

Country Summary: Pakistan

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1 Intro

These estimates are created using the BB8 model with Admin 1 estimates using a RW1xICAR interaction model with area-specific random slopes.

Pakistan has 8 Admin 1 areas.

All uncertainty intervals displayed in subsequent figures are 95% intervals.

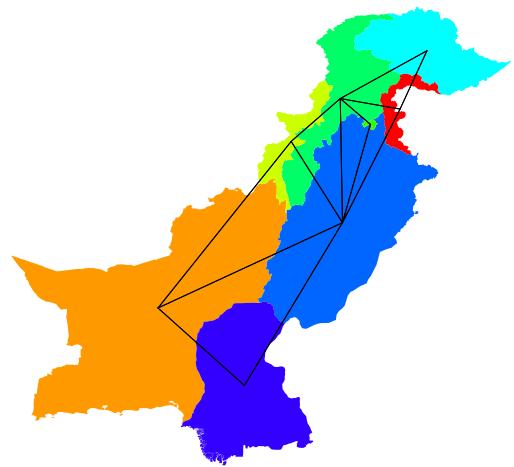


Figure 1: Top: The neighborhood structure of Admin 1 areas. Bottom: The names of Admin 1 areas.

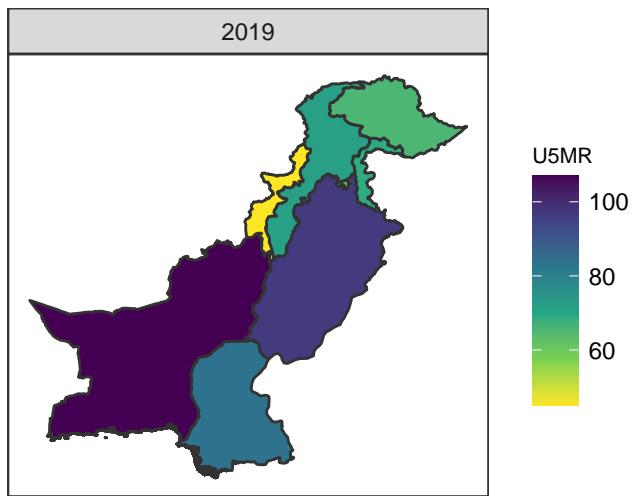
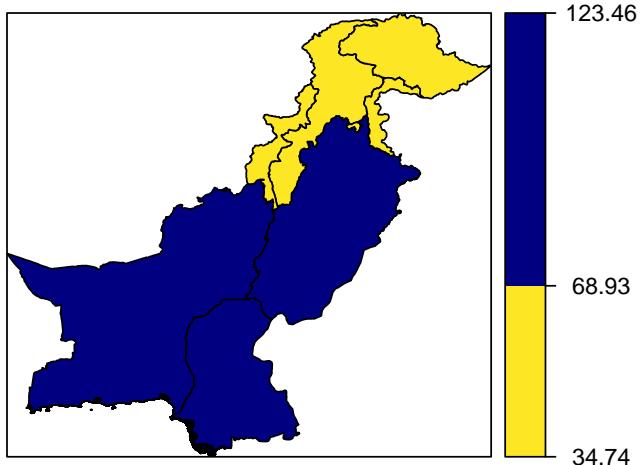


Figure 2: Median estimates of U5MR (deaths per 1000 children) in 2019.

ATCP = 0.82



ATCP = 0.70

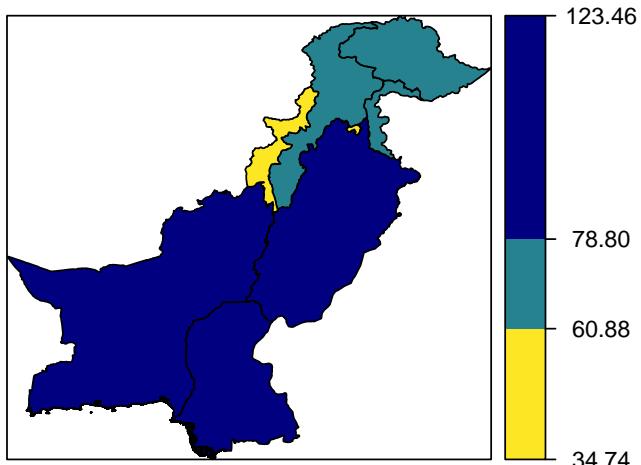


Figure 3: Expression of uncertainty of U5MR (deaths per 1000 children) based on the average true classification probability (ATCP) in 2019.

