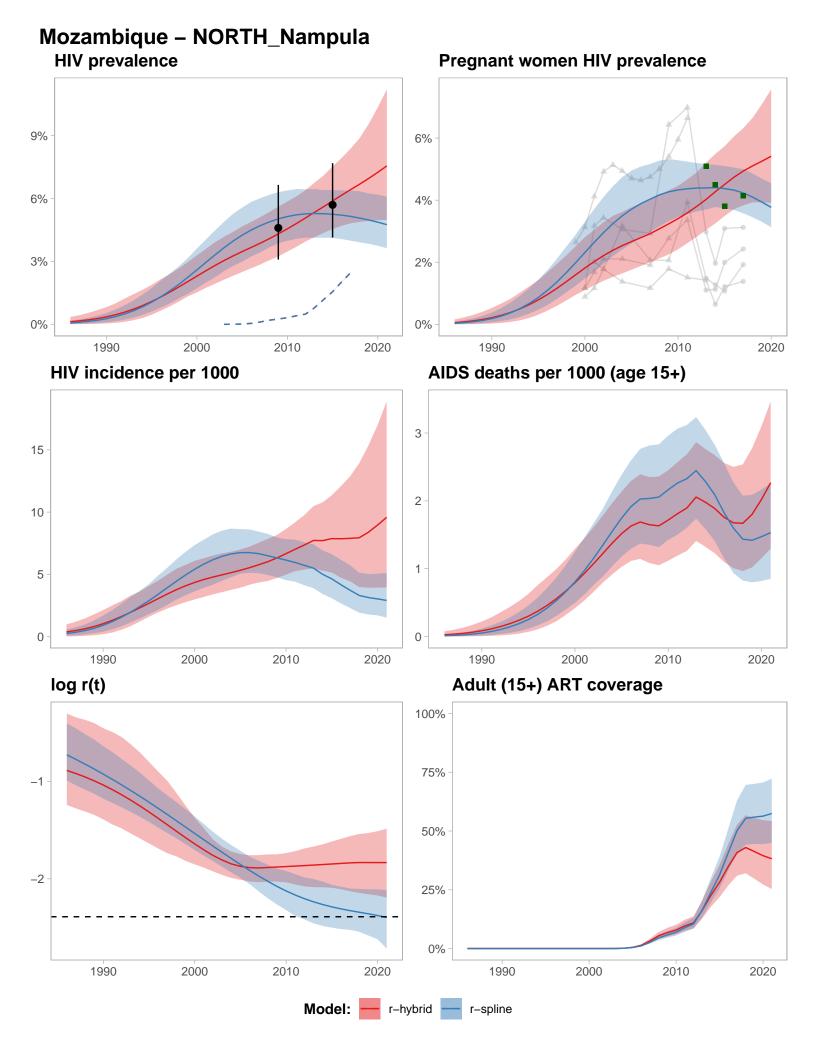
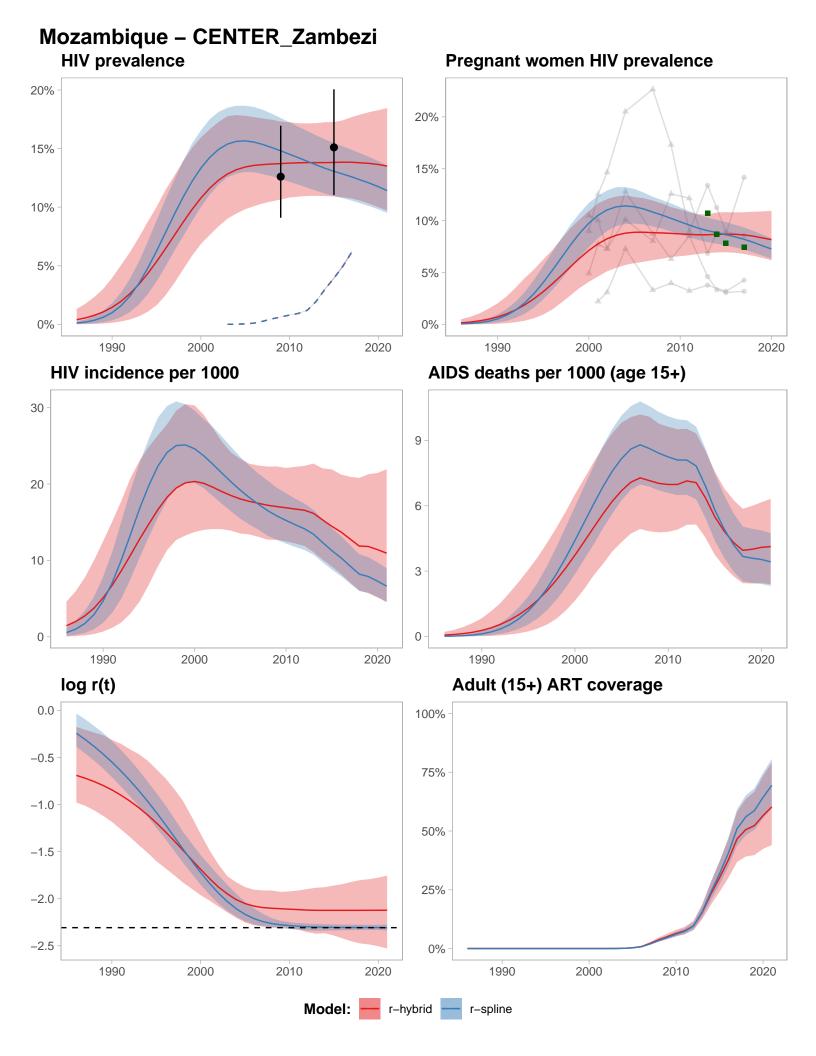


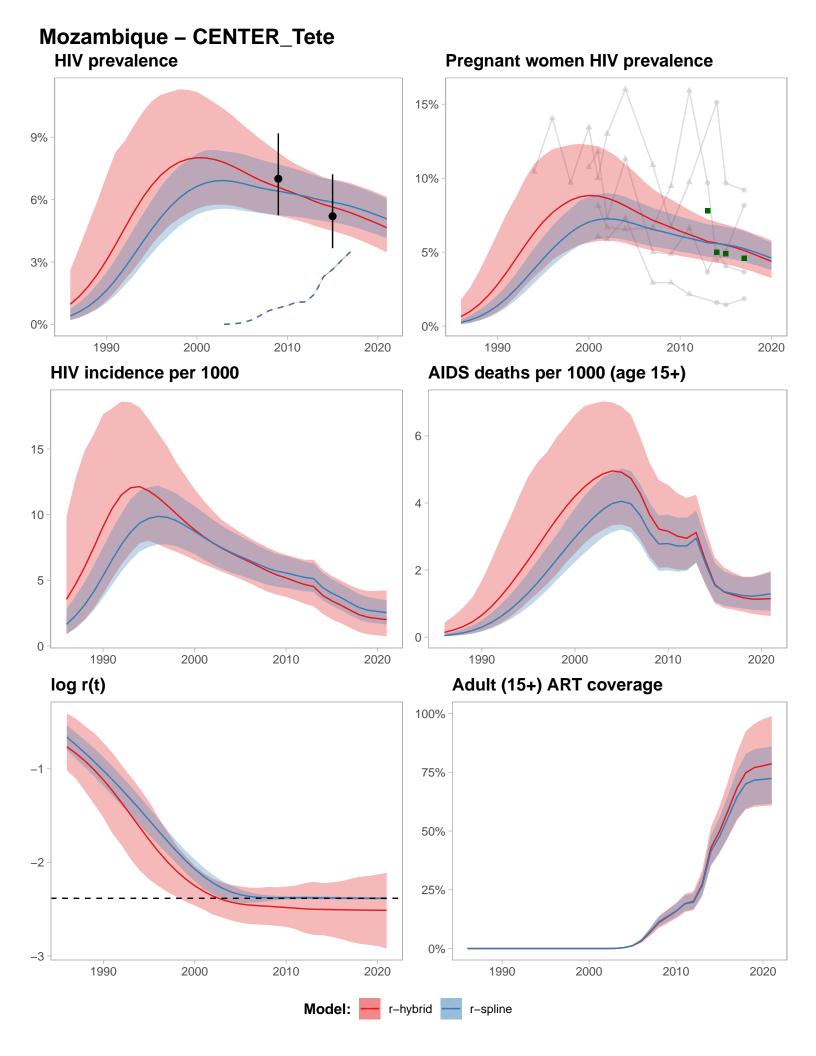
Mozambique - SOUTH_Maputo Provincia HIV prevalence Pregnant women HIV prevalence 30% 20% 20% 10% 10% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 40 10 30 20 5 10 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 0.0 75% -0.5-1.050% -1.525% -2.00% -2.51990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Mozambique - SOUTH_Maputo Cidade **HIV** prevalence **Pregnant women HIV prevalence** 20% 20% 15% 10% 10% 5% 0% 0% 1990 2000 2010 1990 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 20 4 10 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) -0.5100% -1.075% 50% -1.525% -2.0 0% -2.51990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

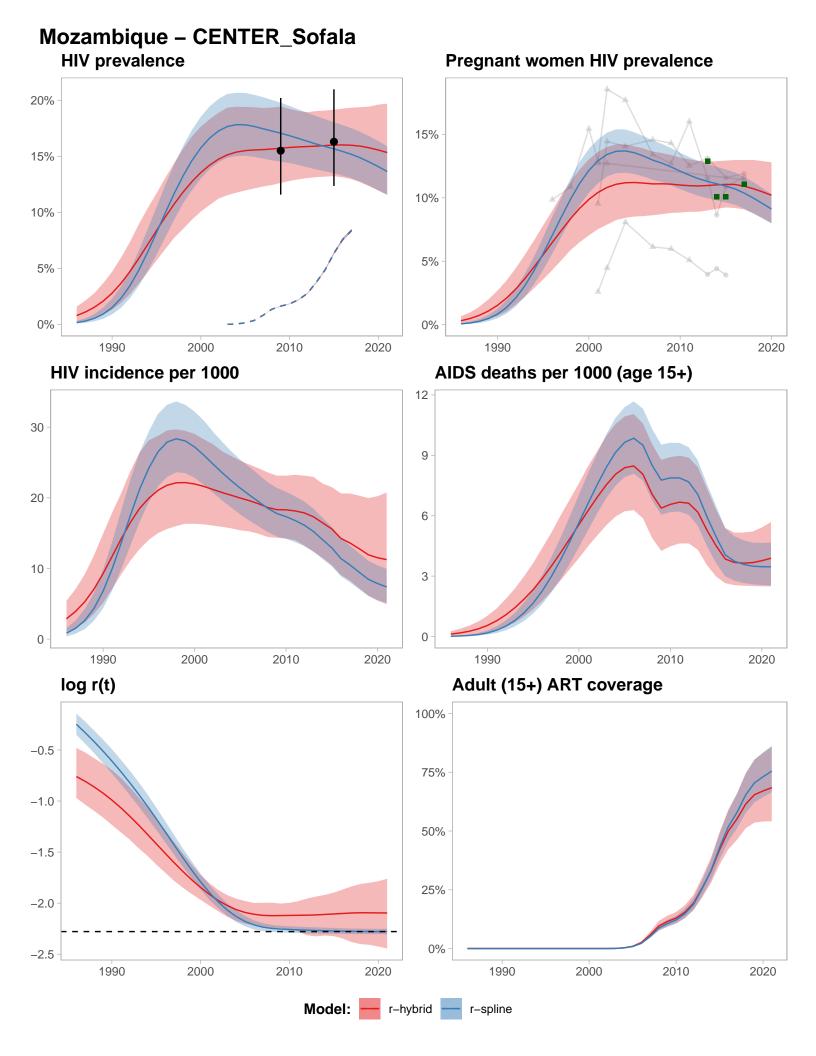
Mozambique - NORTH_Cabo Delgado **HIV** prevalence Pregnant women HIV prevalence 20% 8% 15% 5% 10% 2% 5% 0% 0% 2000 1990 2000 1990 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 8 6 20 4 10 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% 50% 25% -2 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

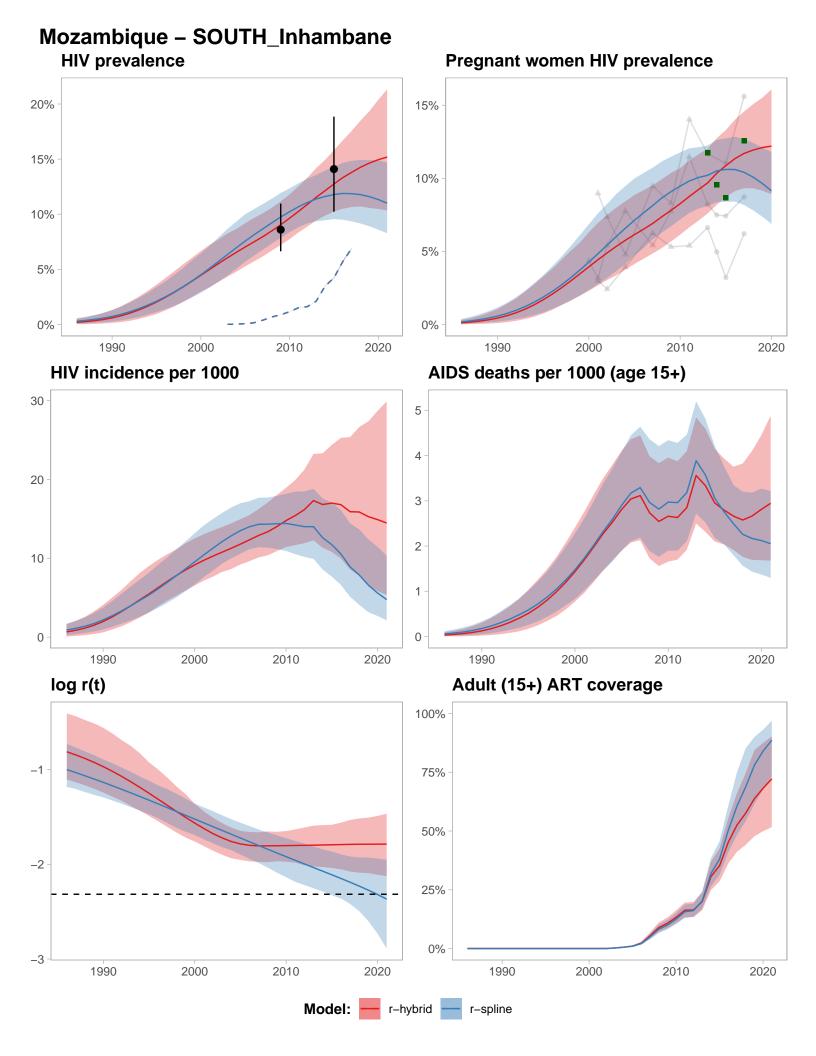


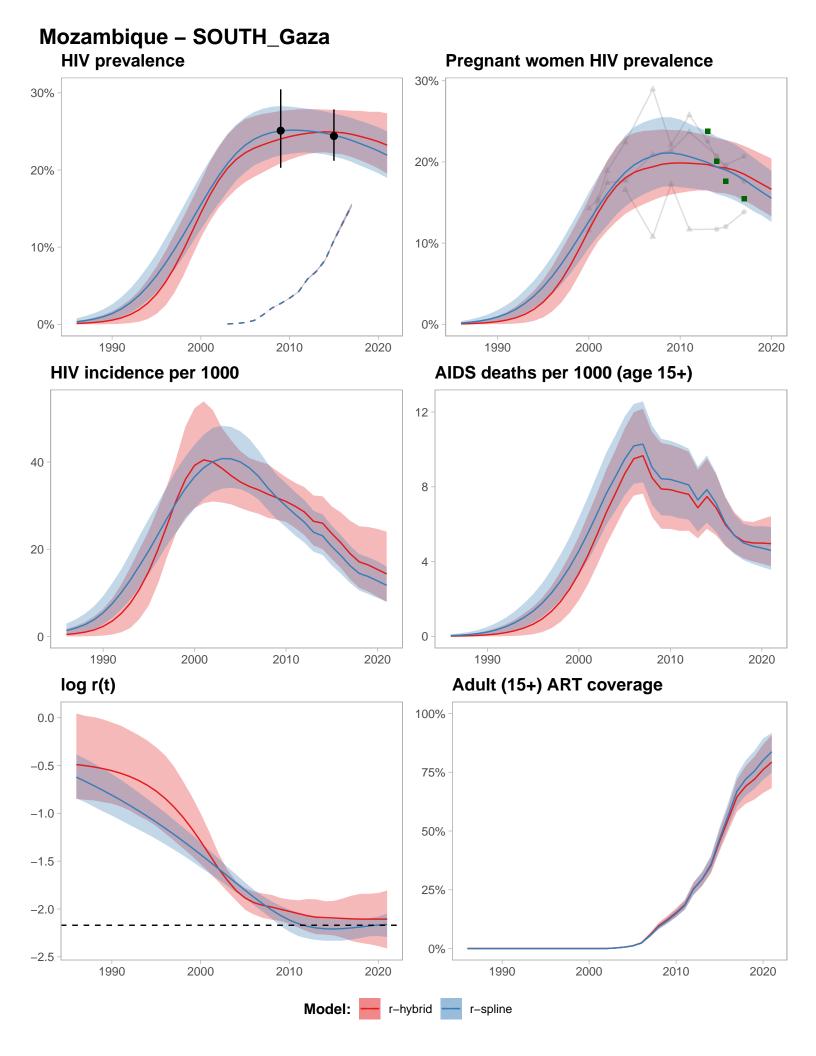


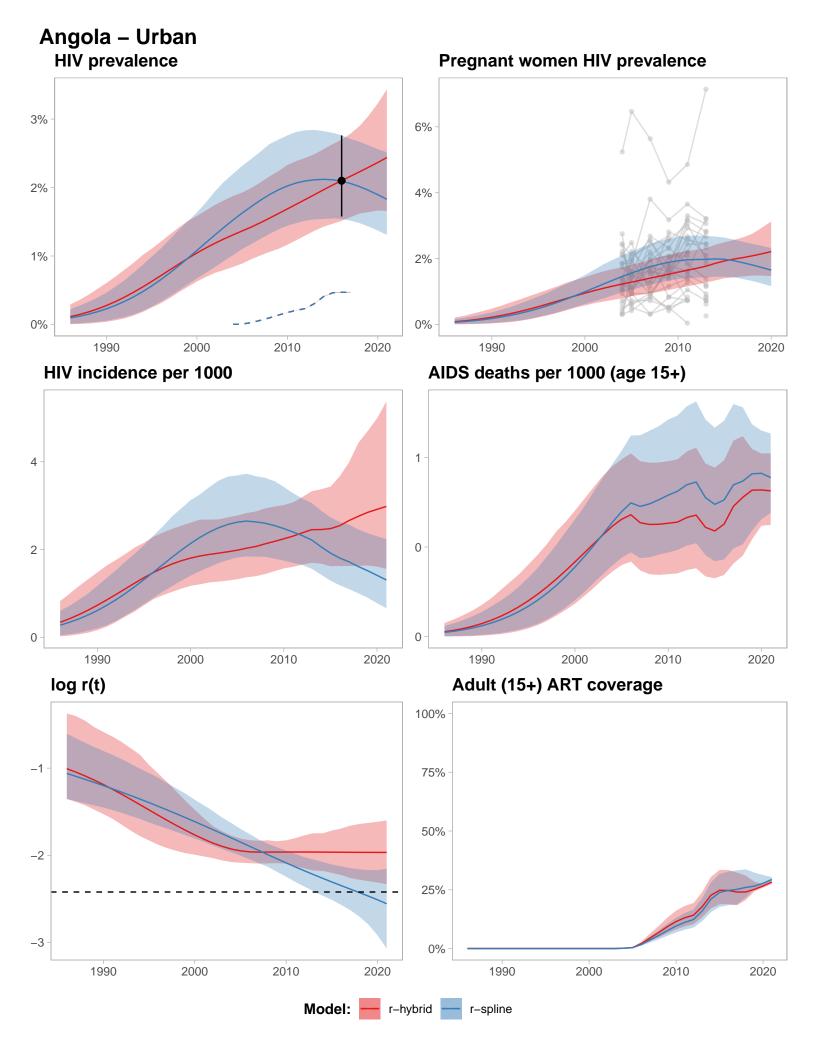


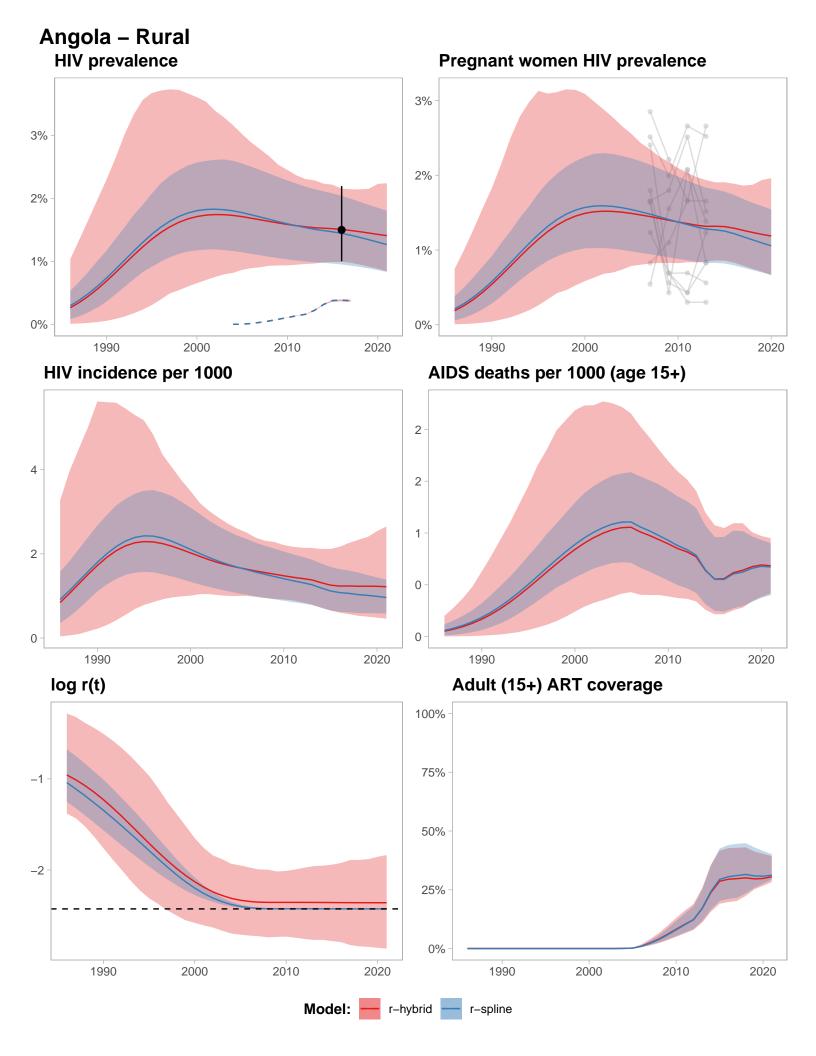
Mozambique - CENTER_Manica Pregnant women HIV prevalence **HIV** prevalence 20% 20% 15% 15% 10% 10% 5% 5% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 12 30 8 20 10 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

