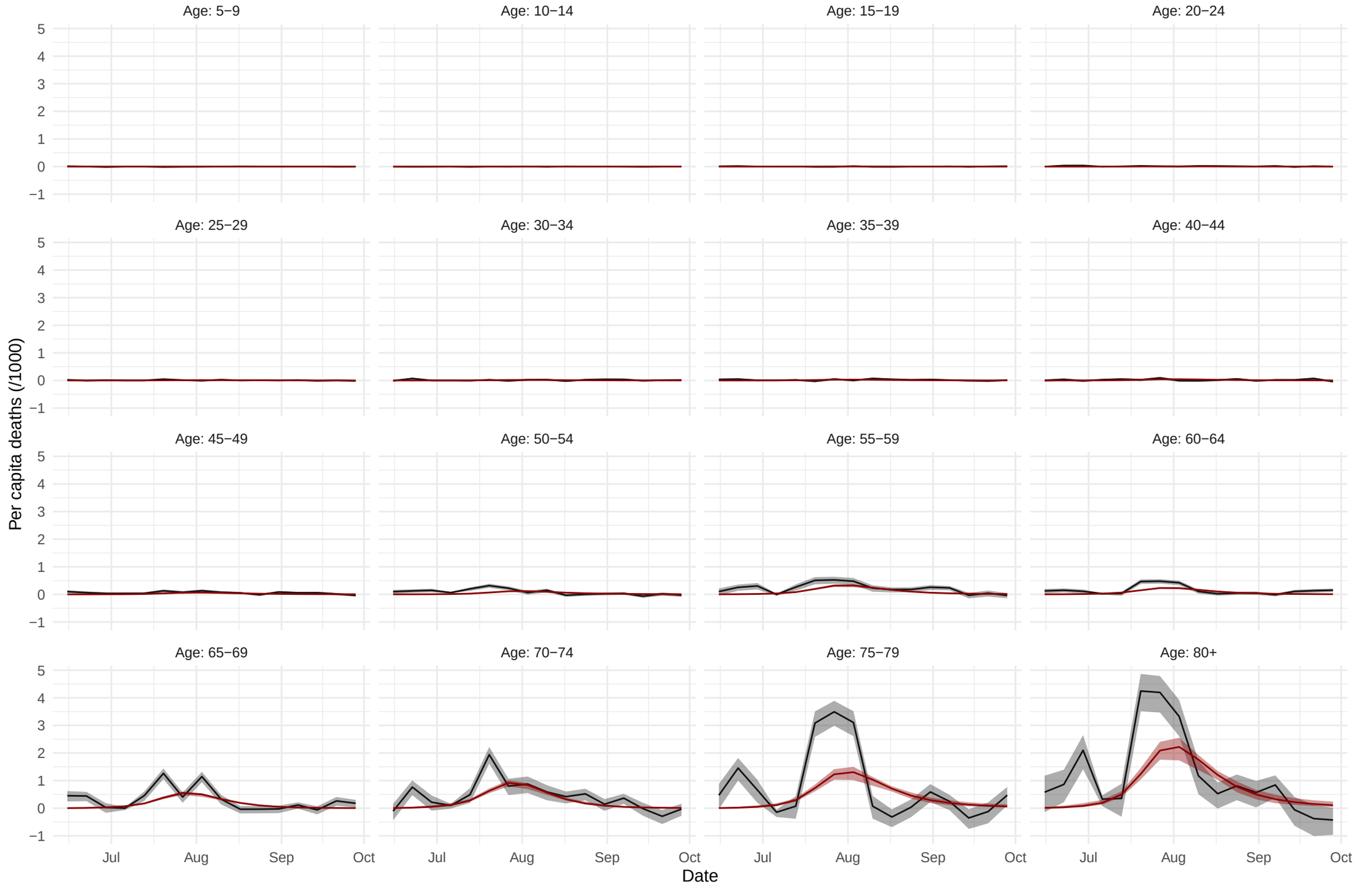
IFR x 5, Slope x 0.8
COVID−19 excess mortality: Comparison of MCMC results with squire results

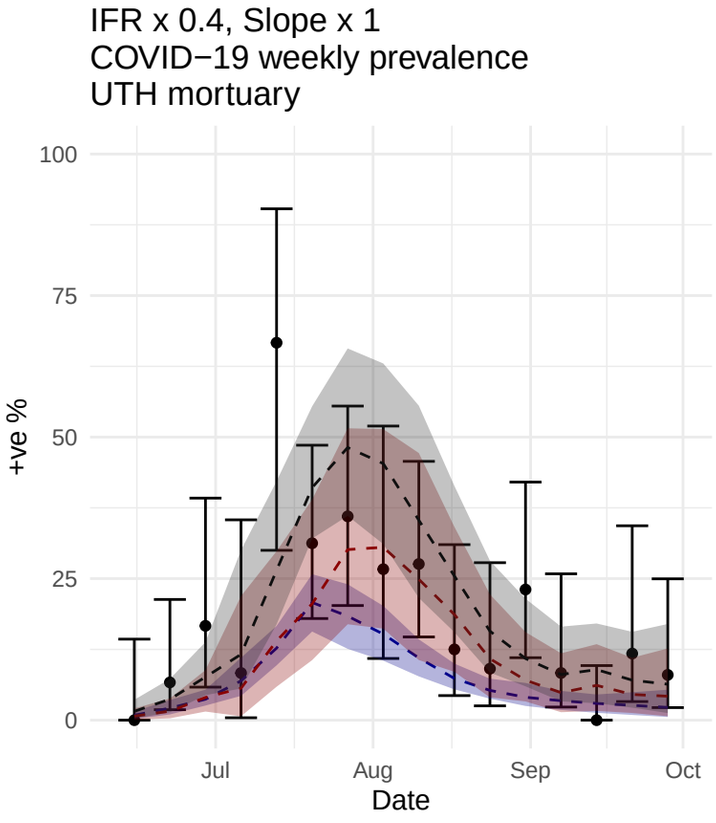


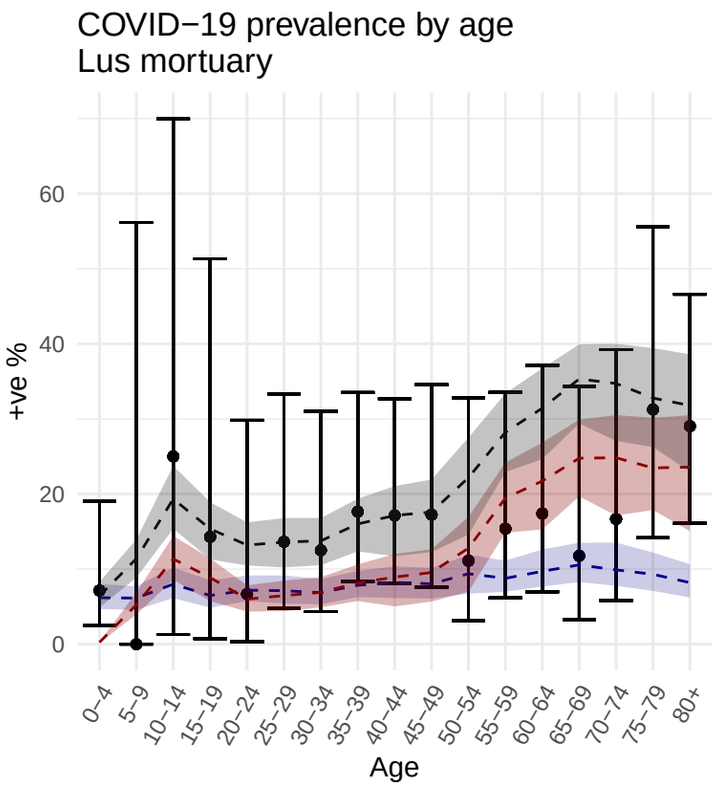

IFR x 0.2, Slope x 1
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct
COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+
COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Total +ve deaths
Causal deaths
Coincidental deaths
PCR % (Lusaka)
Sero % (Lusaka)
R
Reff
Rt
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value
Modelled PCR %
+ve %
Date
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

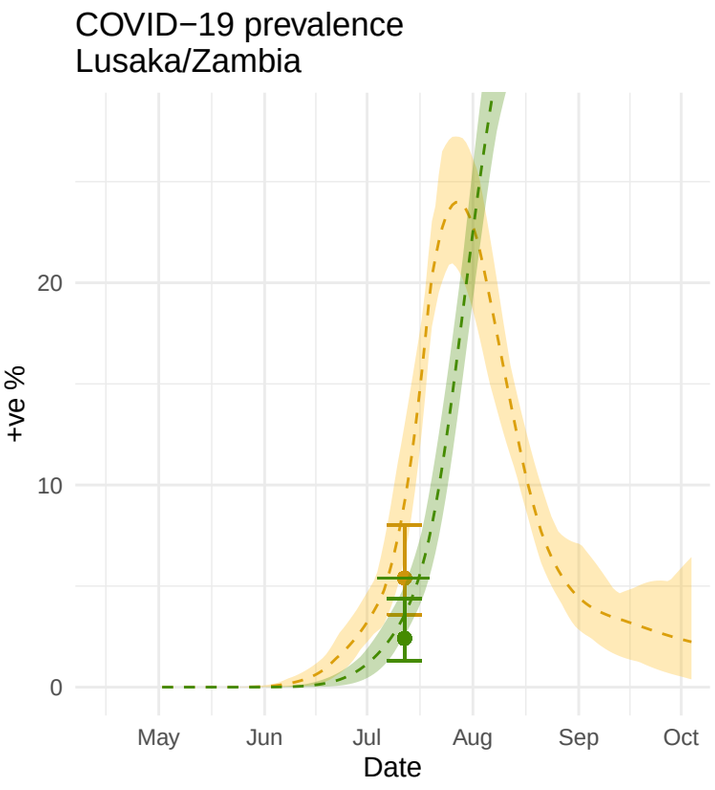

IFR x0.2, Slope x1
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.8
Age: 5−9; Pois ll = −34.9
Age: 10−14; Pois ll = −28.3
Age: 15−19; Pois ll = −35.6
Age: 20−24; Pois ll = −45.8
Age: 25−29; Pois ll = −42.4
Age: 30−34; Pois ll = −51.7
Age: 35−39; Pois ll = −48.9
Age: 40−44; Pois ll = −49
Age: 45−49; Pois ll = −51
Age: 50−54; Pois ll = −51.8
Age: 55−59; Pois ll = −47.5
Age: 60−64; Pois ll = −48.1
Age: 65−69; Pois ll = −46.1
Age: 70−74; Pois ll = −43.8
Age: 75−79; Pois ll = −49
Age: 80+; Pois ll = −55.4
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

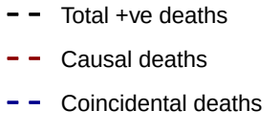
IFR x 0.2, Slope x 1
COVID−19 excess mortality: Comparison of MCMC results with squire results

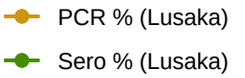


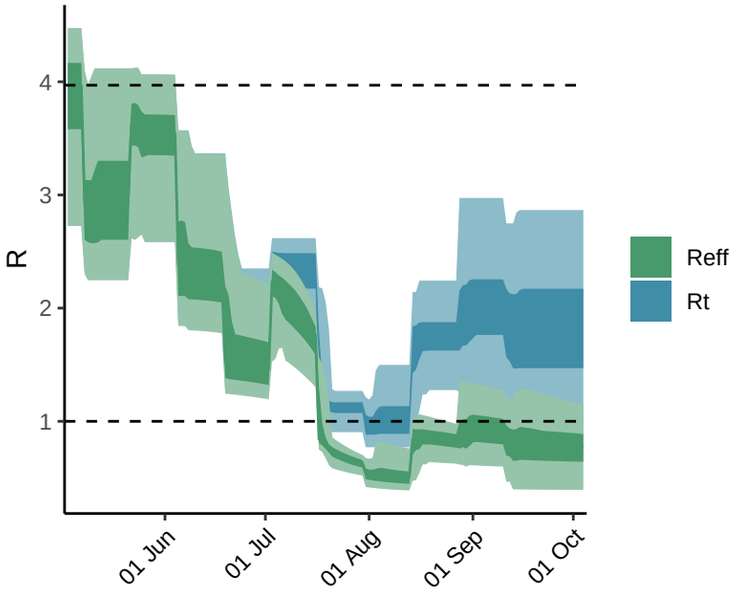

IFR x 0.4, Slope x 1
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct

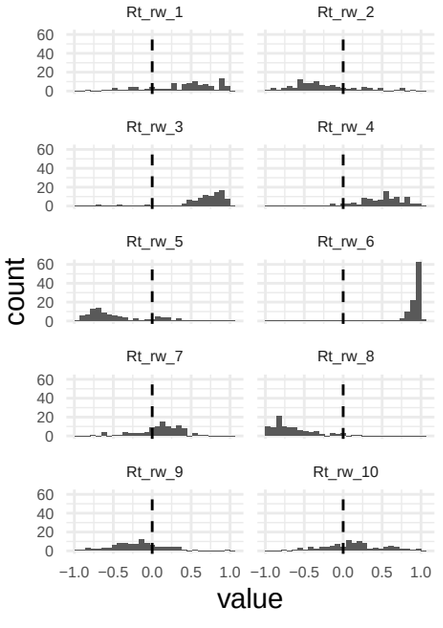

COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+

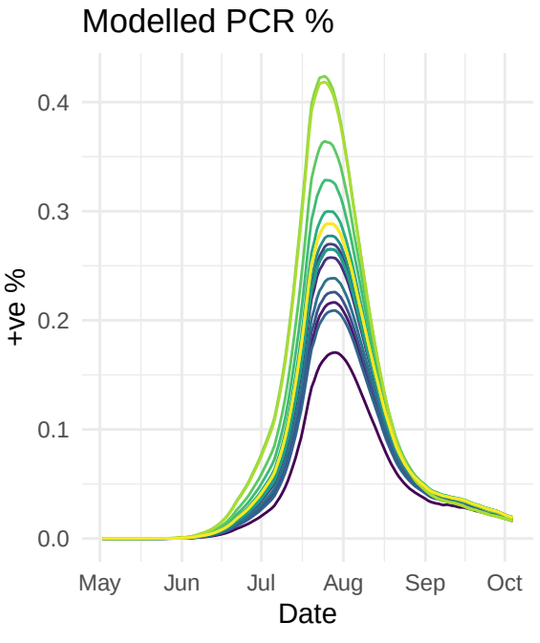

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

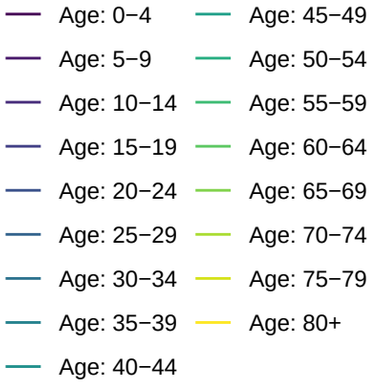

Total +ve deaths
Causal deaths
Coincidental deaths


PCR % (Lusaka)
Sero % (Lusaka)

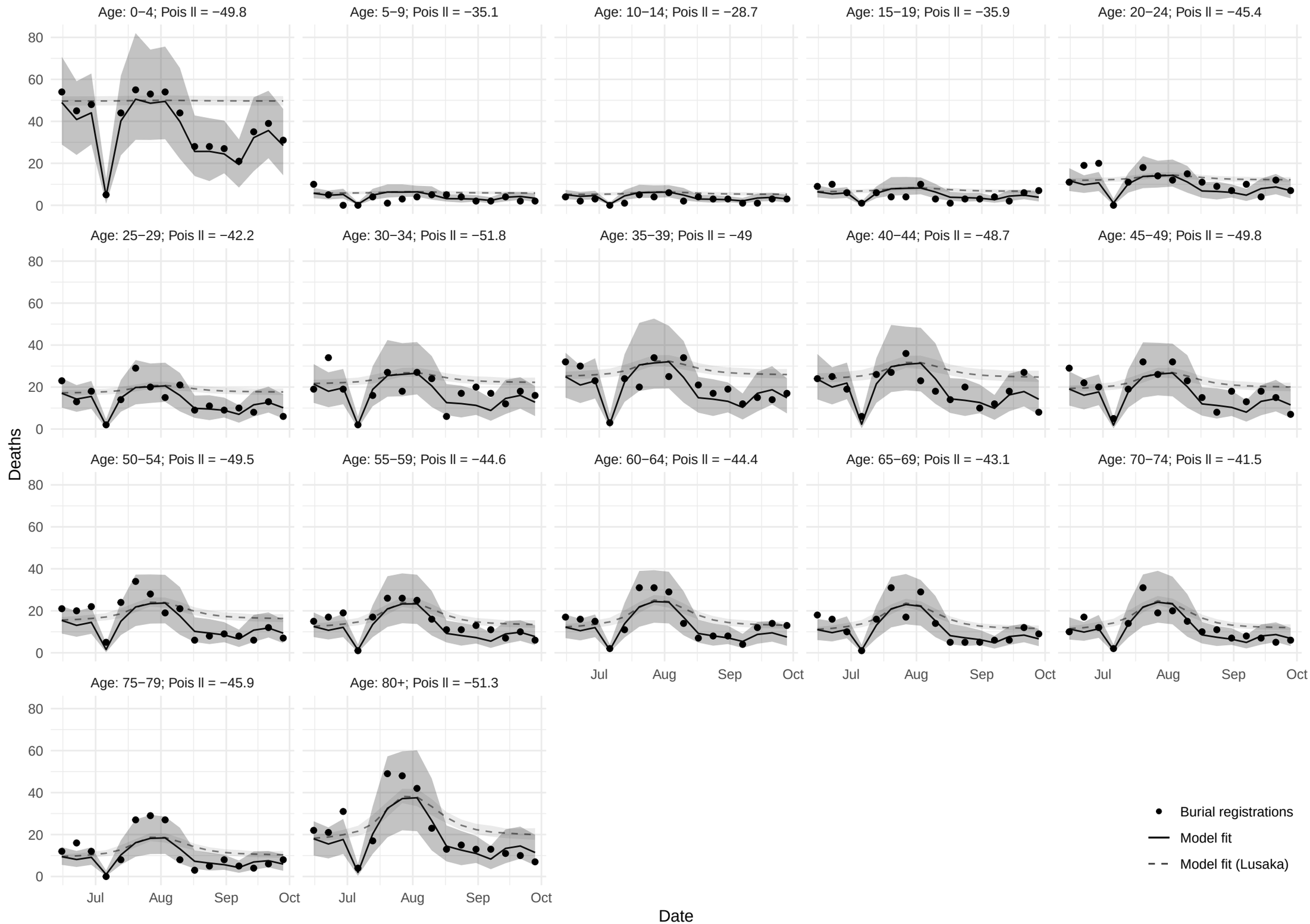

R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt


Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

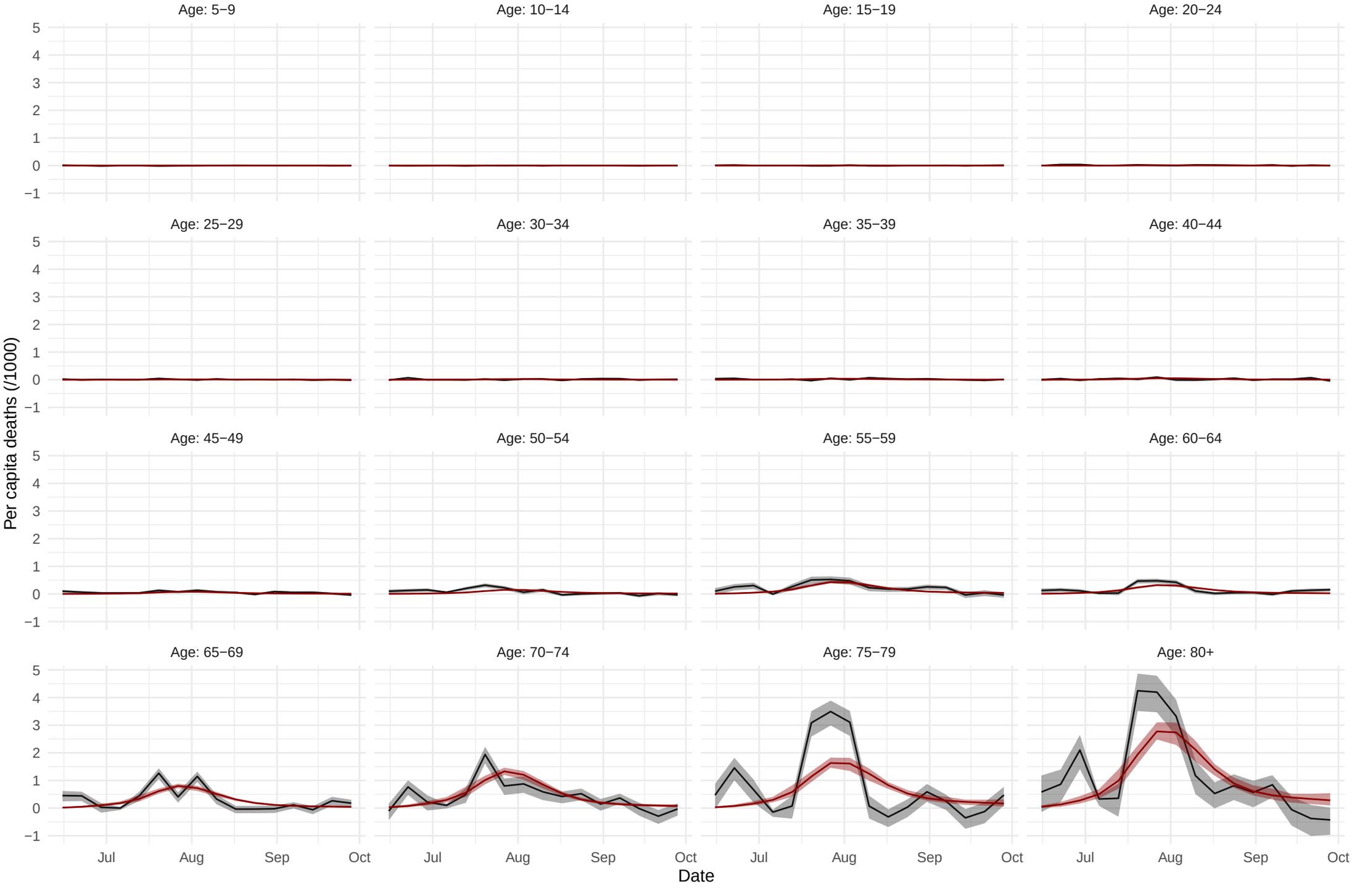

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

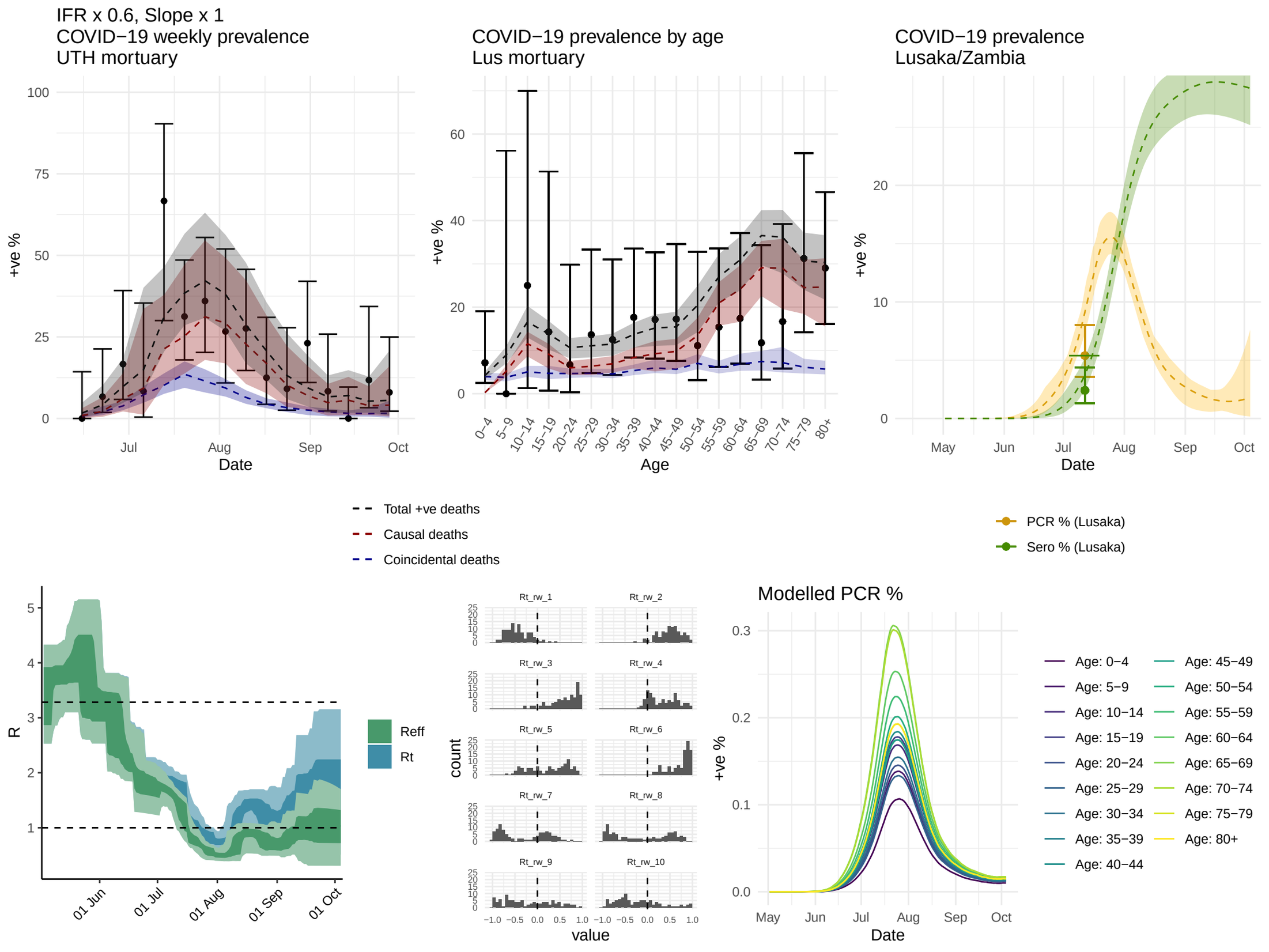

Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

IFR x0.4, Slope x1
Lusaka weekly burial registrations

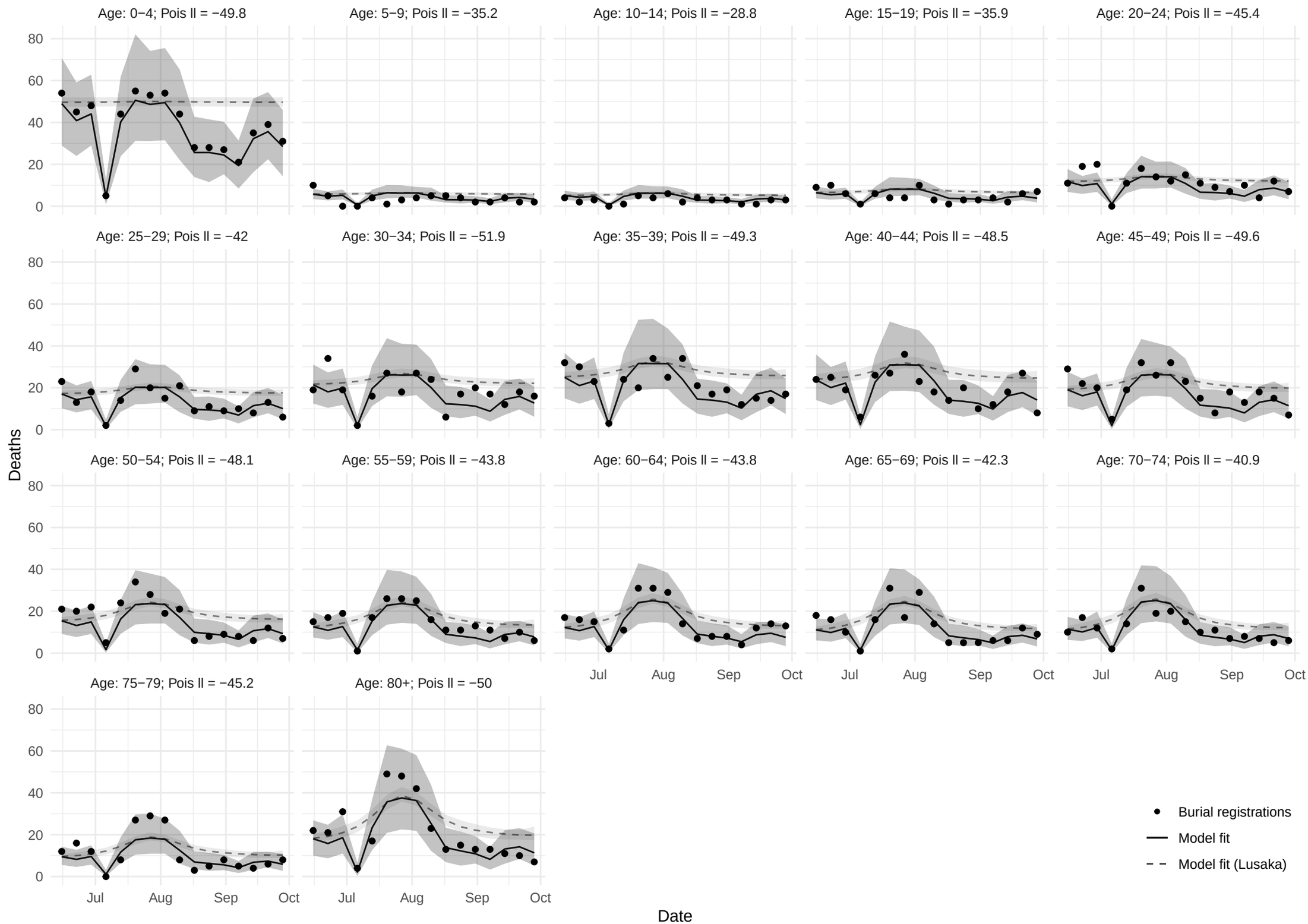


IFR x 0.4, Slope x 1
COVID−19 excess mortality: Comparison of MCMC results with squire results