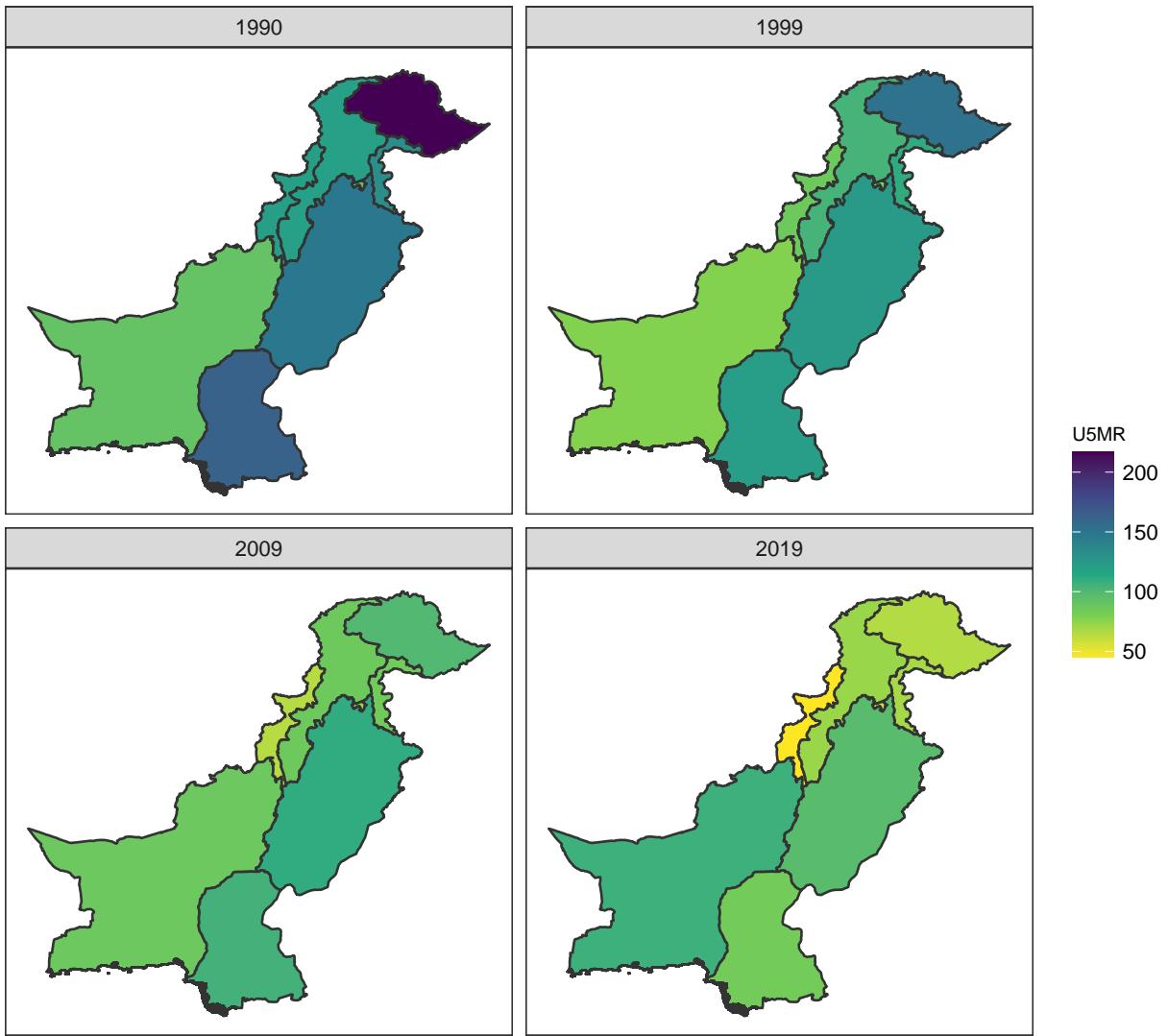


Figure 4: Median estimates for selected years.