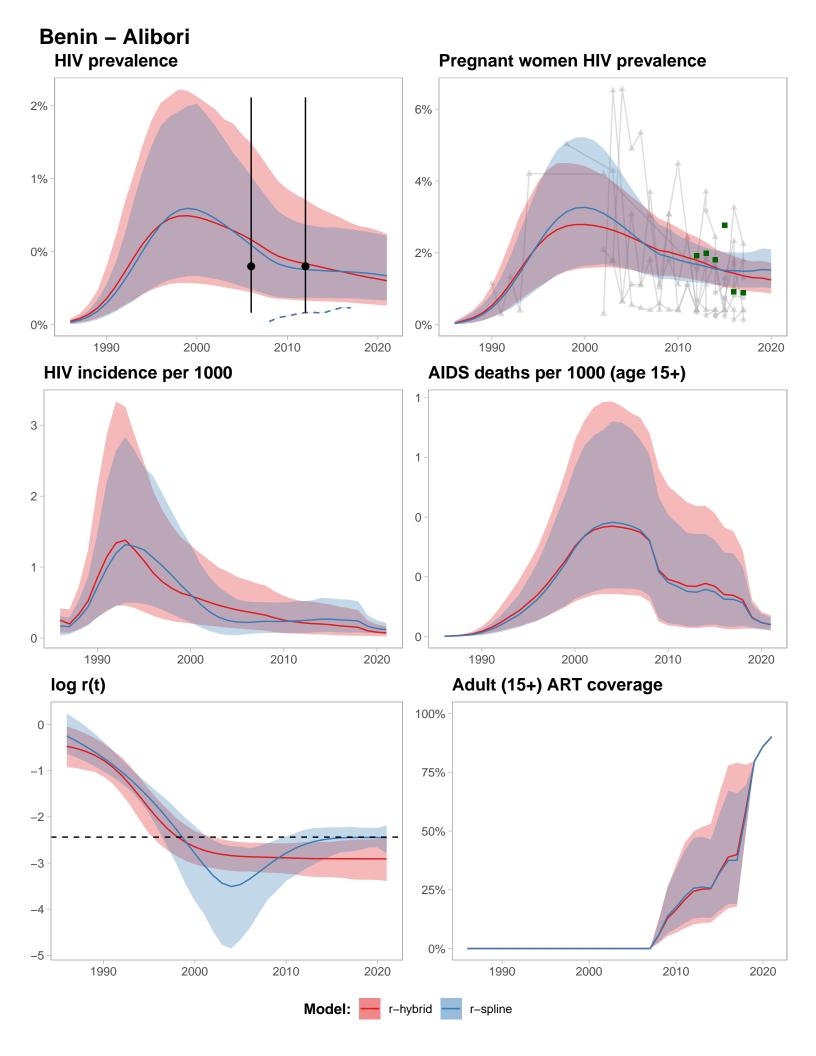


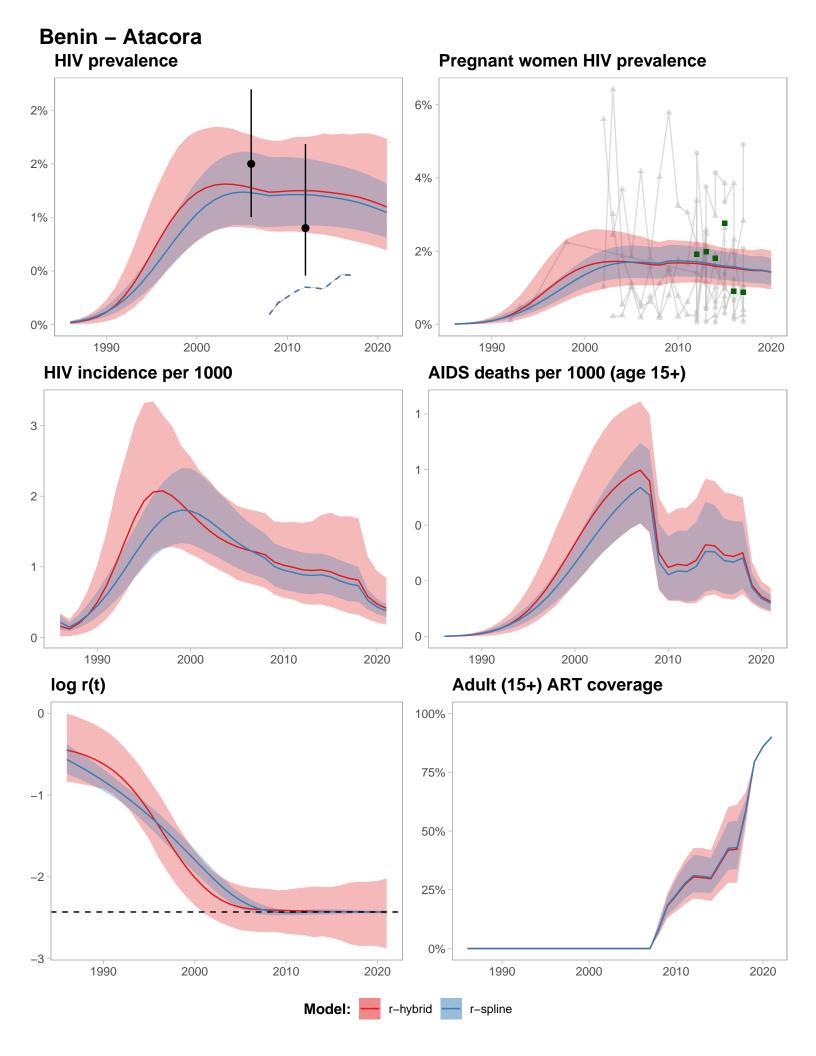




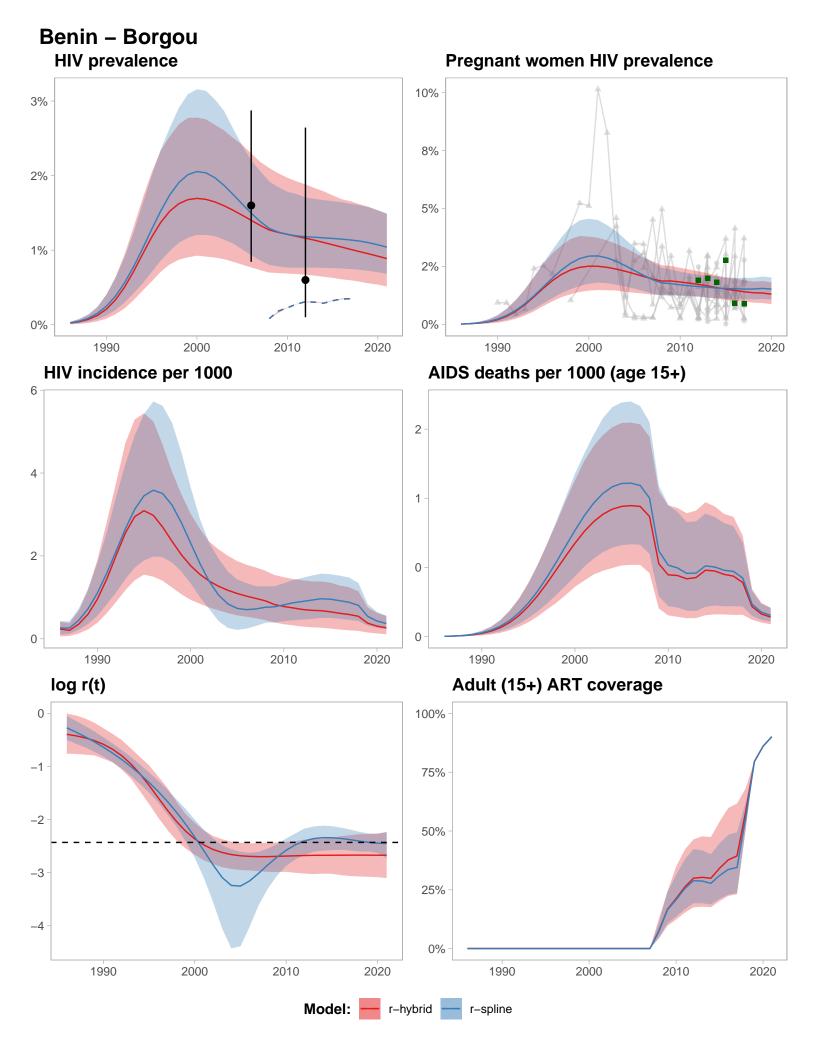




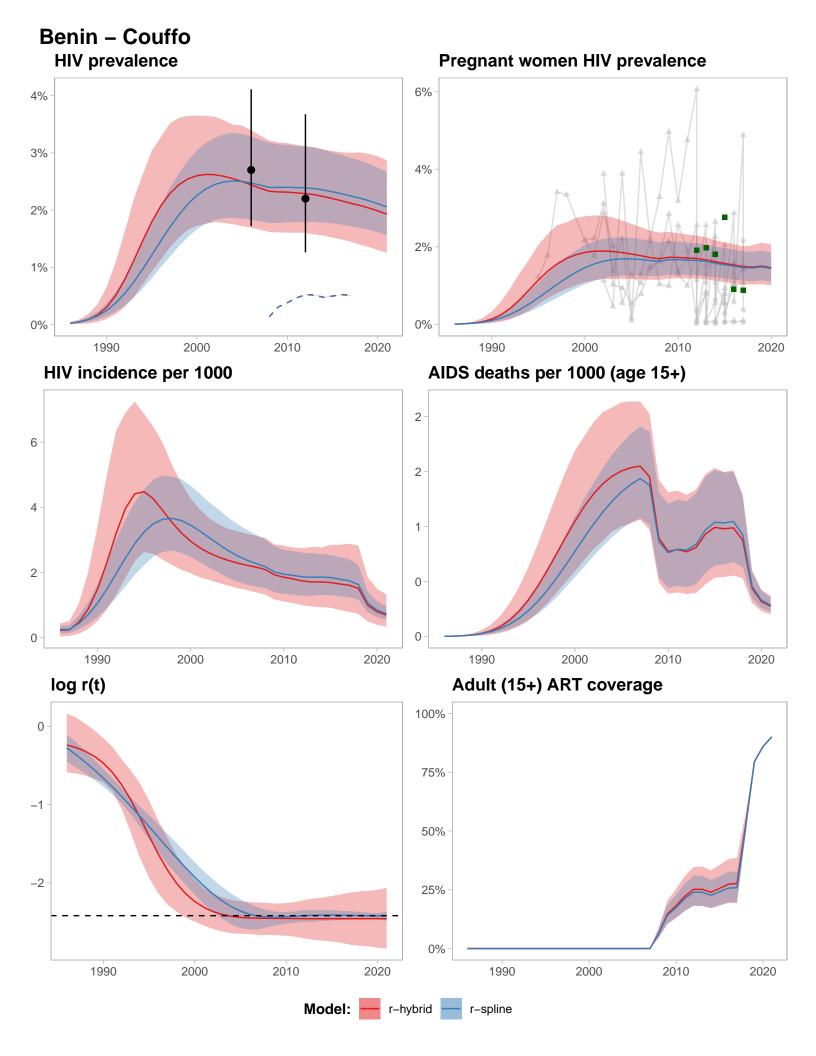


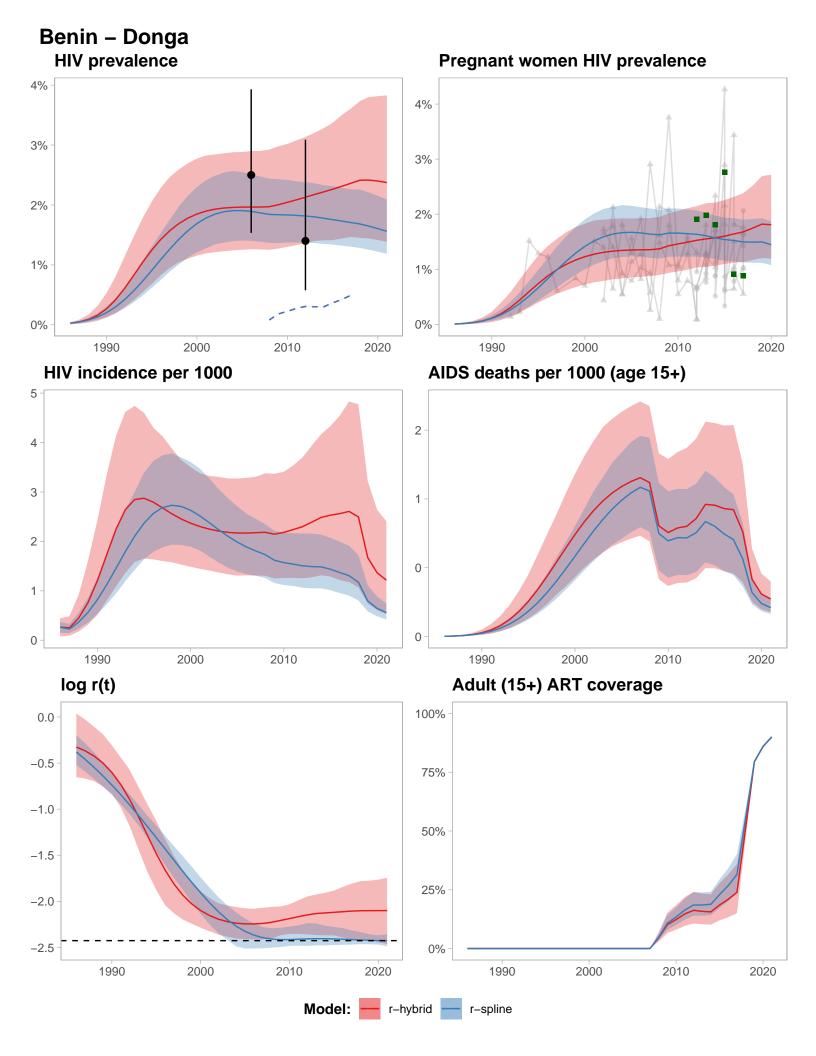


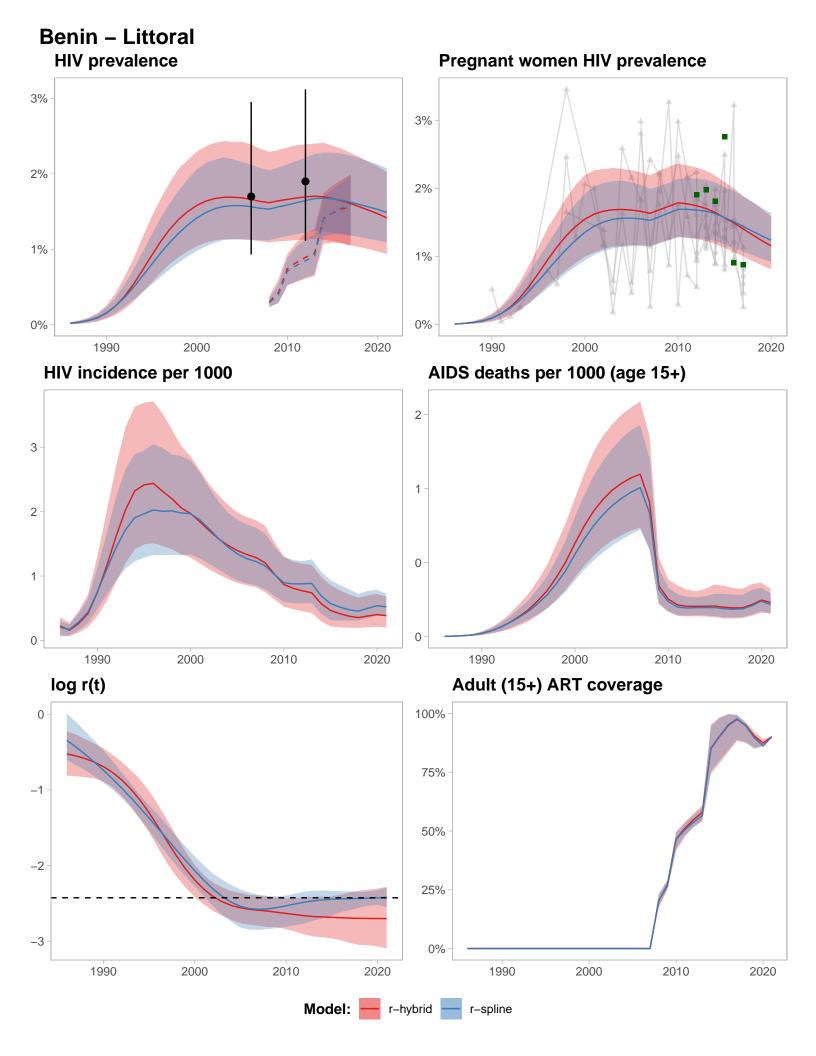
Benin - Atlantique **HIV** prevalence **Pregnant women HIV prevalence** 2% 4% 1% 2% 0% 0% 1990 2000 1990 2000 2010 2020 2020 2010 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 1 3 1 1 2 0 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% 50% -2 25% 0% -3 2000 1990 2000 2010 2020 1990 2010 2020 Model: r-hybrid r-spline