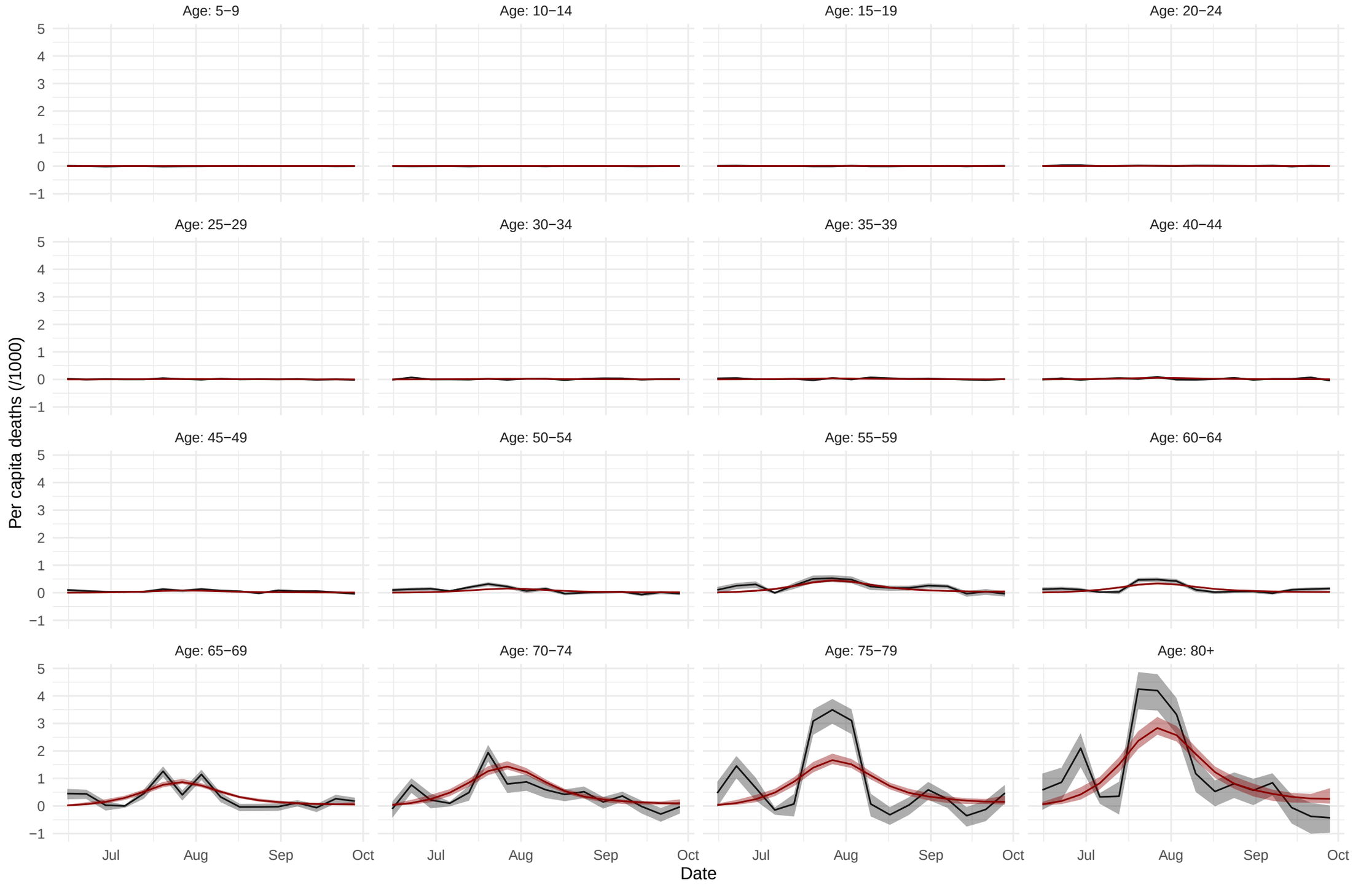



IFR x 0.6, Slope x 1
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct
COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+
COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Total +ve deaths
Causal deaths
Coincidental deaths
PCR % (Lusaka)
Sero % (Lusaka)
R
Reff
Rt
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value
Modelled PCR %
+ve %
Date
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

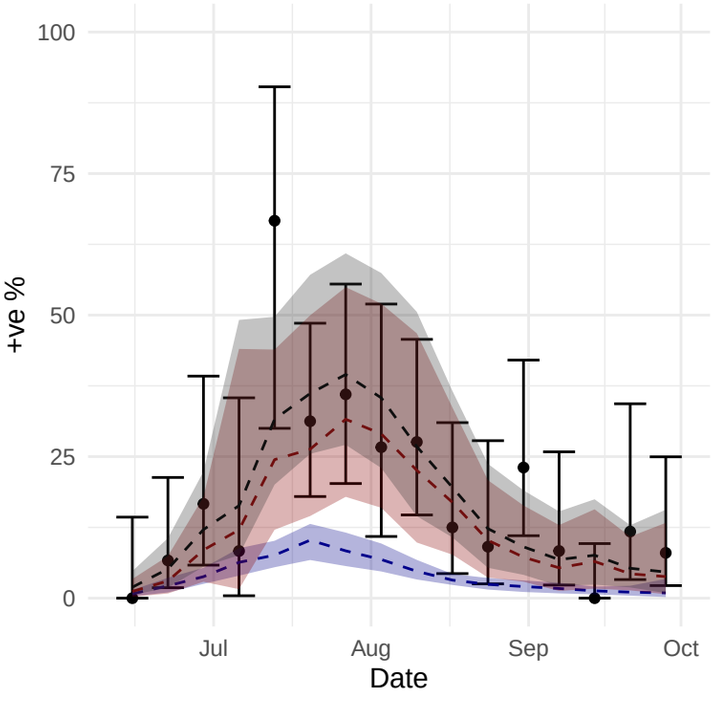
IFR x0.6, Slope x1
Lusaka weekly burial registrations



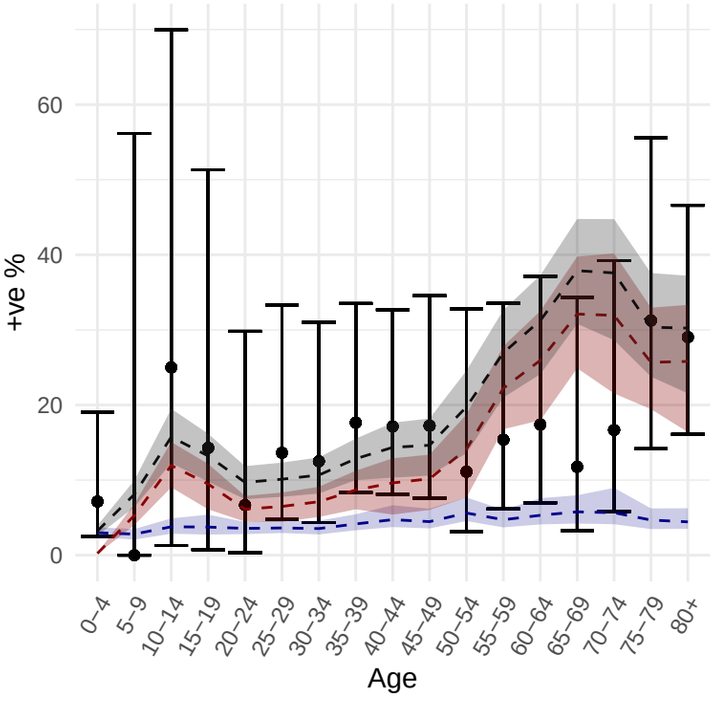
IFR x 0.6, Slope x 1
COVID−19 excess mortality: Comparison of MCMC results with squire results



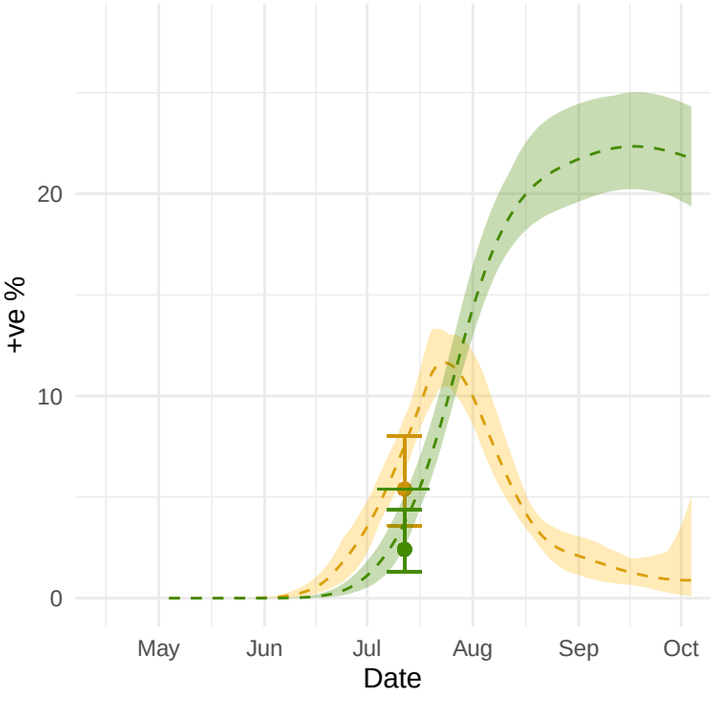
IFR x 0.8, Slope x 1
COVID−19 weekly prevalence
UTH mortuary

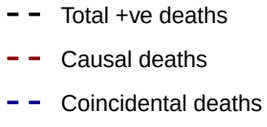


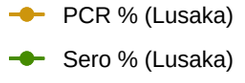
COVID−19 prevalence by age
Lus mortuary

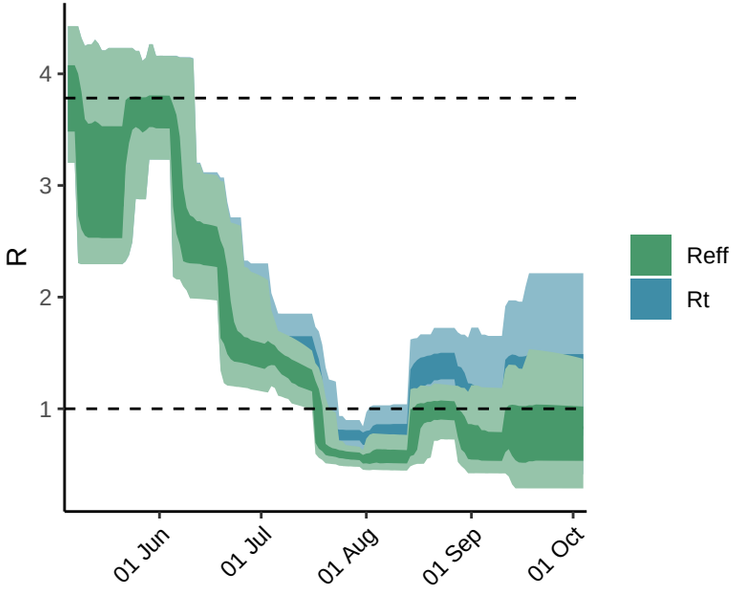


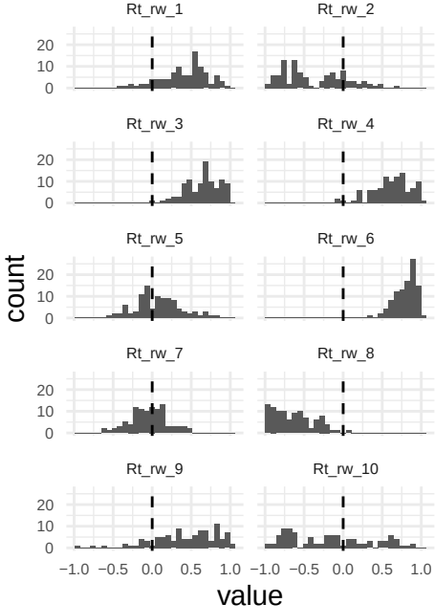
COVID−19 prevalence
Lusaka/Zambia



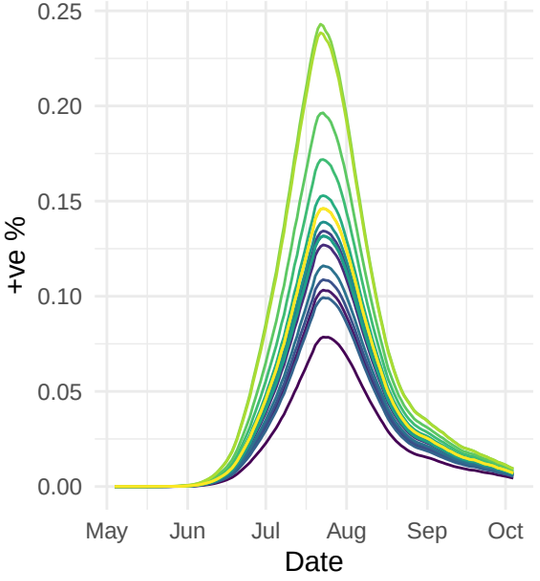


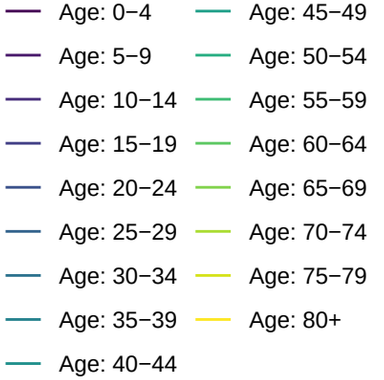


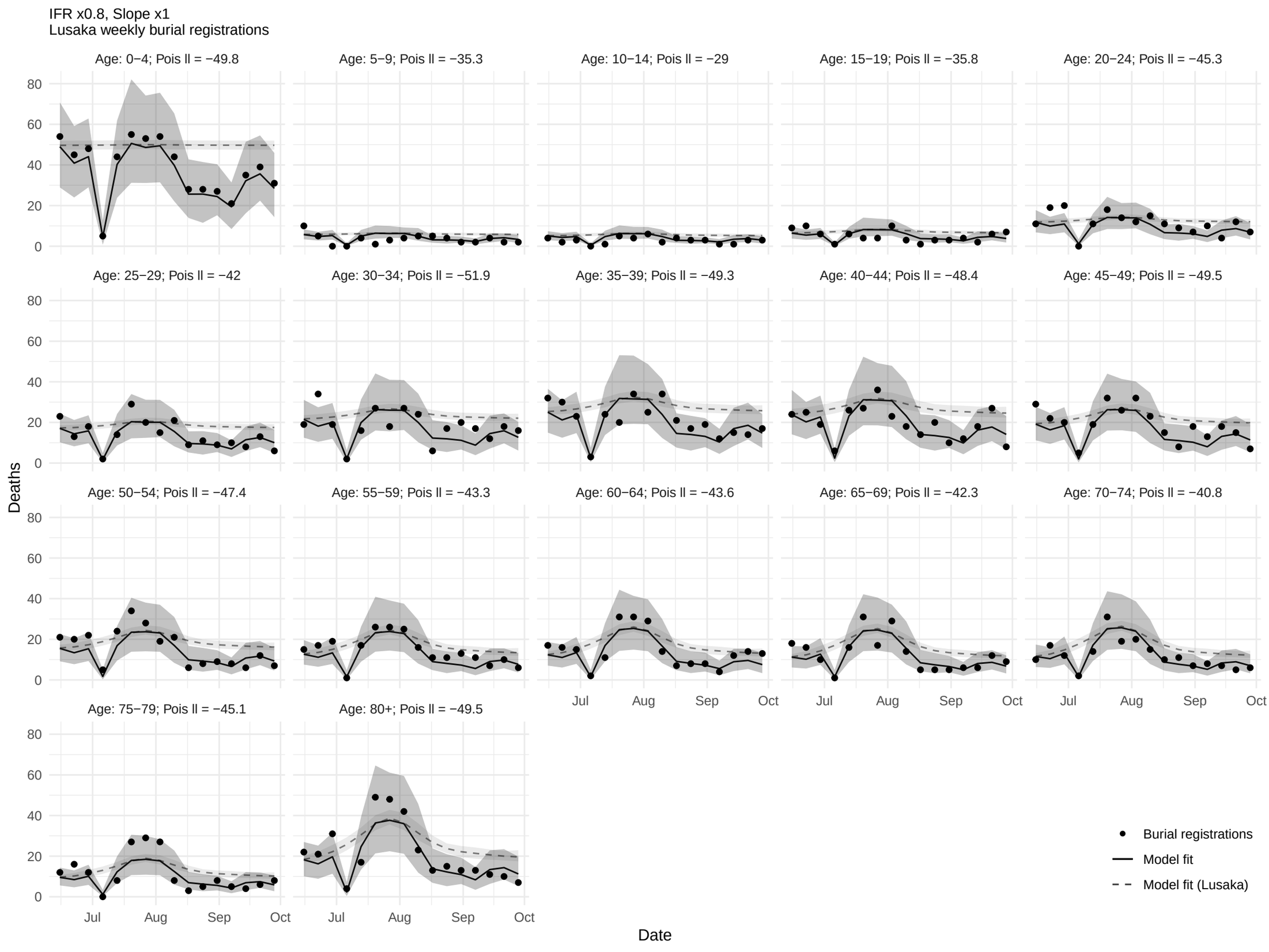




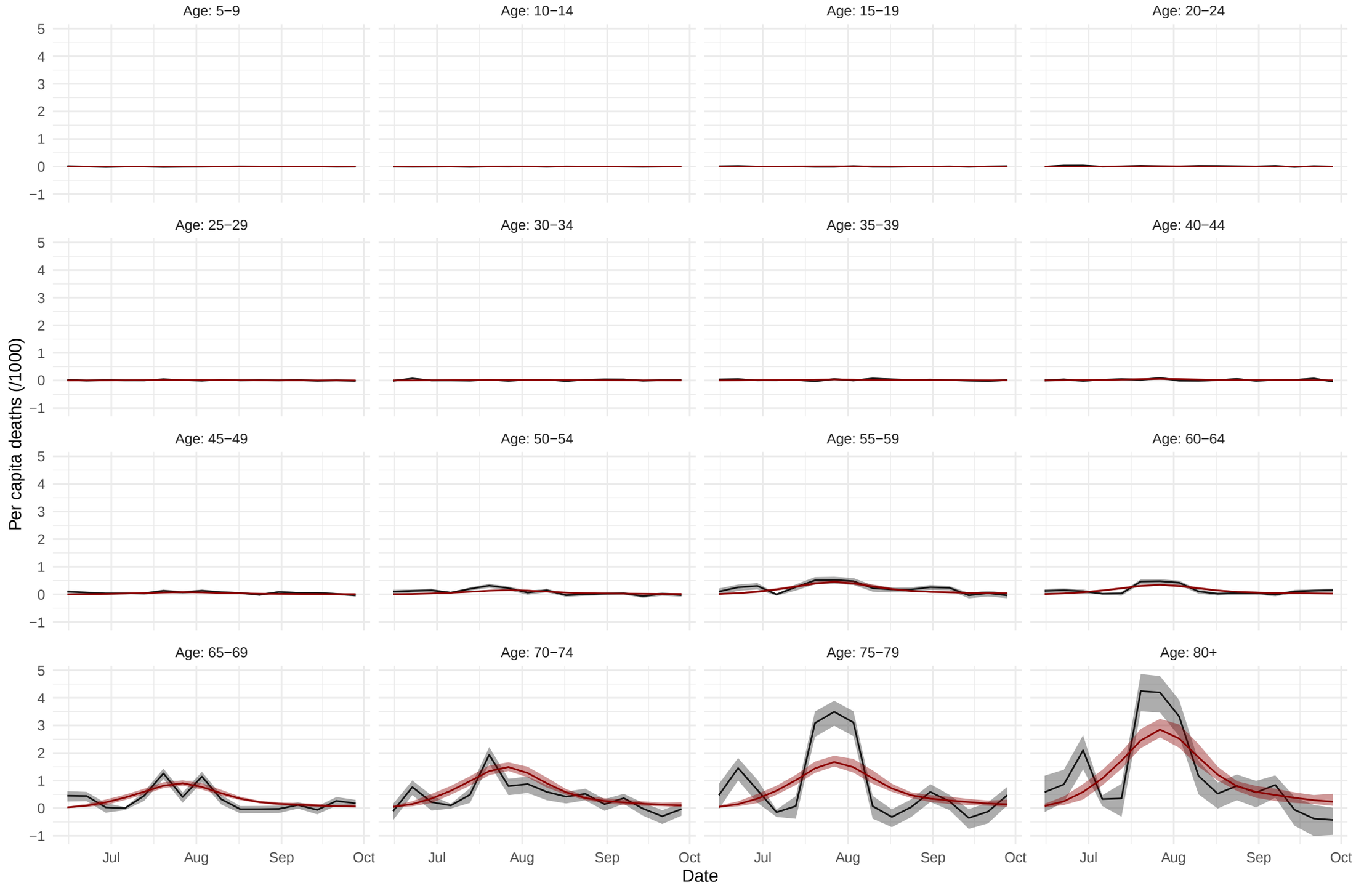
Modelled PCR %



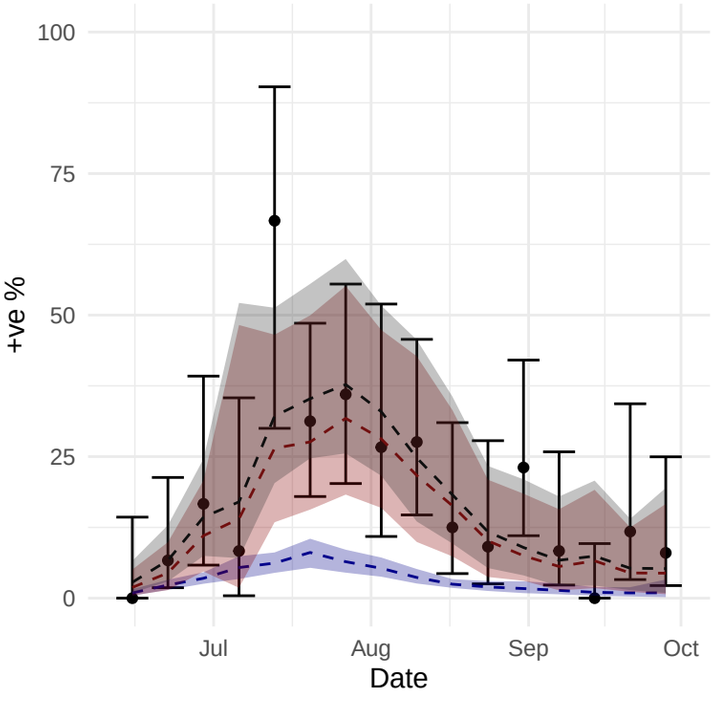



IFR x0.8, Slope x1
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.8
Age: 5−9; Pois ll = −35.3
Age: 10−14; Pois ll = −29
Age: 15−19; Pois ll = −35.8
Age: 20−24; Pois ll = −45.3
Age: 25−29; Pois ll = −42
Age: 30−34; Pois ll = −51.9
Age: 35−39; Pois ll = −49.3
Age: 40−44; Pois ll = −48.4
Age: 45−49; Pois ll = −49.5
Age: 50−54; Pois ll = −47.4
Age: 55−59; Pois ll = −43.3
Age: 60−64; Pois ll = −43.6
Age: 65−69; Pois ll = −42.3
Age: 70−74; Pois ll = −40.8
Age: 75−79; Pois ll = −45.1
Age: 80+; Pois ll = −49.5
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

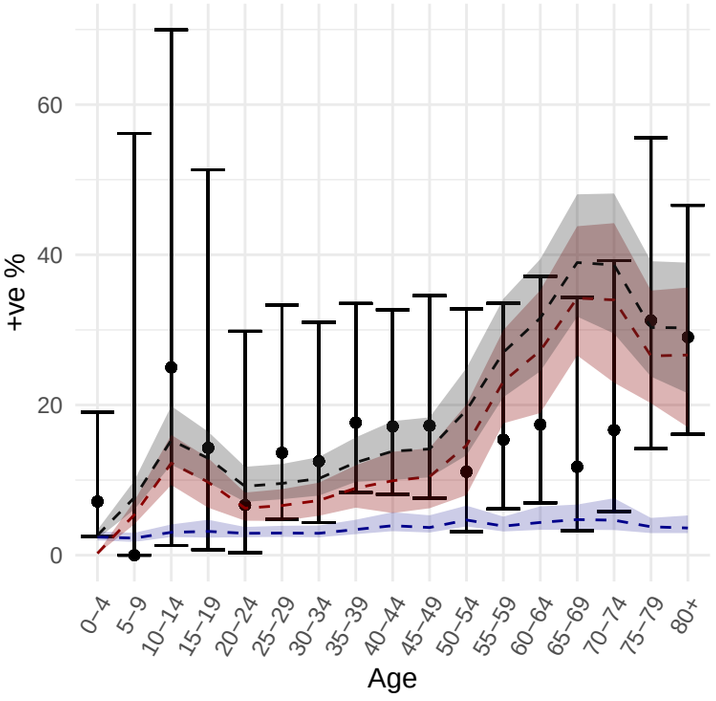
IFR x 0.8, Slope x 1
COVID−19 excess mortality: Comparison of MCMC results with squire results



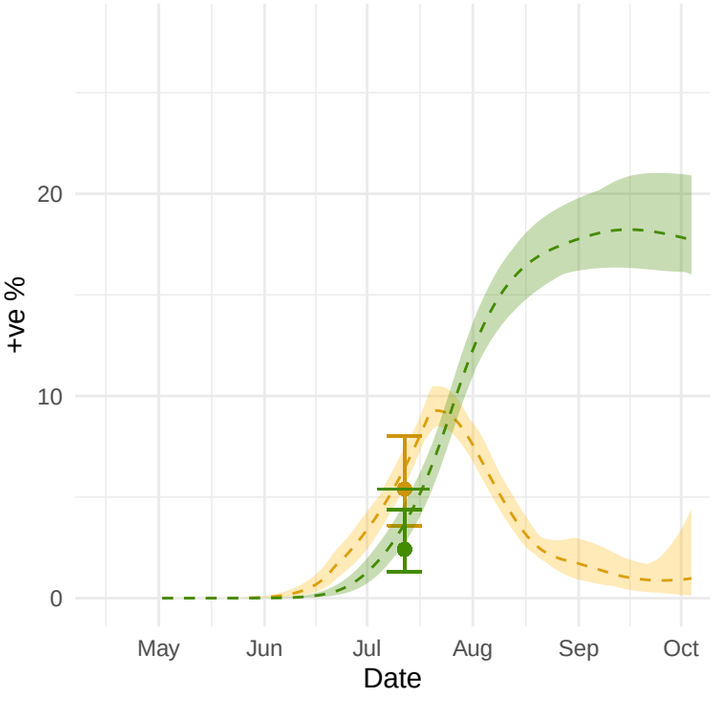
IFR x 1, Slope x 1
COVID−19 weekly prevalence
UTH mortuary