Pakistan

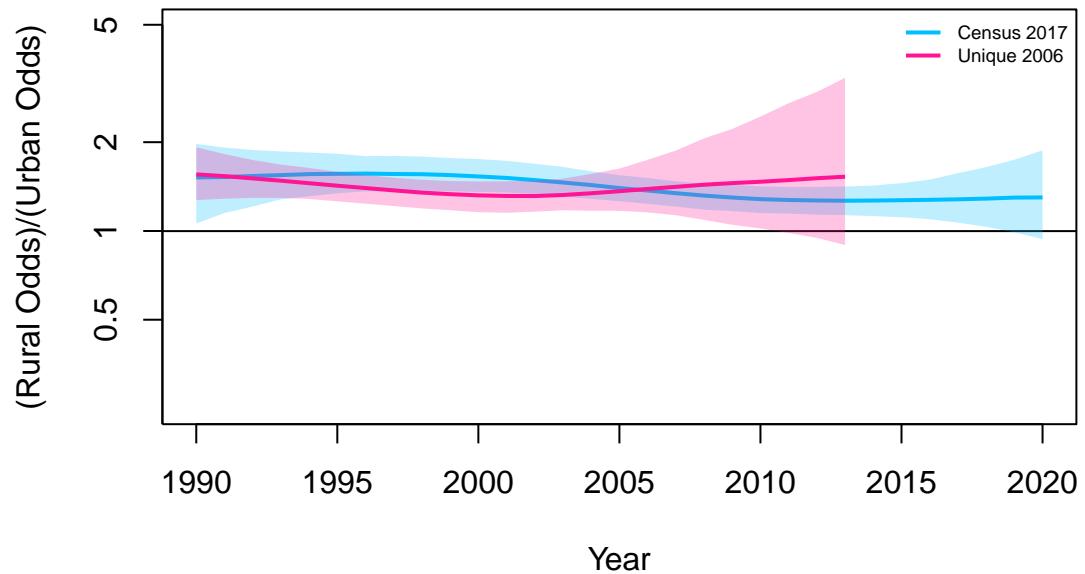
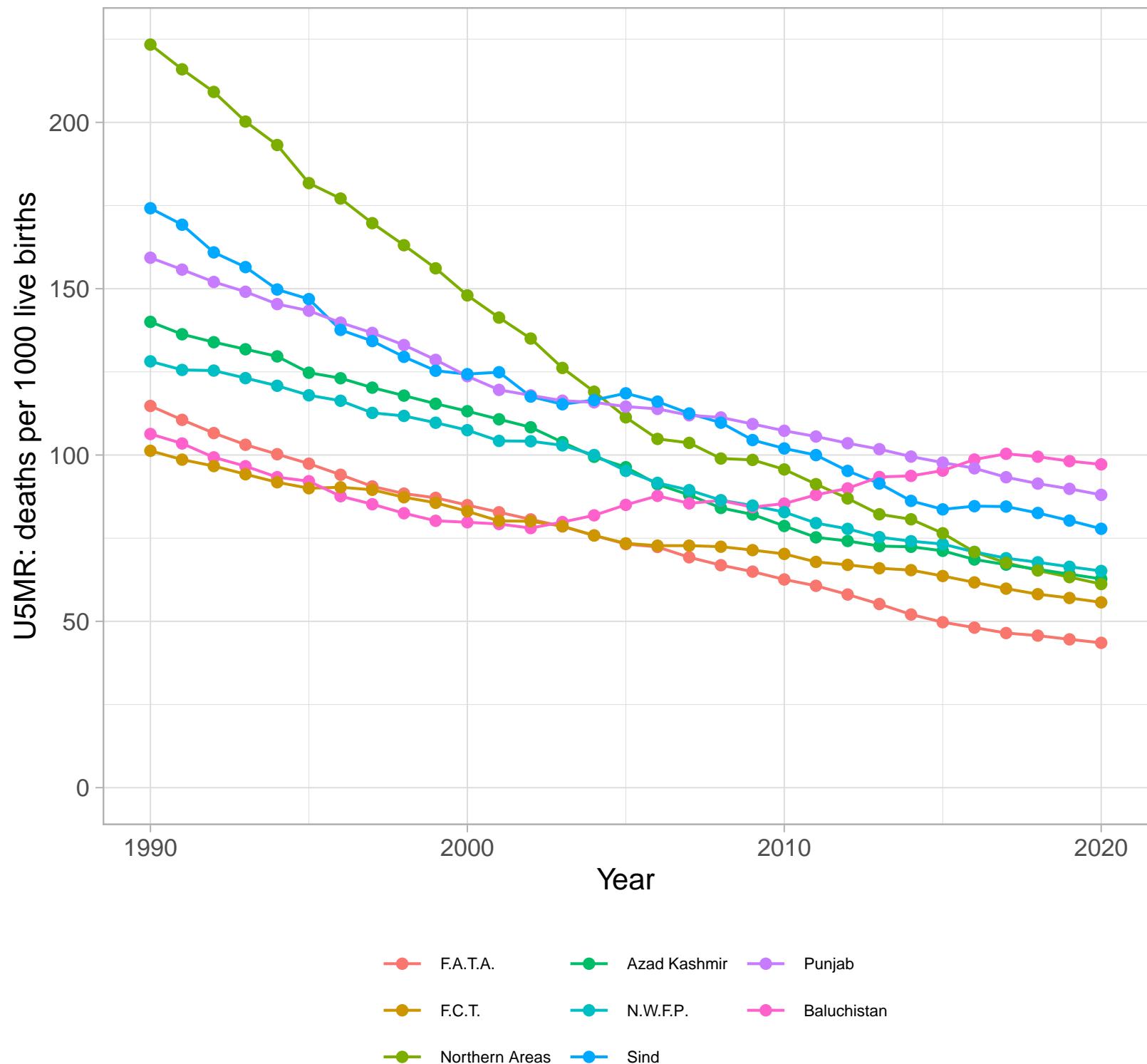


Figure 5: Ratio of odds of Rural U5MR to odds of Urban U5MR, by sampling frame.