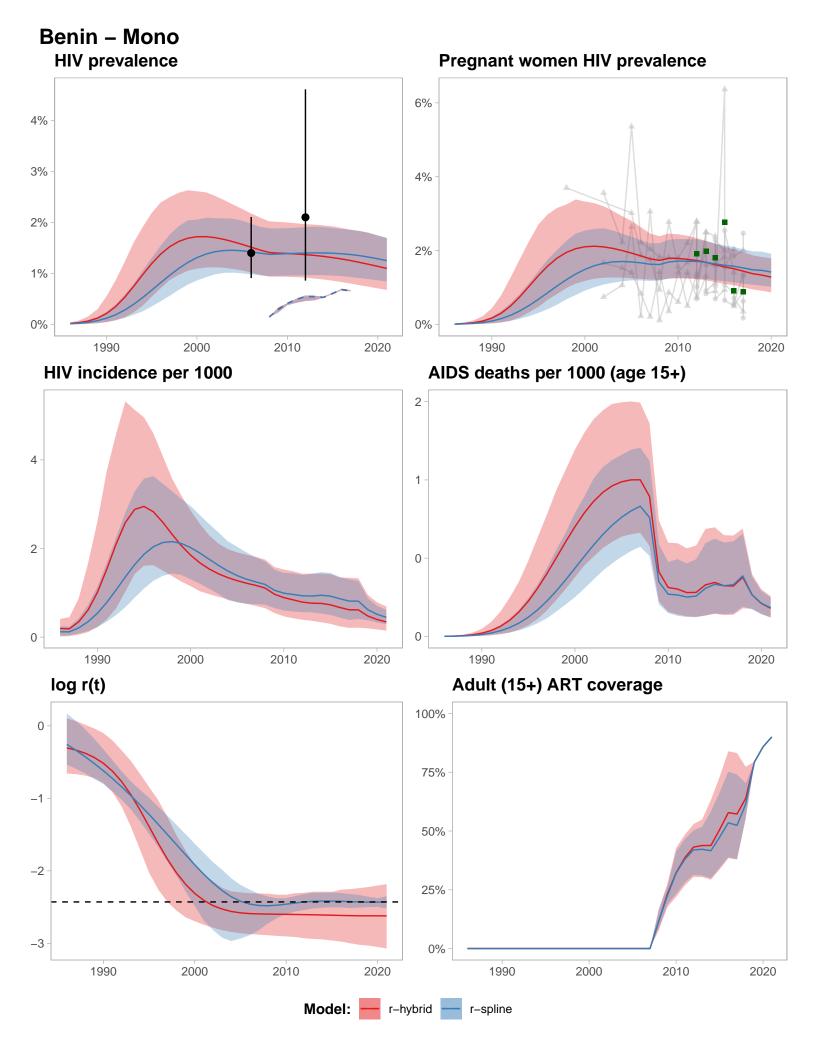


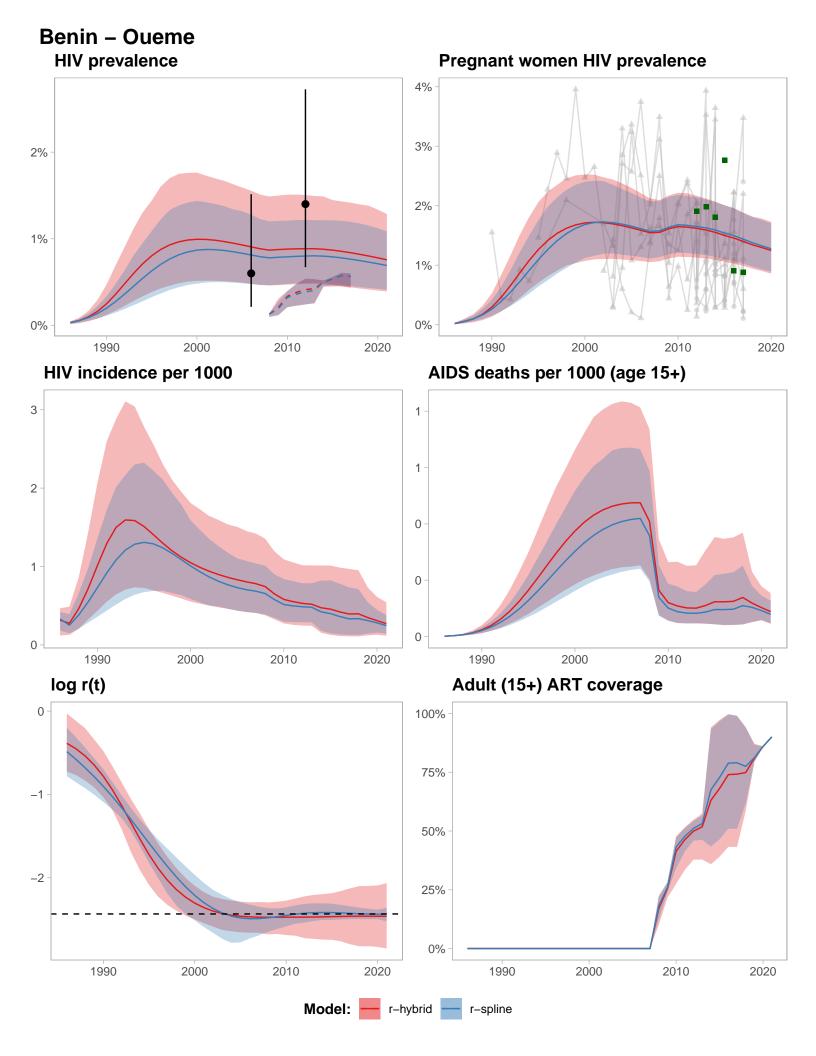
Benin - Collines HIV prevalence **Pregnant women HIV prevalence** 4% 10% 3% 8% 2% 5% 1% 2% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 8 2 6 2 4 1 2 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 0 75% -2 50% 25% -4 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r–hybrid r-spline

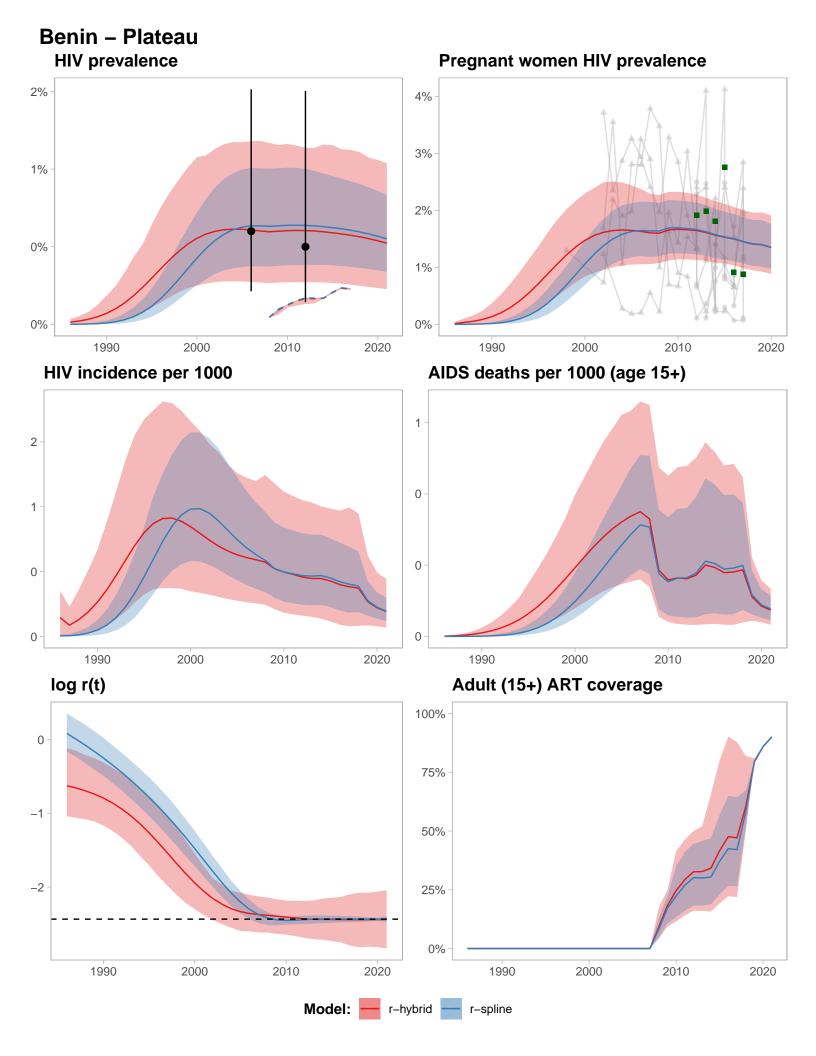


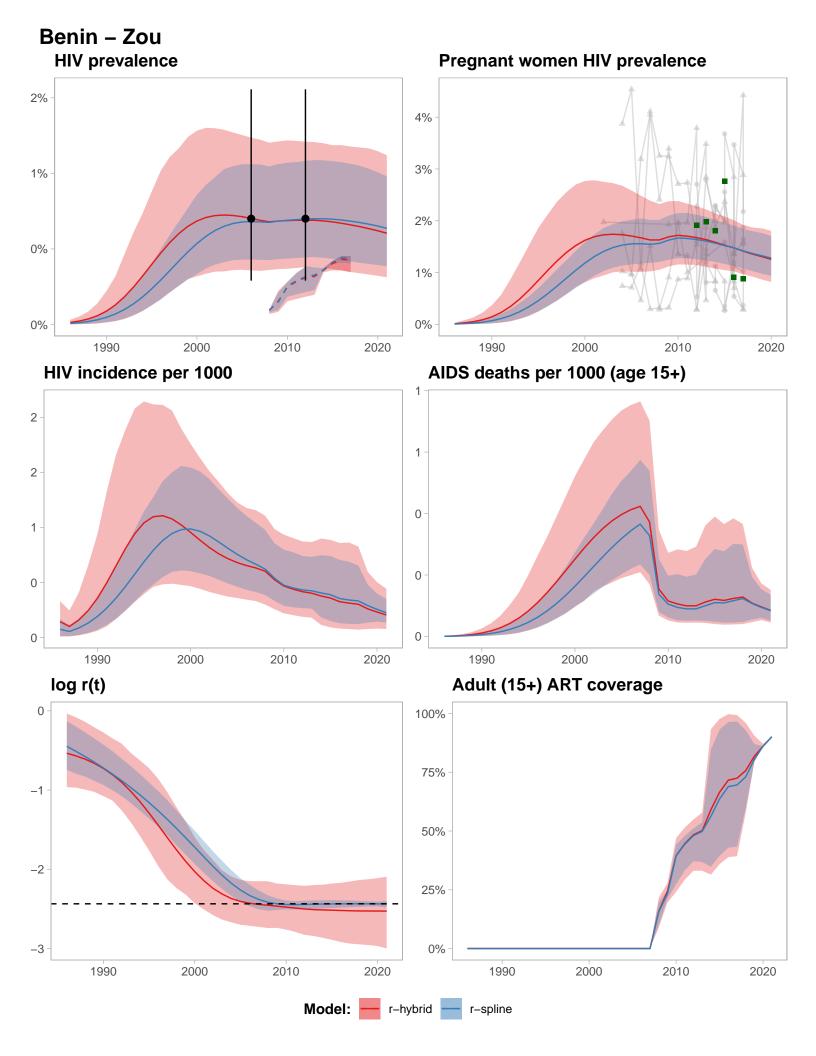




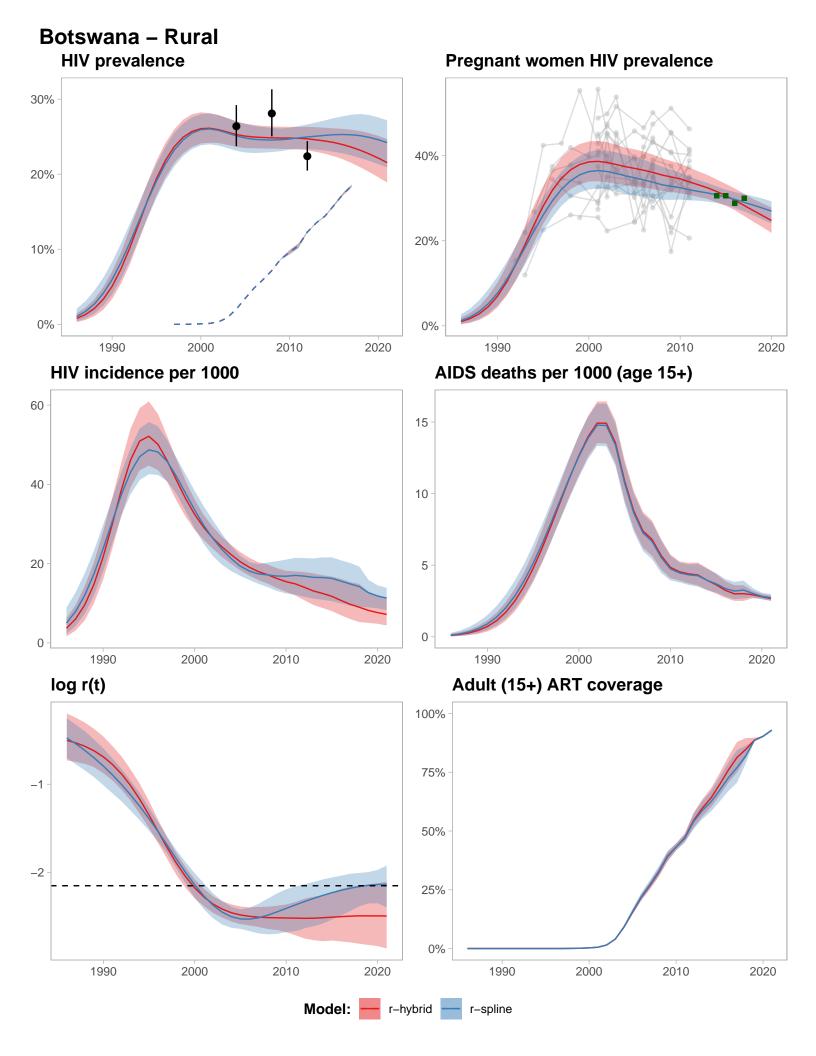


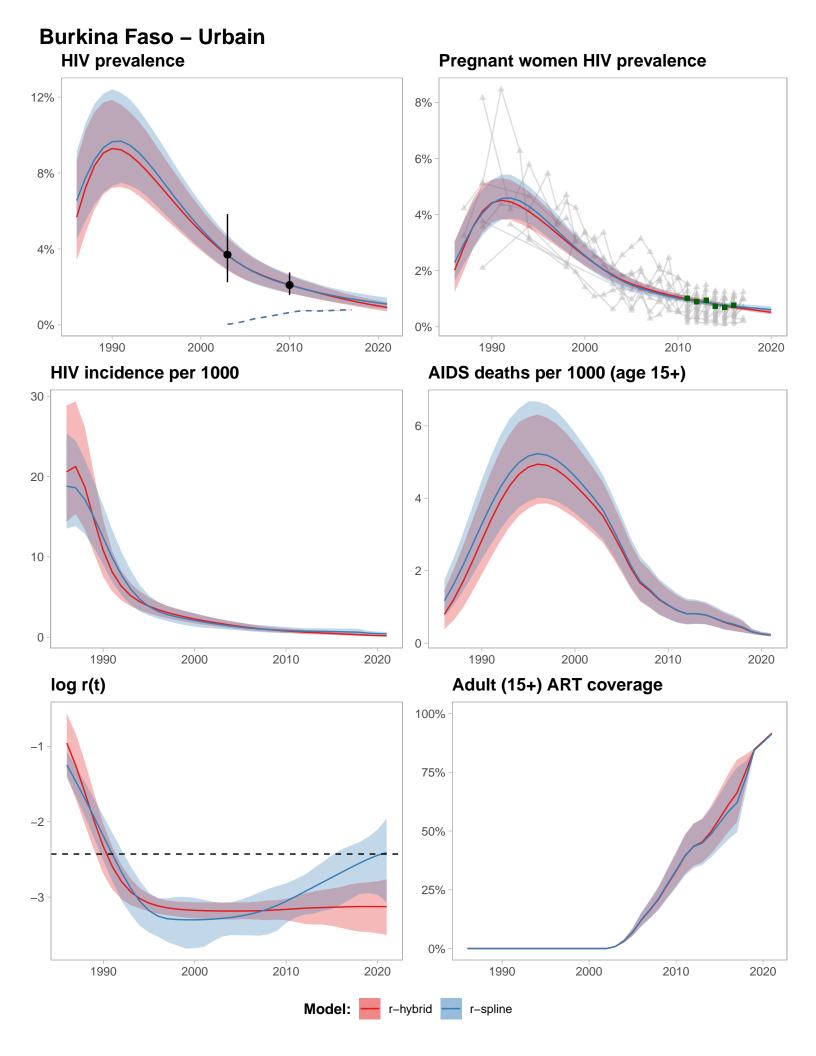


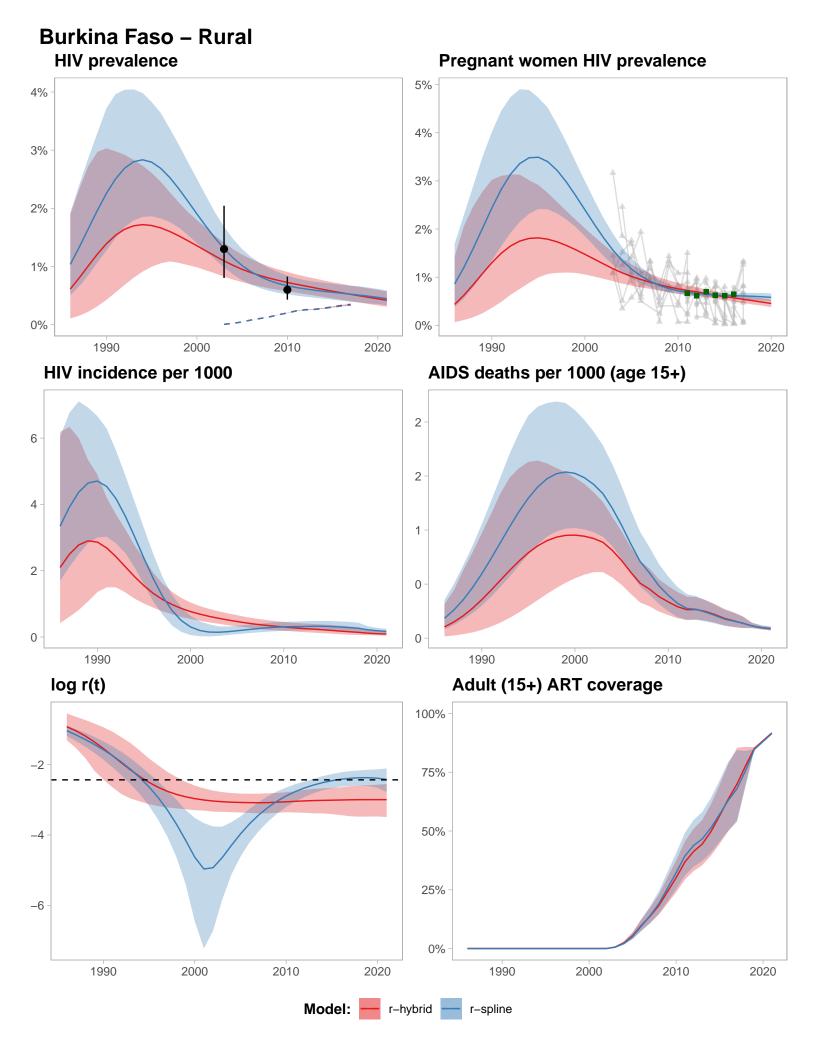




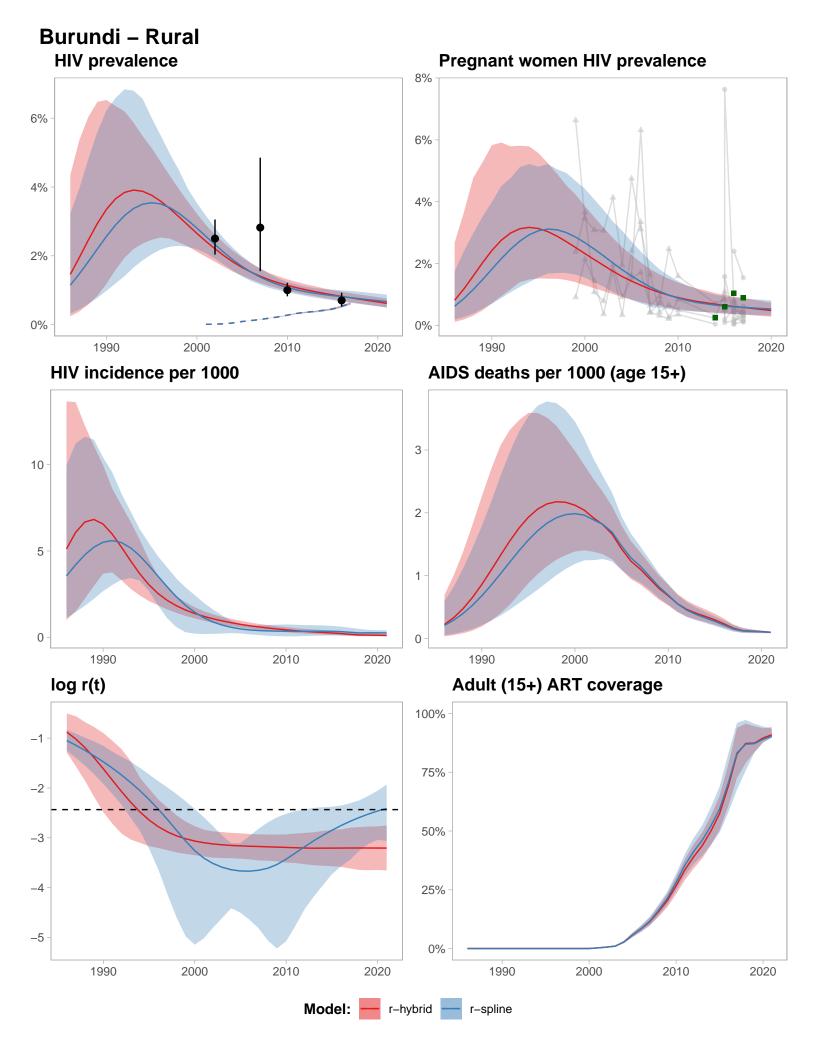
Botswana - Urban **HIV** prevalence **Pregnant women HIV prevalence** 20% 40% 10% 20% 0% 0% 1990 2000 2010 1990 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 50 40 10 30 20 5 10 2000 1990 2000 2010 2020 1990 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% -3 2000 1990 1990 2010 2020 2000 2010 2020 Model: r-hybrid r-spline