COVID−19 prevalence by age
Lus mortuary

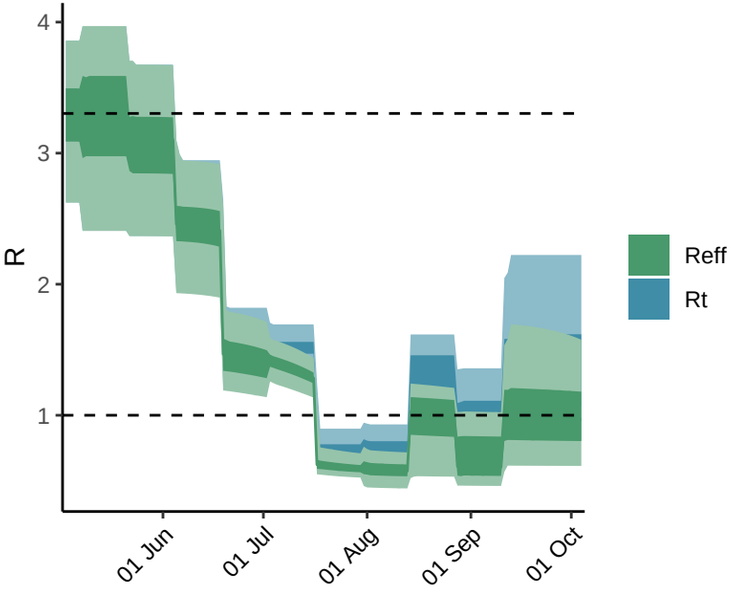


COVID−19 prevalence
Lusaka/Zambia

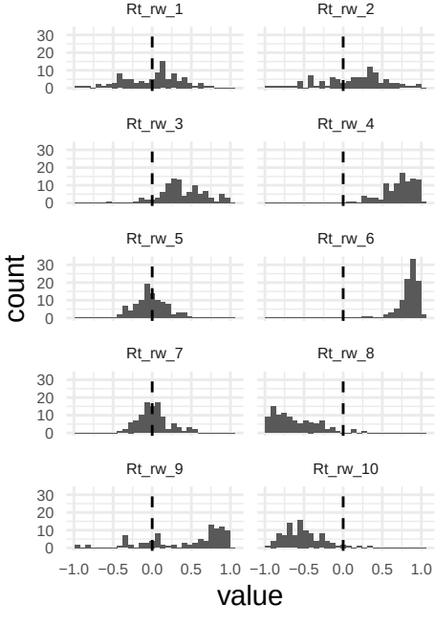


Total +ve deaths
Causal deaths
Coincidental deaths

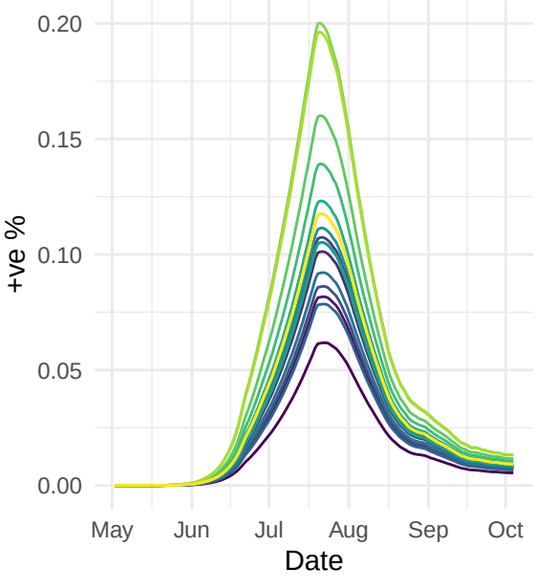
PCR % (Lusaka)
Sero % (Lusaka)



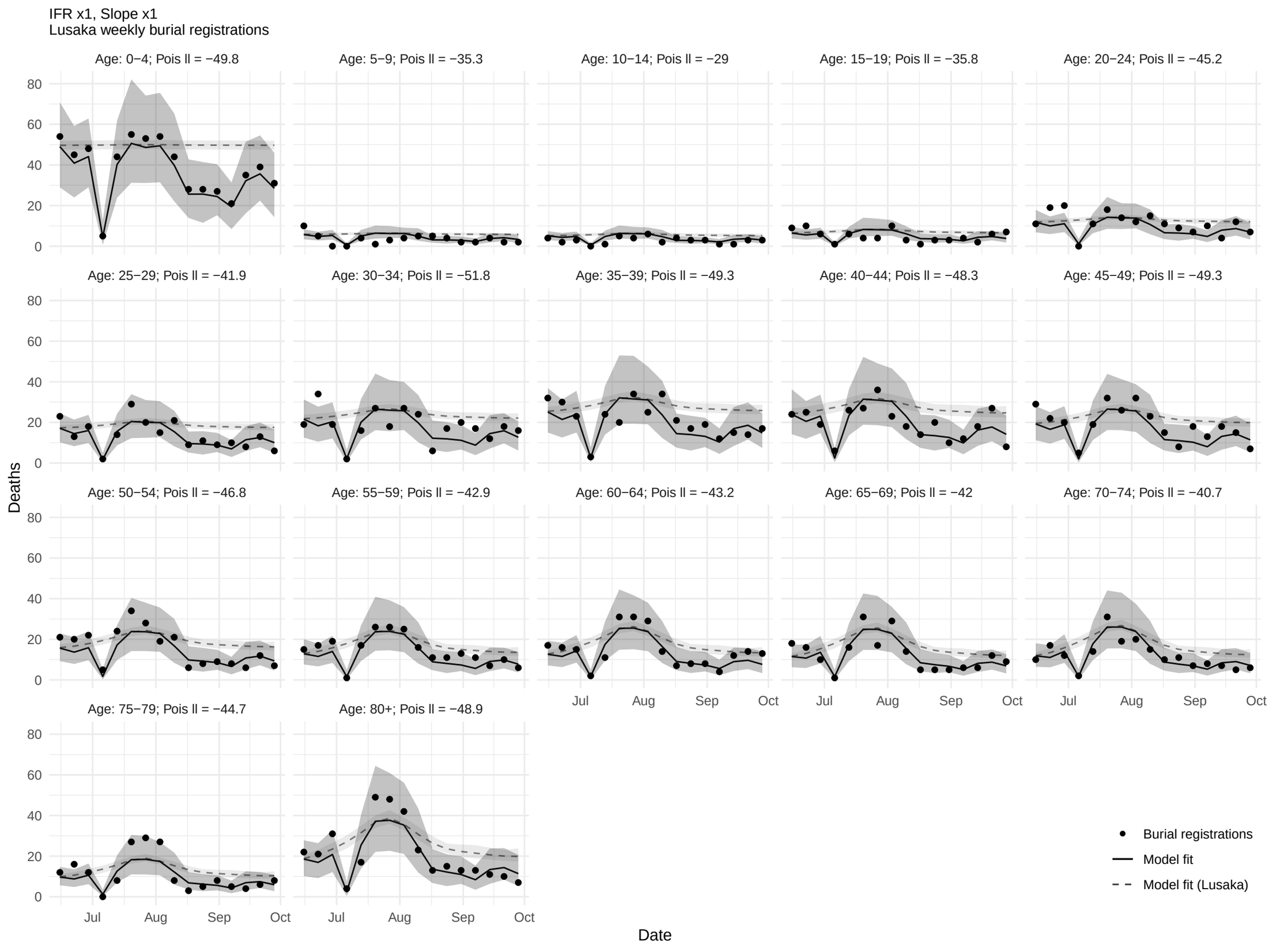
Reff
Rt

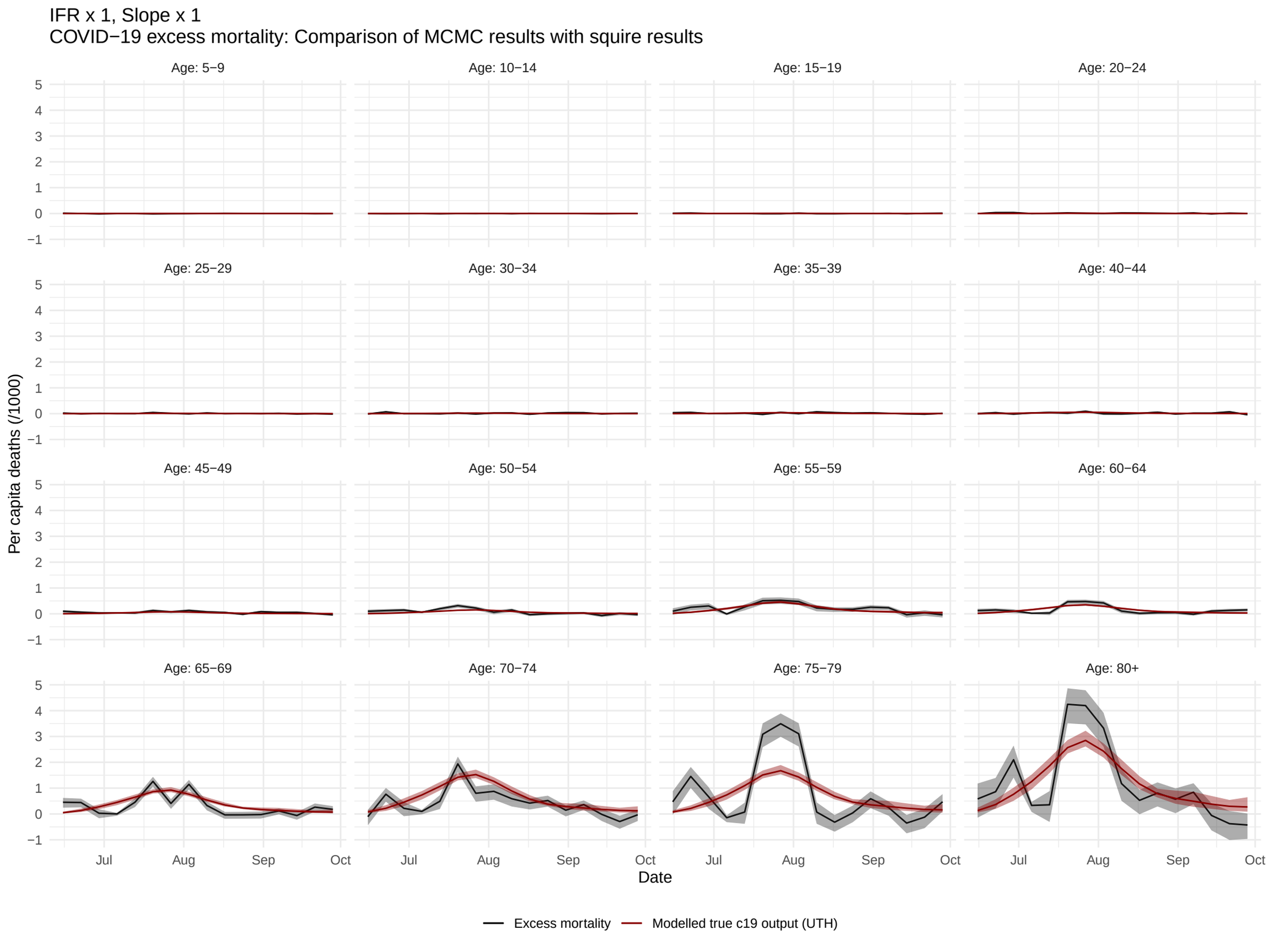


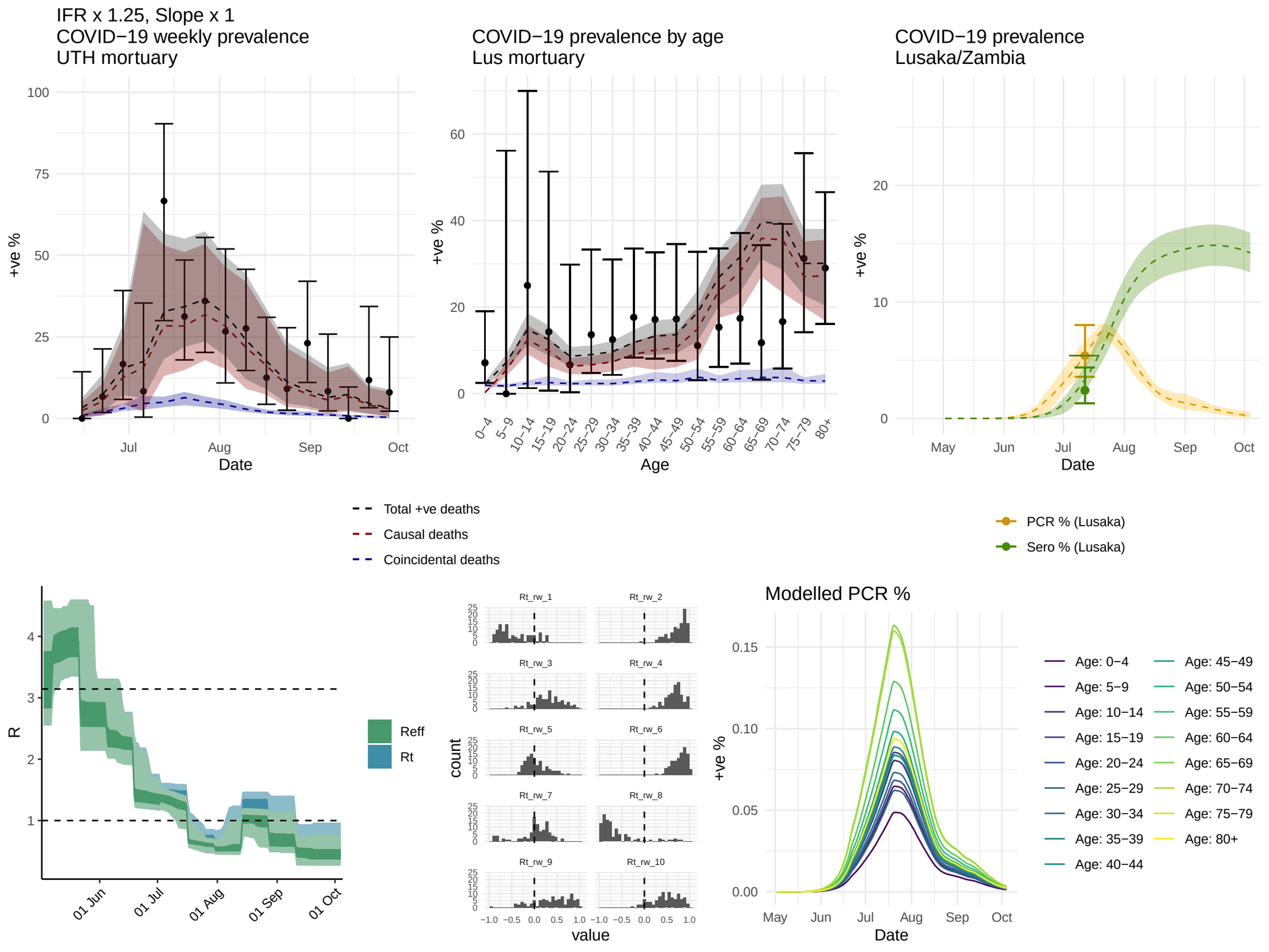
Modelled PCR %



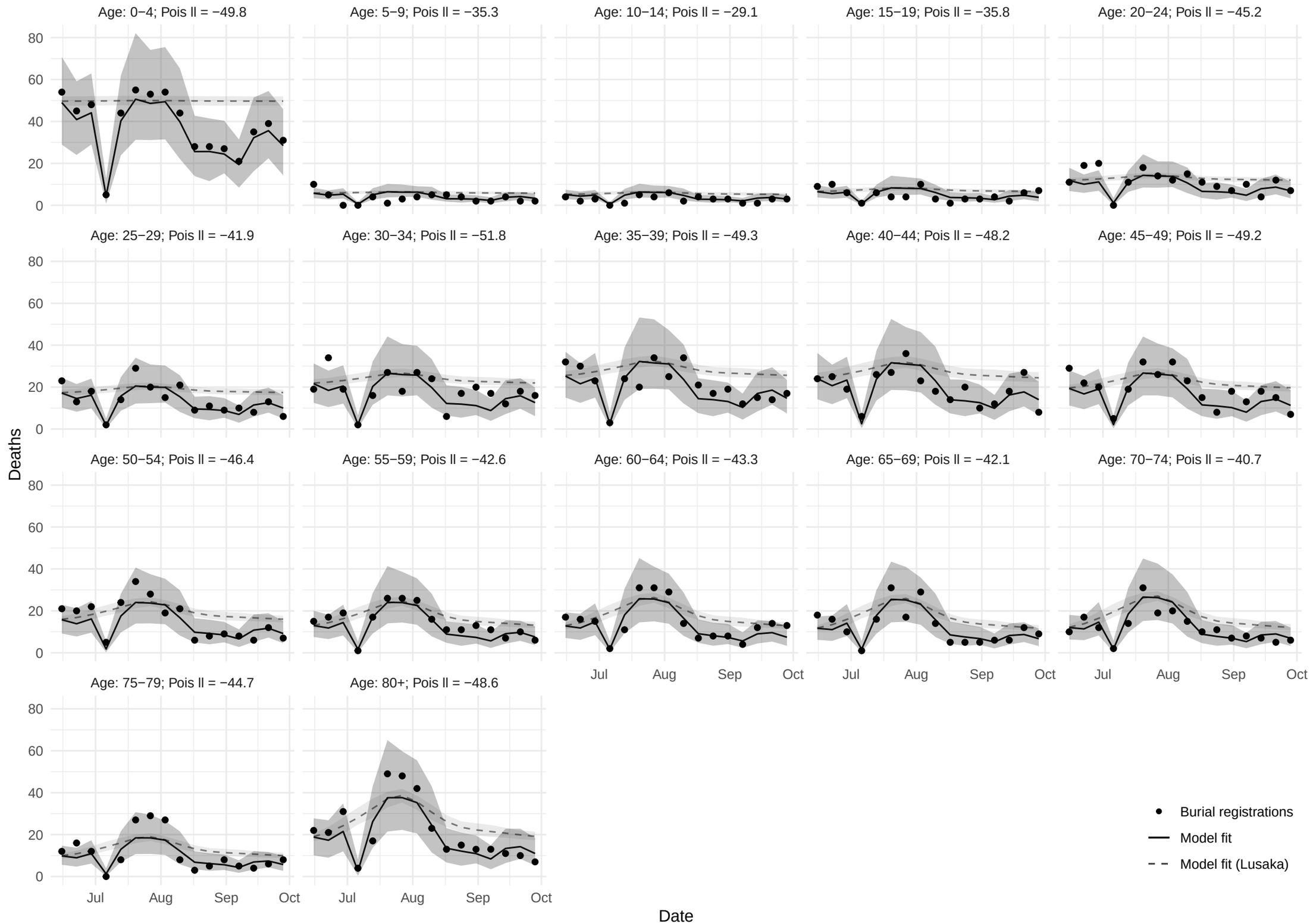
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+


IFR x1, Slope x1
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.8
Age: 5−9; Pois ll = −35.3
Age: 10−14; Pois ll = −29
Age: 15−19; Pois ll = −35.8
Age: 20−24; Pois ll = −45.2
Age: 25−29; Pois ll = −41.9
Age: 30−34; Pois ll = −51.8
Age: 35−39; Pois ll = −49.3
Age: 40−44; Pois ll = −48.3
Age: 45−49; Pois ll = −49.3
Age: 50−54; Pois ll = −46.8
Age: 55−59; Pois ll = −42.9
Age: 60−64; Pois ll = −43.2
Age: 65−69; Pois ll = −42
Age: 70−74; Pois ll = −40.7
Age: 75−79; Pois ll = −44.7
Age: 80+; Pois ll = −48.9
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

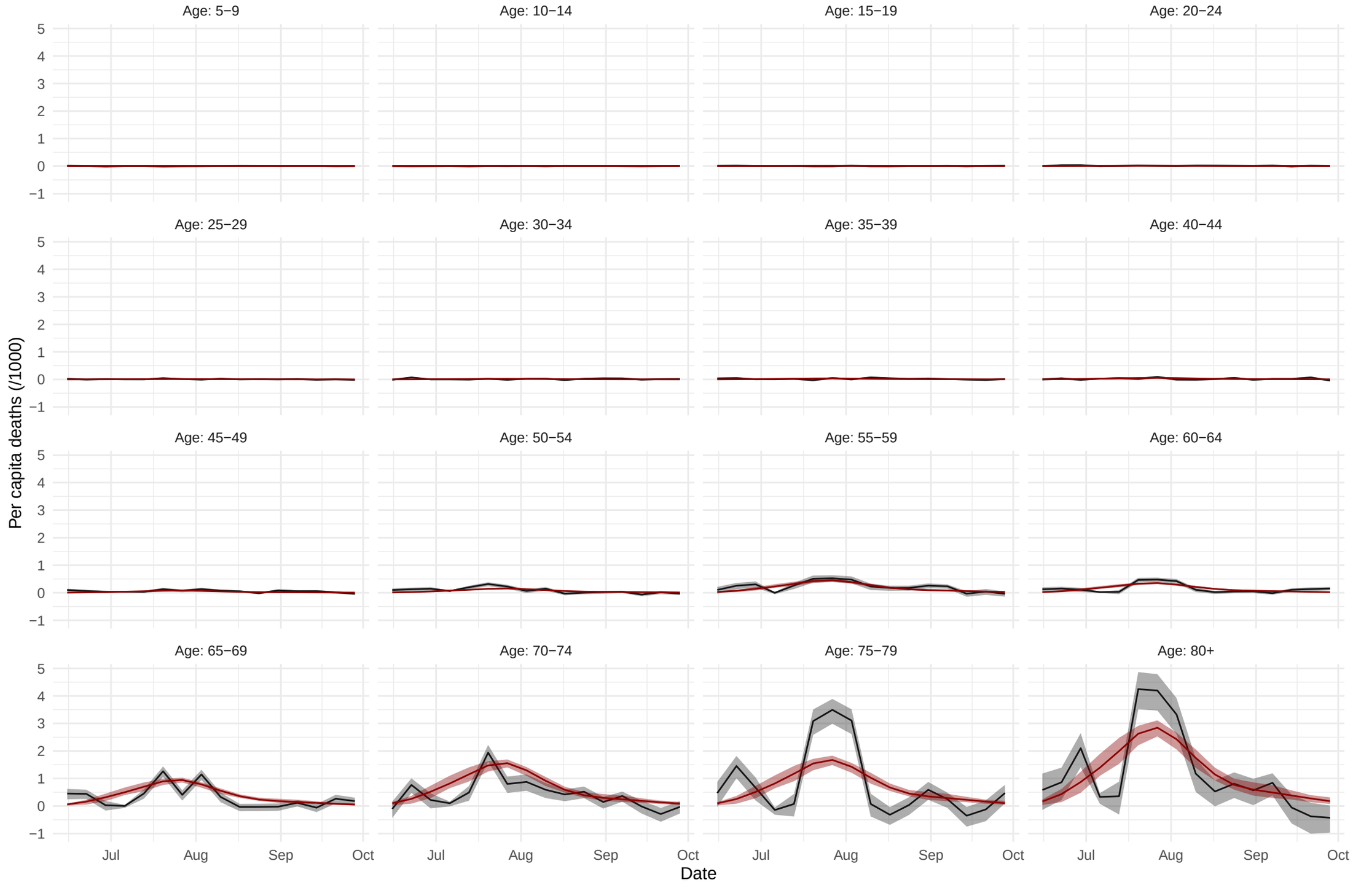

IFR x 1, Slope x 1
COVID−19 excess mortality: Comparison of MCMC results with squire results
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+
Per capita deaths (/1000)
5
4
3
2
1
0
−1
Jul
Aug
Sep
Oct
Date
Excess mortality
Modelled true c19 output (UTH)

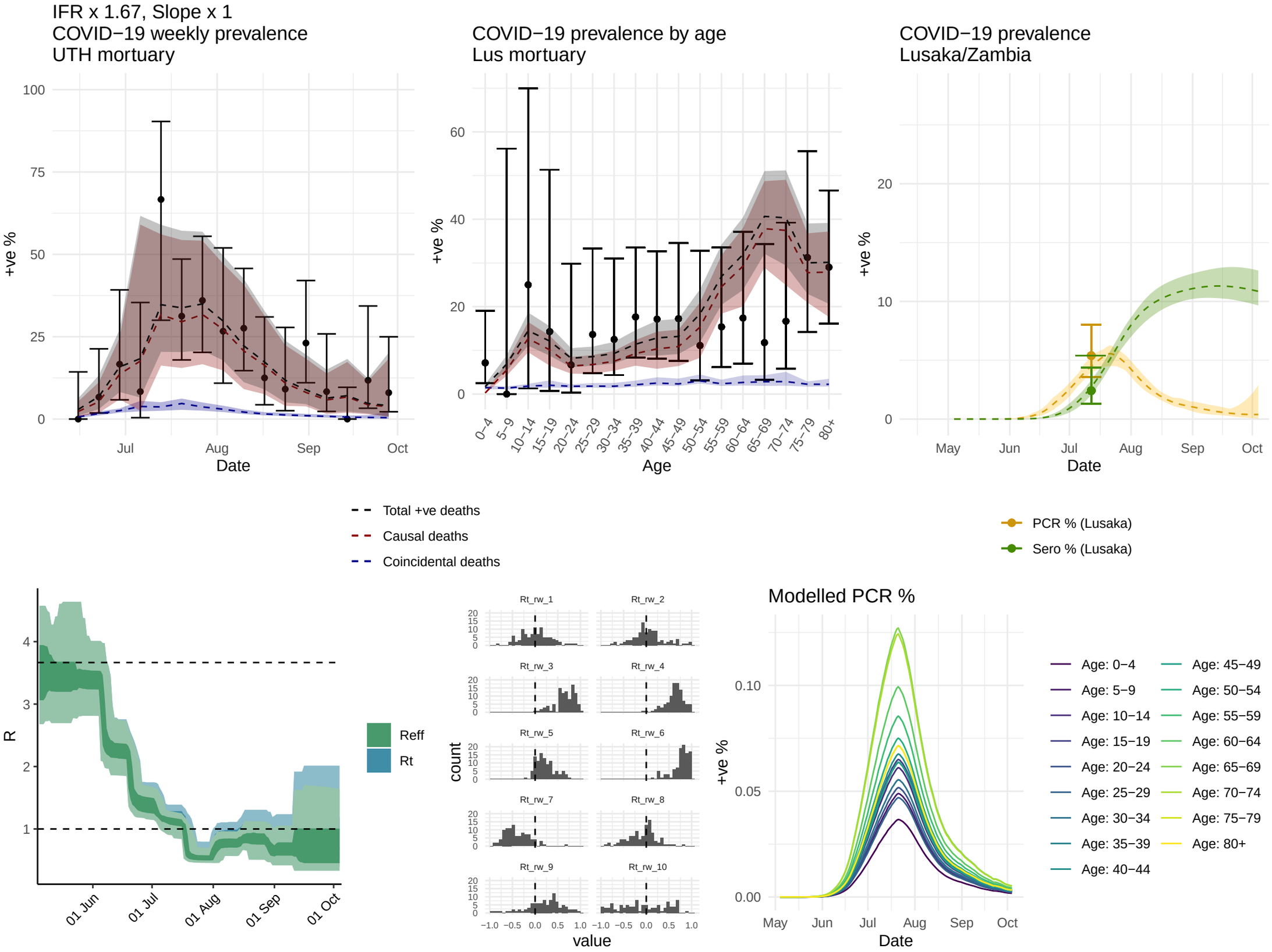

IFR x 1.25, Slope x 1
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct
COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+
COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Total +ve deaths
Causal deaths
Coincidental deaths
PCR % (Lusaka)
Sero % (Lusaka)
R
Reff
Rt
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value
Modelled PCR %
+ve %
Date
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

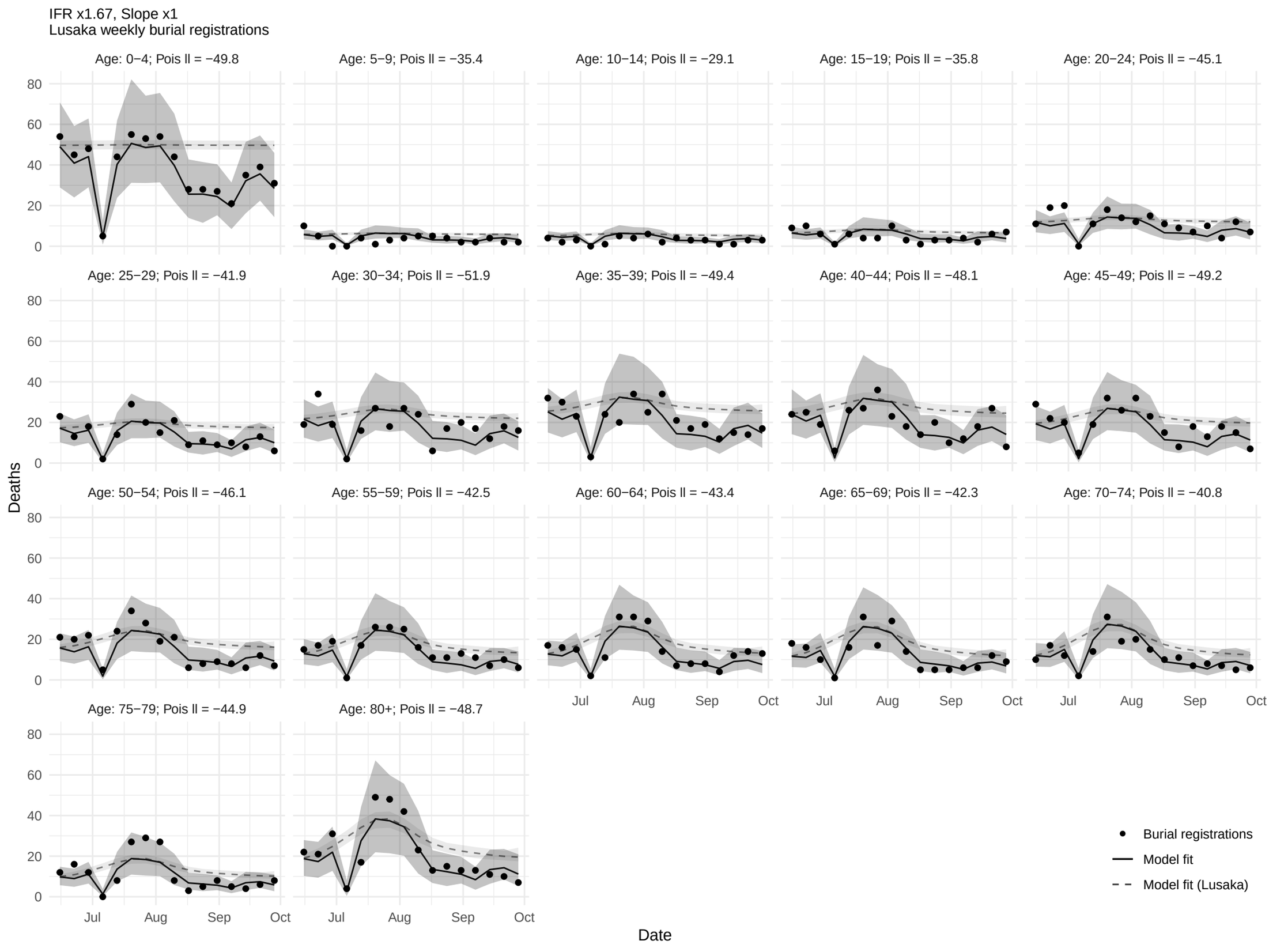
IFR x1.25, Slope x1
Lusaka weekly burial registrations