Pakistan



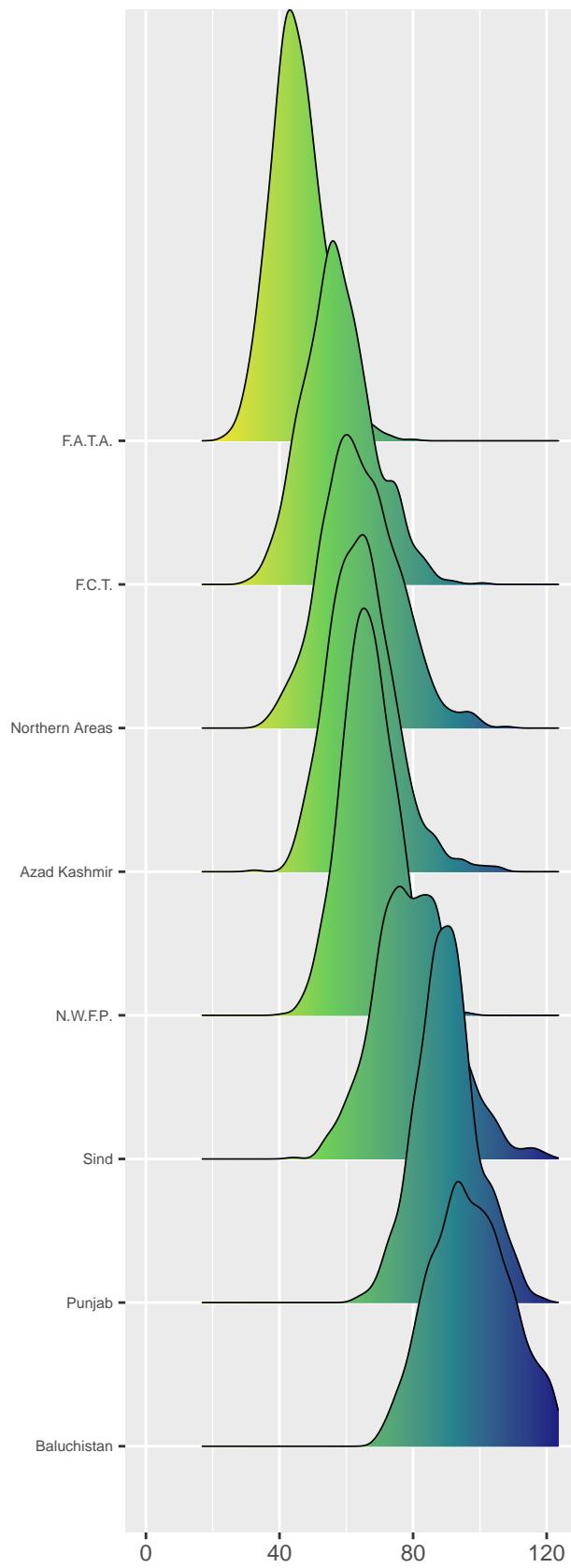


Figure 6: Posterior distributions of U5MR (deaths per 1000 children) in 2019. Areas are ordered by median estimated U5MR in 2019.

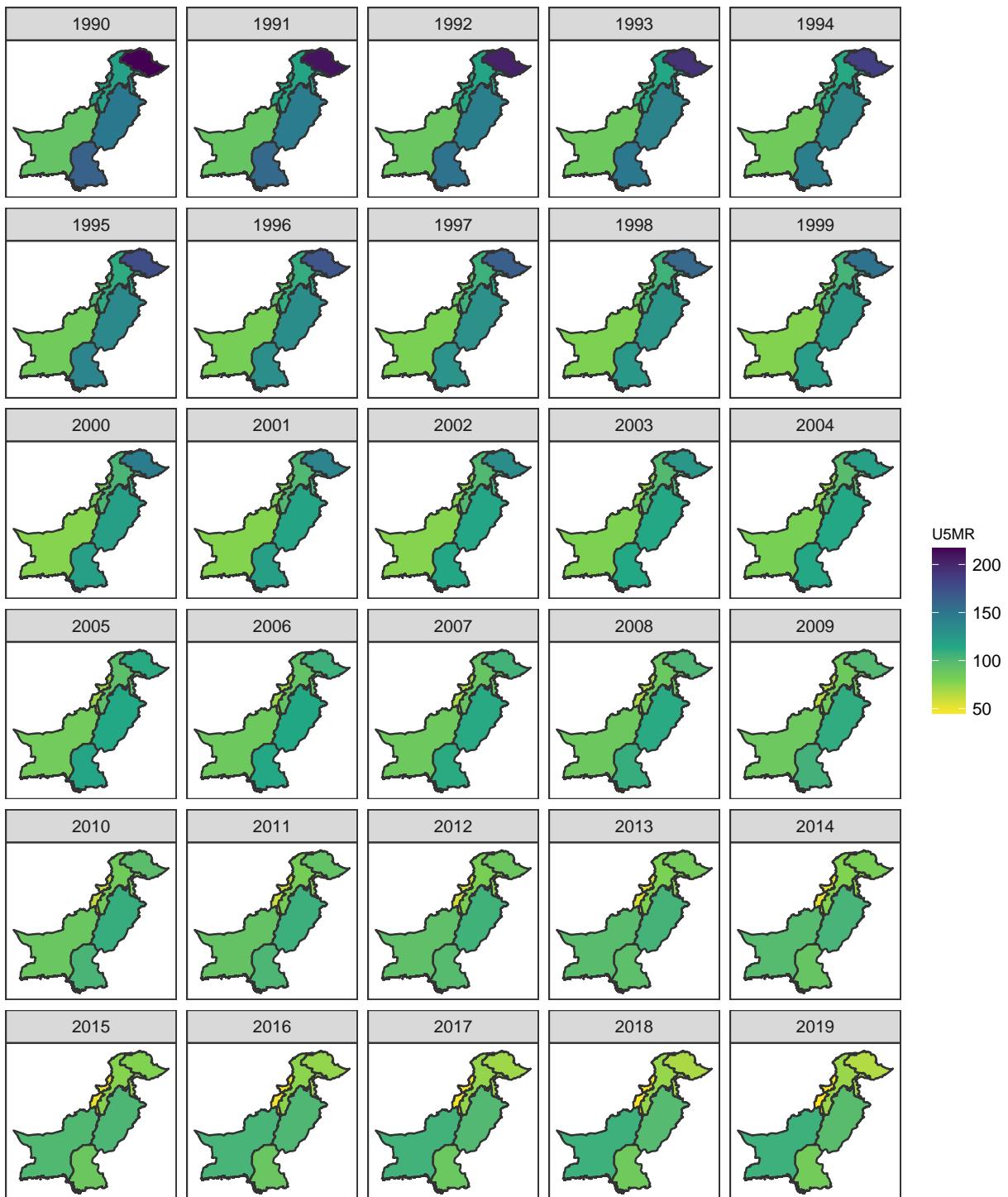


Figure 7: Posterior medians of U5MR (deaths per 1000 births) by Admin 1 area and year.