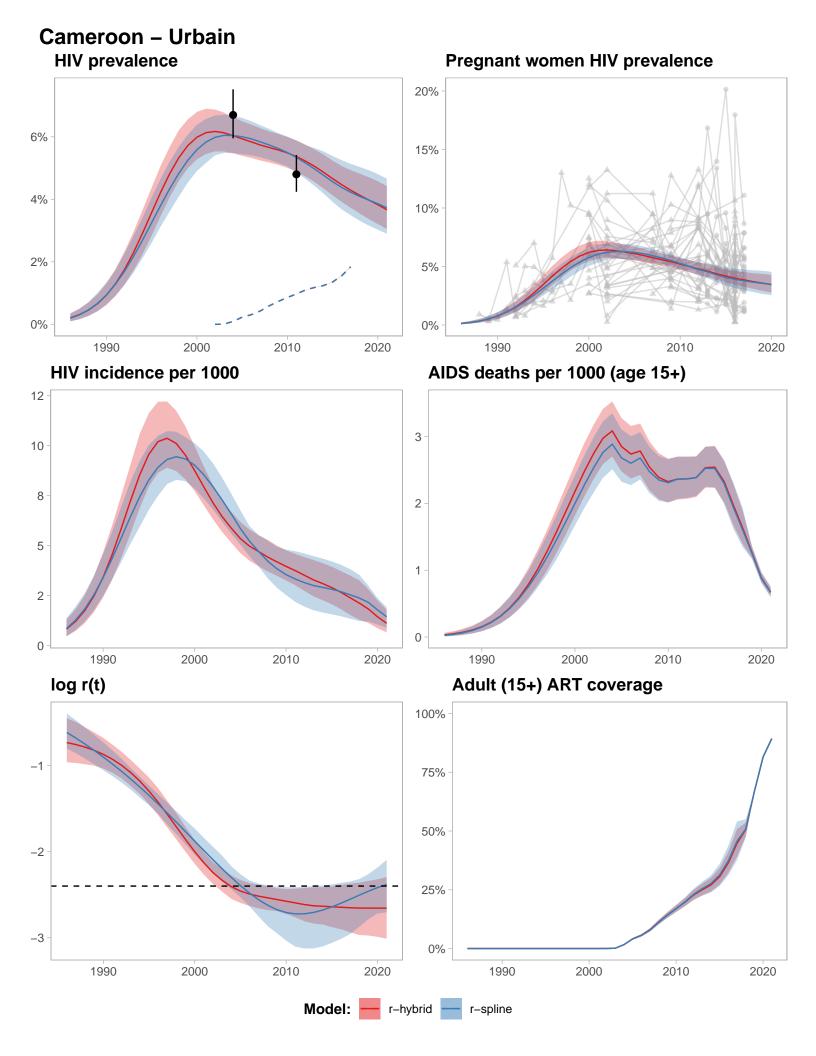


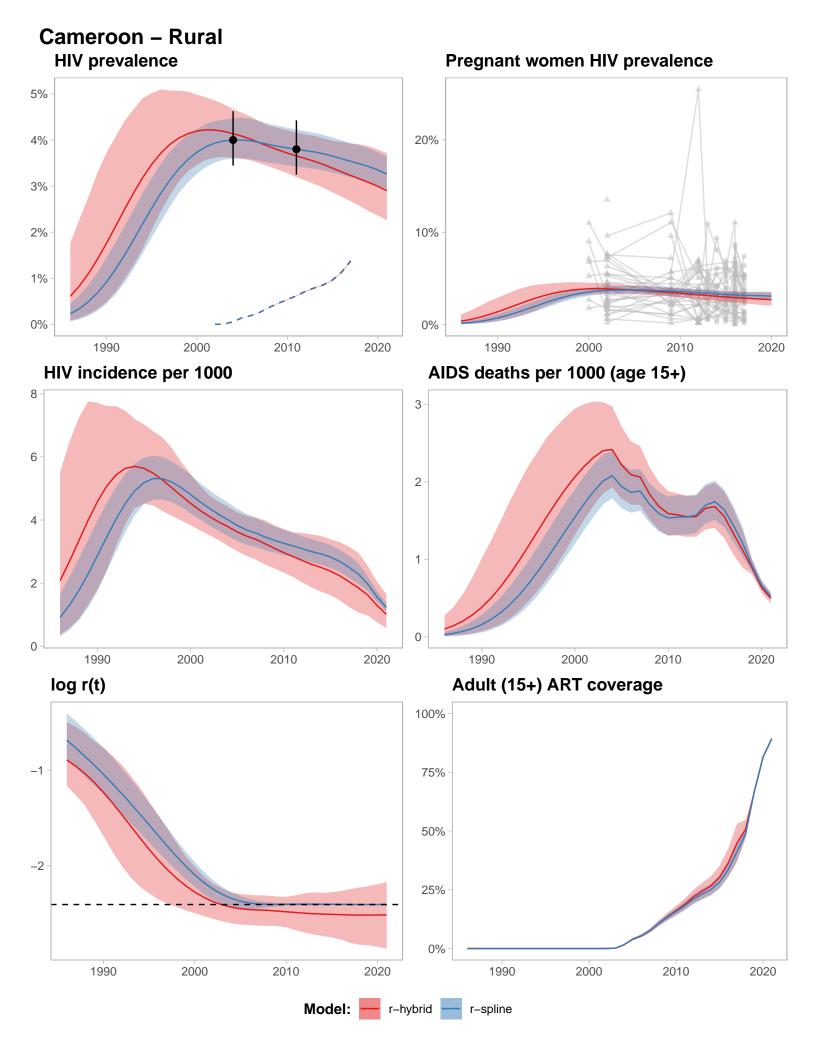


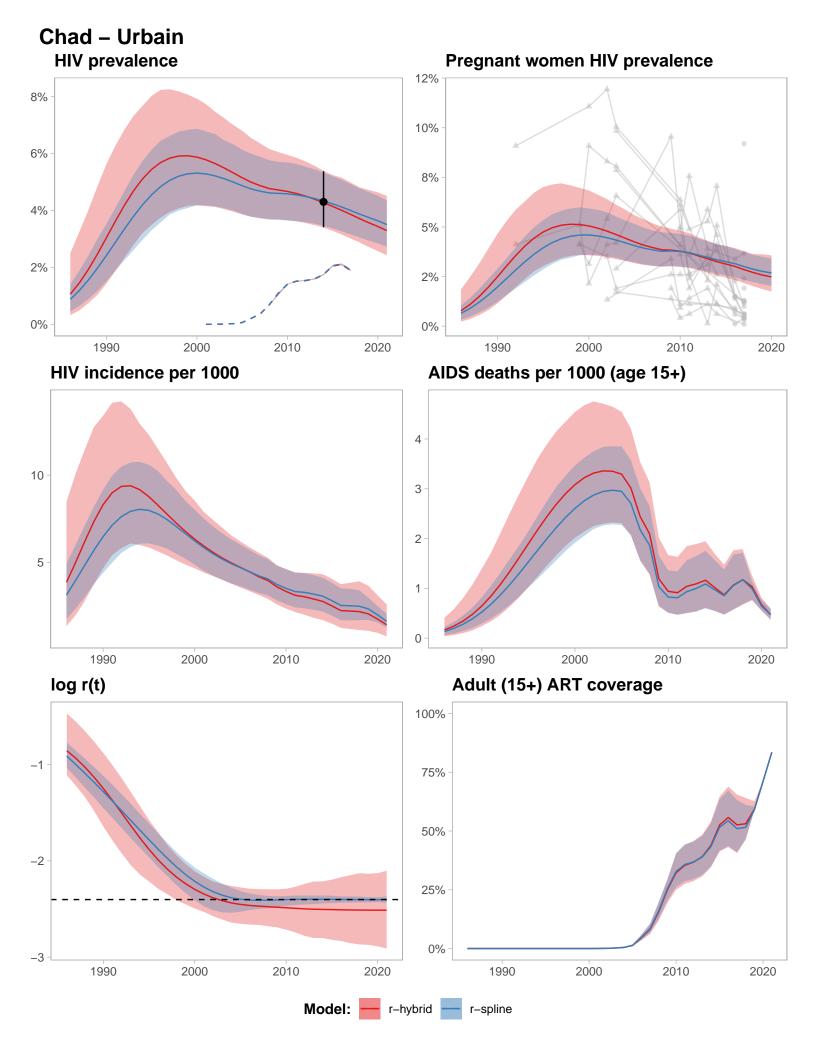


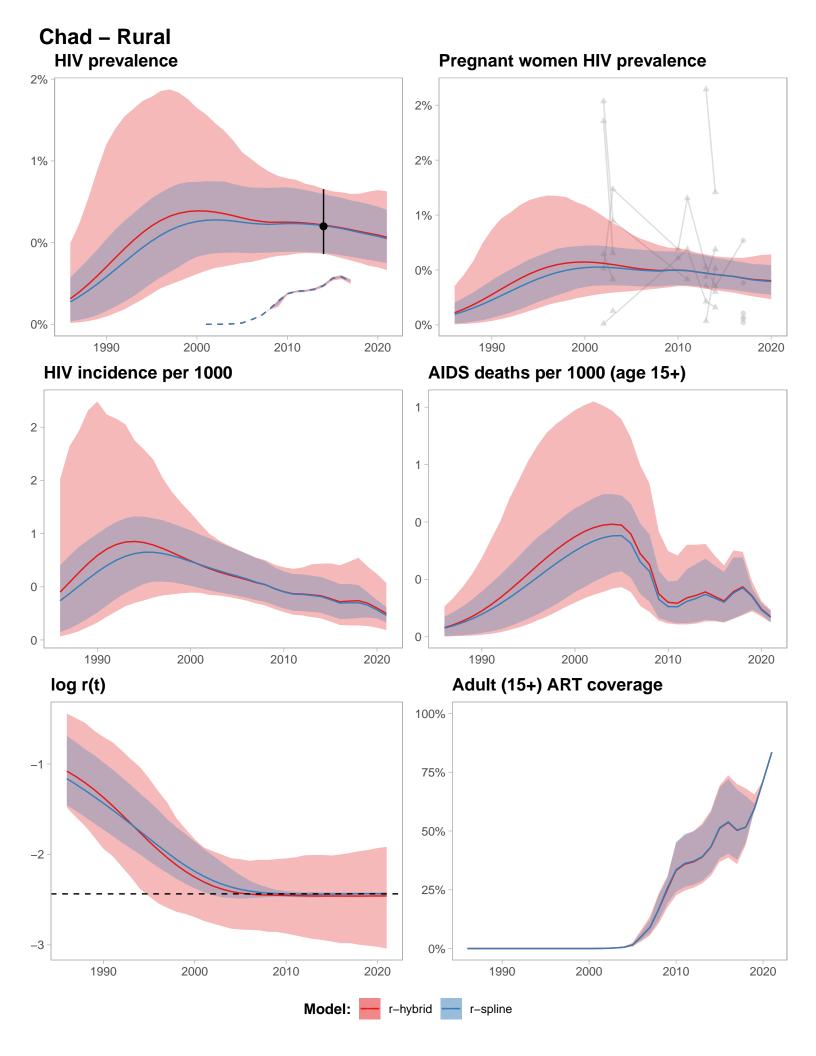
Burundi - Urban **HIV** prevalence **Pregnant women HIV prevalence** 20% 9% 15% 6% 10% 3% 5% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 50 12 40 10 30 8 20 5 10 2 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 0 100% 75% -2 50% -3 25% 0% -5 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline



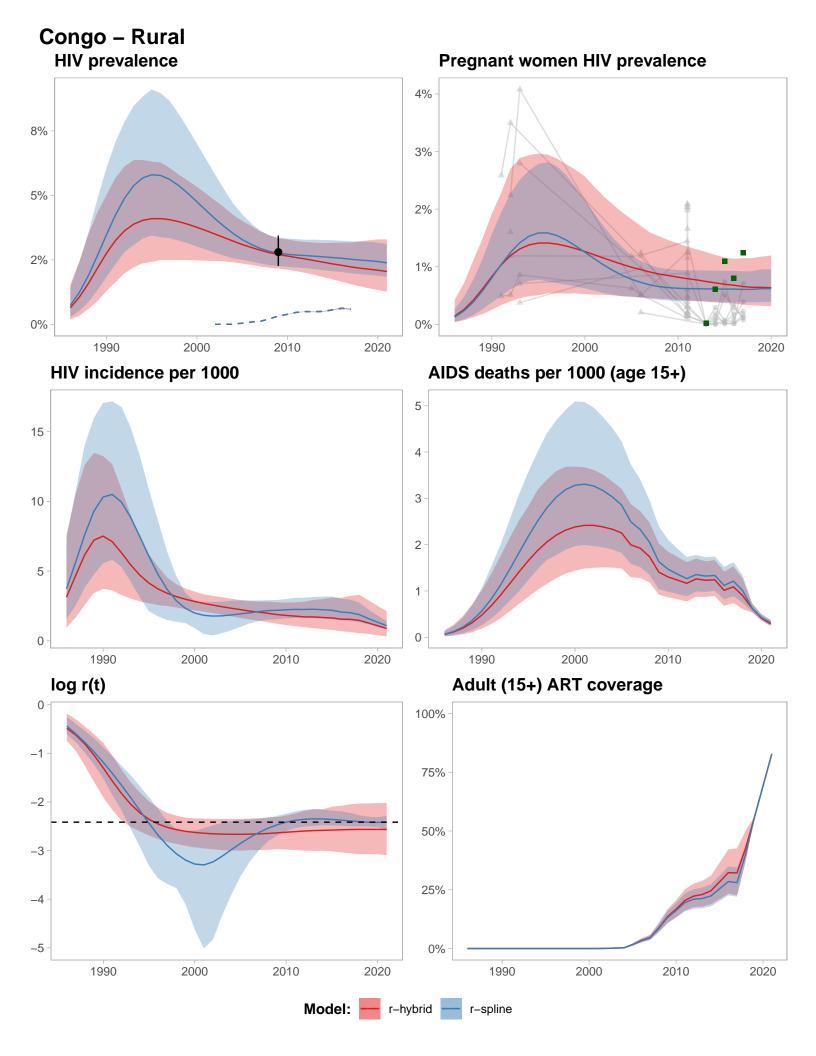








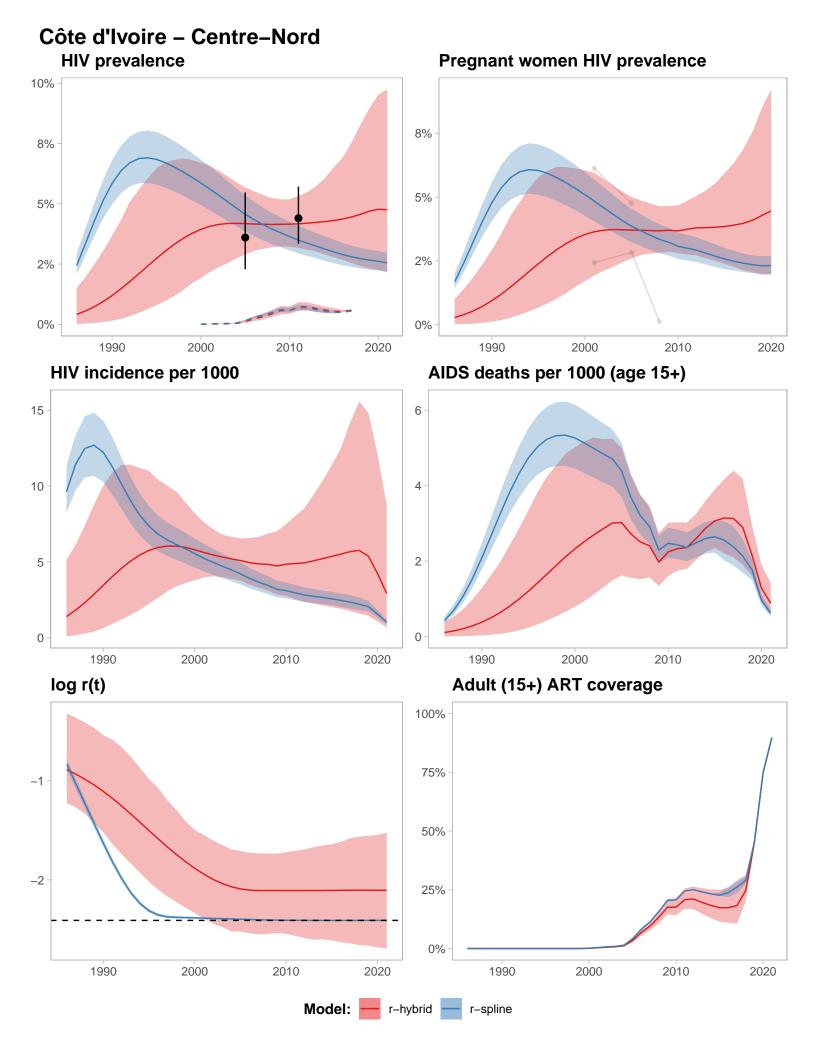
Congo - Urbain **HIV** prevalence **Pregnant women HIV prevalence** 4% 15% 3% 10% 2% 5% 1% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 40 4 30 3 20 2 10 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 0 100% 75% -2 50% -3 25% -4 -5 0% 2000 1990 2010 2020 1990 2000 2010 2020 Model: r–hybrid r-spline