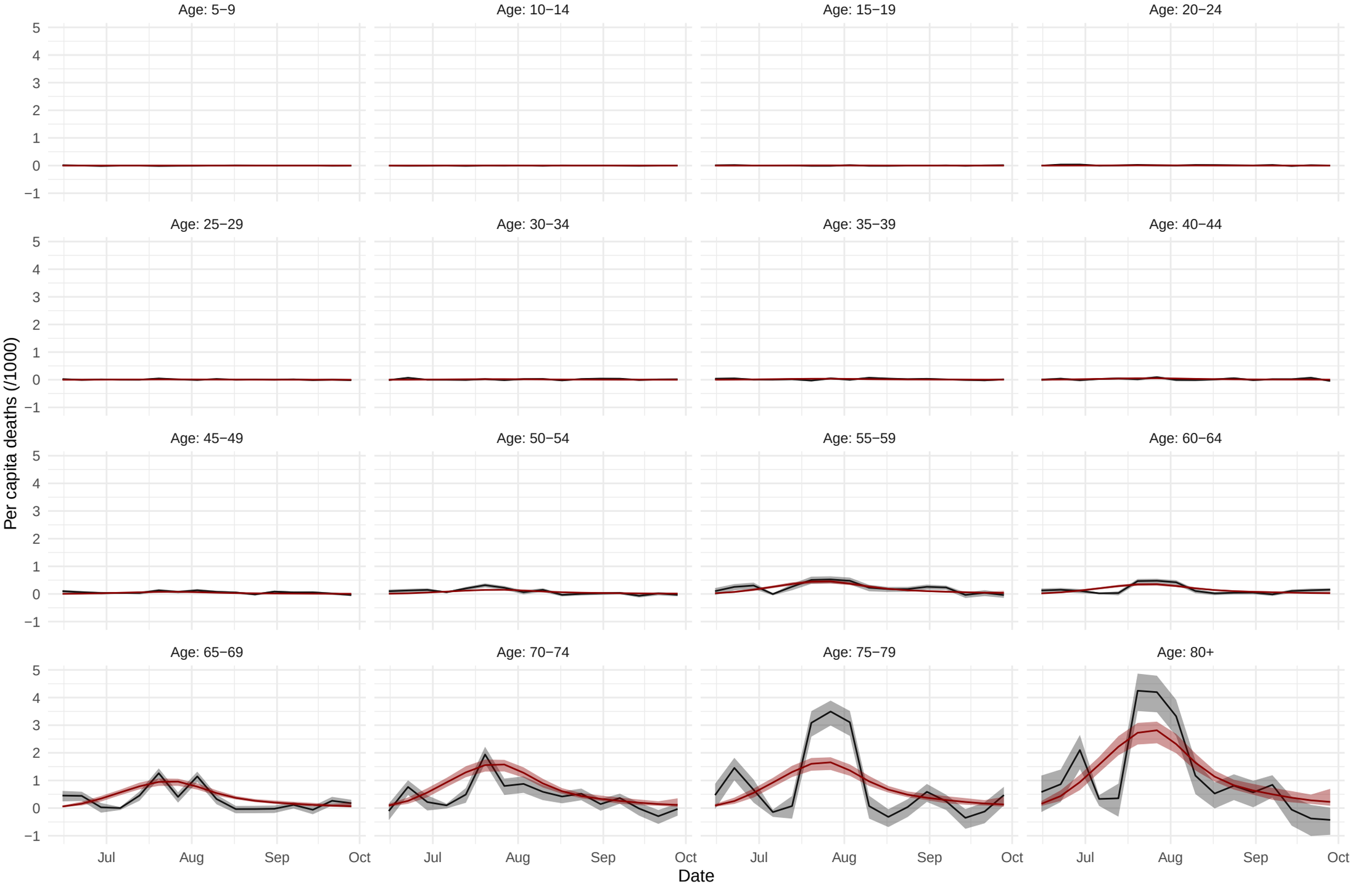
IFR x 1.25, Slope x 1
COVID−19 excess mortality: Comparison of MCMC results with squire results

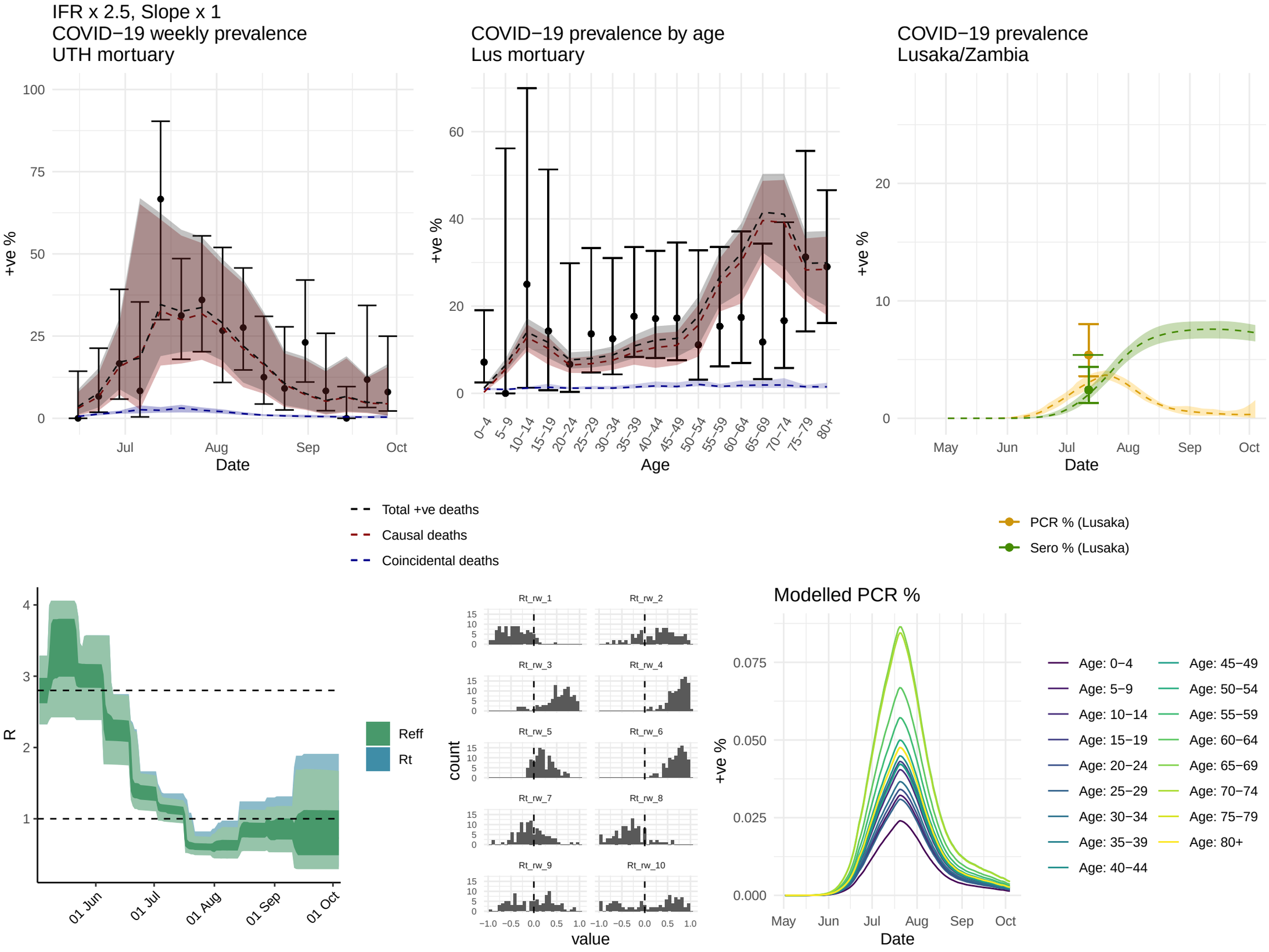



IFR x 1.67, Slope x 1
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct
COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+
COVID−19 prevalence
Lusaka/Zambia
+ve %
May
Jun
Jul
Aug
Sep
Oct
Date
Total +ve deaths
Causal deaths
Coincidental deaths
PCR % (Lusaka)
Sero % (Lusaka)
R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt
Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value
Modelled PCR %
+ve %
Date
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

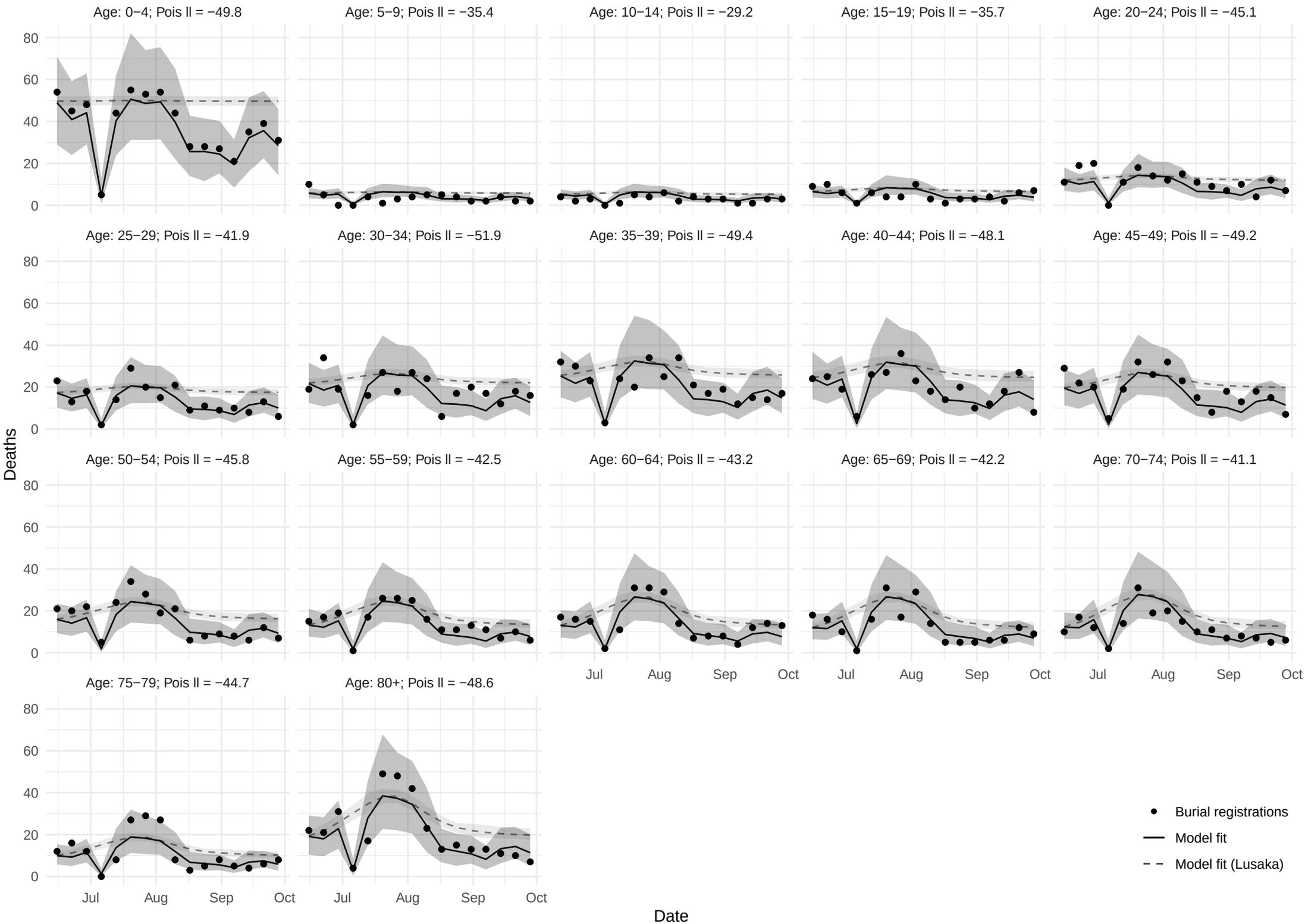

IFR x1.67, Slope x1
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.8
Age: 5−9; Pois ll = −35.4
Age: 10−14; Pois ll = −29.1
Age: 15−19; Pois ll = −35.8
Age: 20−24; Pois ll = −45.1
Age: 25−29; Pois ll = −41.9
Age: 30−34; Pois ll = −51.9
Age: 35−39; Pois ll = −49.4
Age: 40−44; Pois ll = −48.1
Age: 45−49; Pois ll = −49.2
Age: 50−54; Pois ll = −46.1
Age: 55−59; Pois ll = −42.5
Age: 60−64; Pois ll = −43.4
Age: 65−69; Pois ll = −42.3
Age: 70−74; Pois ll = −40.8
Age: 75−79; Pois ll = −44.9
Age: 80+; Pois ll = −48.7
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

IFR x 1.67, Slope x 1
COVID−19 excess mortality: Comparison of MCMC results with squire results

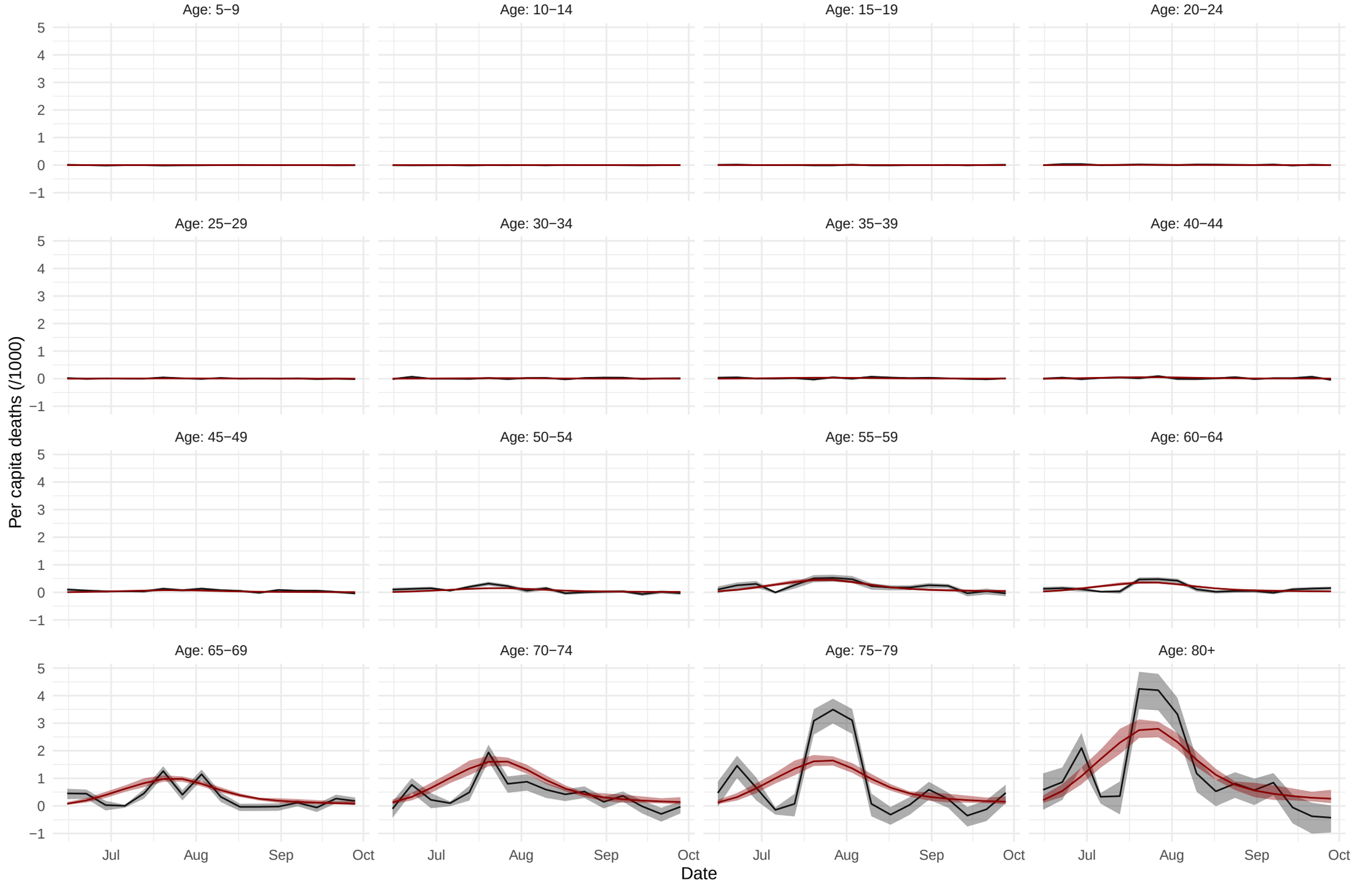


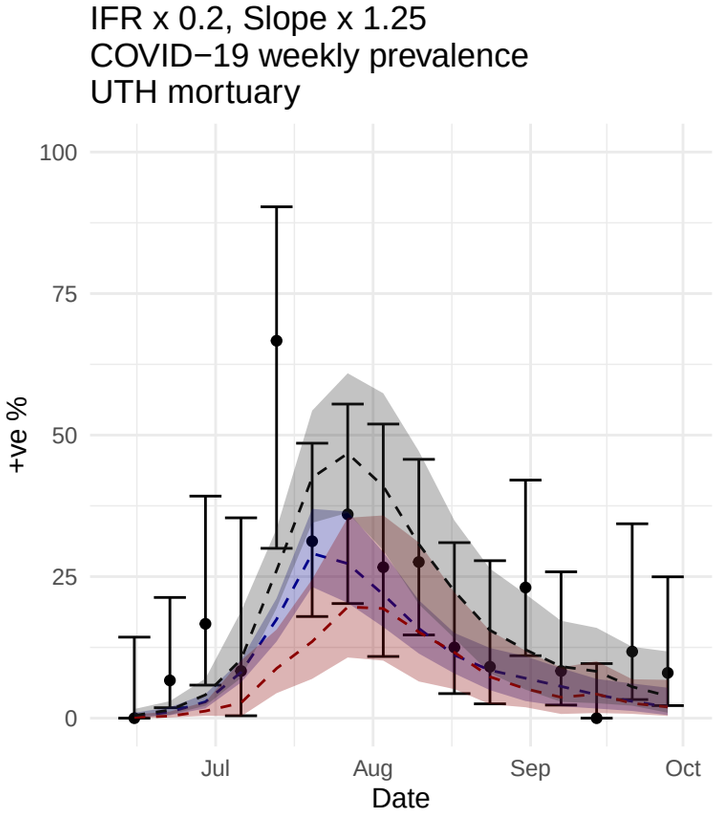

IFR x 2.5, Slope x 1
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct
COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+
COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Total +ve deaths
Causal deaths
Coincidental deaths
PCR % (Lusaka)
Sero % (Lusaka)
R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt
Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value
Modelled PCR %
+ve %
Date
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

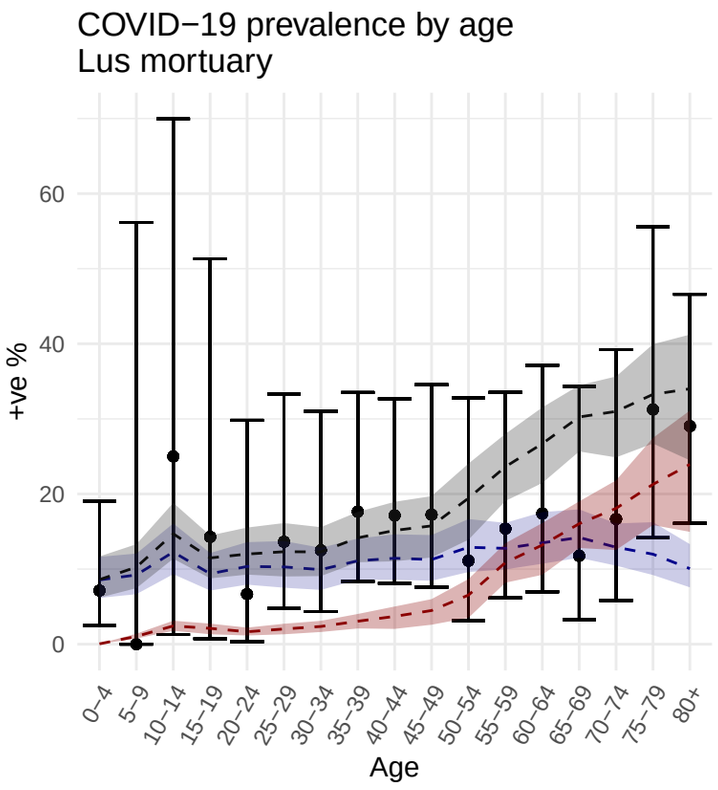
IFR x2.5, Slope x1
Lusaka weekly burial registrations

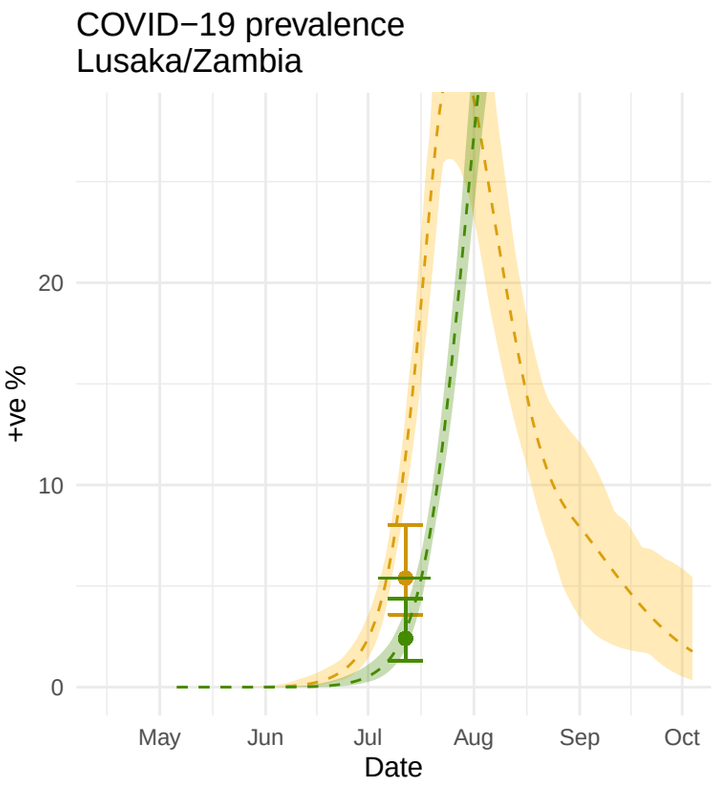


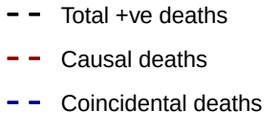
IFR x 2.5, Slope x 1
COVID−19 excess mortality: Comparison of MCMC results with squire results

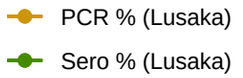


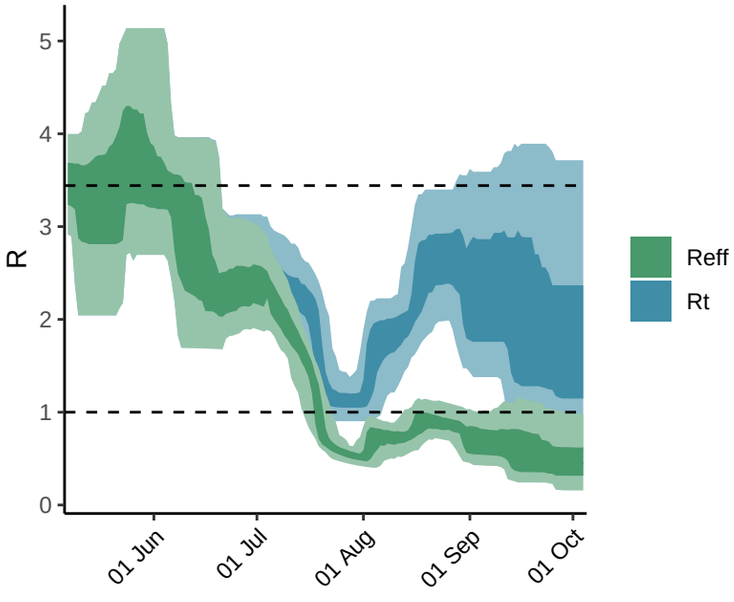

IFR x 0.2, Slope x 1.25
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct


COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0−4
5−9
10−14
15−19
20−24
25−29
30−34
35−39
40−44
45−49
50−54
55−59
60−64
65−69
70−74
75−79
80+

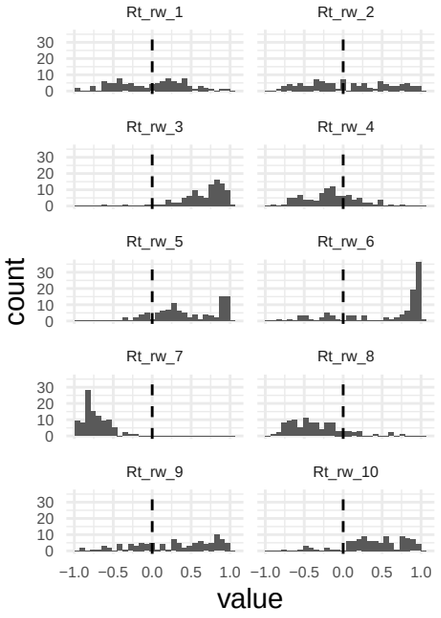

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

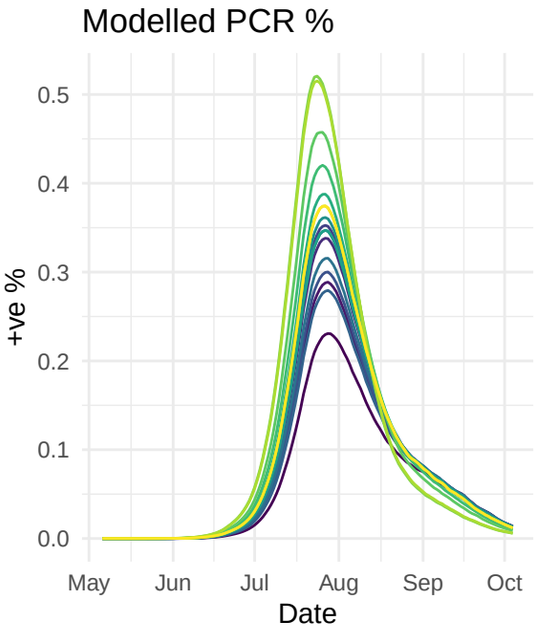

Total +ve deaths
Causal deaths
Coincidental deaths

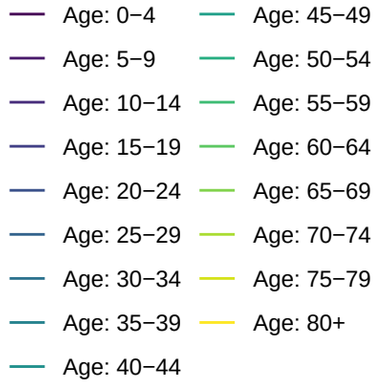

PCR % (Lusaka)
Sero % (Lusaka)