2 National Survey Data

Survey	Urban	Rural	Total
2006-07	384	571	955
2017-18	282	278	560

Table 1: Number of clusters by urban/rural designation by survey for Pakistan.

Age	No. Deaths	No. Agemonths
0	2098	49782
1-11	958	504359
12-23	267	518735
24-35	97	490437
36-47	49	461608
48-59	33	432843

Table 2: Numbers of agemonths and deaths by age for DHS 2017-18.

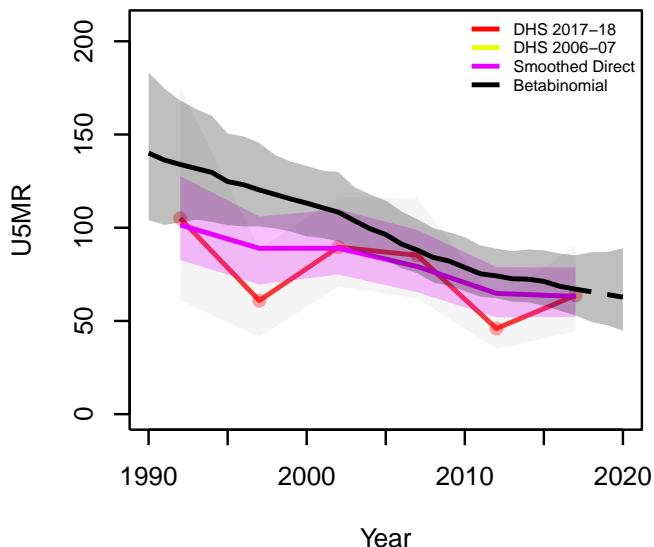
Age	No. Deaths	No. Agemonths
0	1681	29692
1-11	746	298326
12-23	185	314447
24-35	88	306293
36-47	41	294704
48-59	43	284246

Table 3: Numbers of agemonths and deaths by age for DHS 2006-07.

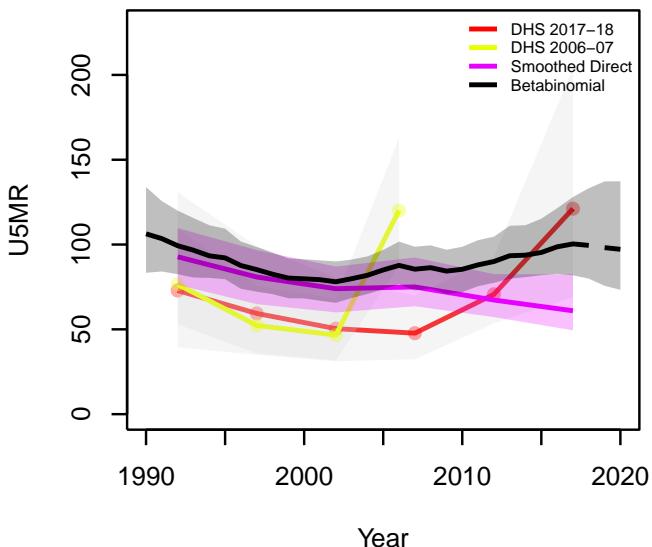
3 Admin 1 Figures

The following few pages have estimates by area across time with underlying data included. There are six admin areas per page, they are ordered by increasing median U5MR in the year 2019. Colored lines with circular points and light grey uncertainty bands are 5-year survey-weighted estimates of U5MR for years 1990–1994 up to 2015–2019 depending on survey timing. For a survey that ends in the middle of a 5-year period, we plot the estimates at the mid-point of the years in that interval for which the survey provides data. Black lines and corresponding intervals represent posterior medians and 95% uncertainty intervals respectively for the betabinomial model. IHME’s estimates and corresponding intervals, where we can compare, are in aquamarine.