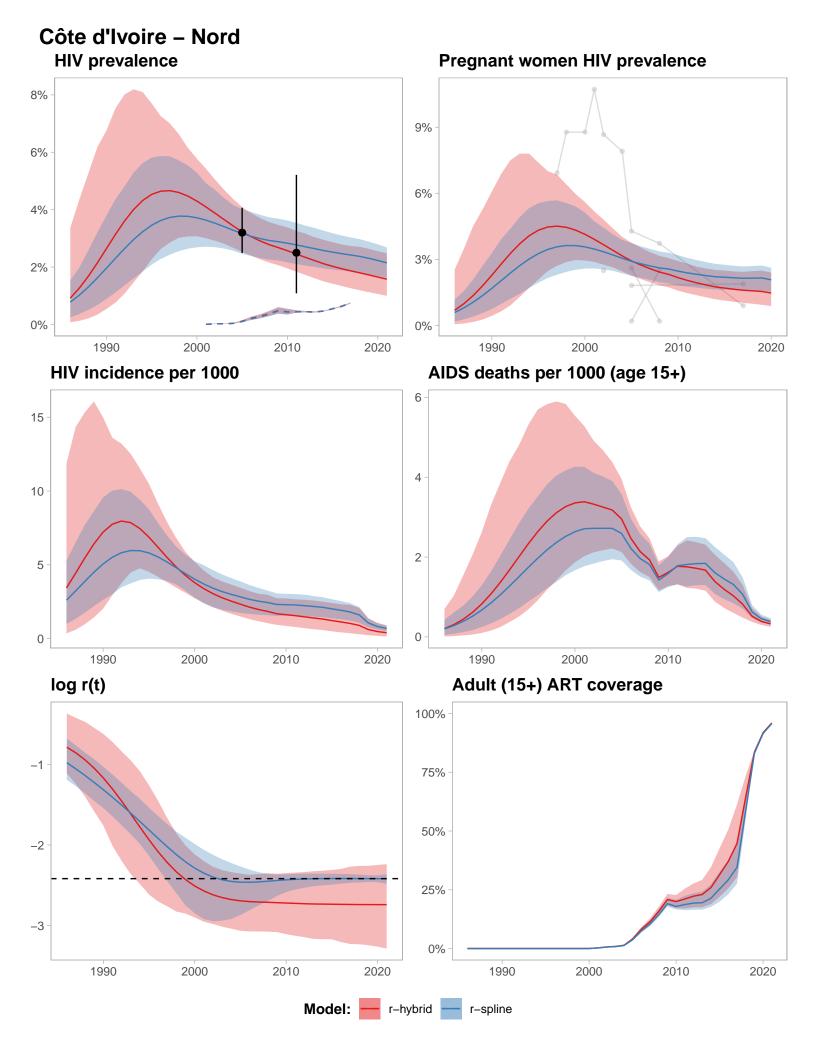
Côte d'Ivoire - Abidjan **HIV** prevalence **Pregnant women HIV prevalence** 10% 9% 8% 6% 5% 3% 2% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 8 20 6 15 4 10 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Côte d'Ivoire - Centre **HIV** prevalence **Pregnant women HIV prevalence** 8% 8% 6% 5% 4% 2% 2% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 5 15 4 10 3 2 5 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Côte d'Ivoire - Centre-Est **HIV** prevalence **Pregnant women HIV prevalence** 10% 10% 5% 5% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 10 8 20 5 10 2 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 2000 2000 1990 2010 2020 1990 2010 2020 Model: r–hybrid r-spline



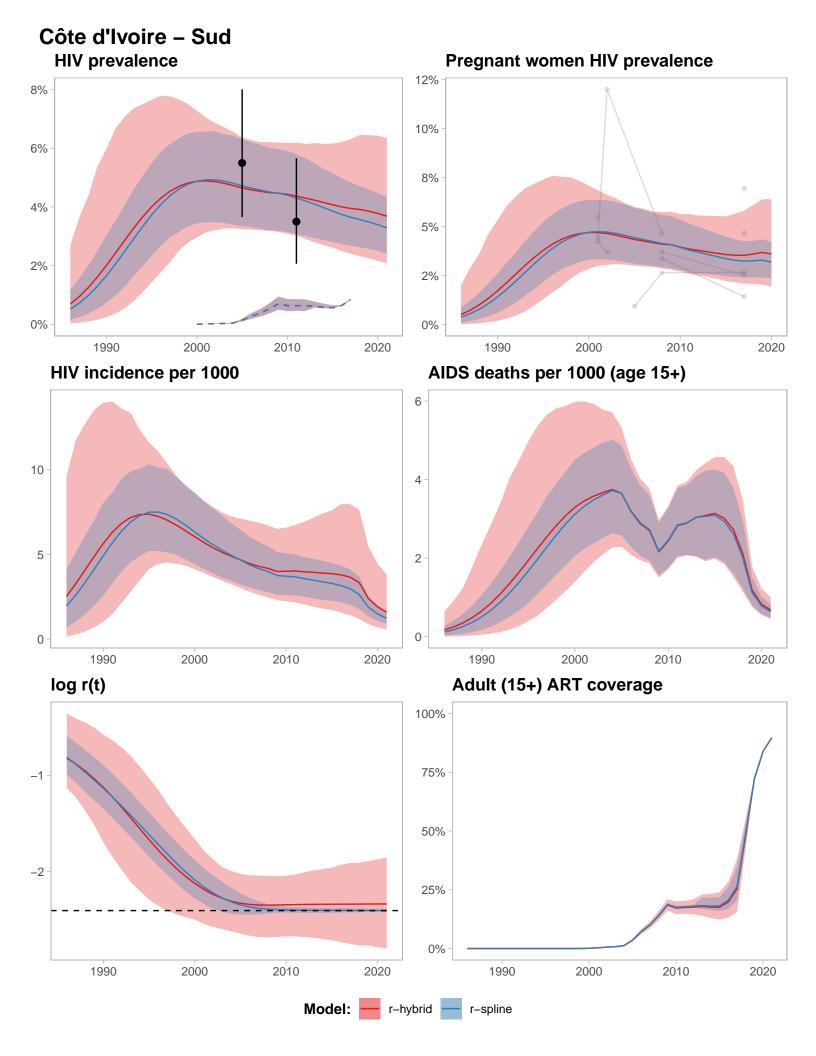
Côte d'Ivoire - Centre-Ouest **HIV** prevalence **Pregnant women HIV prevalence** 10% 6% 8% 4% 5% 2% 2% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 10 4 2 5 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r–hybrid r-spline



Côte d'Ivoire - Nord-Est **HIV** prevalence **Pregnant women HIV prevalence** 8% 6% 6% 4% 4% 2% 2% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 4 10 3 2 5 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Côte d'Ivoire - Nord-Ouest **HIV** prevalence **Pregnant women HIV prevalence** 4% 4% 2% 2% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 10 3 8 2 5 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% -2 50% -3 25% -4 0% 2000 2000 1990 2010 2020 1990 2010 2020 Model: r-hybrid r-spline

Côte d'Ivoire - Ouest **HIV** prevalence **Pregnant women HIV prevalence** 8% 9% 6% 6% 4% 3% 2% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 6 10 4 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline



Côte d'Ivoire - Sud-Ouest **HIV** prevalence **Pregnant women HIV prevalence** 8% 8% 5% 5% 2% 2% 0% 0% 1990 1990 2000 2010 2000 2010 2020 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 6 10 4 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Democratic Republic of the Congo – Urbain HIV prevalence Pregnant women HIV prevalence 5% 6% 4% 4% 3% 2% 2% 1% 0% 0% 1990 2000 2000 2020 1990 2010 2020 2010 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 3 6 2 4 2 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% -1.575% -2.050% -2.5 25% -3.00% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Democratic Republic of the Congo – Rural HIV prevalence Pregnant women HIV prevalence 3% 2% 2% 1% 1% 0% 0% 1990 1990 2000 2000 2020 2010 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 2 3 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% -2 50% -3 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Equatorial Guinea – Equatorial Guinea HIV prevalence **Pregnant women HIV prevalence** 15% 10% 10% 5% 5% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 20 4 15 3 10 2 5 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage -0.5100% -1.075% -1.550% -2.025% 0% -2.52000 2010 1990 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Eritrea - Urban **HIV** prevalence **Pregnant women HIV prevalence** 6% 4% 4% 2% 2% 0% 0% HIV incidence per 1000 AIDS deaths per 1000 (age 15+) Adult (15+) ART coverage log r(t) 100% 75% -2 50% 25% 0% Model: r-hybrid r-spline

Eritrea - Rural **HIV** prevalence **Pregnant women HIV prevalence** 3% 2% 2% 1% 1% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 5 2 4 1 3 2 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% -2 50% -3 25% 0% 2000 1990 2000 2010 2020 1990 2010 2020 Model: r-hybrid r-spline

Ethiopia – Addis Abeba **HIV** prevalence **Pregnant women HIV prevalence** 15% 15% 10% 10% 5% 5% 0% 0% 1990 2000 2010 1990 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 30 8 20 5 10 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 0 100% 75% 50% -4 25% -6 0% 2000 1990 2000 2010 2020 1990 2010 2020 Model: r-hybrid r-spline

Ethiopia – Affar Urban **HIV** prevalence **Pregnant women HIV prevalence** 40% 40% 30% 30% 20% 20% 10% 10% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 100 20 75 50 10 25 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 0 75% -2 50% -425% -6 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Ethiopia – Affar Rural **HIV** prevalence **Pregnant women HIV prevalence** 2% 4% 1% 2% 0% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 3 1 2 1 0 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r–hybrid r-spline

Ethiopia - Amhara Urban **HIV** prevalence **Pregnant women HIV prevalence** 15% 15% 10% 10% 5% 5% 0% 0% 1990 2000 2010 1990 2000 2010 2020 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 10 40 8 30 5 20 2 10 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 0 100% 75% -2 50% -4 25% -6 0% 2000 1990 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Ethiopia - Amhara Rural **HIV** prevalence **Pregnant women HIV prevalence** 6% 4% 4% 2% 2% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 9 2 6 1 3 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 0 100% 75% -2 50% 25% -6 0% 2000 1990 2000 2010 2020 1990 2010 2020 Model: r-hybrid r-spline

Ethiopia – Benis Gumz Urban Pregnant women HIV prevalence **HIV** prevalence 25% 20% 20% 15% 15% 10% 10% 5% 5% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 40 10 20 5 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% -2 50% 25% -6 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Ethiopia - Benis Gumz Rural **HIV** prevalence **Pregnant women HIV prevalence** 1% 2% 1% 1% 1% 0% 0% 0% 0% 1990 2000 2010 2020 1990 2000 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 2 1 2 0 1 0 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r–hybrid r-spline

Ethiopia - Dire Dawa Pregnant women HIV prevalence **HIV** prevalence 15% 10% 10% 5% 5% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 8 20 6 15 4 10 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% -2 50% -3 25% 0% -5 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Ethiopia – Gambela **HIV** prevalence **Pregnant women HIV prevalence** 20% 20% 15% 15% 10% 10% 5% 5% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 12 30 9 20 6 10 3 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% -2 50% -3 25% 0% -5 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Ethiopia - Harari Pregnant women HIV prevalence **HIV** prevalence 15% 8% 10% 5% 5% 2% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 5 4 10 3 2 5 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% -2 50% -3 25% -40% 1990 2000 2010 2020 1990 2000 2010 2020

Model:

r-hybrid

r-spline

Ethiopia - Oromiya Urban **HIV** prevalence **Pregnant women HIV prevalence** 20% 15% 15% 10% 10% 5% 5% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 40 8 30 5 20 10 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -3 25% 0% -5 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Ethiopia - Oromiya Rural Pregnant women HIV prevalence **HIV** prevalence 2% 4% 2% 3% 1% 2% 0% 1% 0% 0% 1990 2000 1990 2000 2010 2010 2020 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 1 3 1 2 1 1 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% -2 50% 25% 0% -6 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Ethiopia – SNNP Urban **HIV** prevalence **Pregnant women HIV prevalence** 8% 8% 6% 5% 4% 2% 2% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 5 15 4 3 10 2 5 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% -2 50% -3 25% -5 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

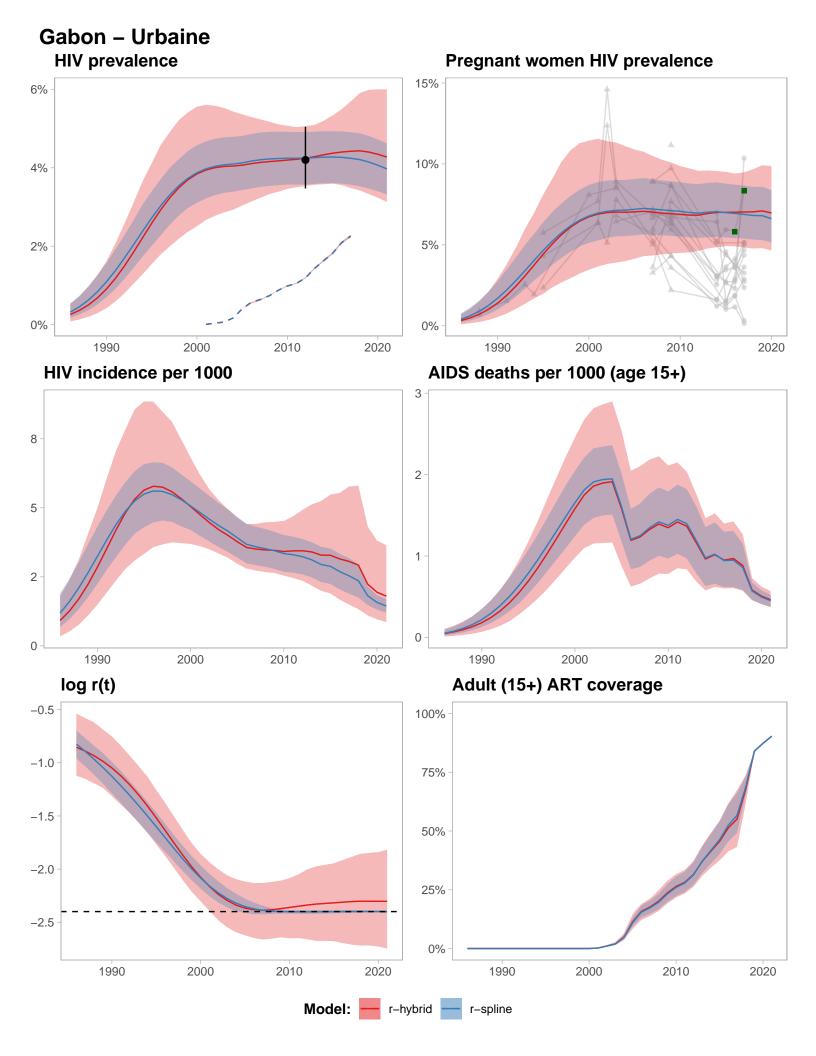
Ethiopia – SNNP Rural HIV prevalence **Pregnant women HIV prevalence** 1% 2% 1% 1% 0% 0% 0% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 0 1 0 0 0 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r–hybrid r-spline

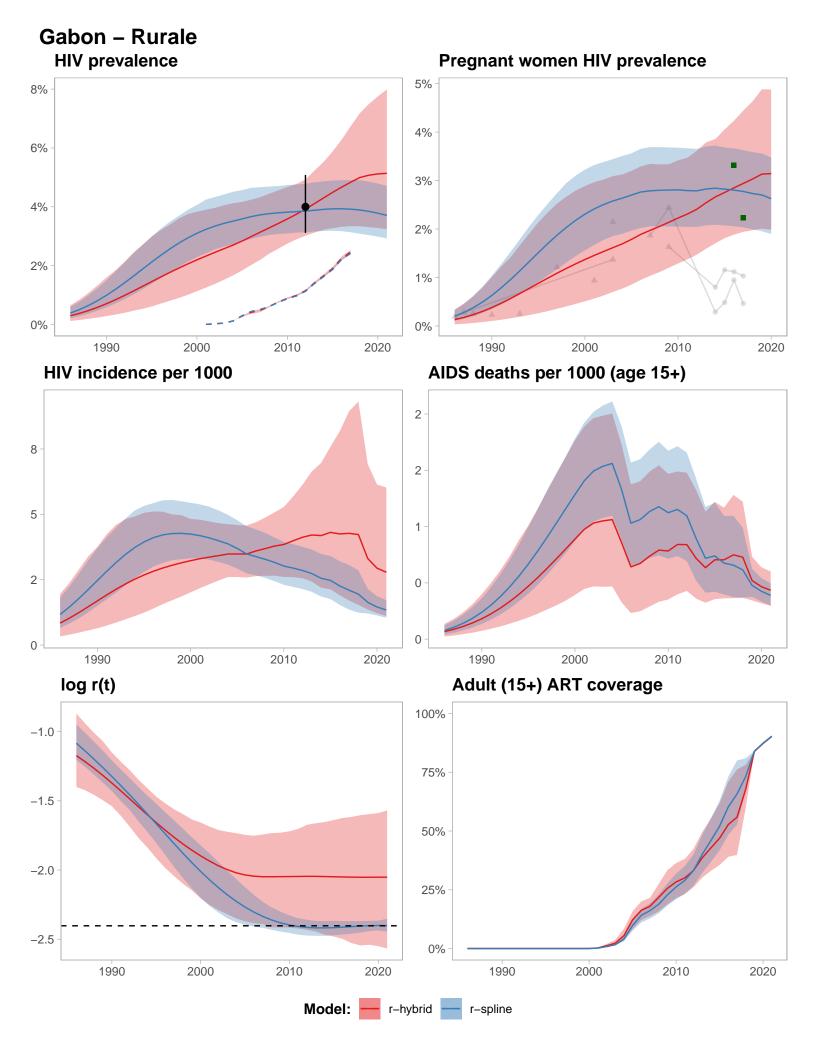
Ethiopia - Somali Urban **HIV** prevalence **Pregnant women HIV prevalence** 12% 80% 9% 60% 6% 40% 20% 3% 0% 0% 2000 1990 2000 1990 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 20 6 15 4 10 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% -2 50% -325% -5 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

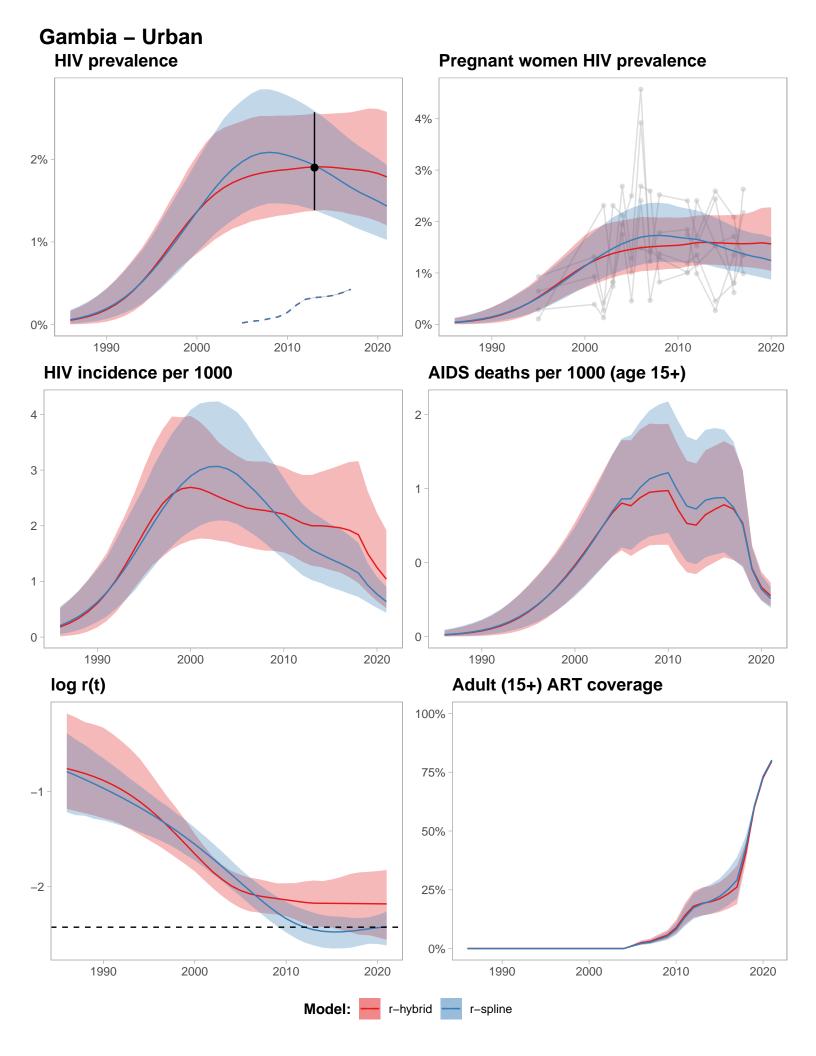
Ethiopia - Somali Rural Pregnant women HIV prevalence **HIV** prevalence 100% 2% 75% 1% 50% 0% 25% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 3 1 2 1 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