R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct

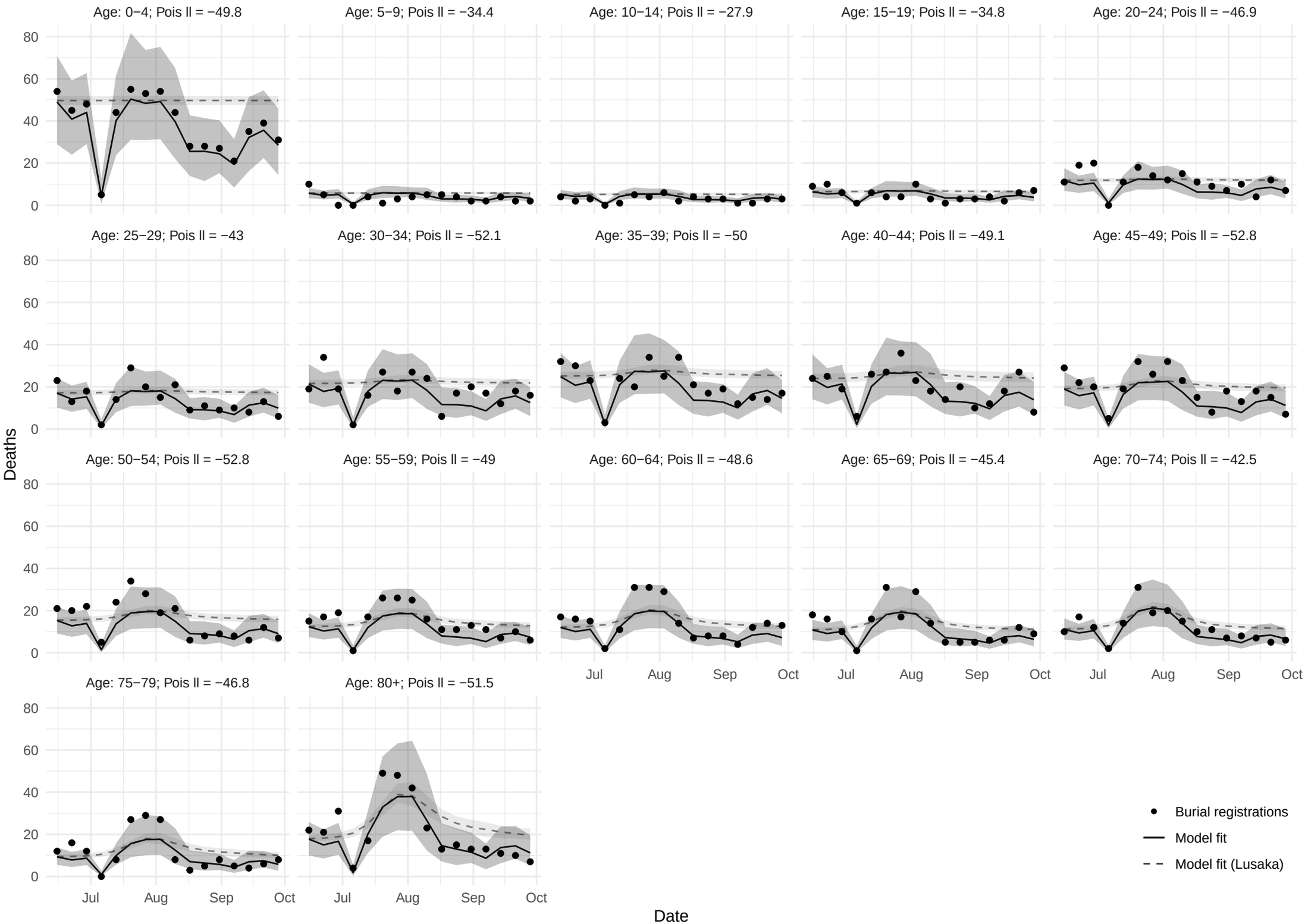
Reff
Rt


Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value


Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

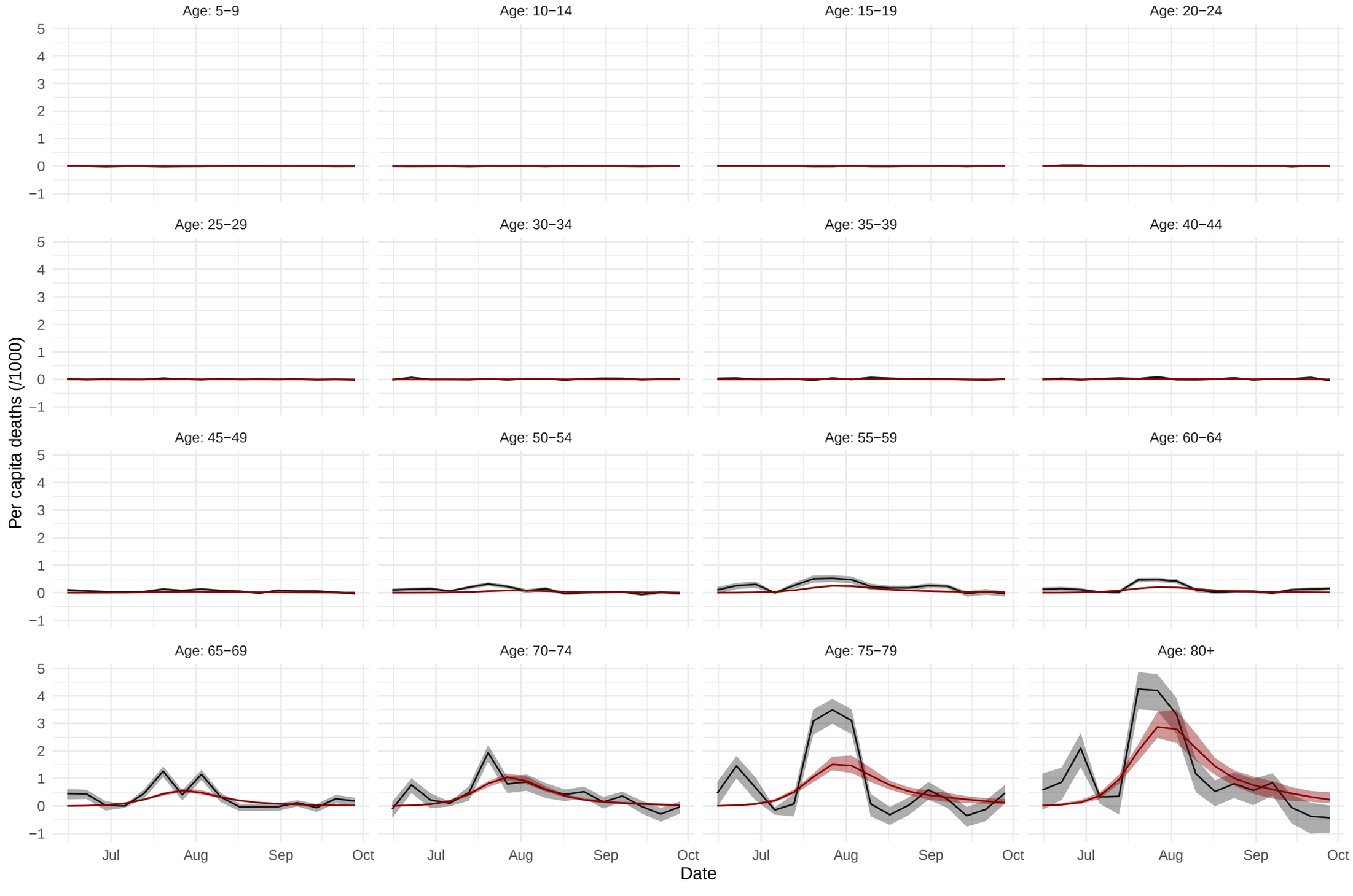

Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

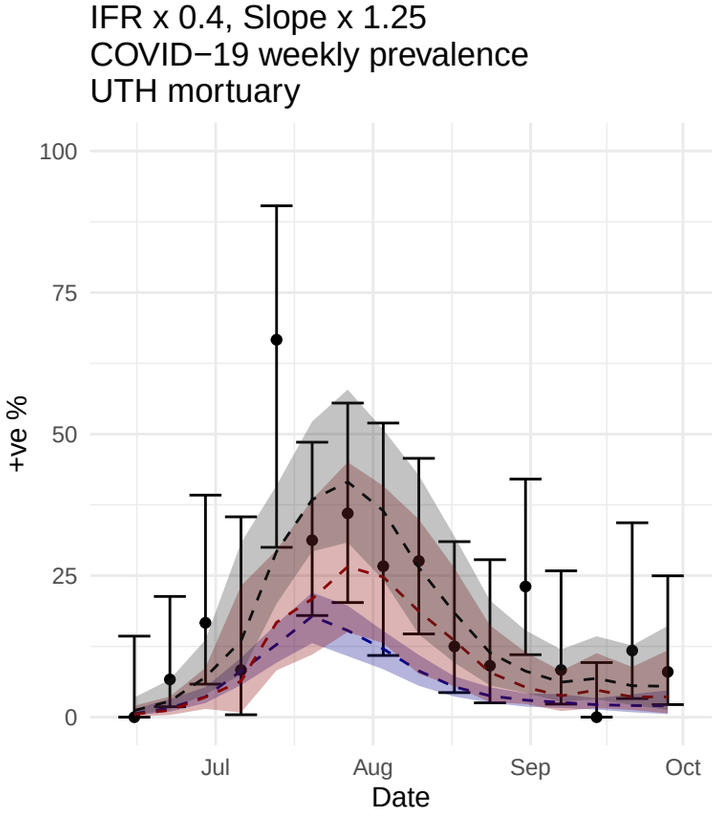
IFR x0.2, Slope x1.25
Lusaka weekly burial registrations

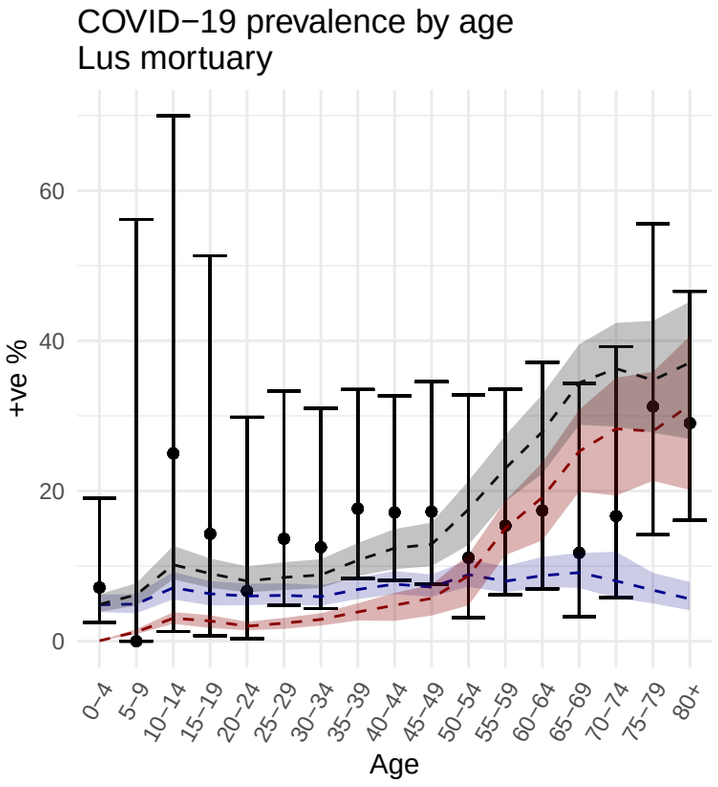


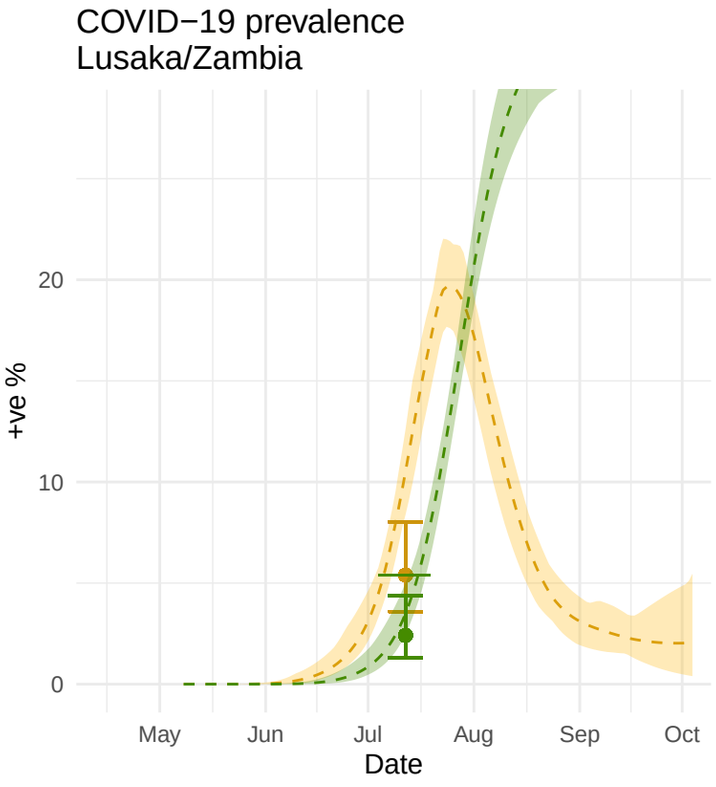
IFR x 0.2, Slope x 1.25

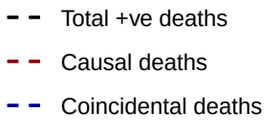
COVID−19 excess mortality: Comparison of MCMC results with squire results

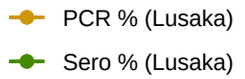


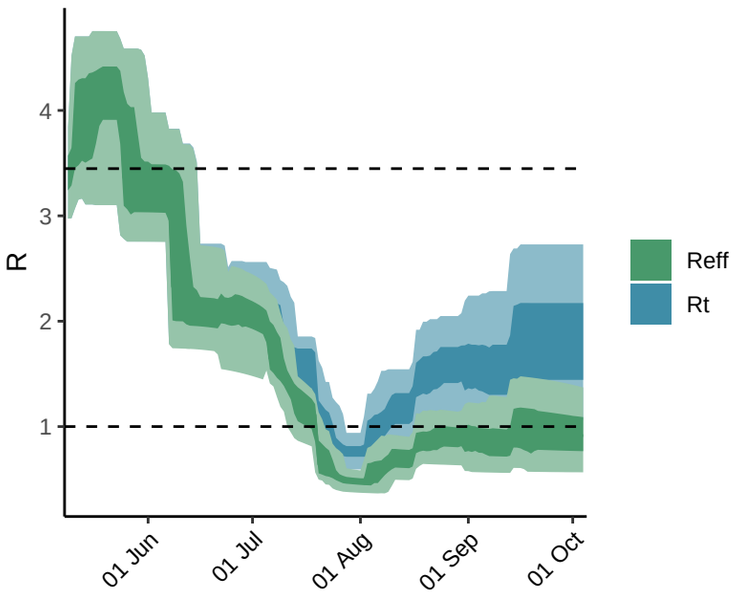

IFR x 0.4, Slope x 1.25
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct

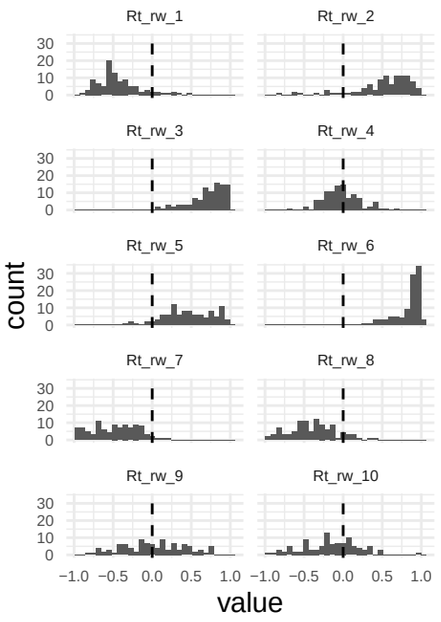

COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0−4
5−9
10−14
15−19
20−24
25−29
30−34
35−39
40−44
45−49
50−54
55−59
60−64
65−69
70−74
75−79
80+

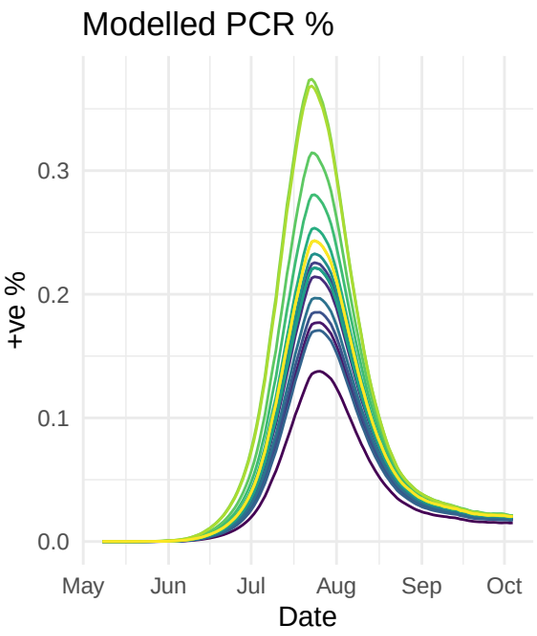

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

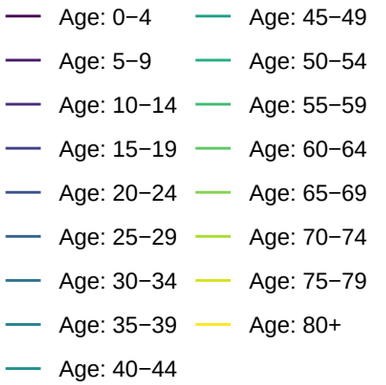

Total +ve deaths
Causal deaths
Coincidental deaths


PCR % (Lusaka)
Sero % (Lusaka)

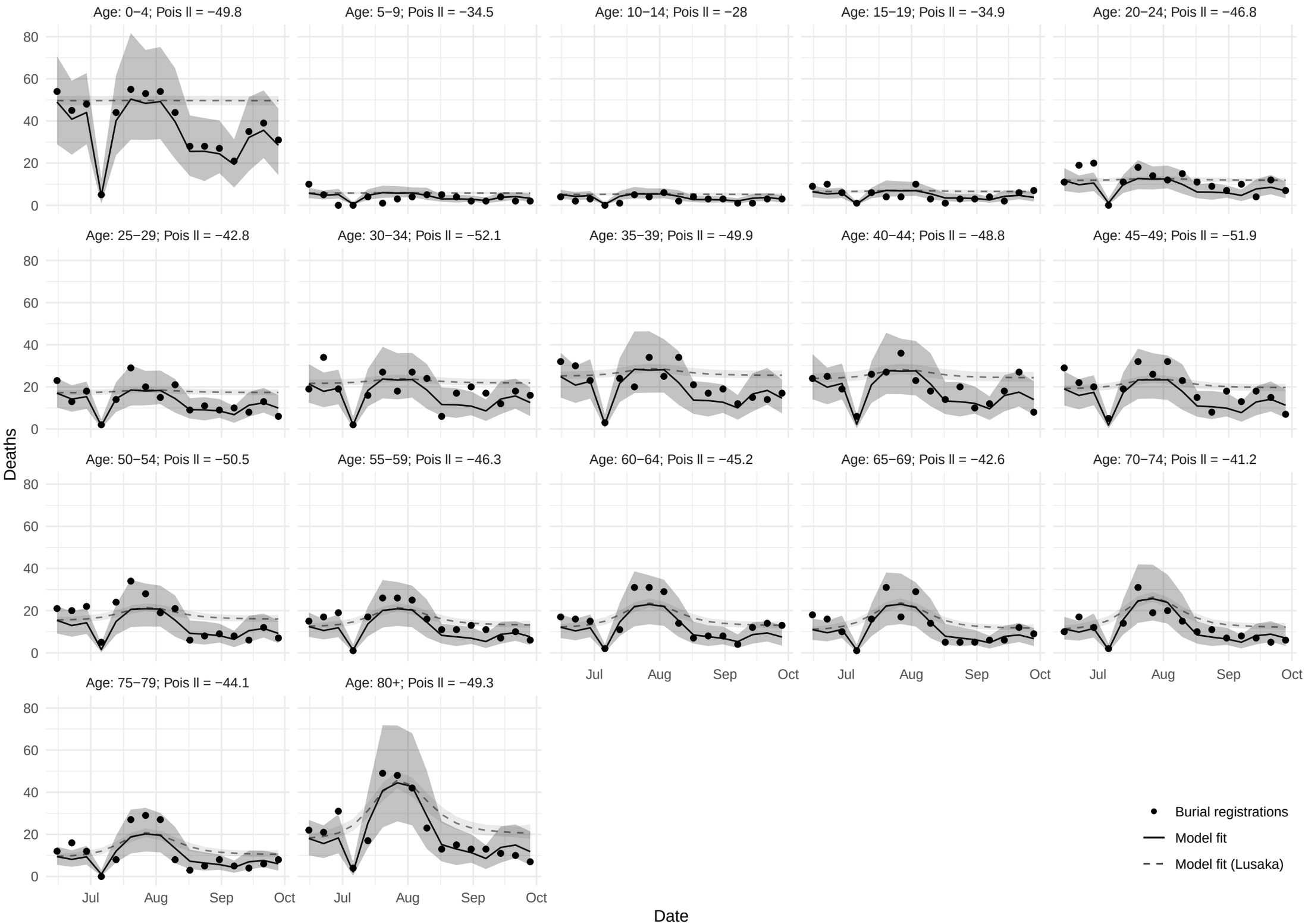

R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt


Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value


Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

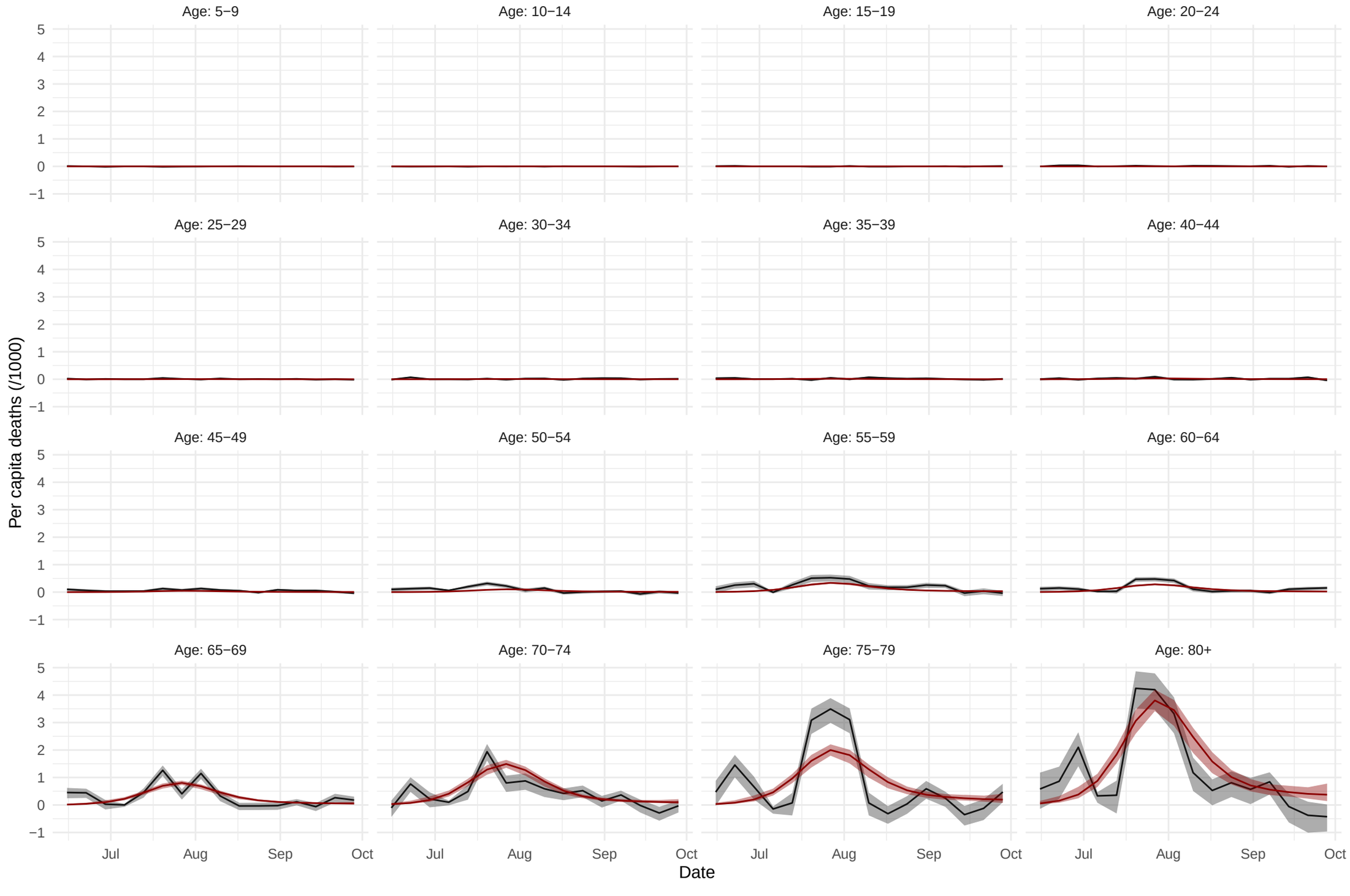

Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

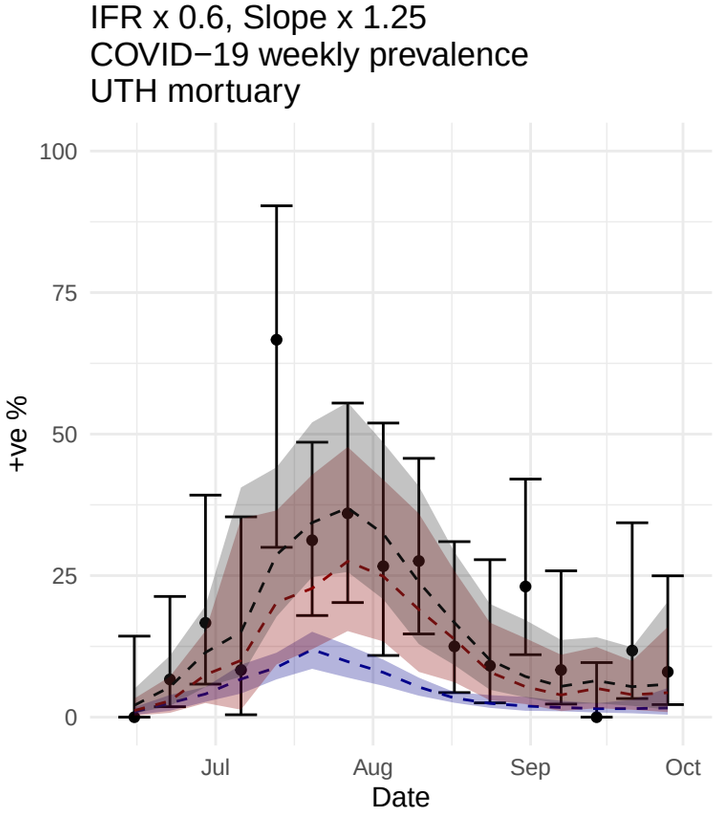
IFR x0.4, Slope x1.25
Lusaka weekly burial registrations

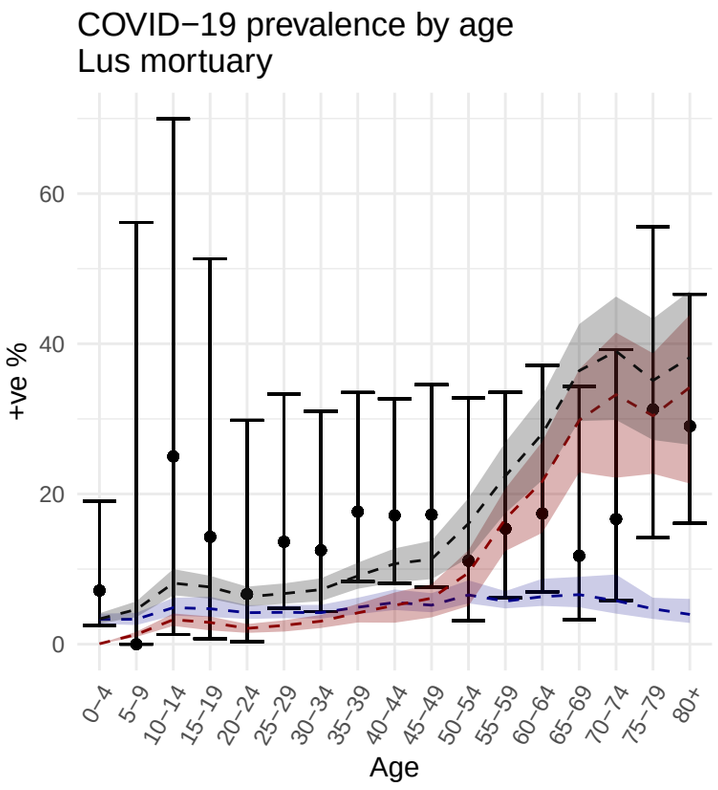


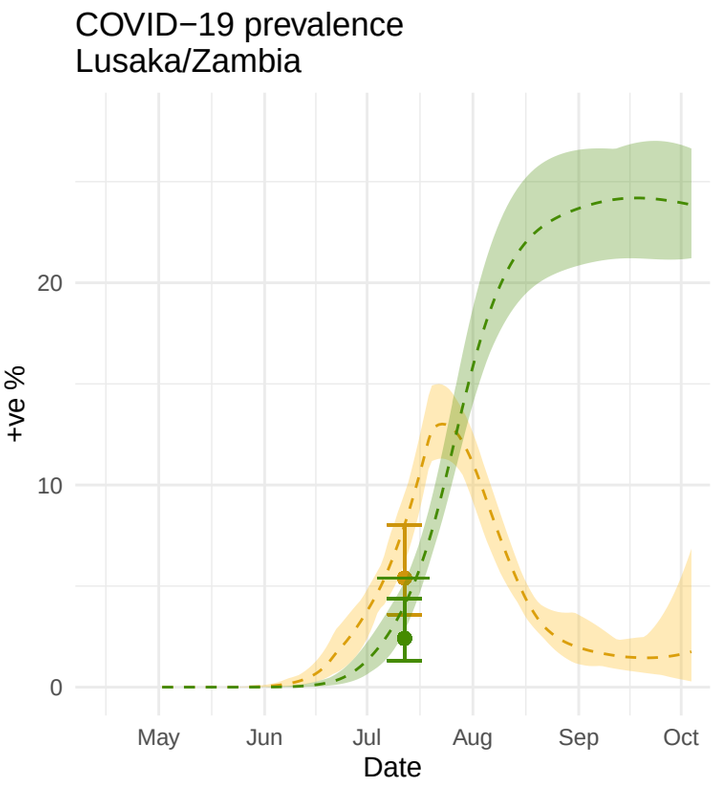
IFR x 0.4, Slope x 1.25

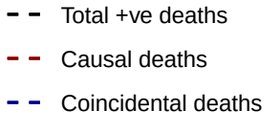
COVID−19 excess mortality: Comparison of MCMC results with squire results