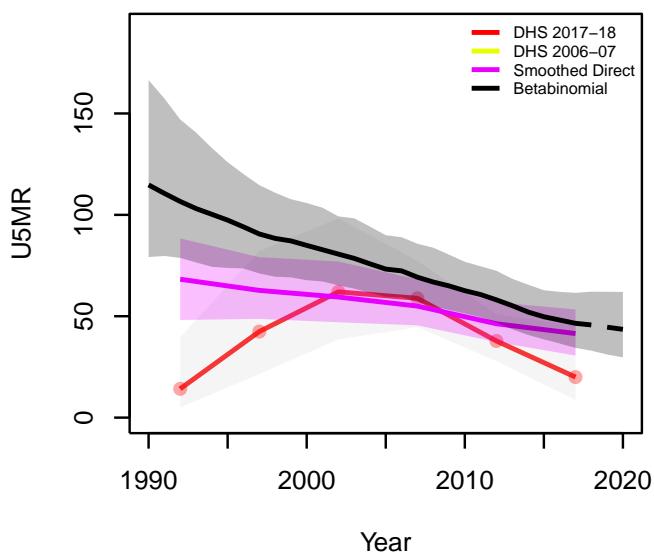
Azad Kashmir



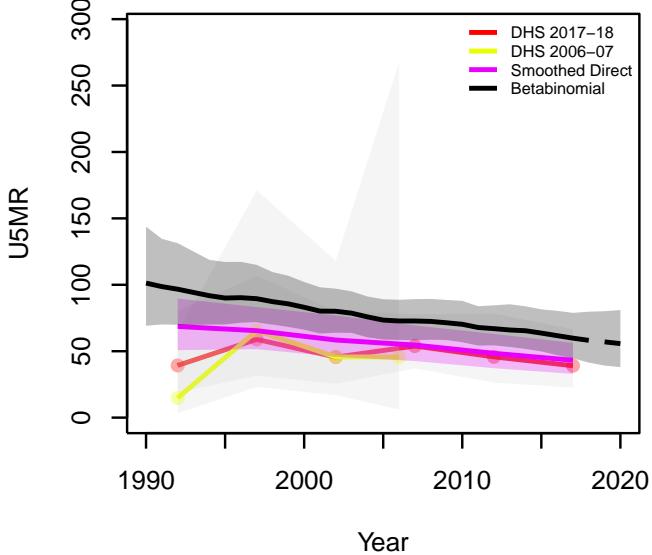
Baluchistan



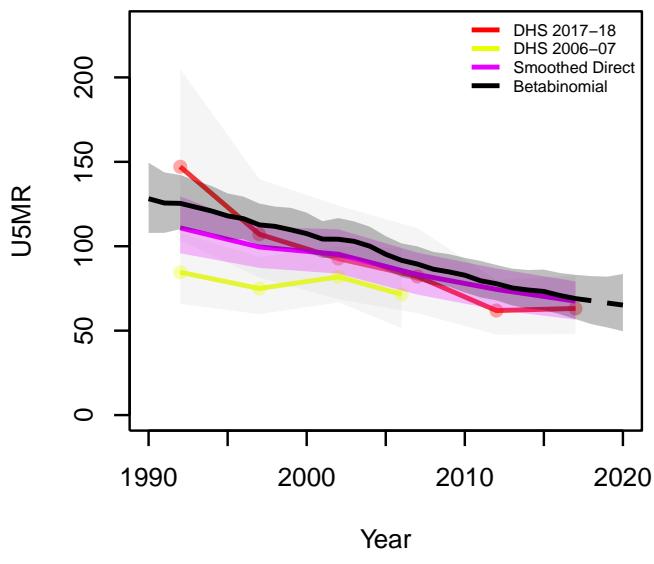
F.A.T.A.



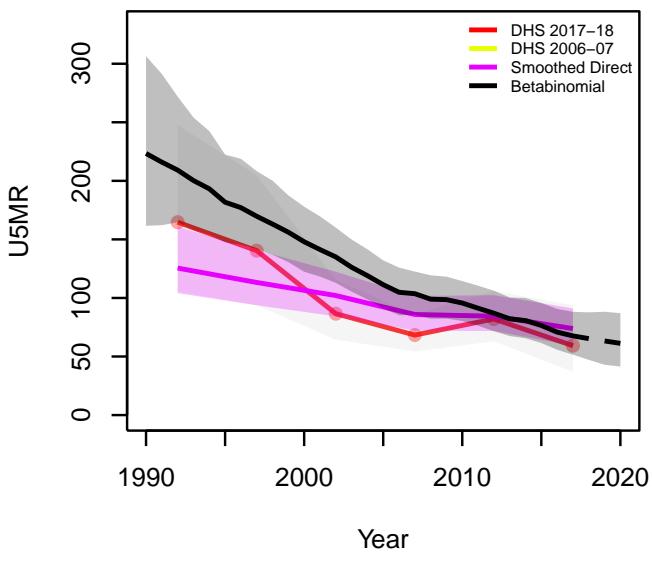
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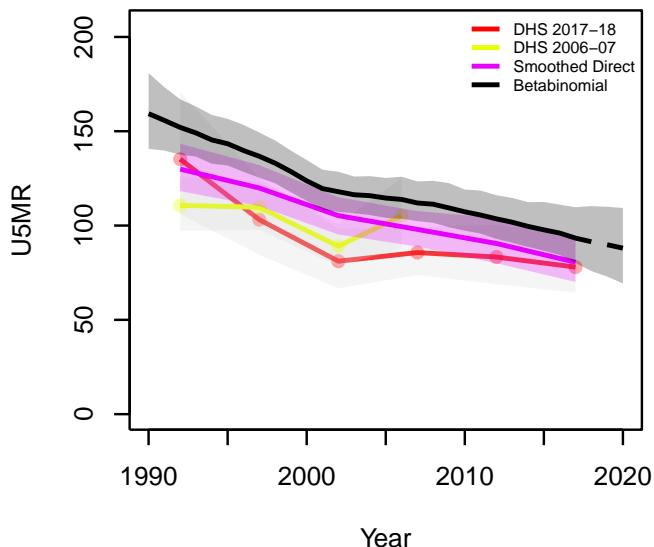
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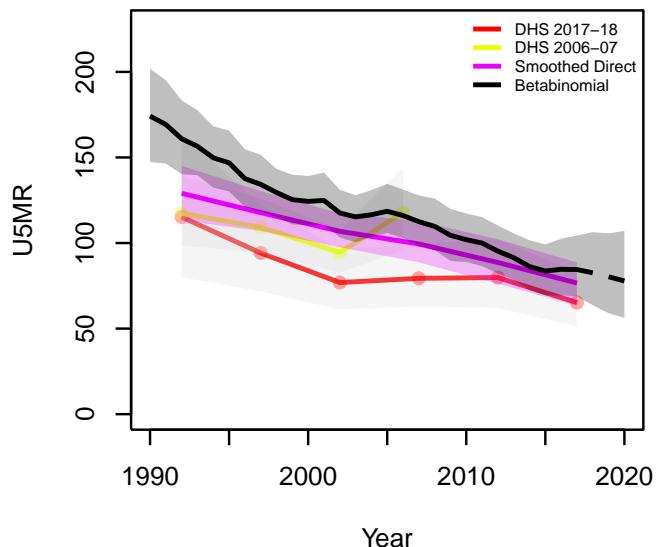
Northern Areas