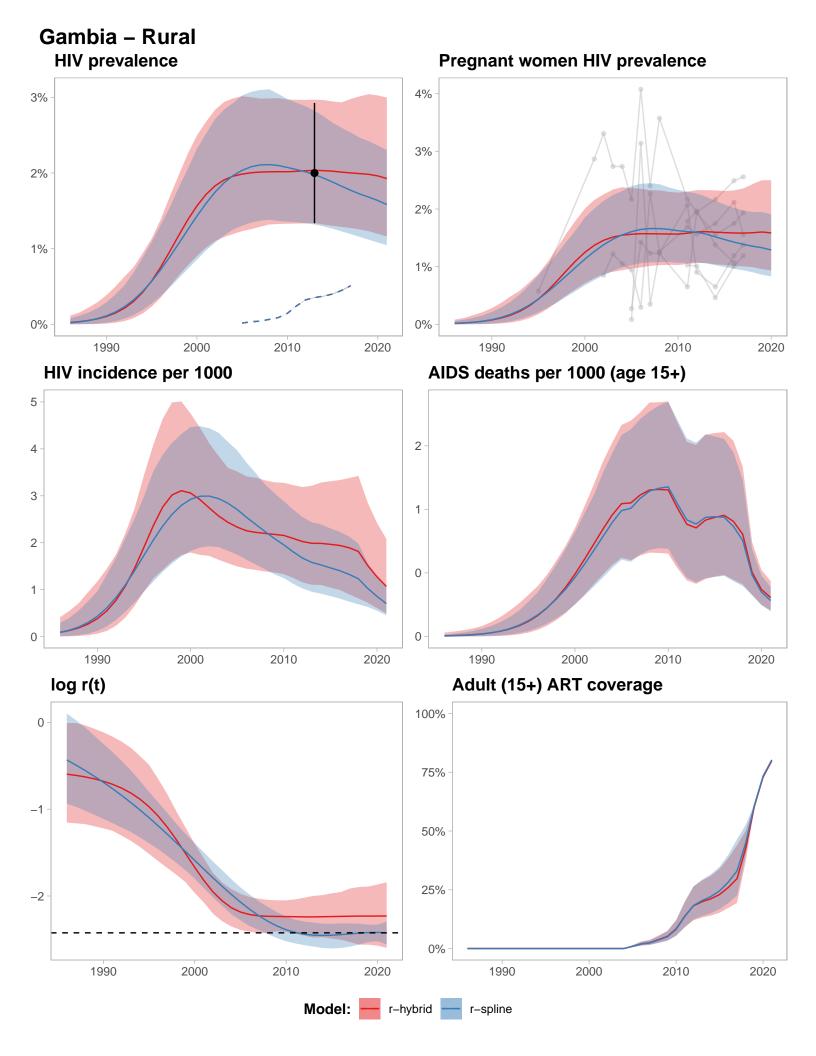
Ethiopia - Tigray Urban **HIV** prevalence **Pregnant women HIV prevalence** 20% 20% 15% 15% 10% 10% 5% 5% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 10 40 5 20 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% 50% -425% -6 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

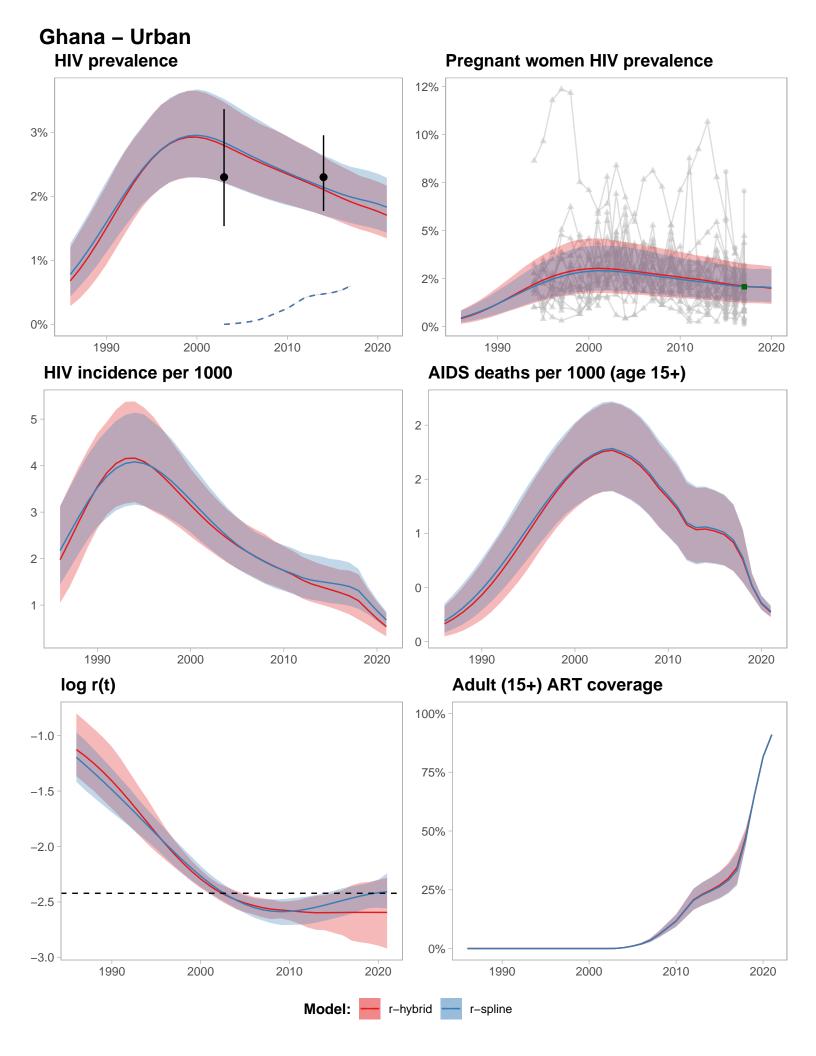
Ethiopia - Tigray Rural **HIV** prevalence **Pregnant women HIV prevalence** 5% 6% 4% 4% 3% 2% 2% 1% 0% 0% 1990 2000 2010 1990 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 8 2 6 4 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% -2 50% -4 25% 0% -6 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