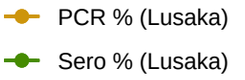


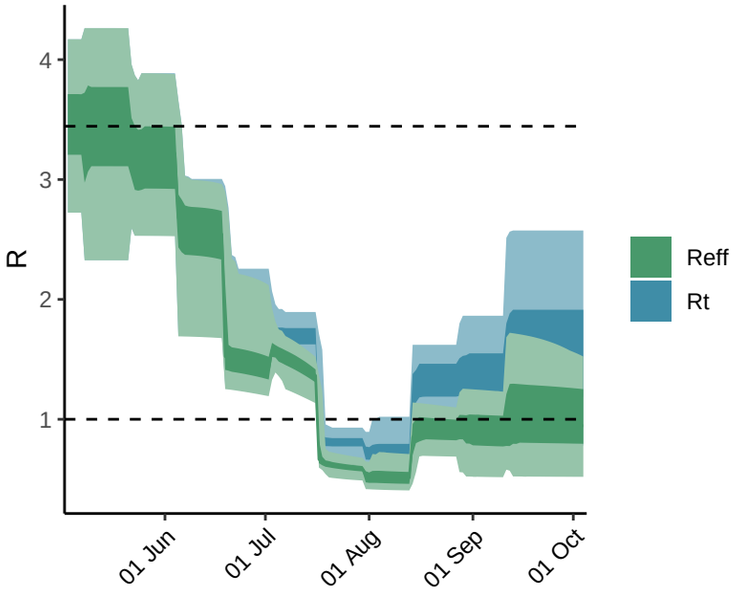

IFR x 0.6, Slope x 1.25
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct


COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0−4
5−9
10−14
15−19
20−24
25−29
30−34
35−39
40−44
45−49
50−54
55−59
60−64
65−69
70−74
75−79
80+

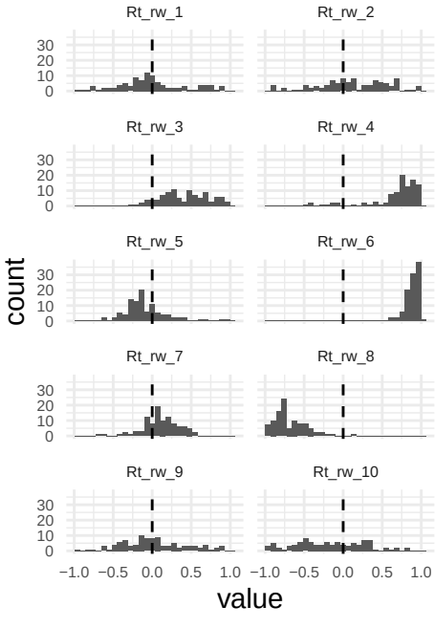

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

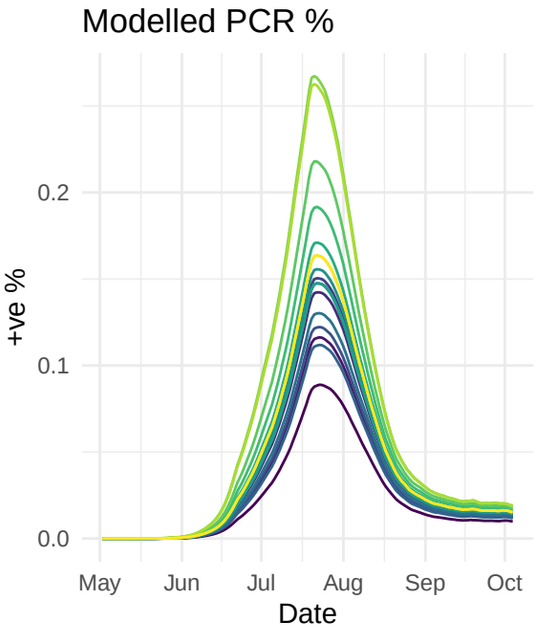

Total +ve deaths
Causal deaths
Coincidental deaths

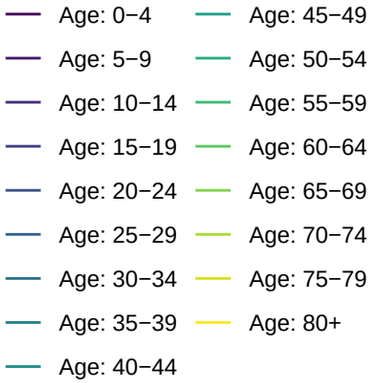

PCR % (Lusaka)
Sero % (Lusaka)


R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct

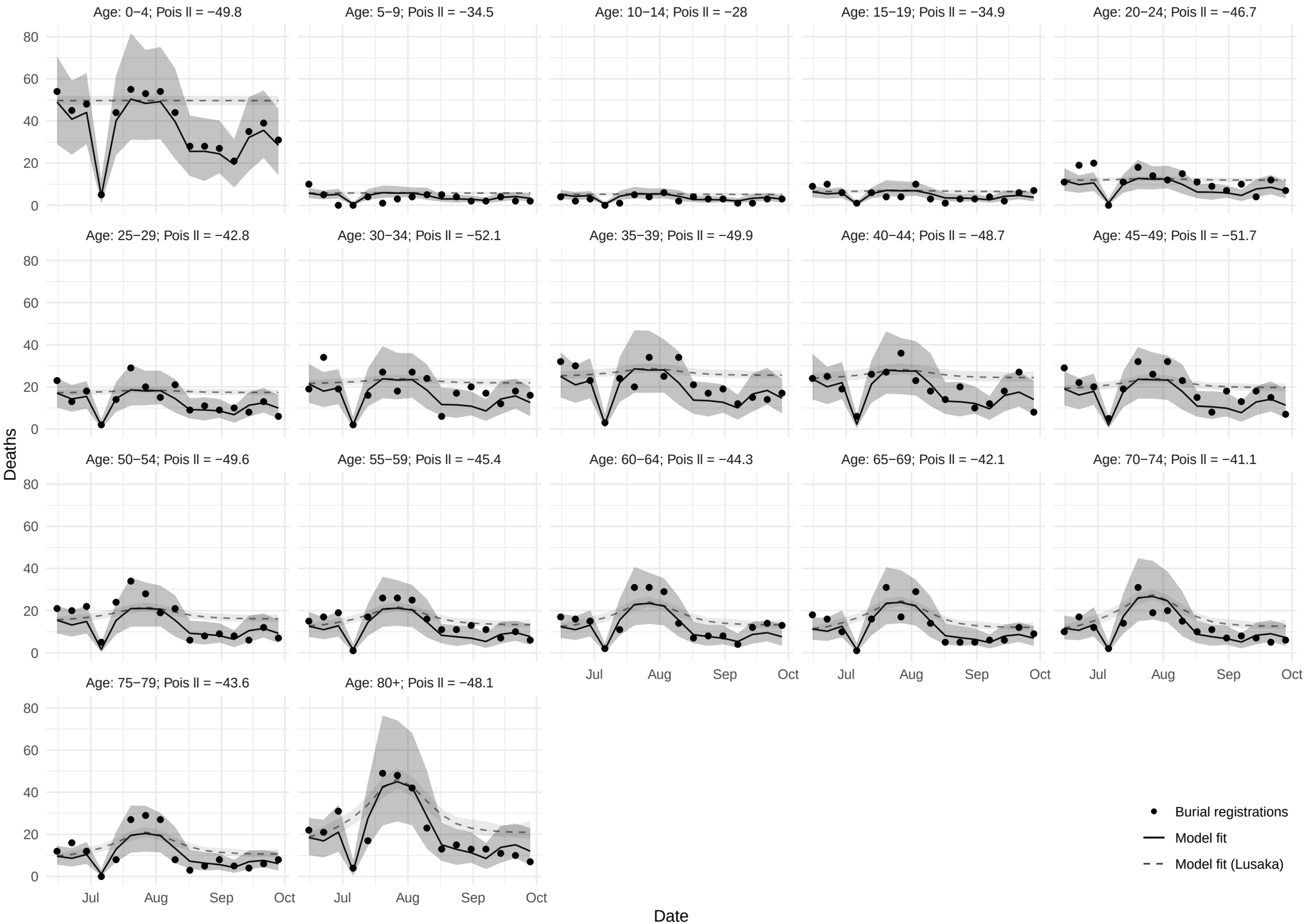
Reff
Rt


Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value


Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

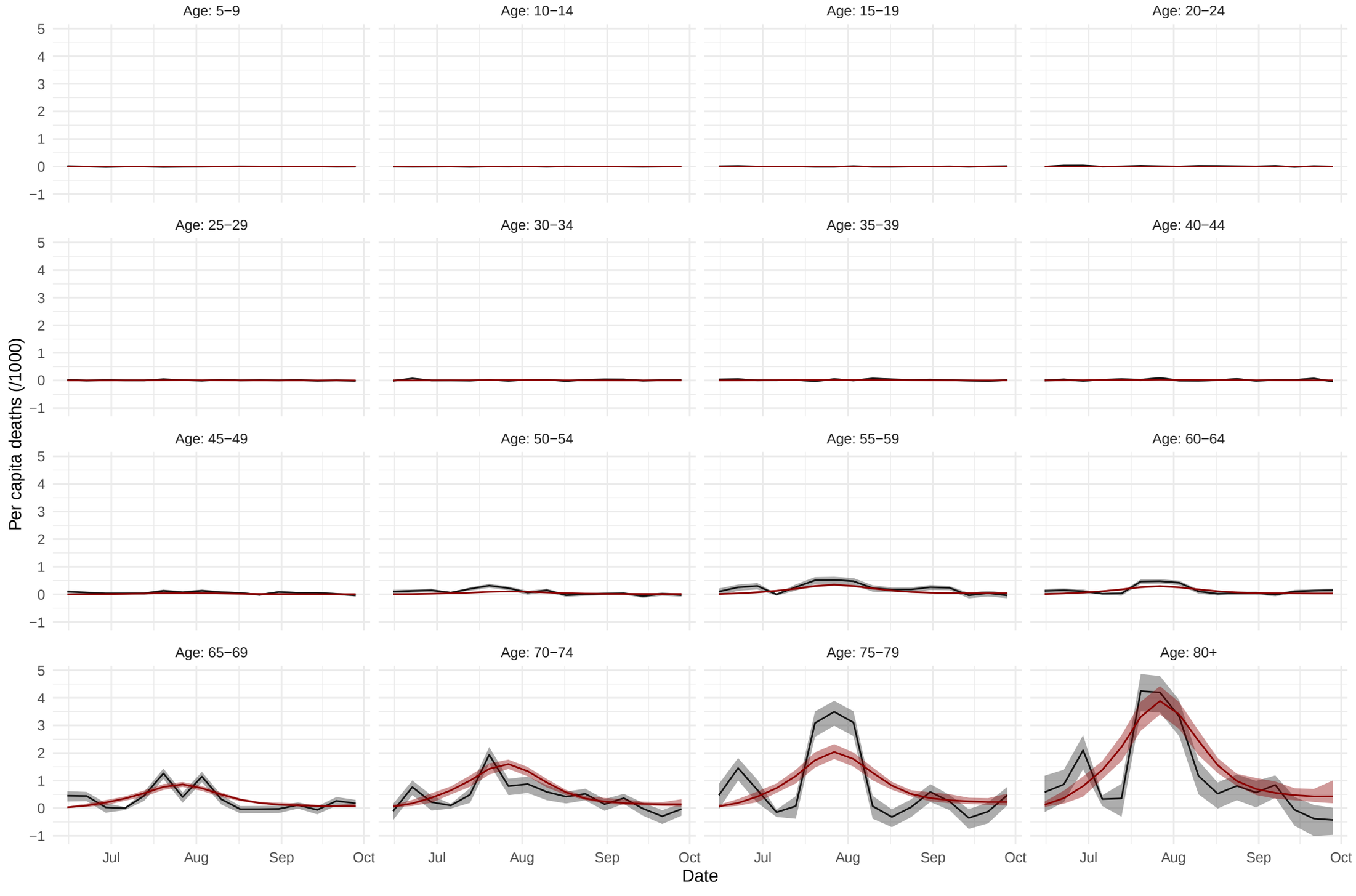

Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

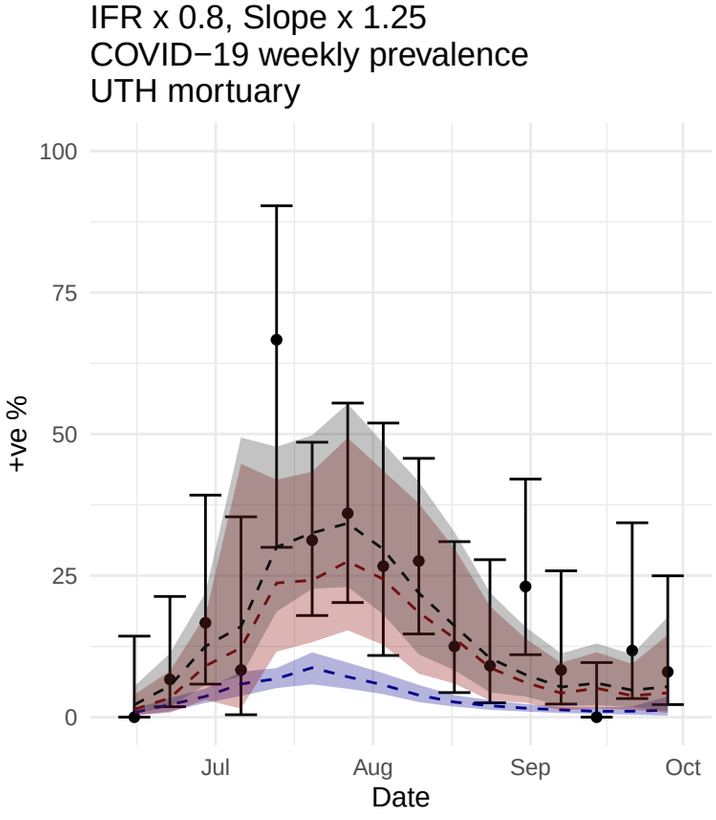
IFR x0.6, Slope x1.25
Lusaka weekly burial registrations

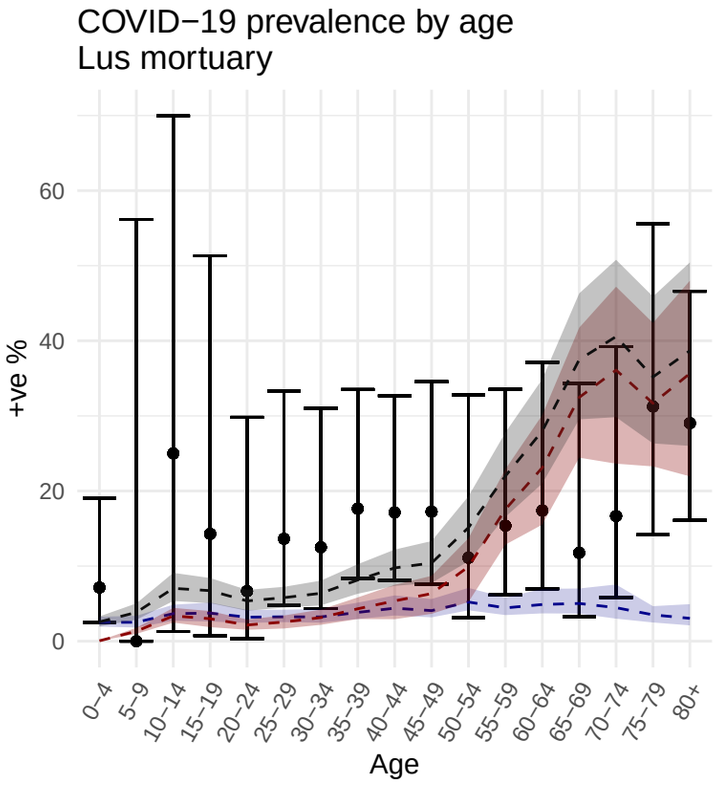


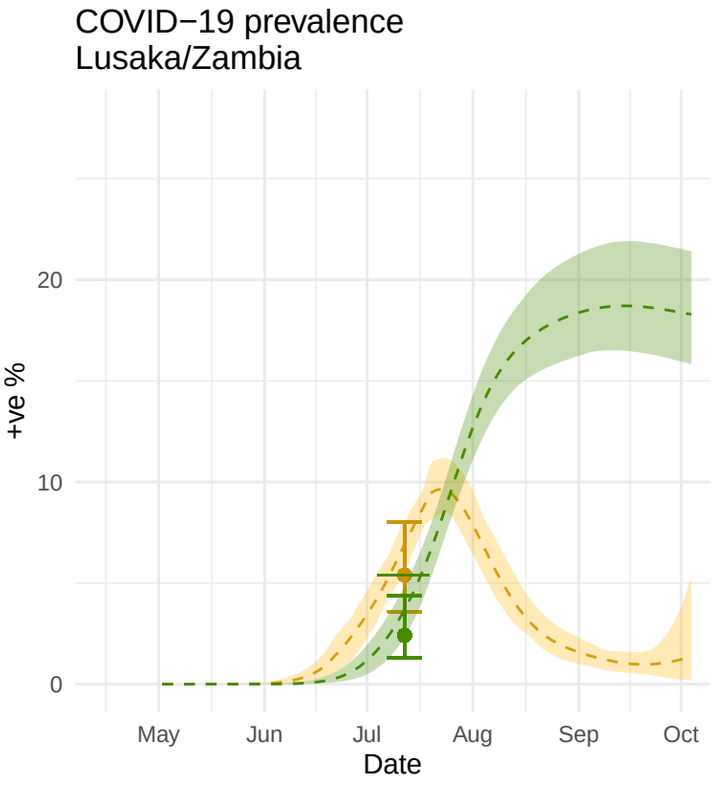
IFR x 0.6, Slope x 1.25

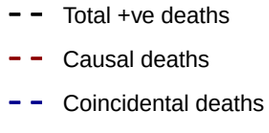
COVID−19 excess mortality: Comparison of MCMC results with squire results

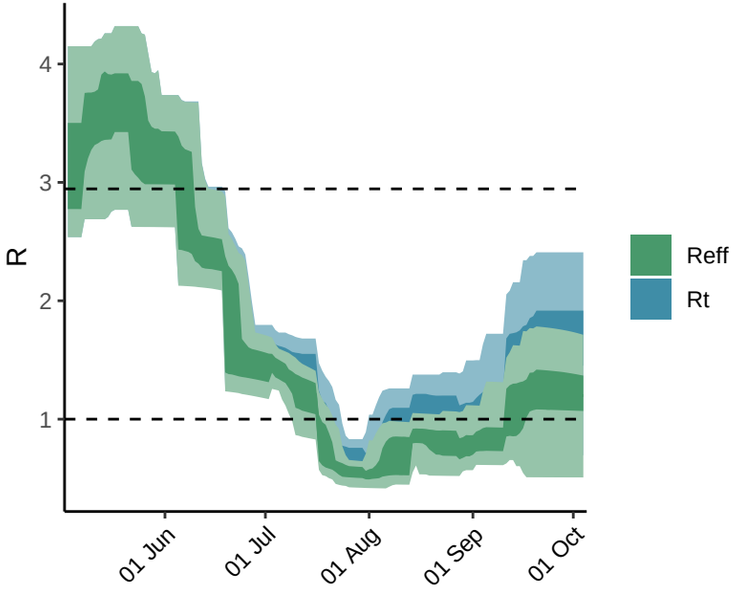


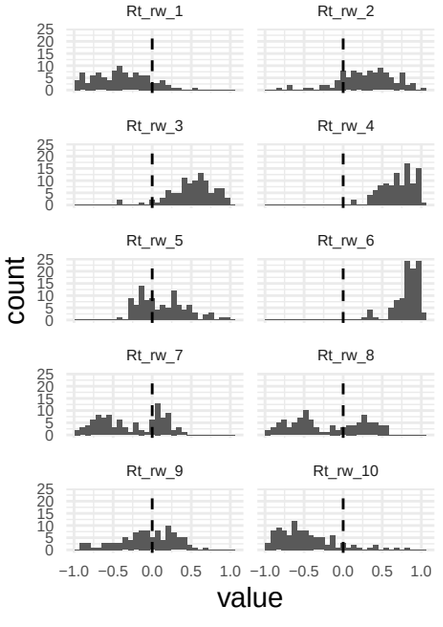

IFR x 0.8, Slope x 1.25
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct

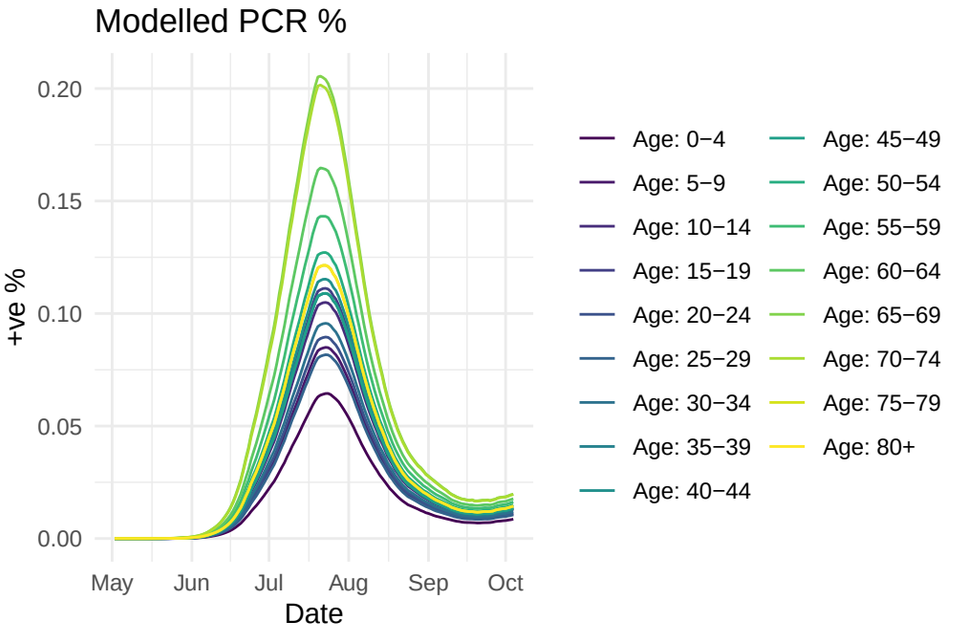

COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0−4
5−9
10−14
15−19
20−24
25−29
30−34
35−39
40−44
45−49
50−54
55−59
60−64
65−69
70−74
75−79
80+


COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
PCR % (Lusaka)
Sero % (Lusaka)