Punjab



Sindh



4 National Figures and Results

	Median	Interval	Median-	Bench	Interval
0	47.20	(45.1,49.3)	57.00		(54.6,59.6)
1-11	2.00	(1.9,2.2)	2.50		(2.3,2.6)
12-23	0.50	(0.5,0.6)	0.70		(0.6,0.7)
24-35	0.20	(0.2,0.3)	0.30		(0.2,0.3)
36-47	0.10	(0.1,0.1)	0.10		(0.1,0.2)
48-59	0.10	(0.1,0.1)	0.10		(0.1,0.2)

Table 4: Monthly hazards in terms of 1000 children by age band for national, unstratified model for Pakistan.

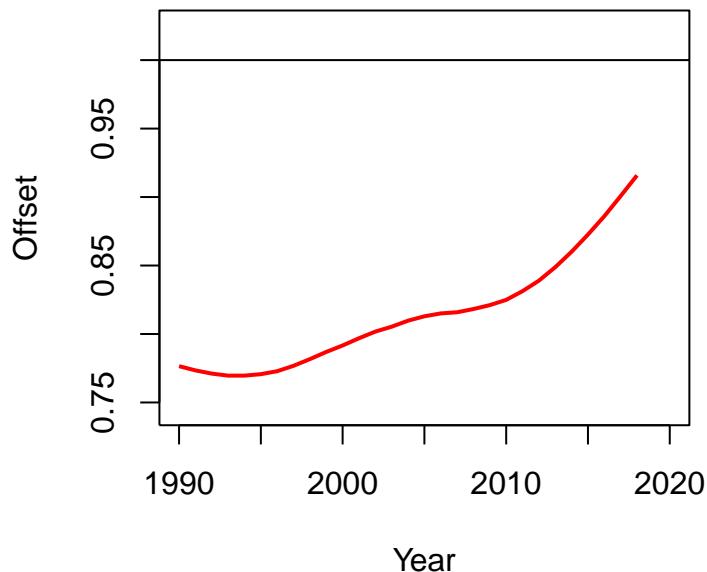


Figure 8: Benchmark offsets: $\text{BENCH}(t) = \text{U5MR}^*(t)/\text{U5MR}(t)$ where $\text{U5MR}^*(t)$ is modeled estimate and $\text{U5MR}(t)$ is UN-IGME estimate.