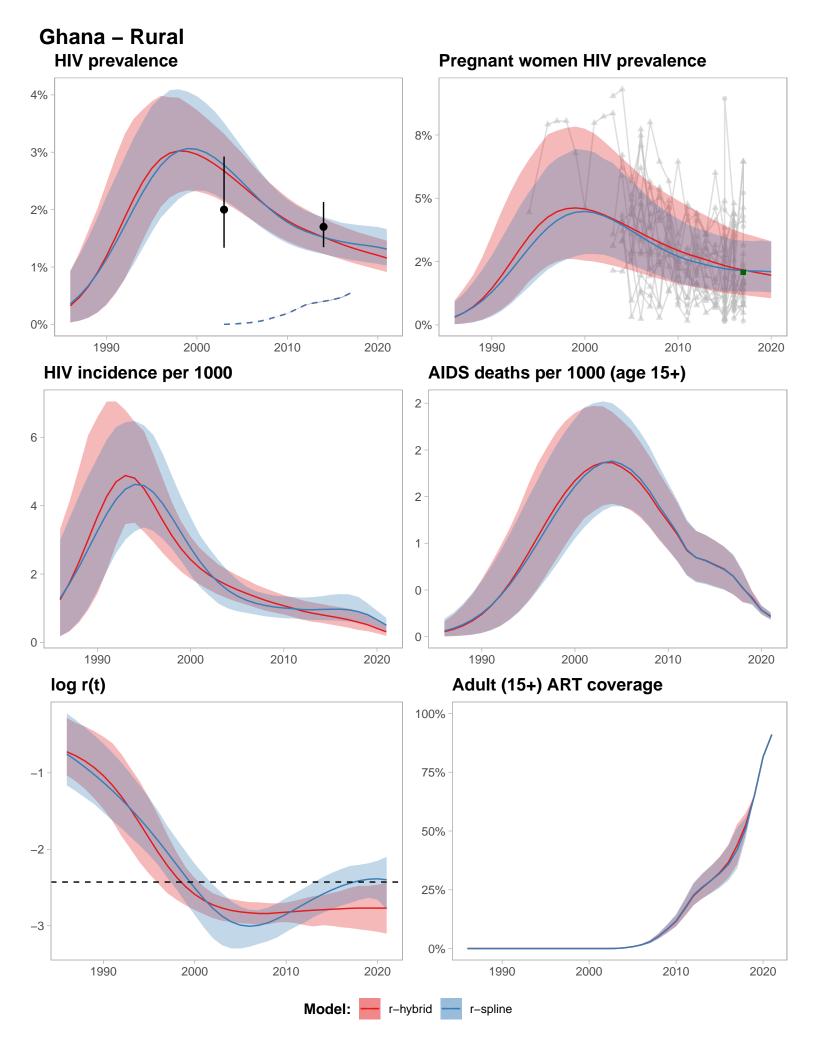


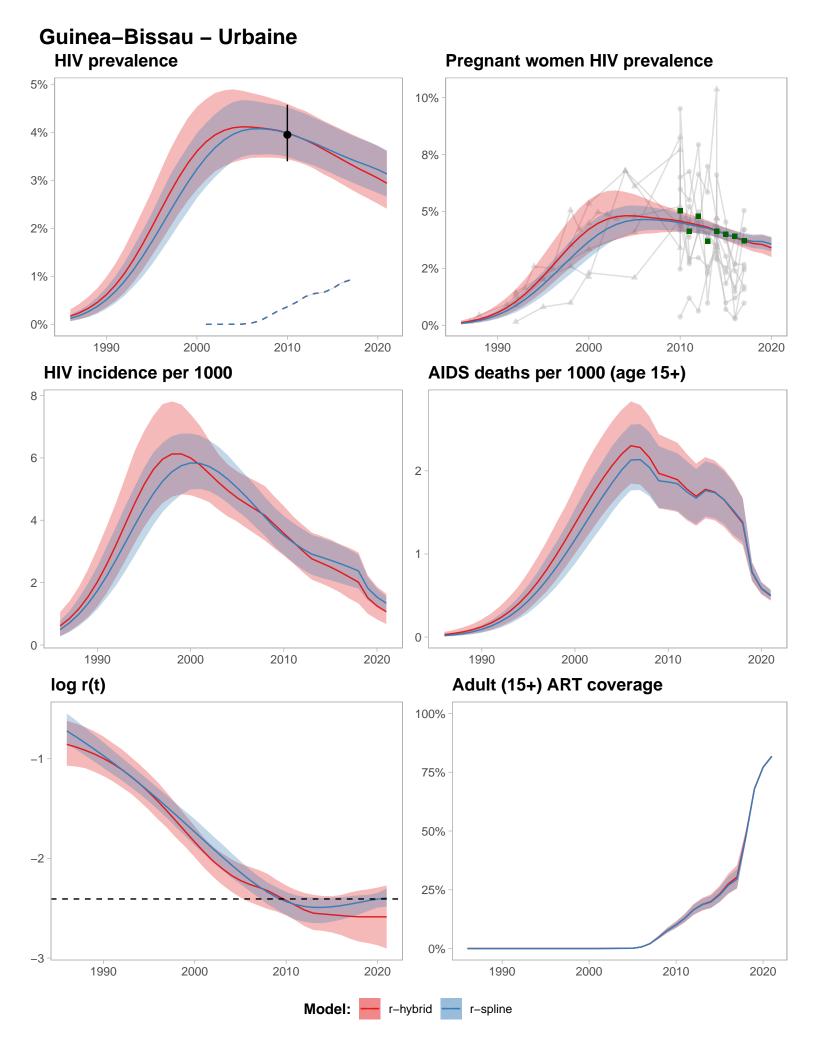


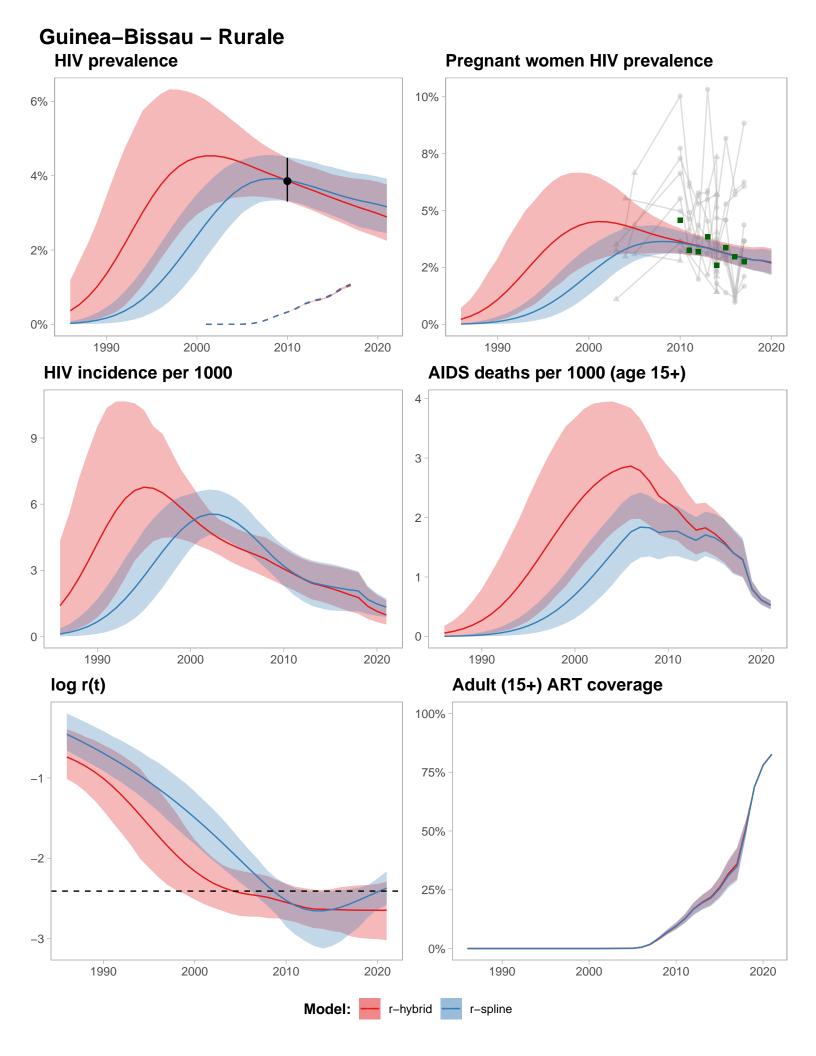


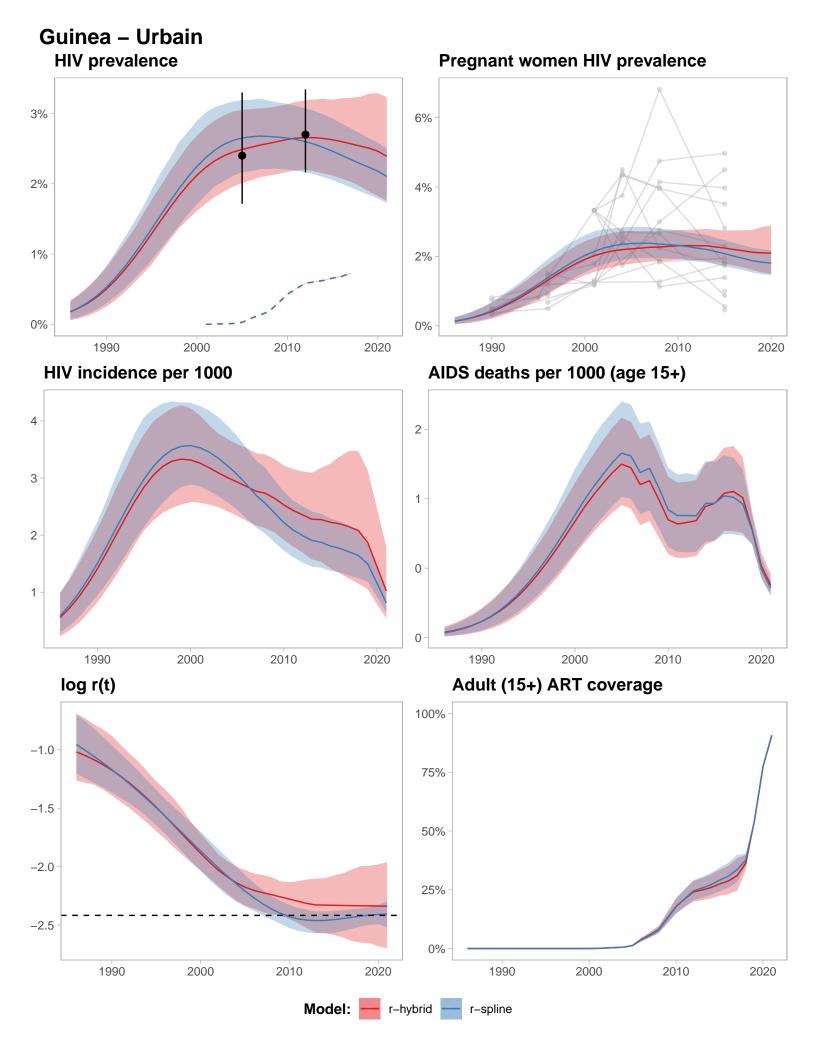


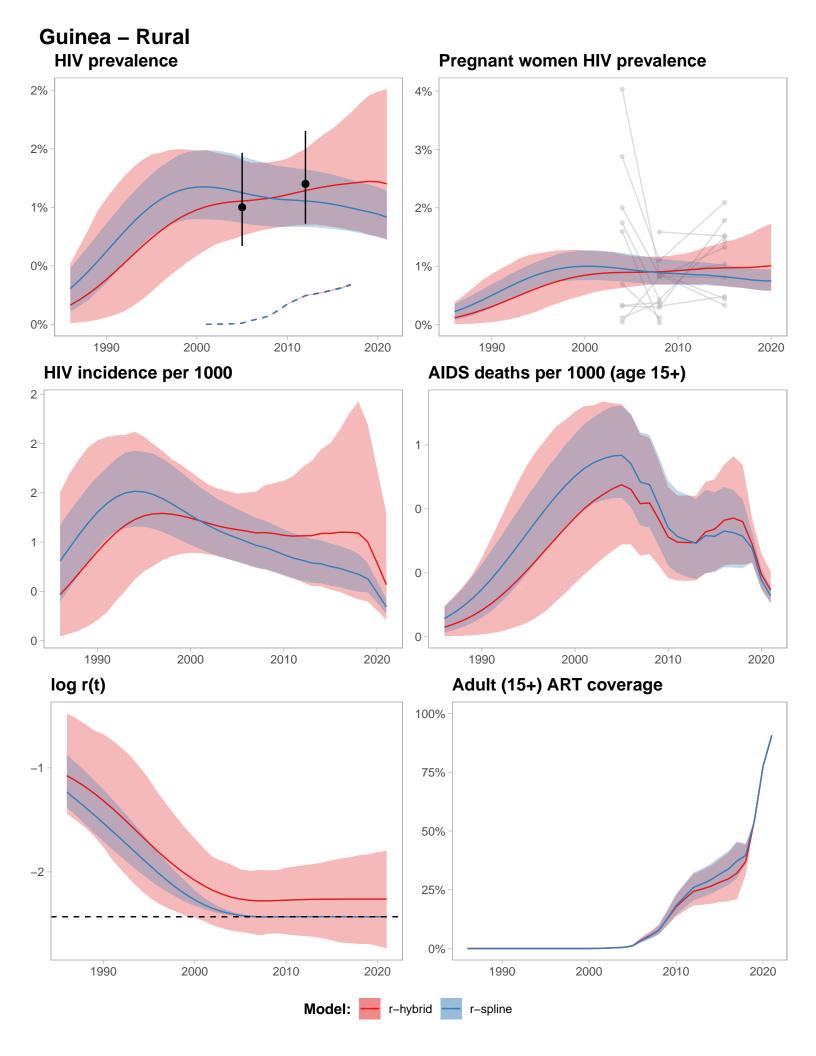


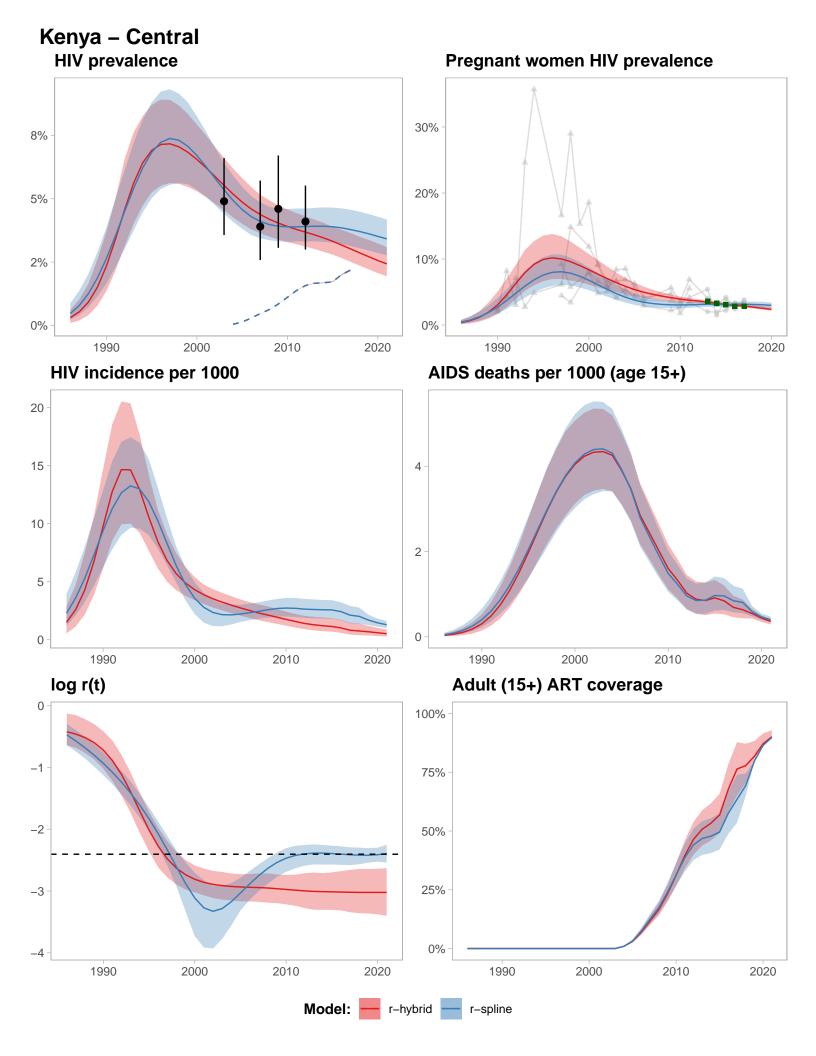


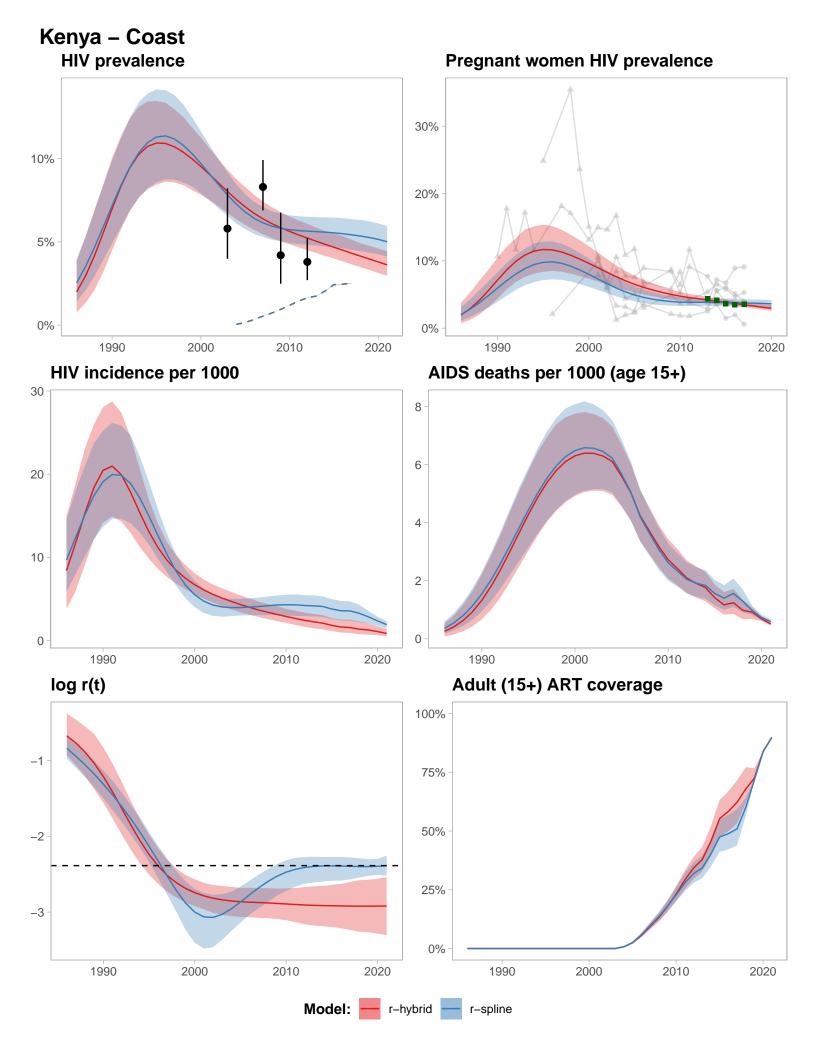


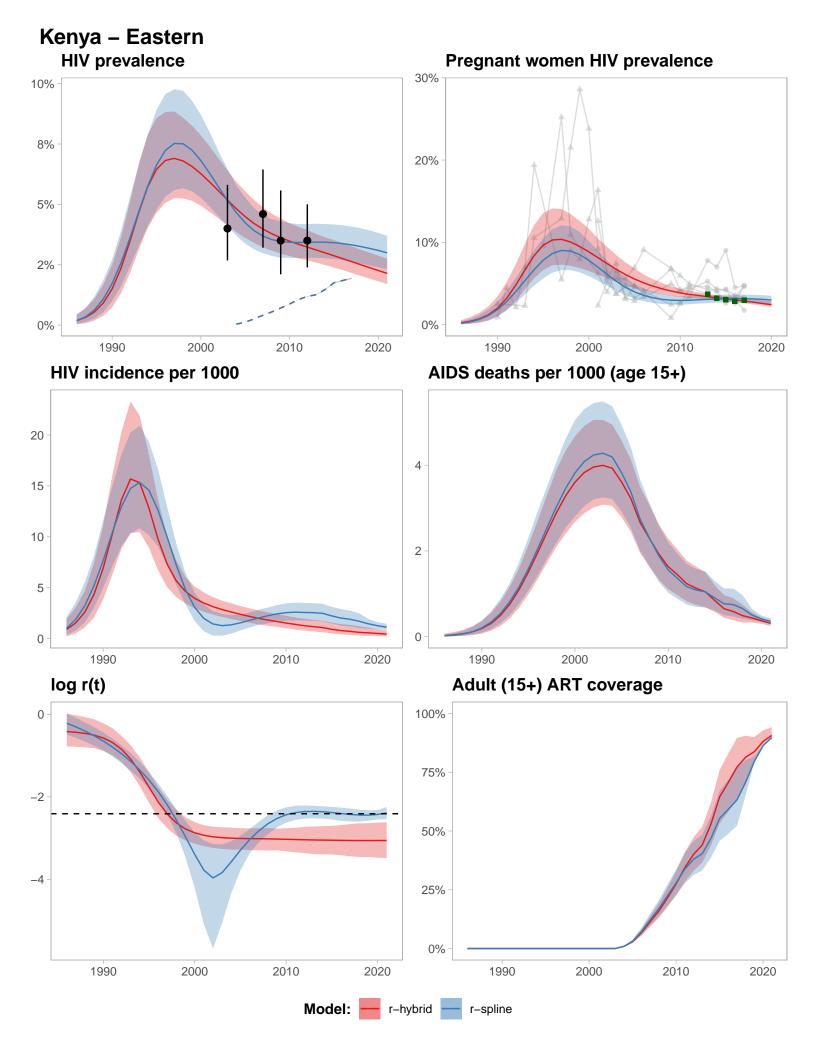


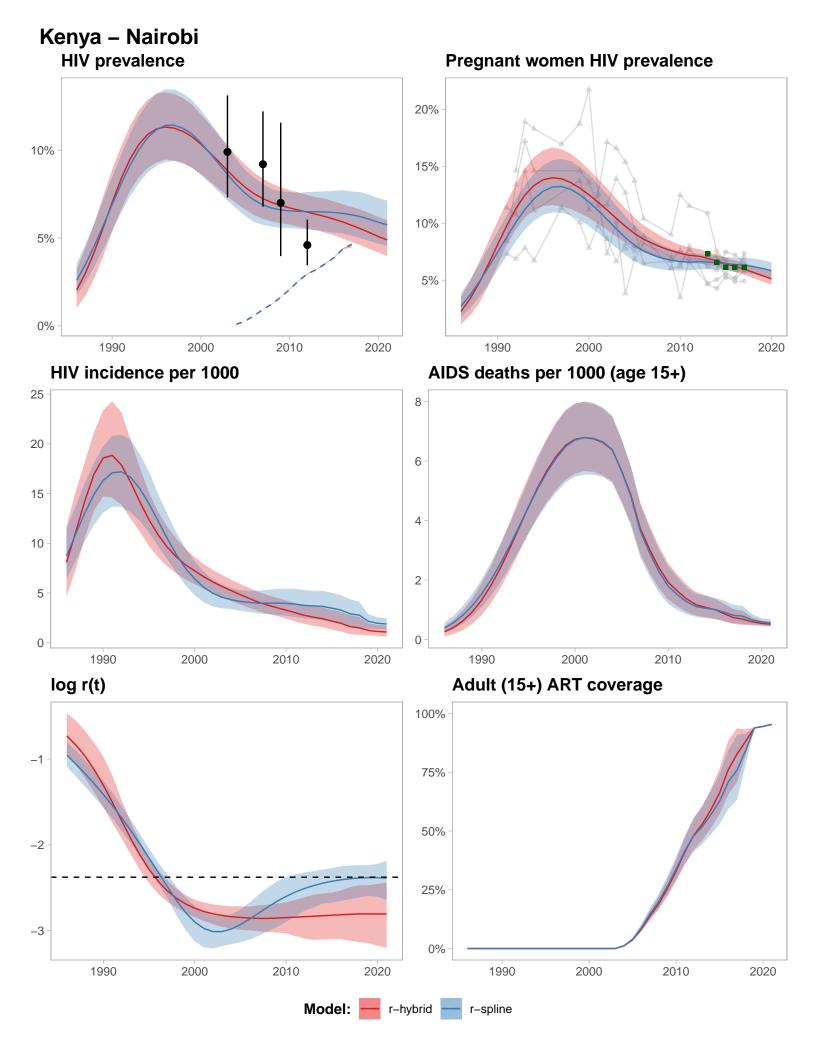








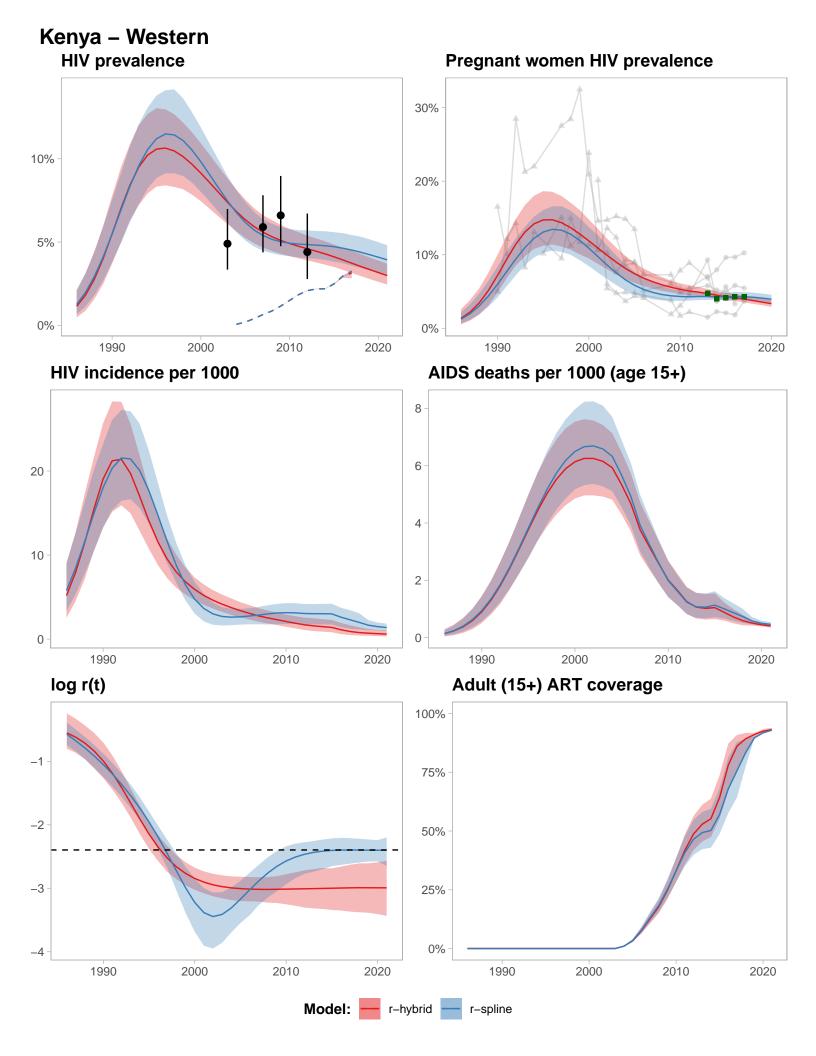


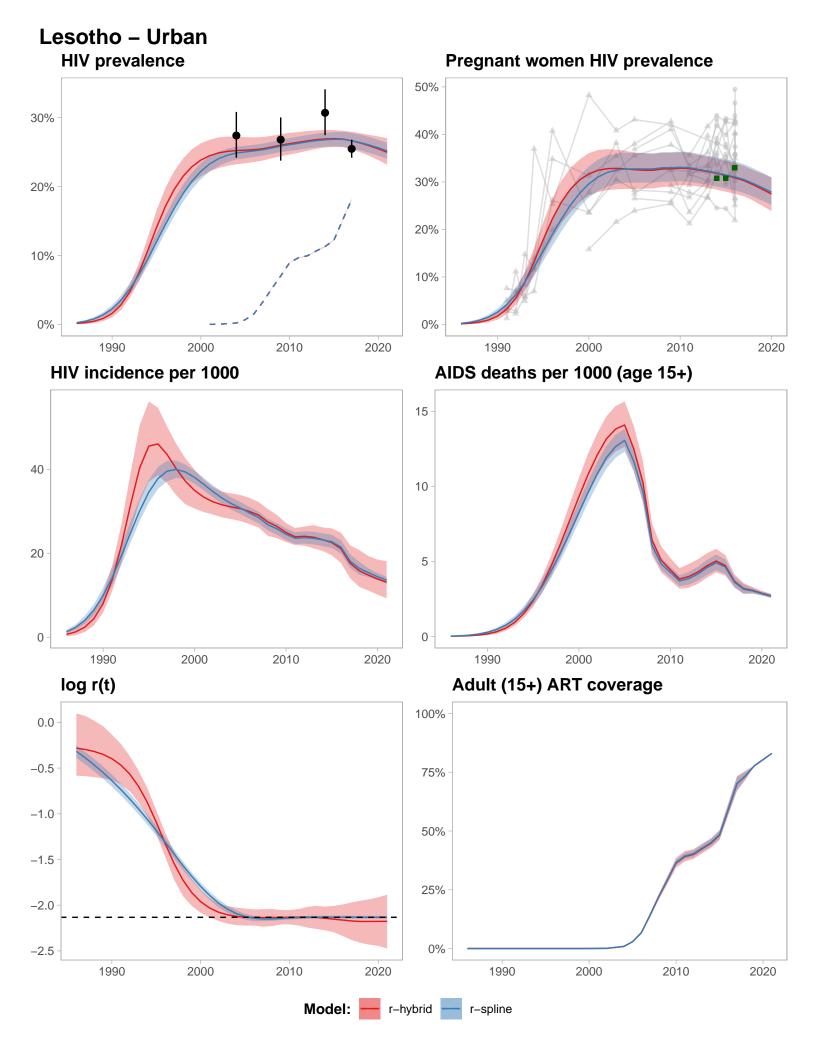


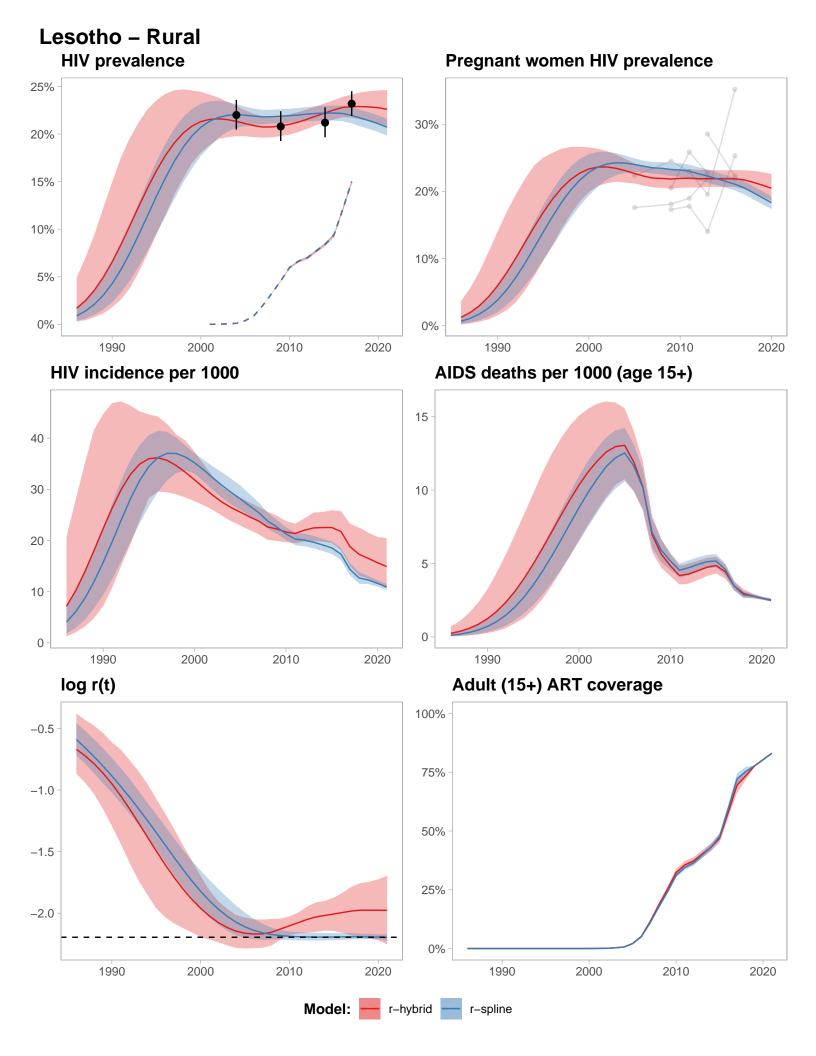
Kenya - North Eastern **HIV** prevalence **Pregnant women HIV prevalence** 4% 4% 3% 3% 2% 2% 1% 1% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 2 8 2 6 2 4 1 2 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% 25% 0% -6 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

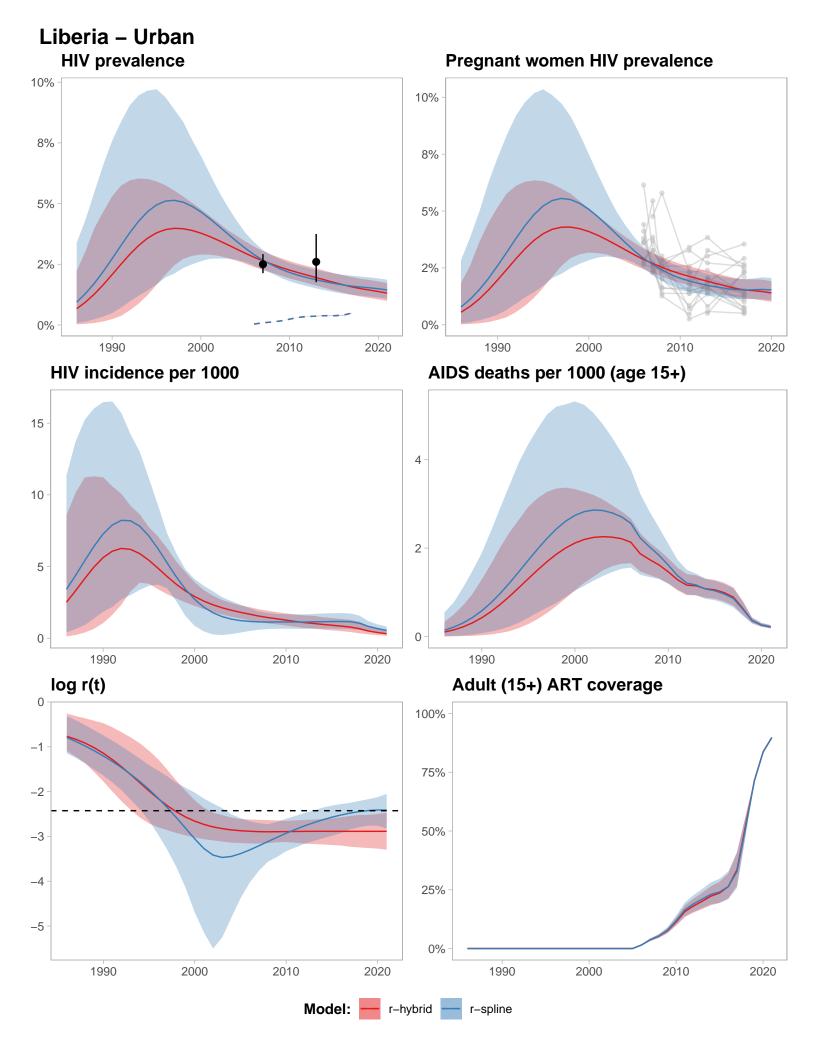
Kenya - Nyanza **HIV** prevalence **Pregnant women HIV prevalence** 40% 20% 30% 20% 10% 10% 0% 0% 1990 2000 2010 1990 2000 2010 2020 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 50 40 10 30 20 5 10 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% -3 0% 2000 1990 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