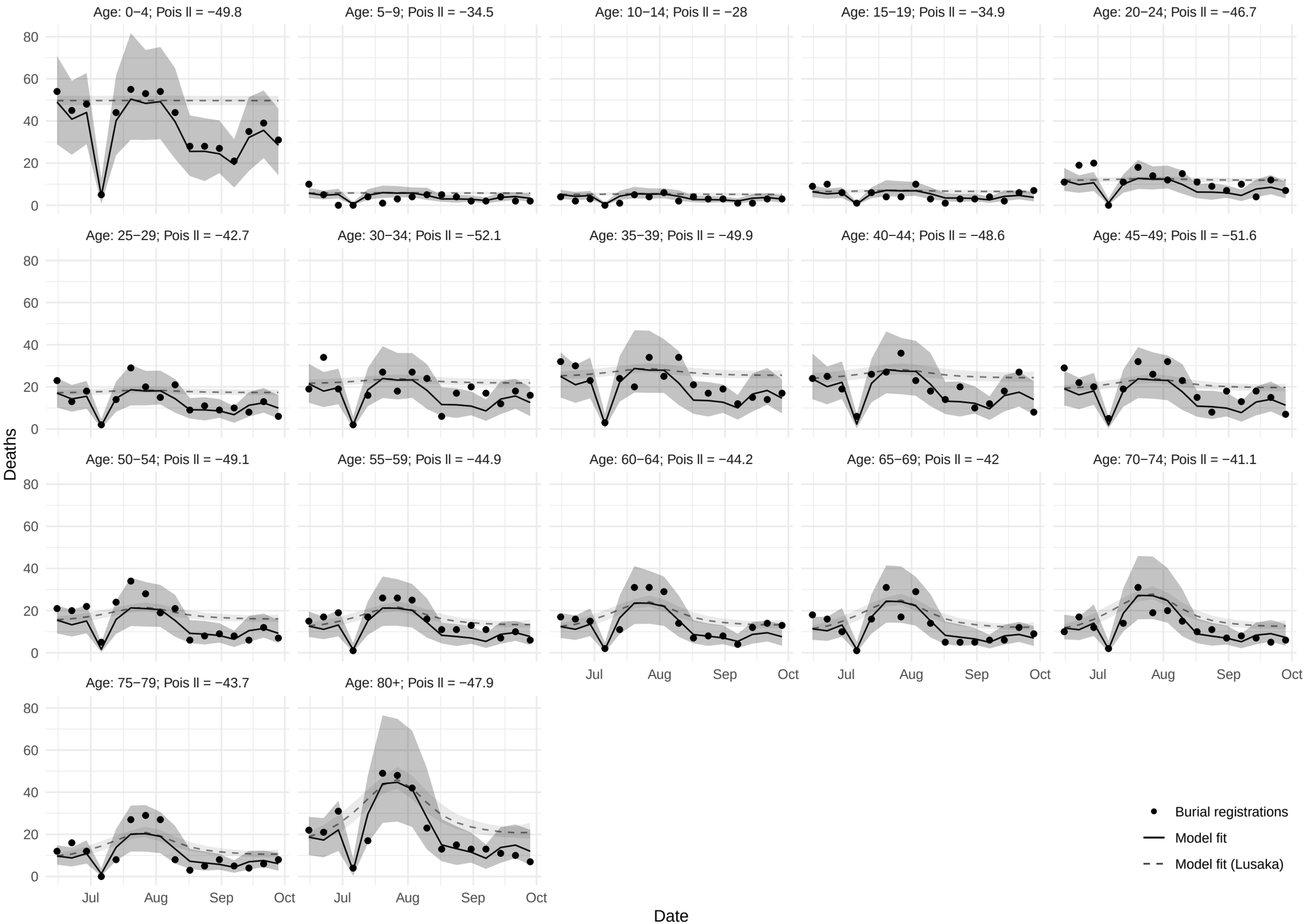

Total +ve deaths
Causal deaths
Coincidental deaths


R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
Reff
Rt

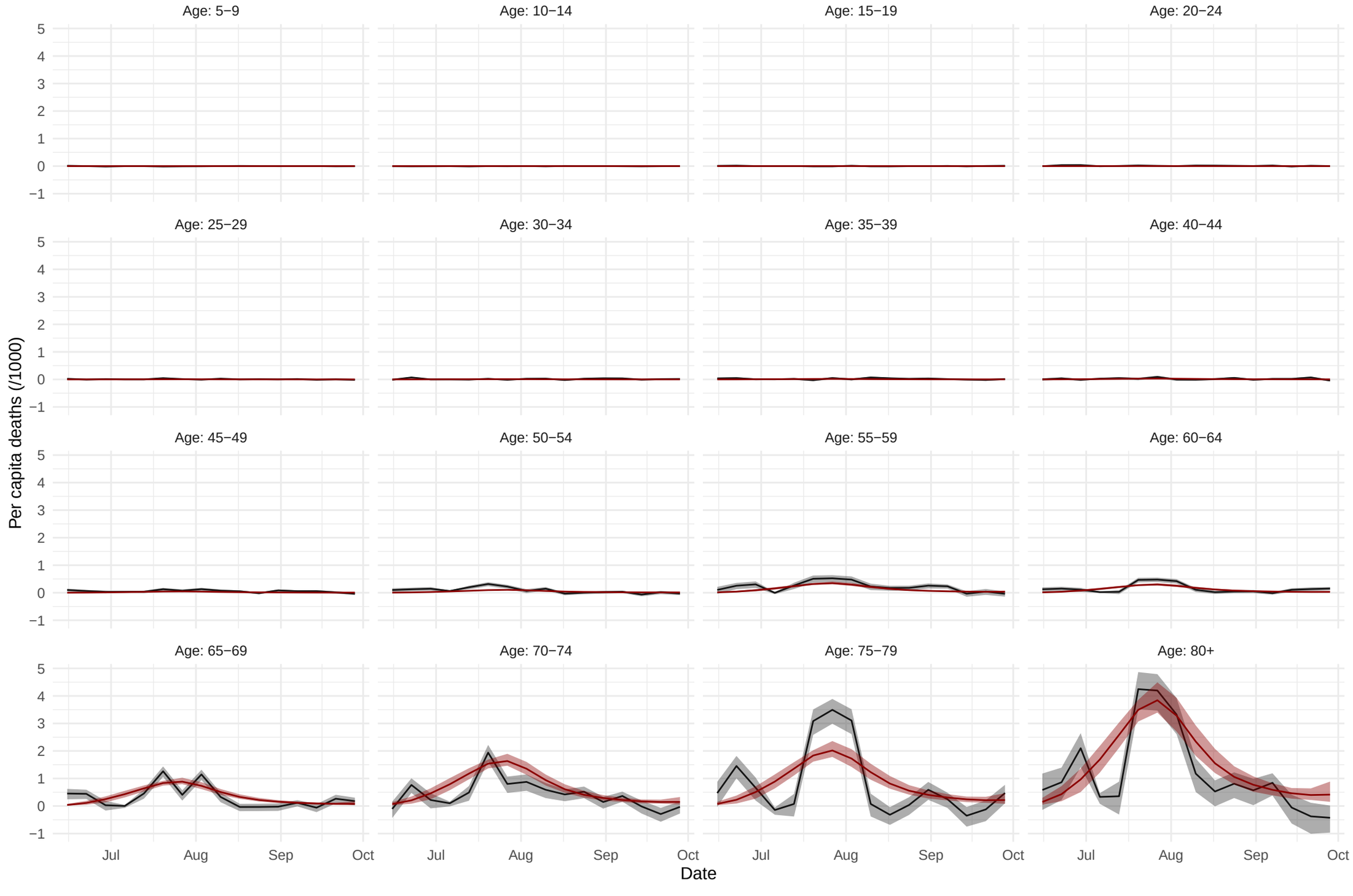

Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

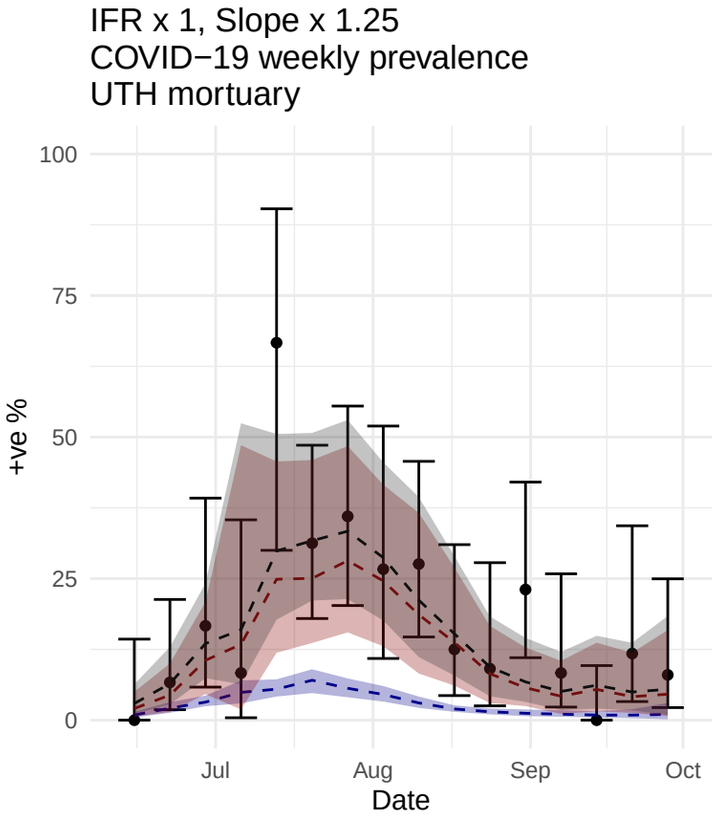

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

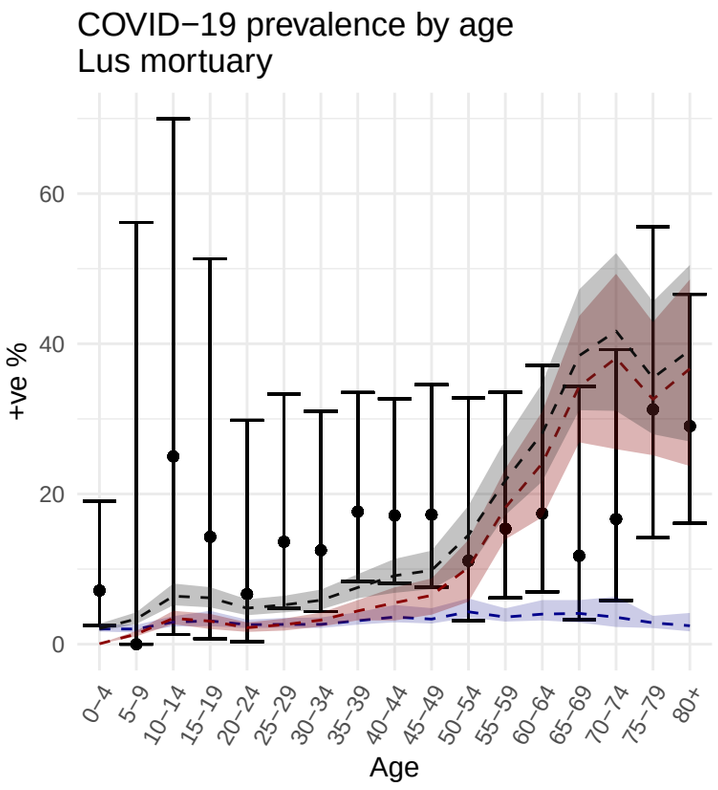
IFR x0.8, Slope x1.25
Lusaka weekly burial registrations

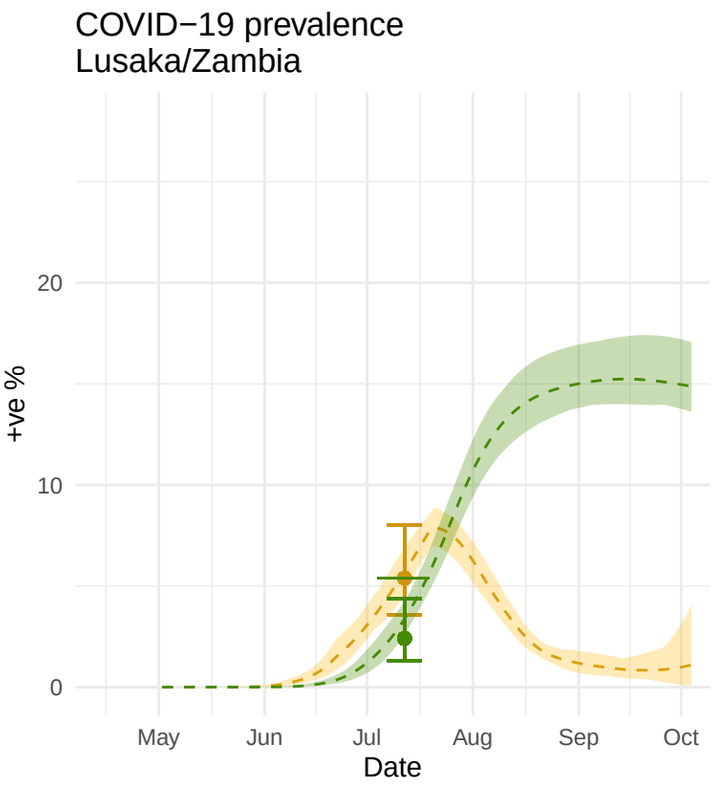


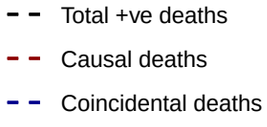
IFR x 0.8, Slope x 1.25
COVID−19 excess mortality: Comparison of MCMC results with squire results

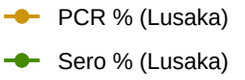


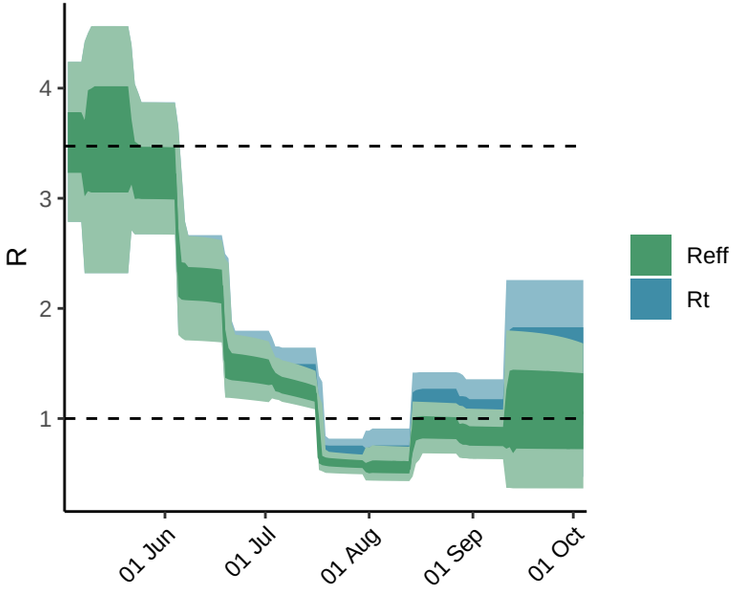

IFR x 1, Slope x 1.25
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct


COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0−4
5−9
10−14
15−19
20−24
25−29
30−34
35−39
40−44
45−49
50−54
55−59
60−64
65−69
70−74
75−79
80+

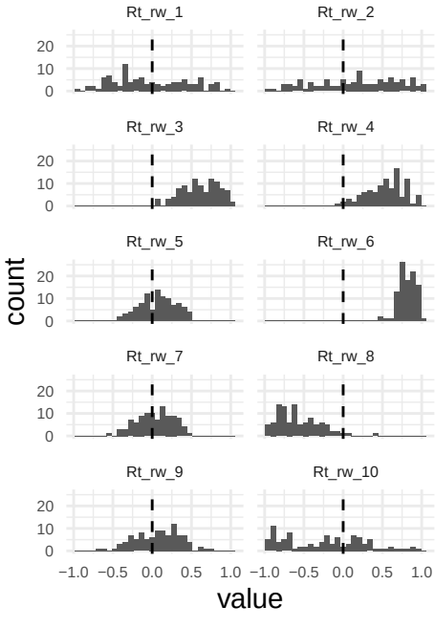

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

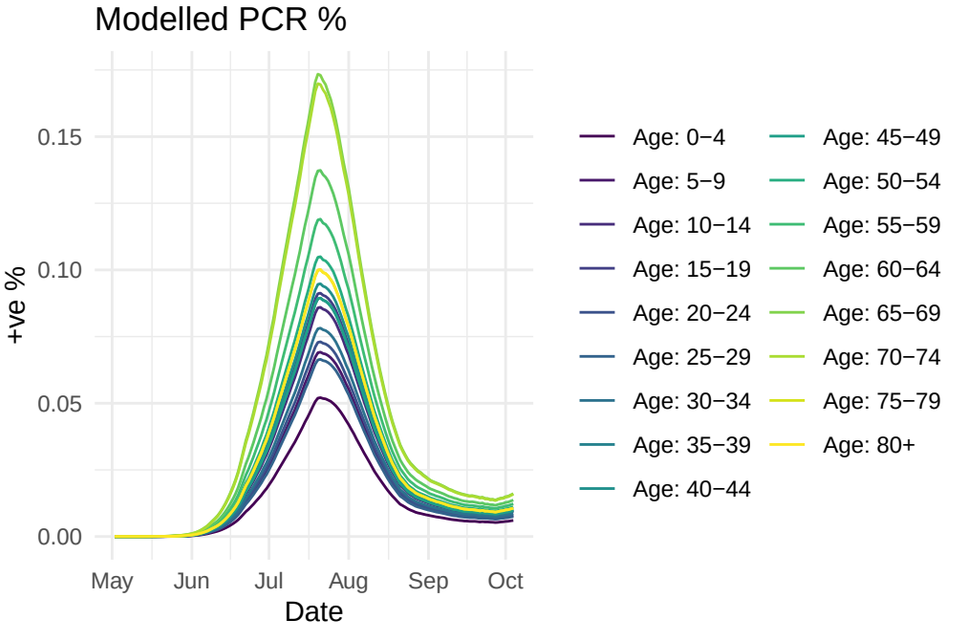

Total +ve deaths
Causal deaths
Coincidental deaths

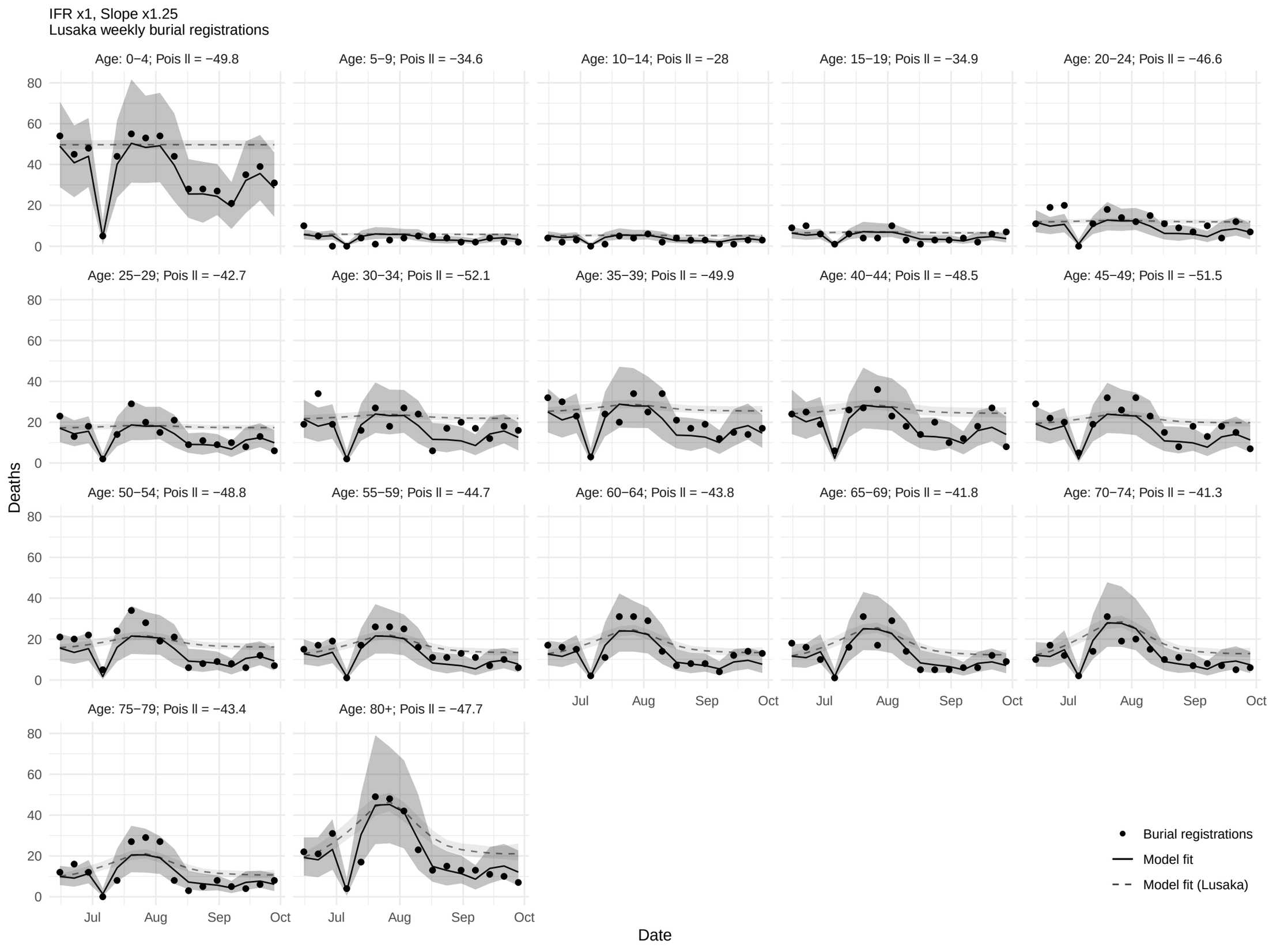

PCR % (Lusaka)
Sero % (Lusaka)

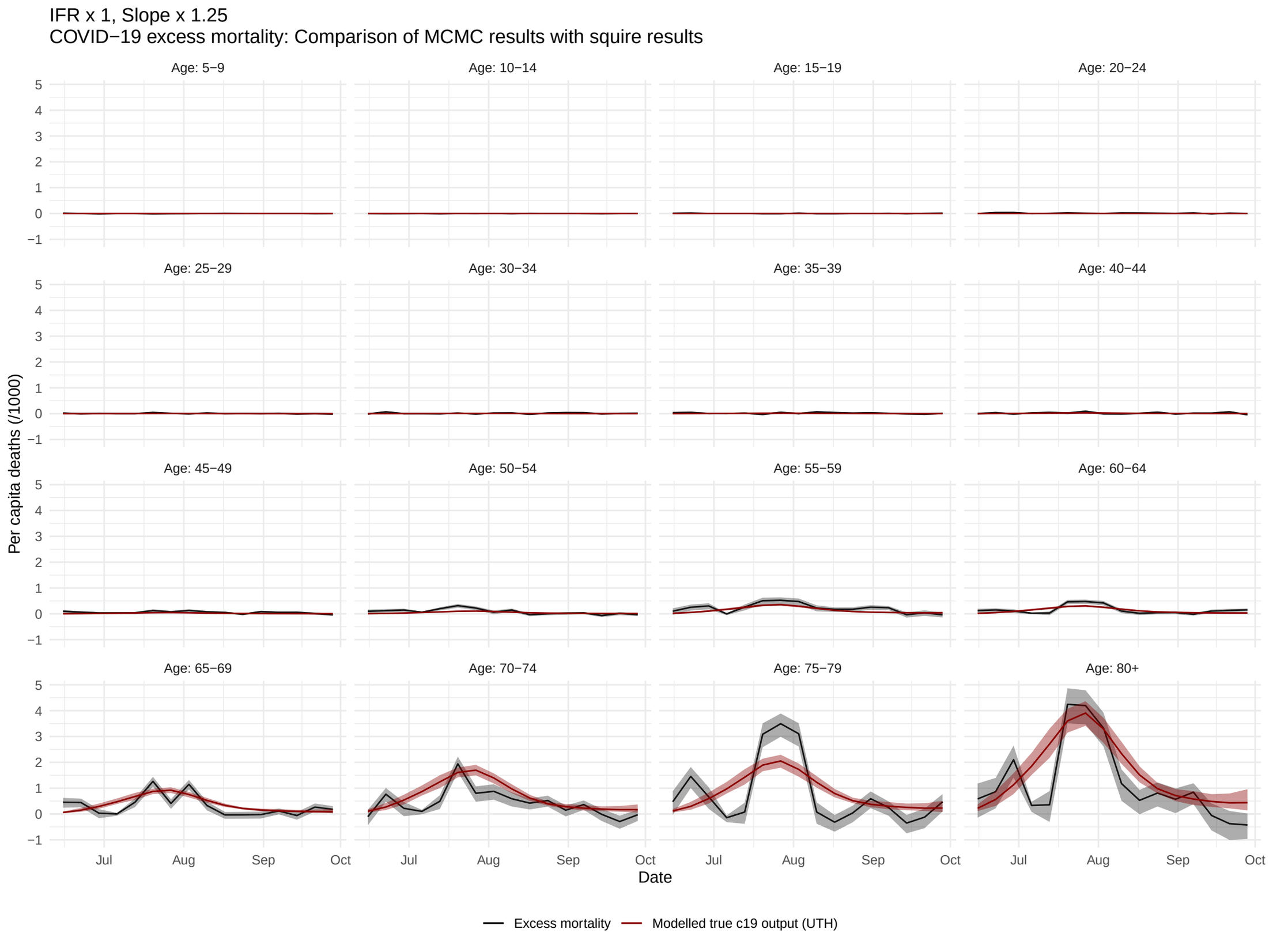

R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct

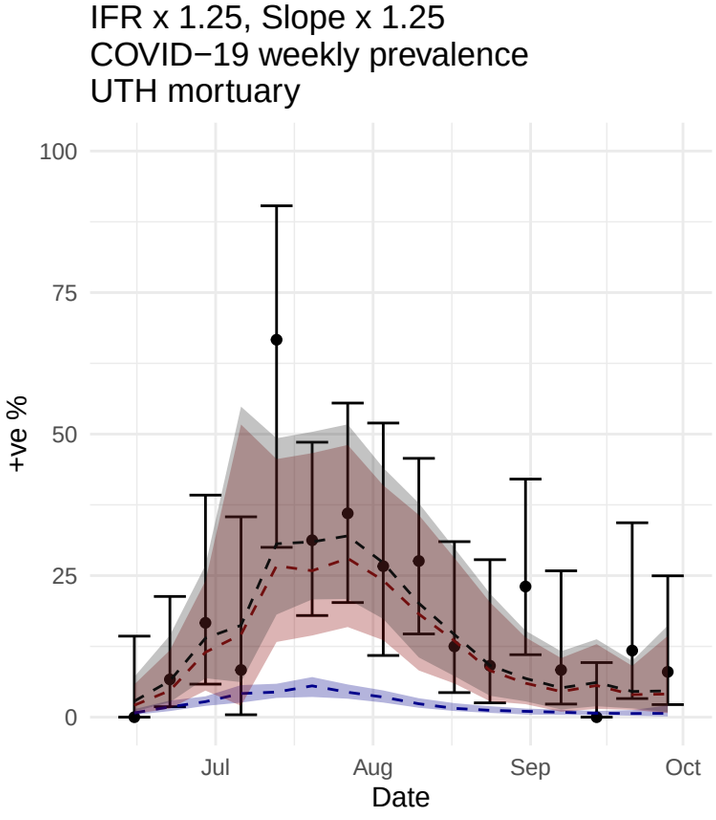
Reff
Rt

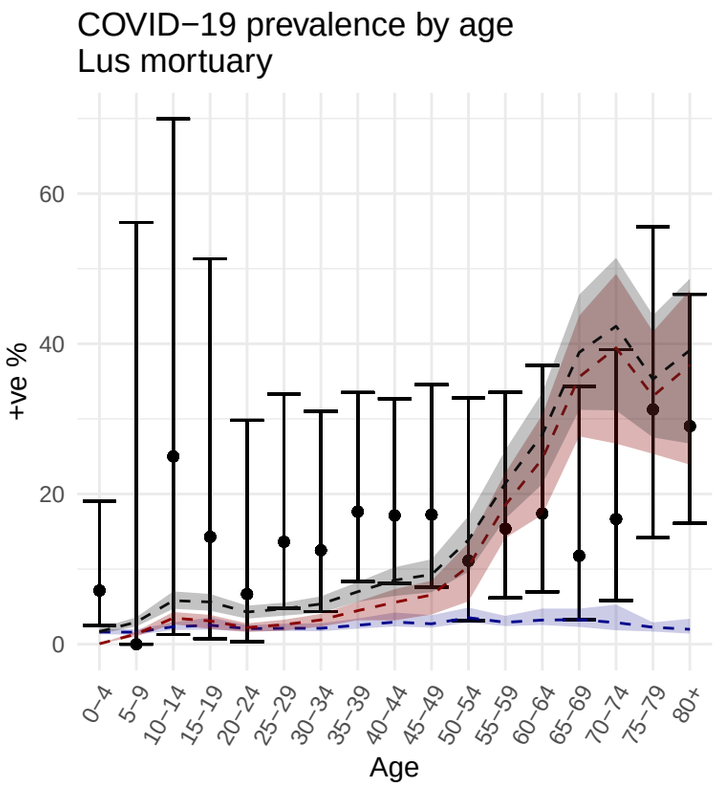

Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

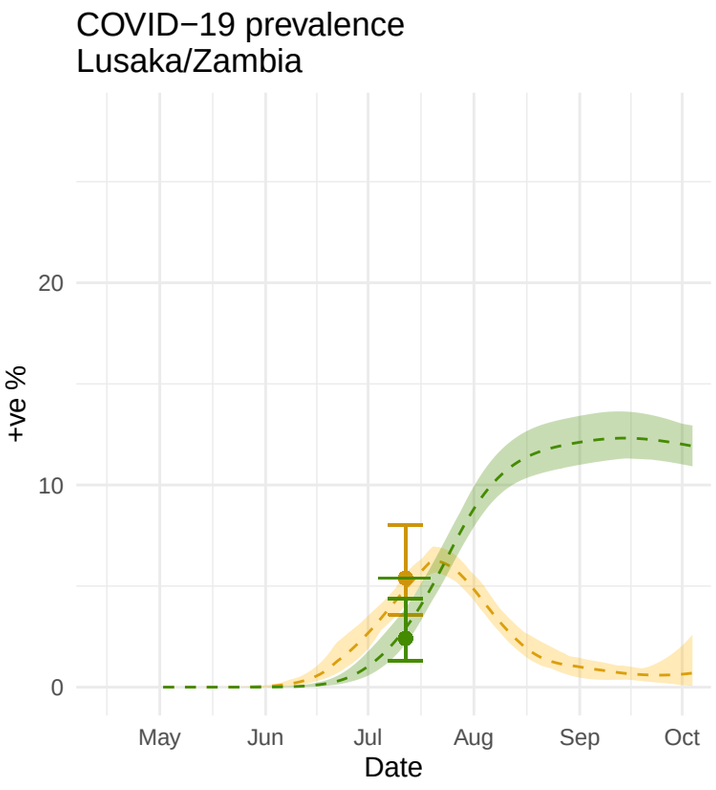

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct
Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

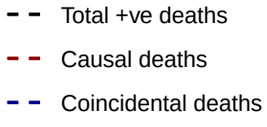

IFR x1, Slope x1.25
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.8
Age: 5−9; Pois ll = −34.6
Age: 10−14; Pois ll = −28
Age: 15−19; Pois ll = −34.9
Age: 20−24; Pois ll = −46.6
Age: 25−29; Pois ll = −42.7
Age: 30−34; Pois ll = −52.1
Age: 35−39; Pois ll = −49.9
Age: 40−44; Pois ll = −48.5
Age: 45−49; Pois ll = −51.5
Age: 50−54; Pois ll = −48.8
Age: 55−59; Pois ll = −44.7
Age: 60−64; Pois ll = −43.8
Age: 65−69; Pois ll = −41.8
Age: 70−74; Pois ll = −41.3
Age: 75−79; Pois ll = −43.4
Age: 80+; Pois ll = −47.7
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

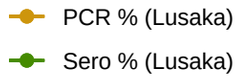

IFR x 1, Slope x 1.25
COVID−19 excess mortality: Comparison of MCMC results with squire results
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+
Per capita deaths (/1000)
5
4
3
2
1
0
−1
Jul
Aug
Sep
Oct
Date
Excess mortality
Modelled true c19 output (UTH)

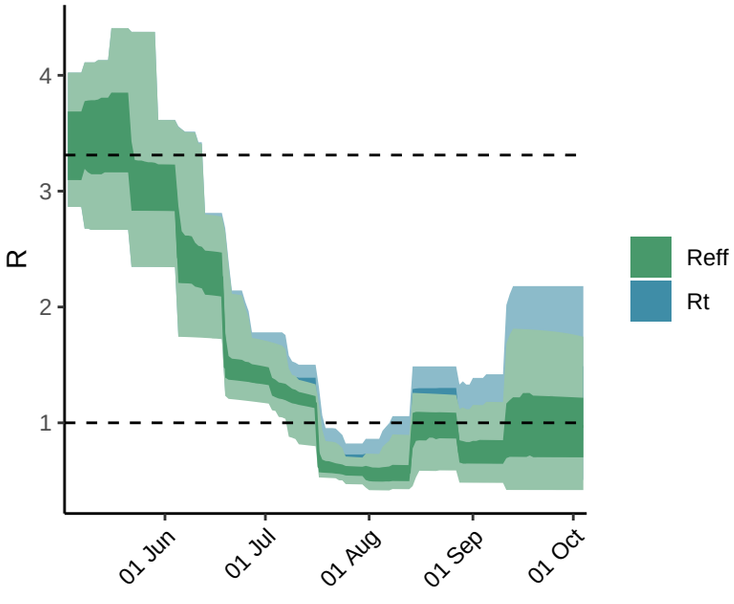

IFR x 1.25, Slope x 1.25
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct


COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0–4
5–9
10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–49
50–54
55–59
60–64
65–69
70–74
75–79
80+

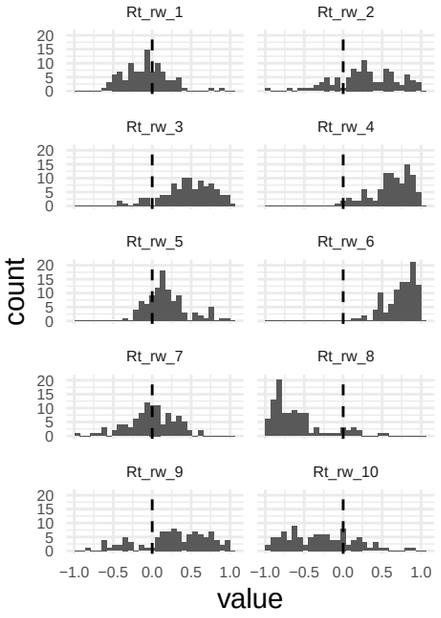

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

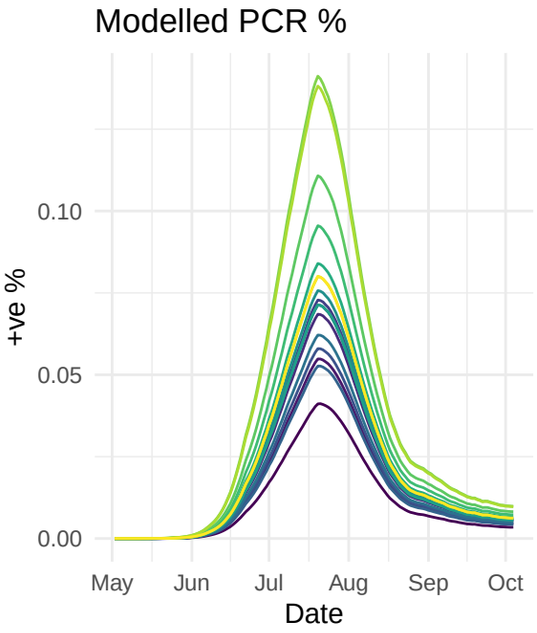

Total +ve deaths
Causal deaths
Coincidental deaths

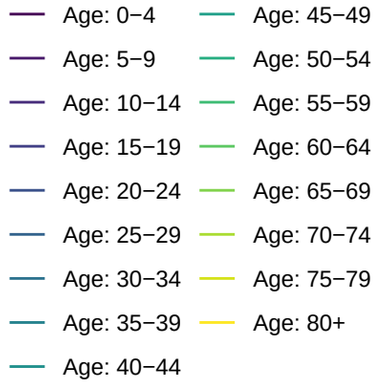

PCR % (Lusaka)
Sero % (Lusaka)