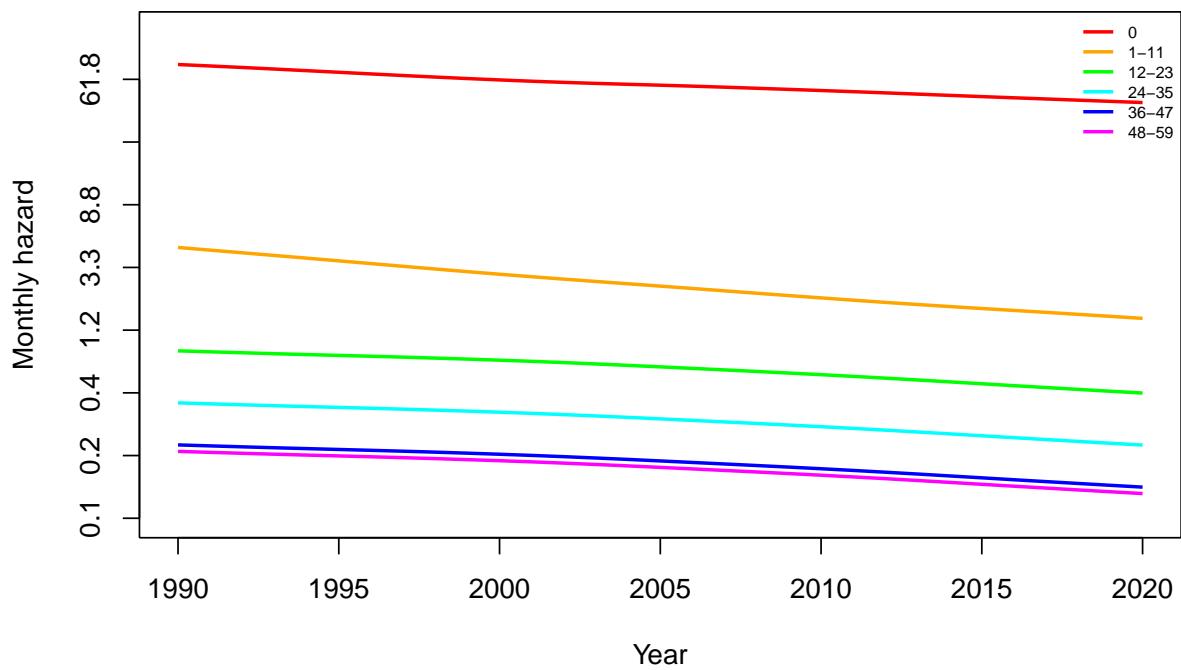


Figure 9: Monthly hazards of death in terms of U5MR (number deaths per 1000 children) by agebands.

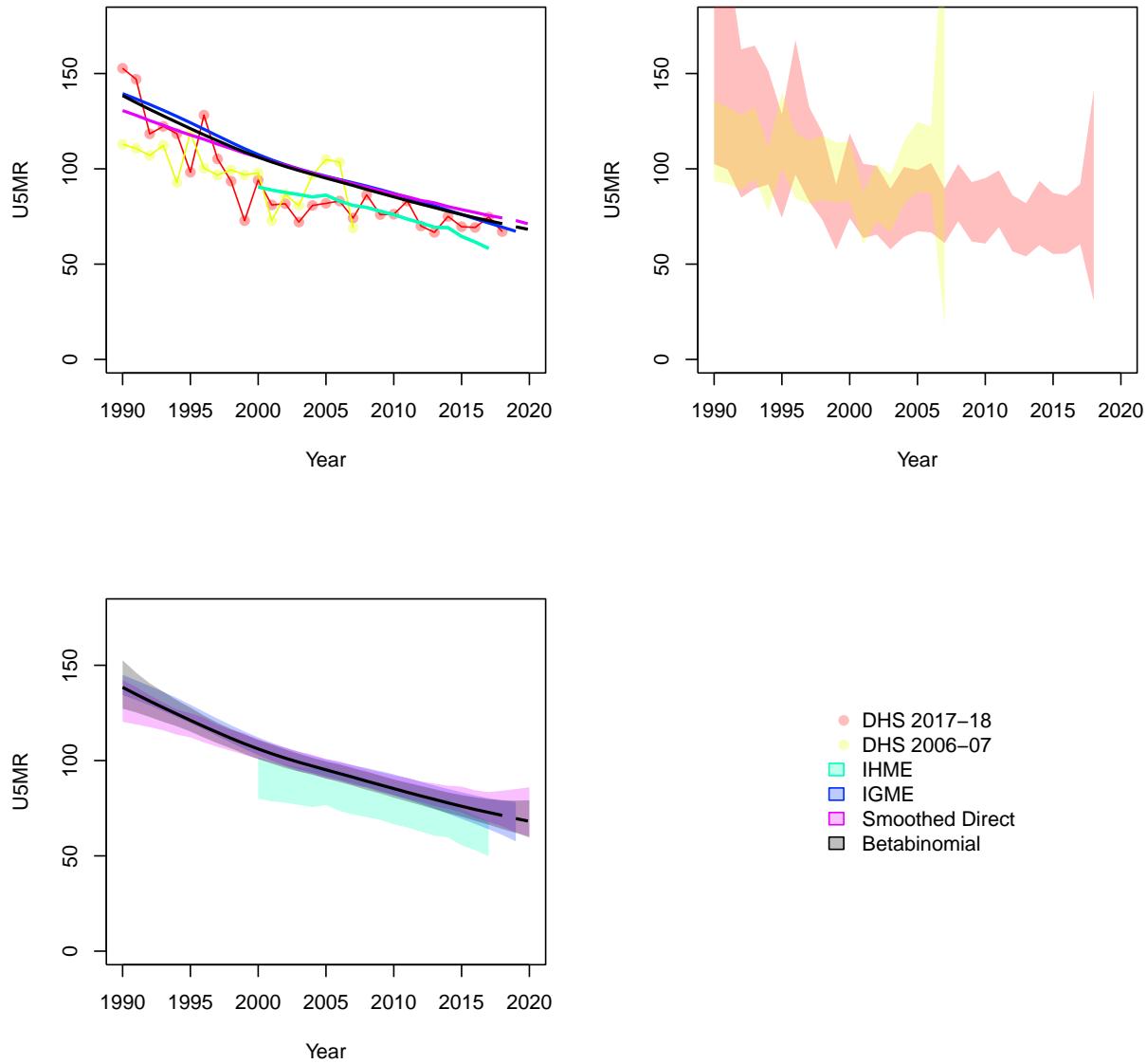


Figure 10: Benchmarked U5MR rates per 1000 live births. Top: DHS direct estimates with national trends from IHME GBD, UN-IGME, Smoothed Direct and Betabinomial estimates. Middle: 95% uncertainty intervals for DHS data. Bottom: IHME GBD, UN-IGME, Smoothed Direct and Betabinomial estimates with for the unstratified model. 95% uncertainty intervals