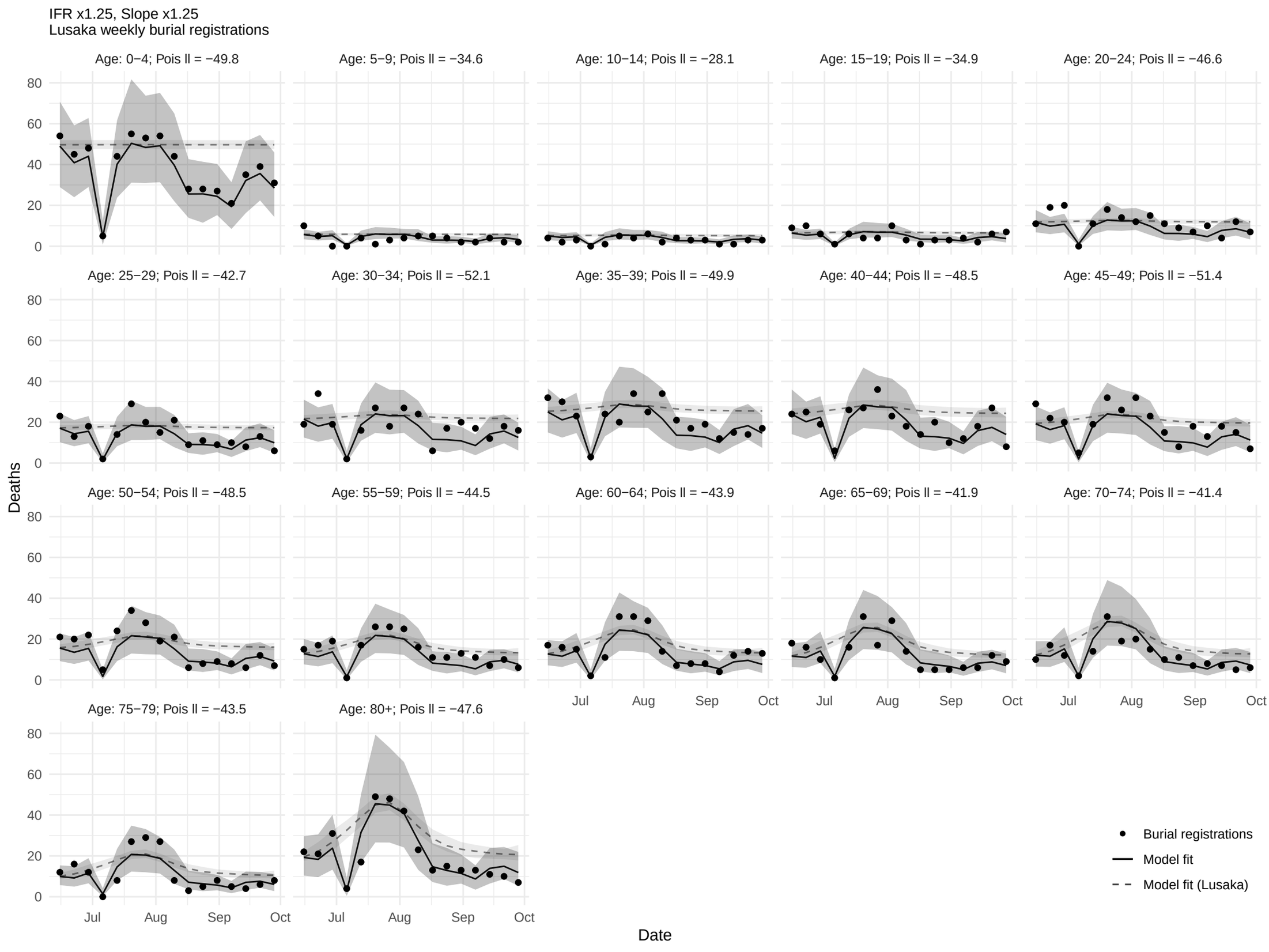

R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct

Reff
Rt


Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value

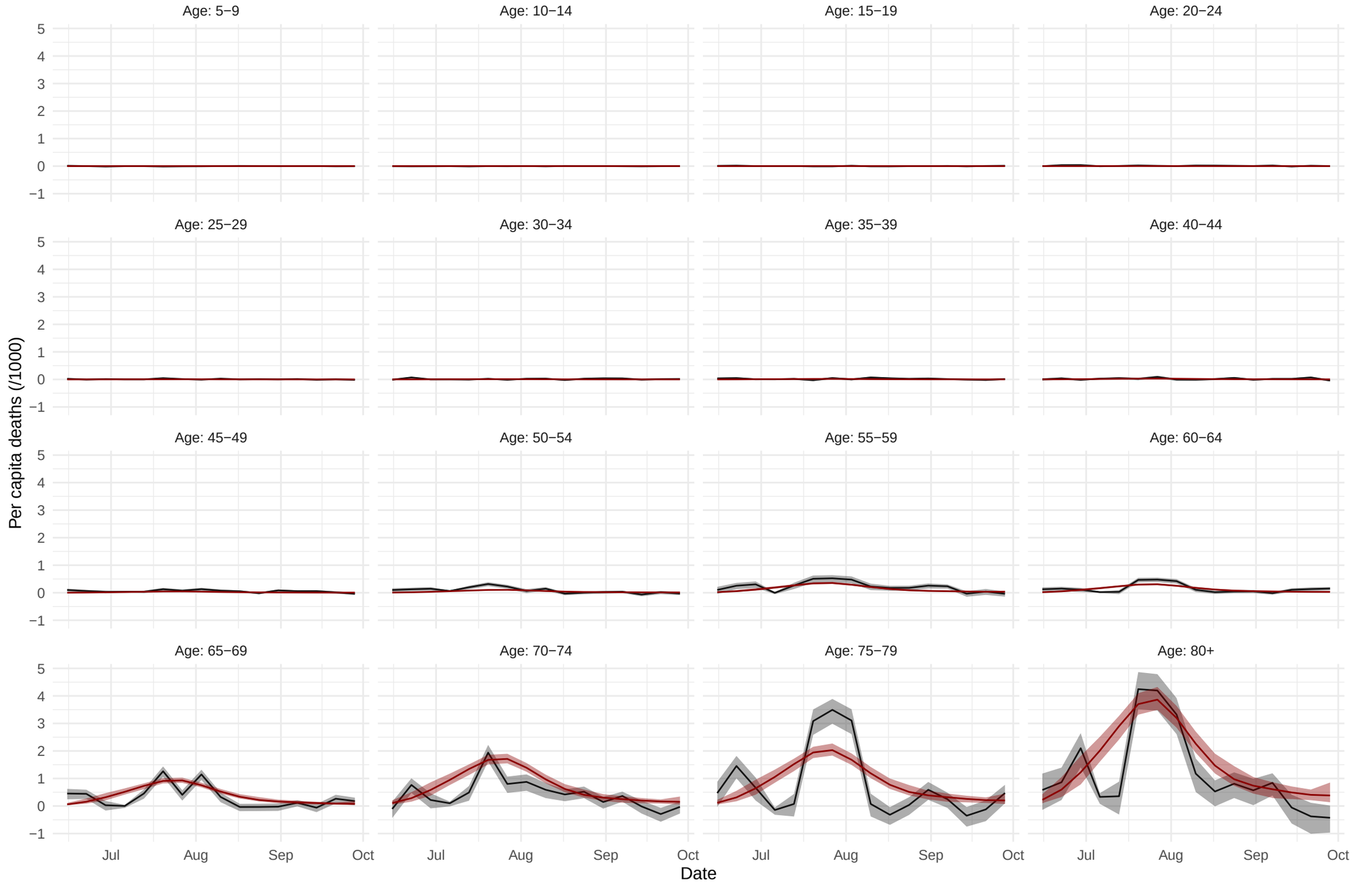

Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

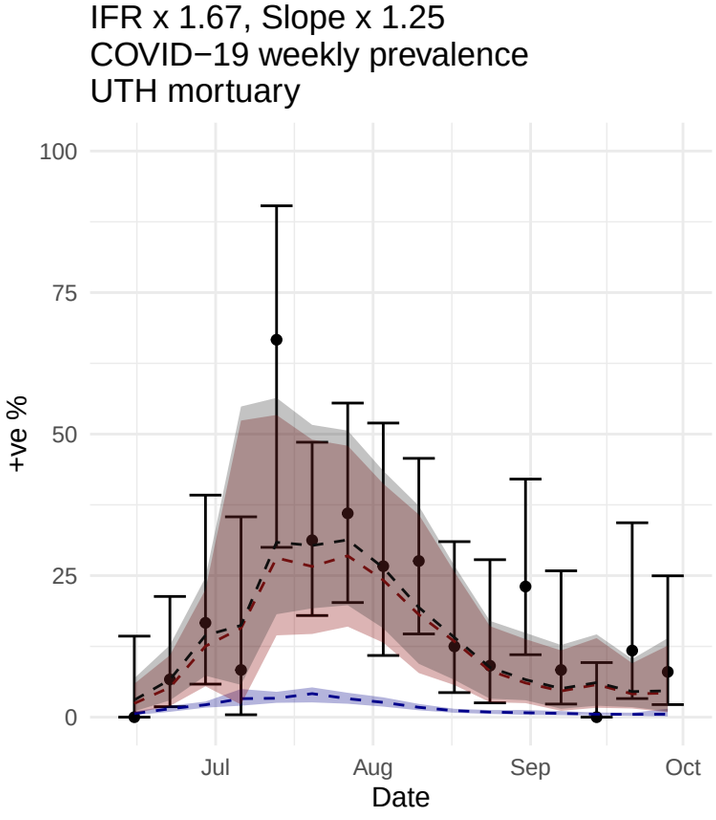

Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+

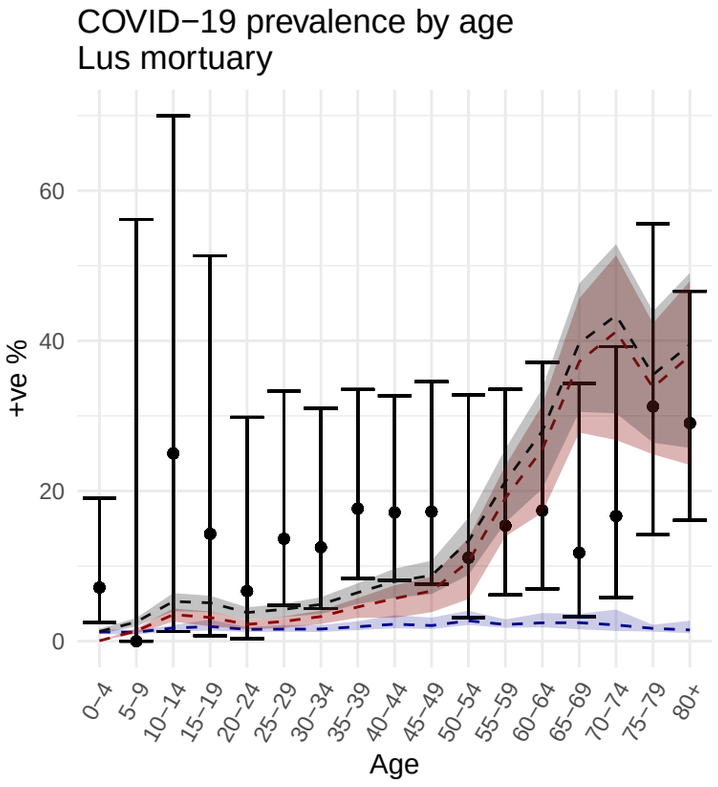

IFR x1.25, Slope x1.25
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.8
Age: 5−9; Pois ll = −34.6
Age: 10−14; Pois ll = −28.1
Age: 15−19; Pois ll = −34.9
Age: 20−24; Pois ll = −46.6
Age: 25−29; Pois ll = −42.7
Age: 30−34; Pois ll = −52.1
Age: 35−39; Pois ll = −49.9
Age: 40−44; Pois ll = −48.5
Age: 45−49; Pois ll = −51.4
Age: 50−54; Pois ll = −48.5
Age: 55−59; Pois ll = −44.5
Age: 60−64; Pois ll = −43.9
Age: 65−69; Pois ll = −41.9
Age: 70−74; Pois ll = −41.4
Age: 75−79; Pois ll = −43.5
Age: 80+; Pois ll = −47.6
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

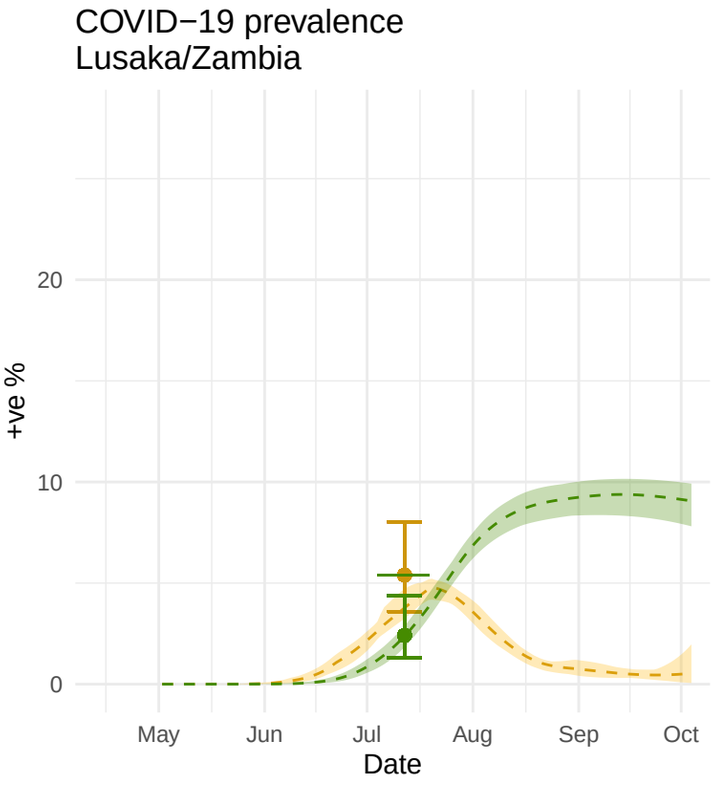
IFR x 1.25, Slope x 1.25

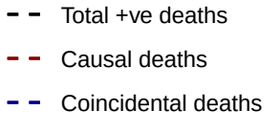
COVID−19 excess mortality: Comparison of MCMC results with squire results

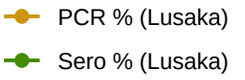


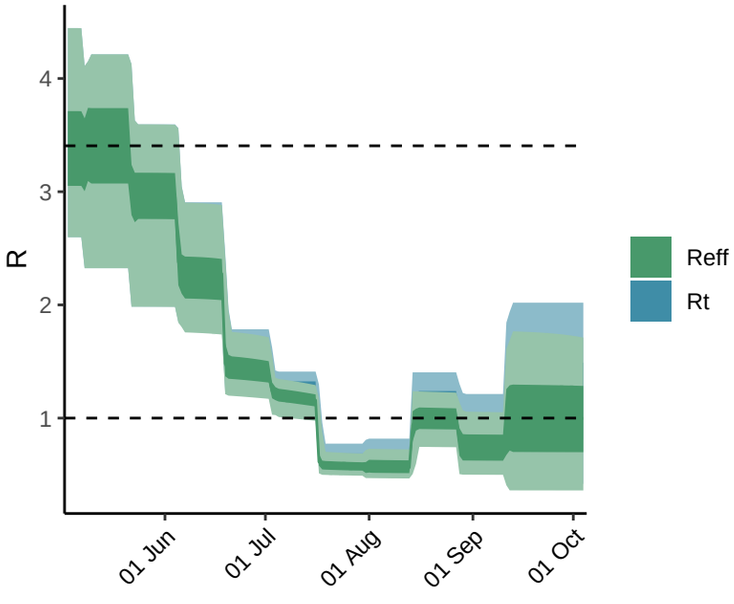

IFR x 1.67, Slope x 1.25
COVID−19 weekly prevalence
UTH mortuary
+ve %
Date
Jul
Aug
Sep
Oct


COVID−19 prevalence by age
Lus mortuary
+ve %
Age
0−4
5−9
10−14
15−19
20−24
25−29
30−34
35−39
40−44
45−49
50−54
55−59
60−64
65−69
70−74
75−79
80+

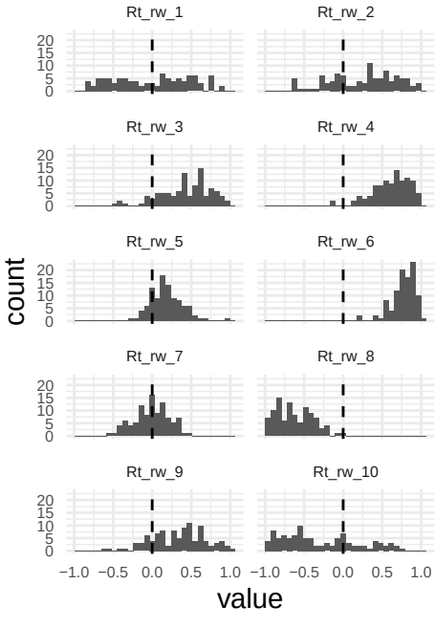

COVID−19 prevalence
Lusaka/Zambia
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct

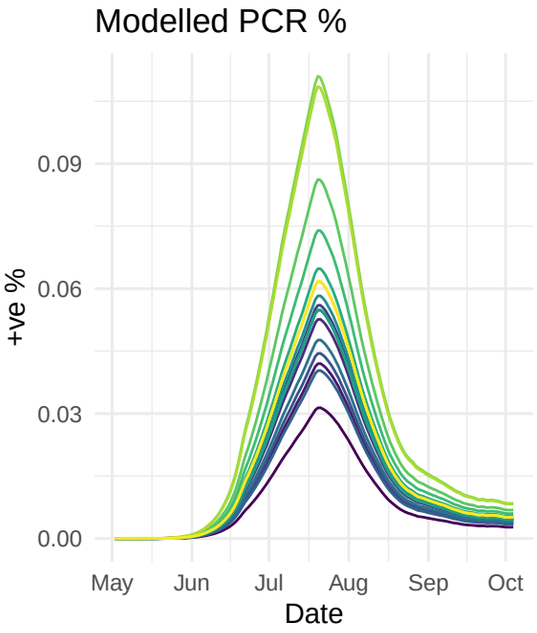

Total +ve deaths
Causal deaths
Coincidental deaths

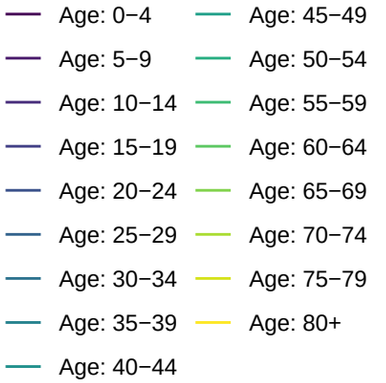

PCR % (Lusaka)
Sero % (Lusaka)

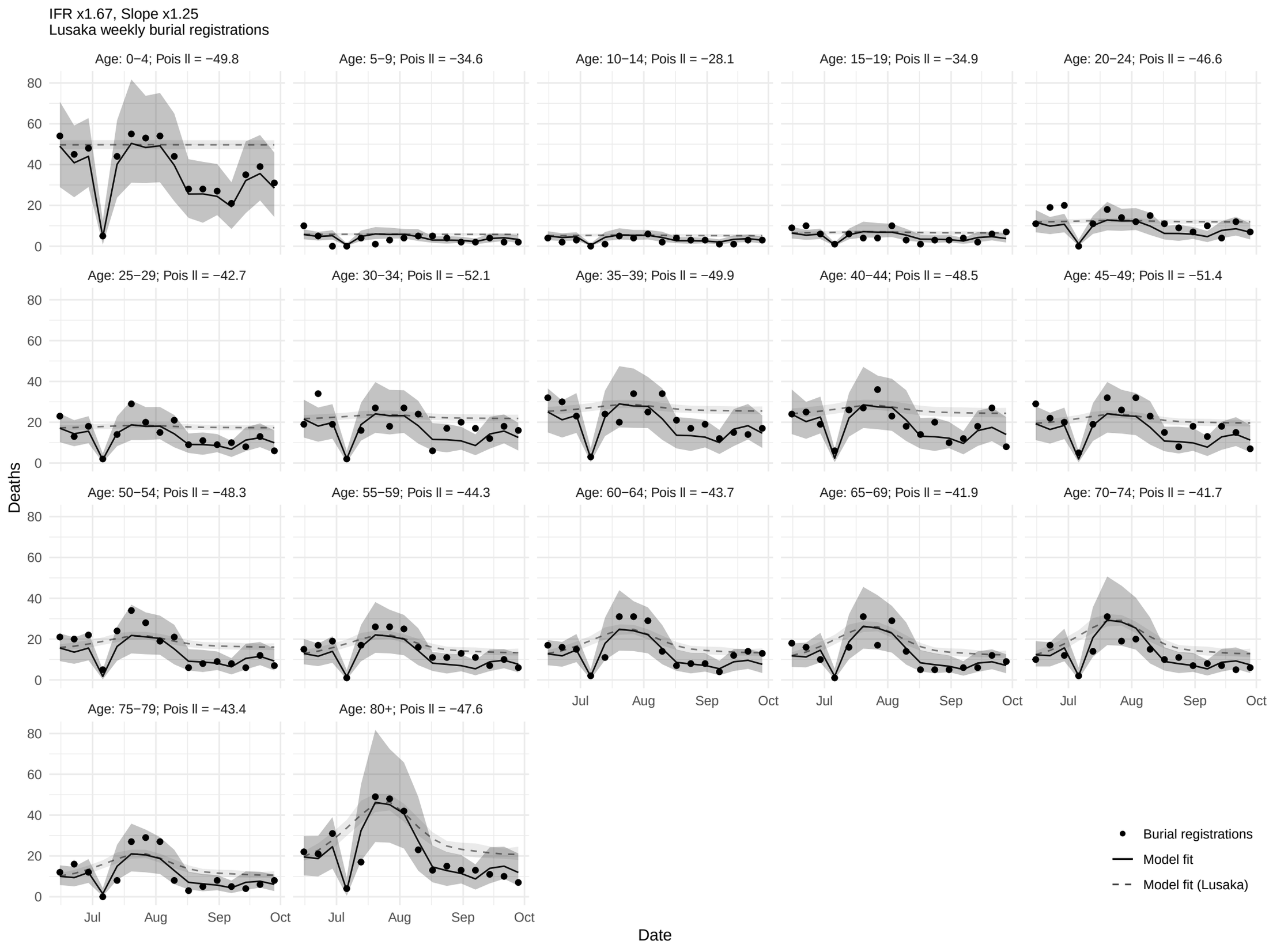
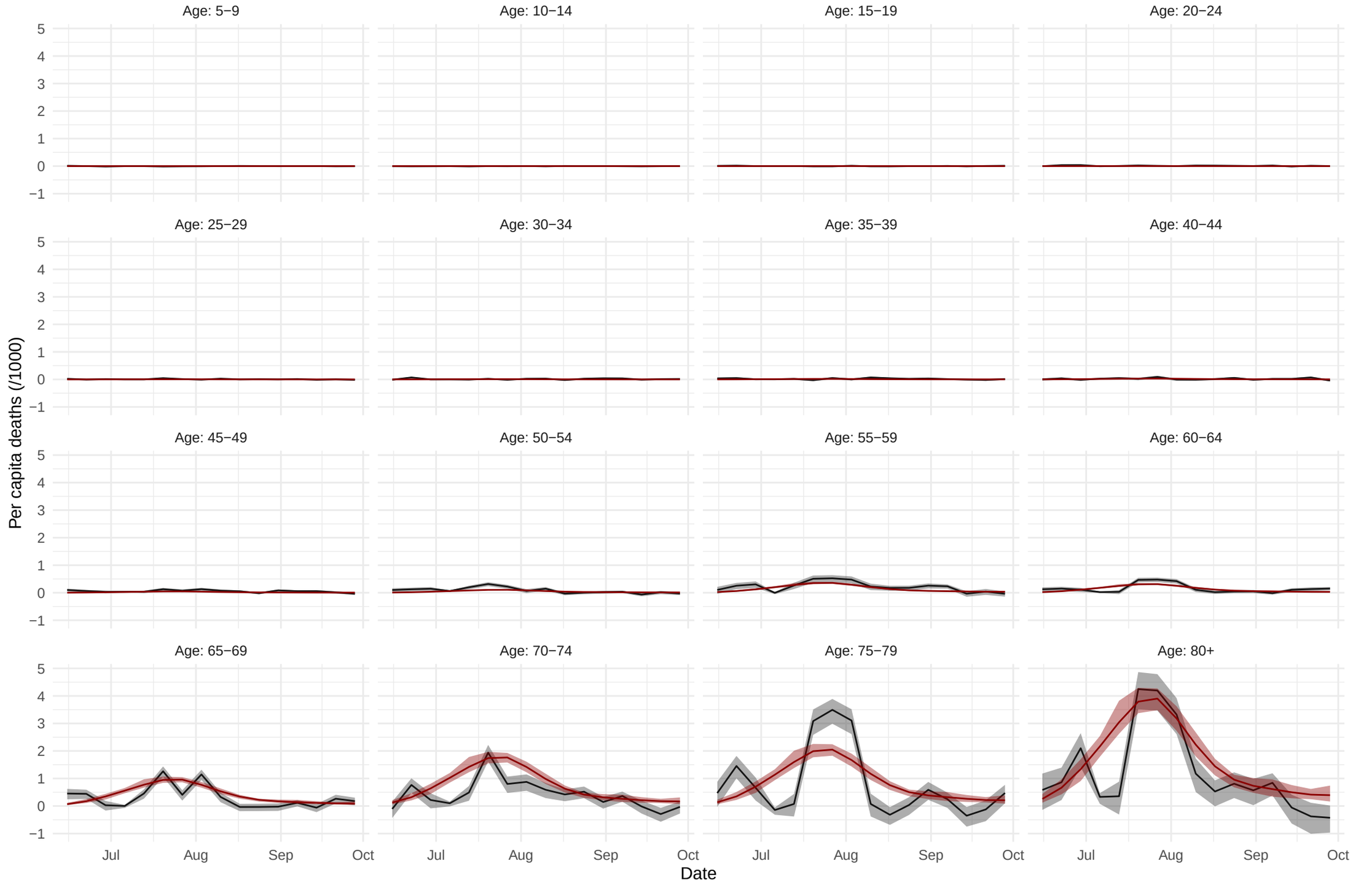

R
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct

Reff
Rt


Rt_rw_1
Rt_rw_2
Rt_rw_3
Rt_rw_4
Rt_rw_5
Rt_rw_6
Rt_rw_7
Rt_rw_8
Rt_rw_9
Rt_rw_10
count
value


Modelled PCR %
+ve %
Date
May
Jun
Jul
Aug
Sep
Oct


Age: 0−4
Age: 5−9
Age: 10−14
Age: 15−19
Age: 20−24
Age: 25−29
Age: 30−34
Age: 35−39
Age: 40−44
Age: 45−49
Age: 50−54
Age: 55−59
Age: 60−64
Age: 65−69
Age: 70−74
Age: 75−79
Age: 80+


IFR x1.67, Slope x1.25
Lusaka weekly burial registrations
Age: 0−4; Pois ll = −49.8
Age: 5−9; Pois ll = −34.6
Age: 10−14; Pois ll = −28.1
Age: 15−19; Pois ll = −34.9
Age: 20−24; Pois ll = −46.6
Age: 25−29; Pois ll = −42.7
Age: 30−34; Pois ll = −52.1
Age: 35−39; Pois ll = −49.9
Age: 40−44; Pois ll = −48.5
Age: 45−49; Pois ll = −51.4
Age: 50−54; Pois ll = −48.3
Age: 55−59; Pois ll = −44.3
Age: 60−64; Pois ll = −43.7
Age: 65−69; Pois ll = −41.9
Age: 70−74; Pois ll = −41.7
Age: 75−79; Pois ll = −43.4
Age: 80+; Pois ll = −47.6
Deaths
0
20
40
60
80
Jul
Aug
Sep
Oct
Date
Burial registrations
Model fit
Model fit (Lusaka)

IFR x 1.67, Slope x 1.25
COVID−19 excess mortality: Comparison of MCMC results with squire results