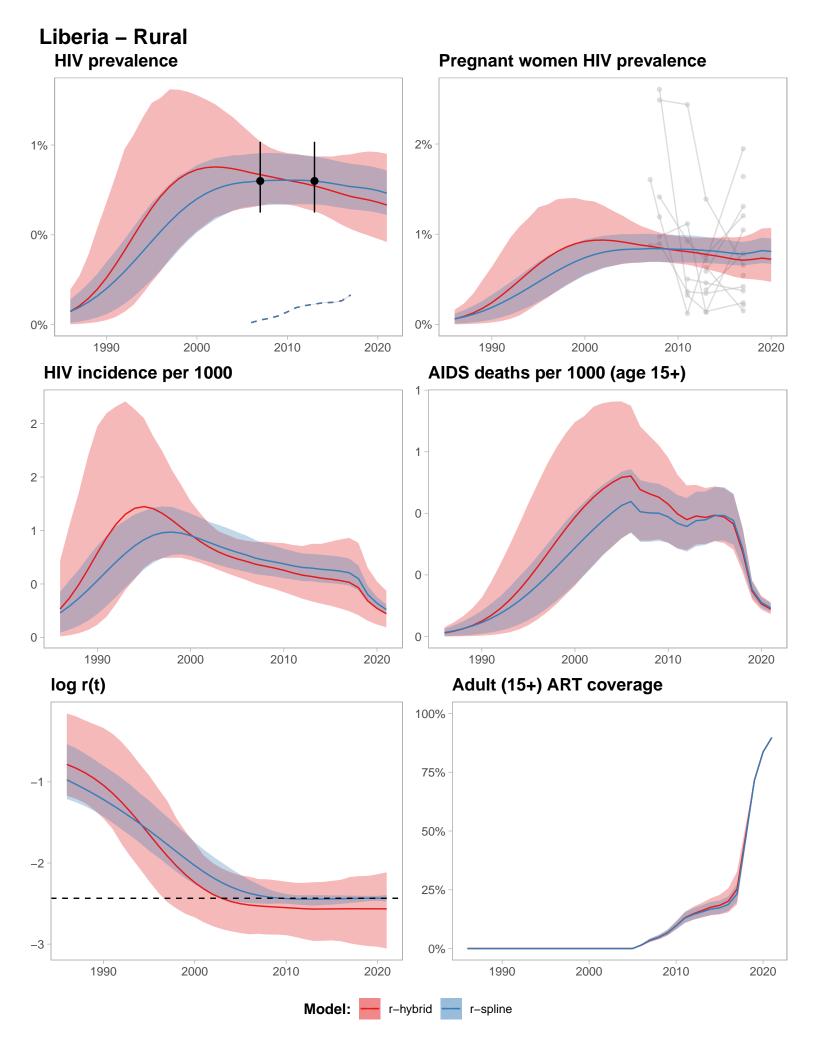
Kenya - Rift Valley **HIV** prevalence **Pregnant women HIV prevalence** 20% 9% 15% 6% 10% 3% 5% 0% 0% 1990 2000 1990 2000 2010 2020 2020 2010 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 6 20 15 4 10 2 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% -3 0% 2000 2000 1990 2010 2020 1990 2010 2020 Model: r-hybrid r-spline

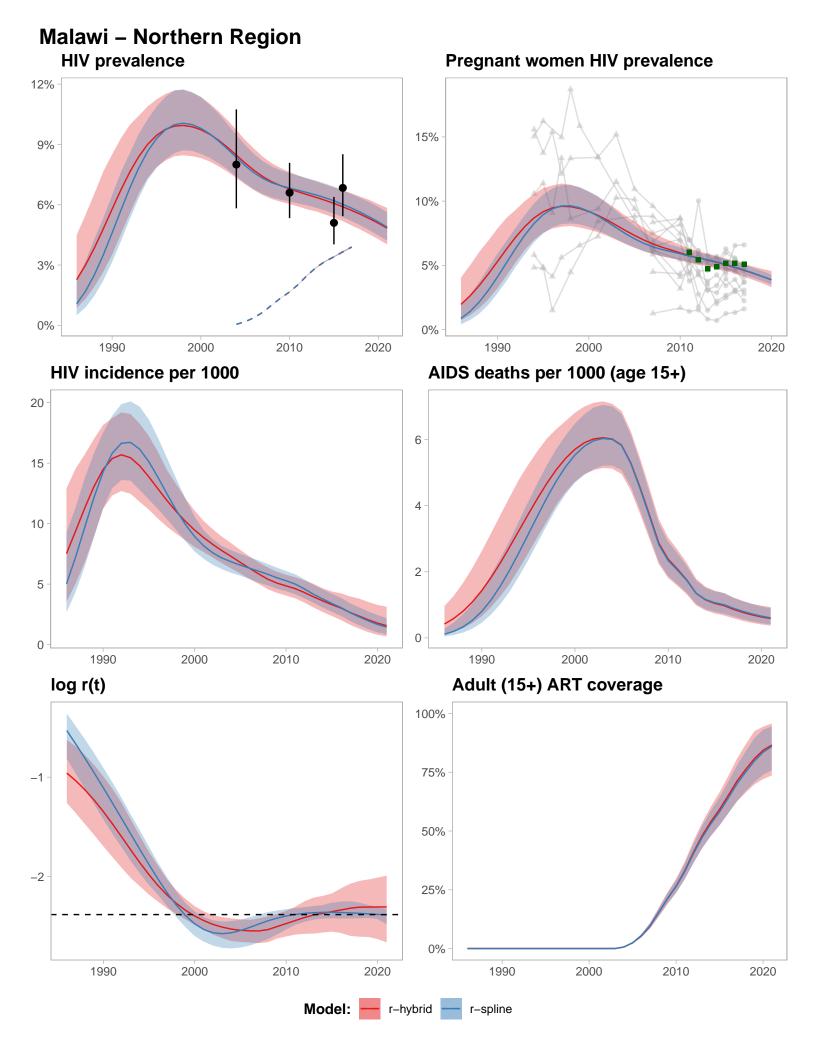


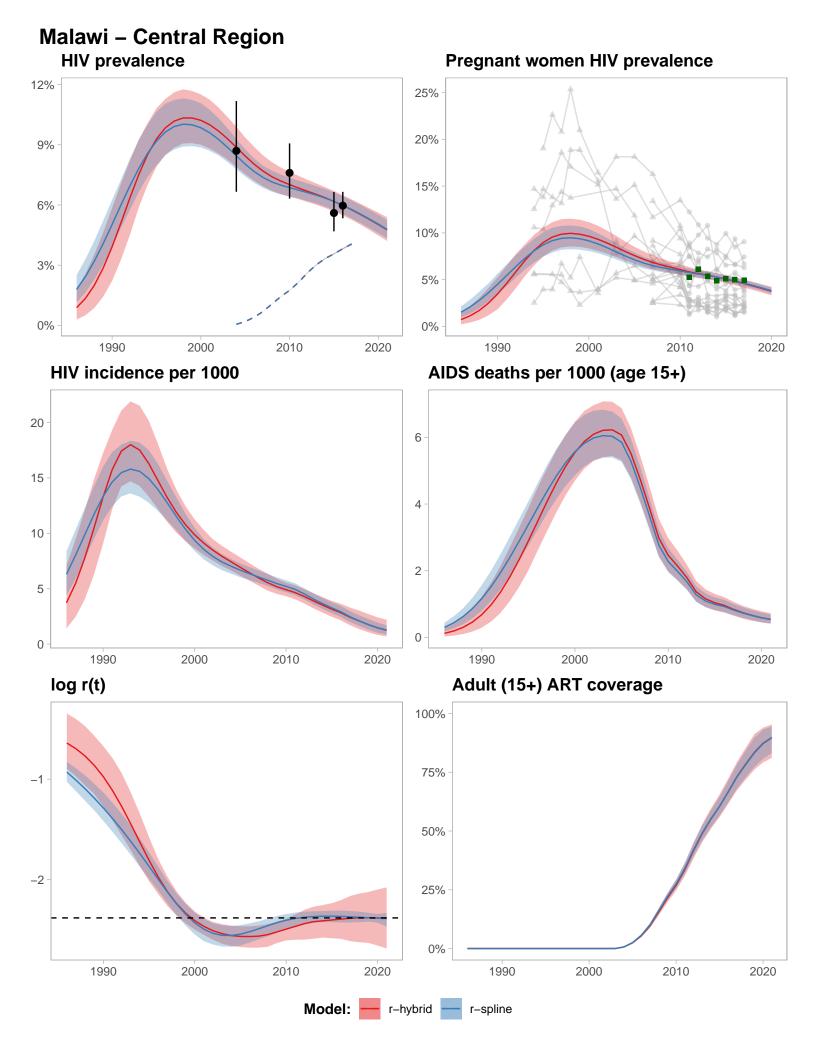


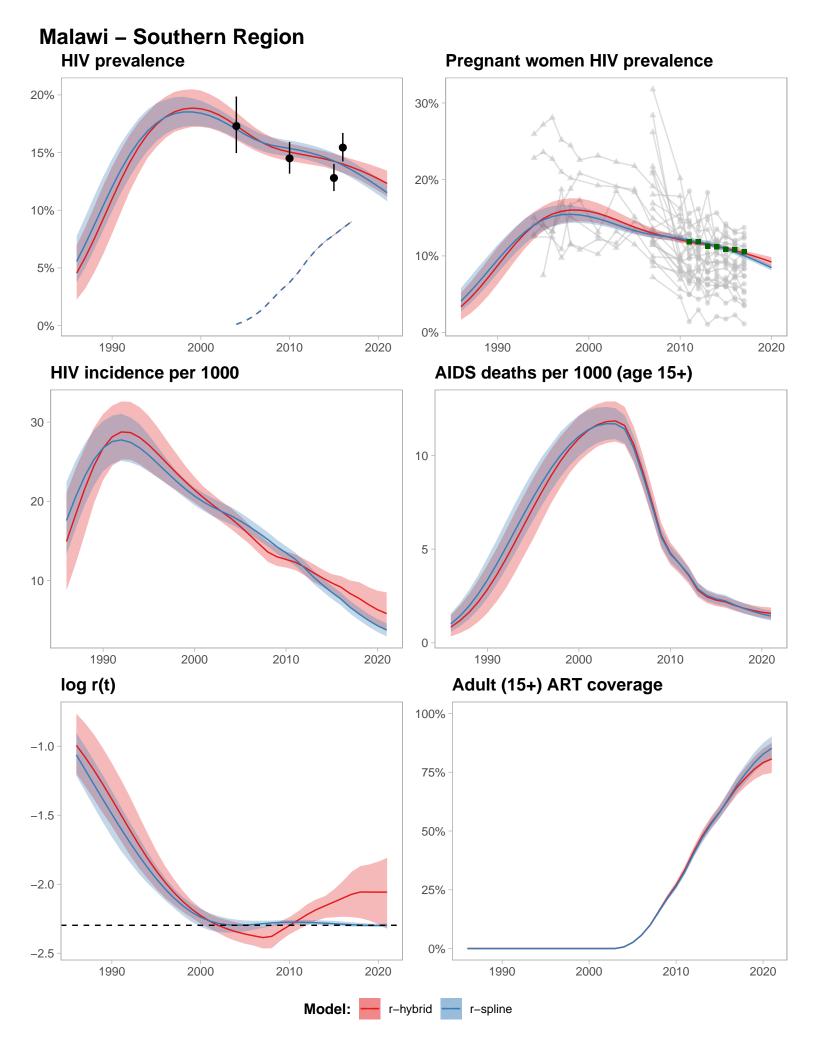


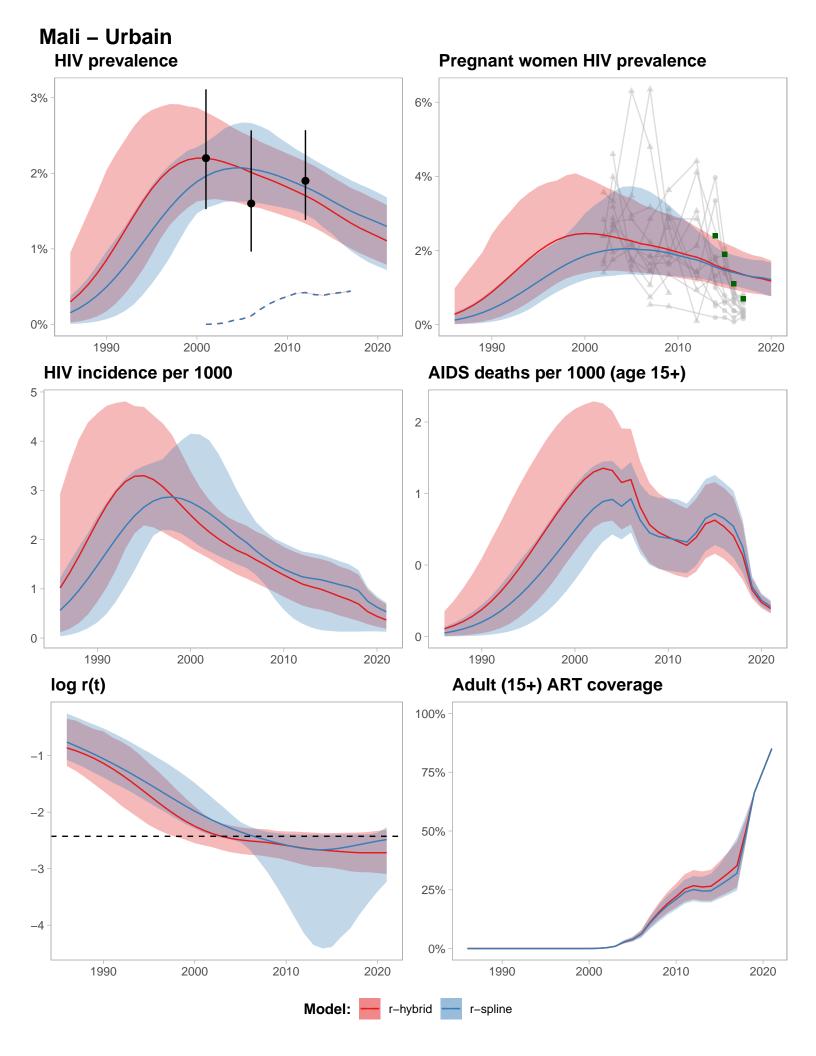


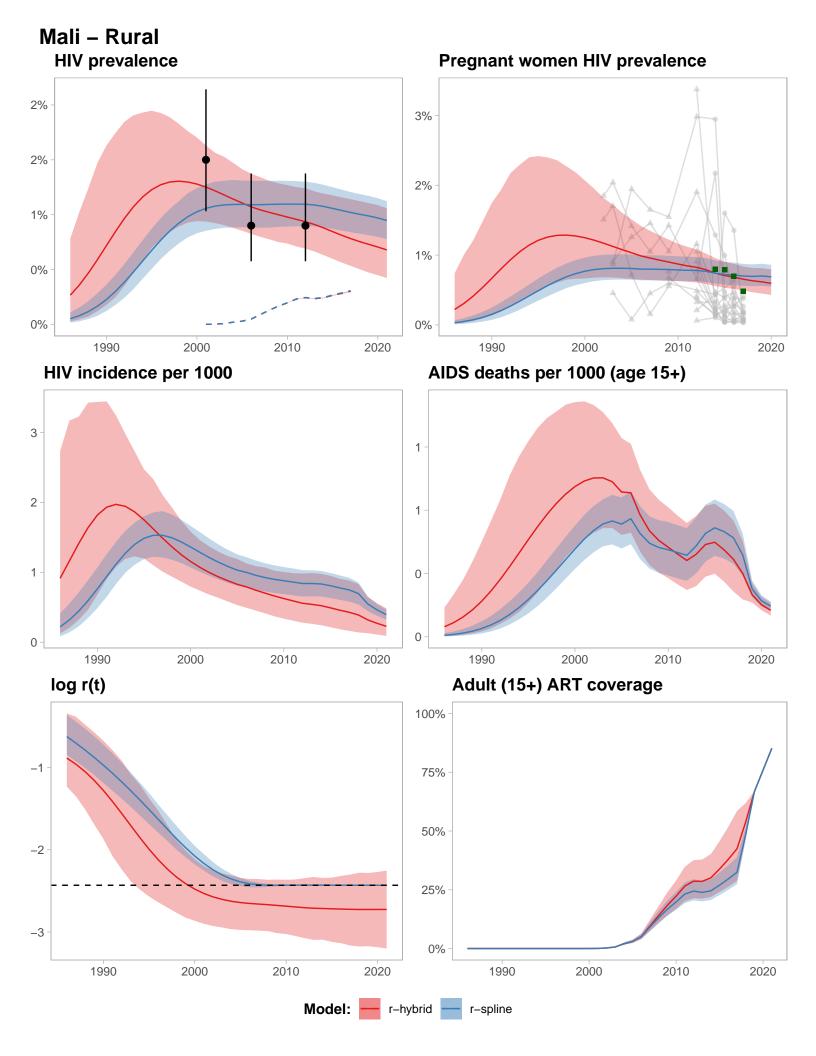


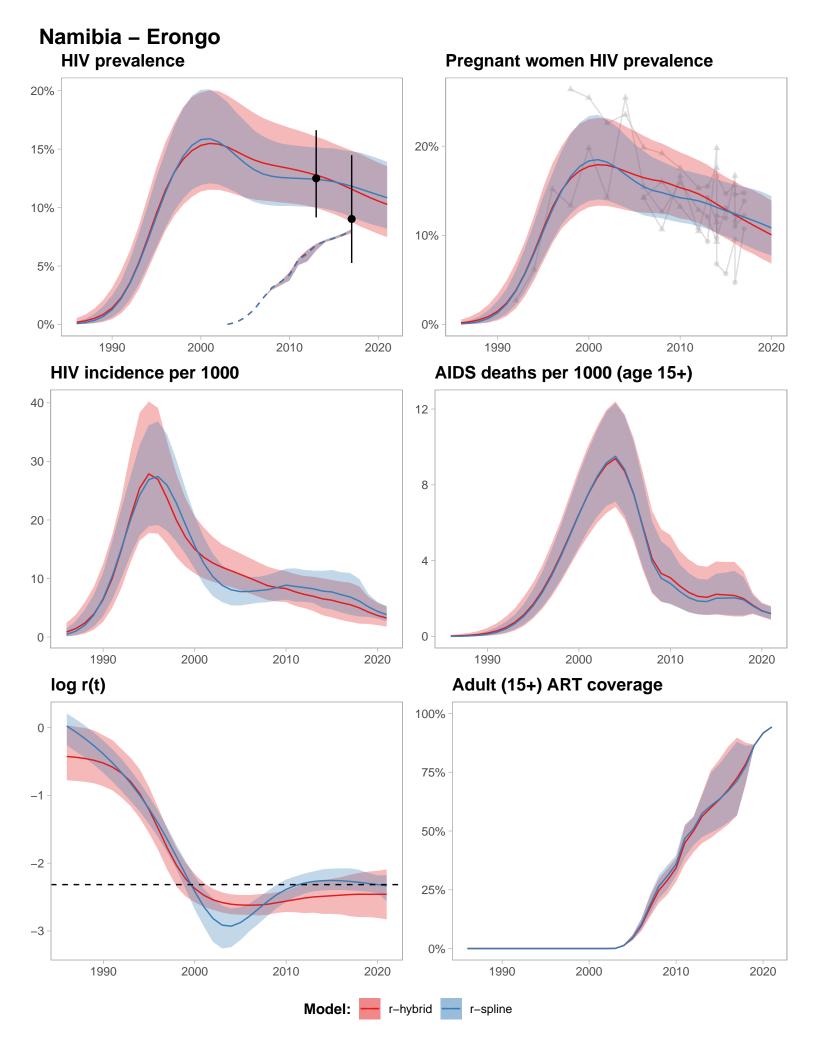


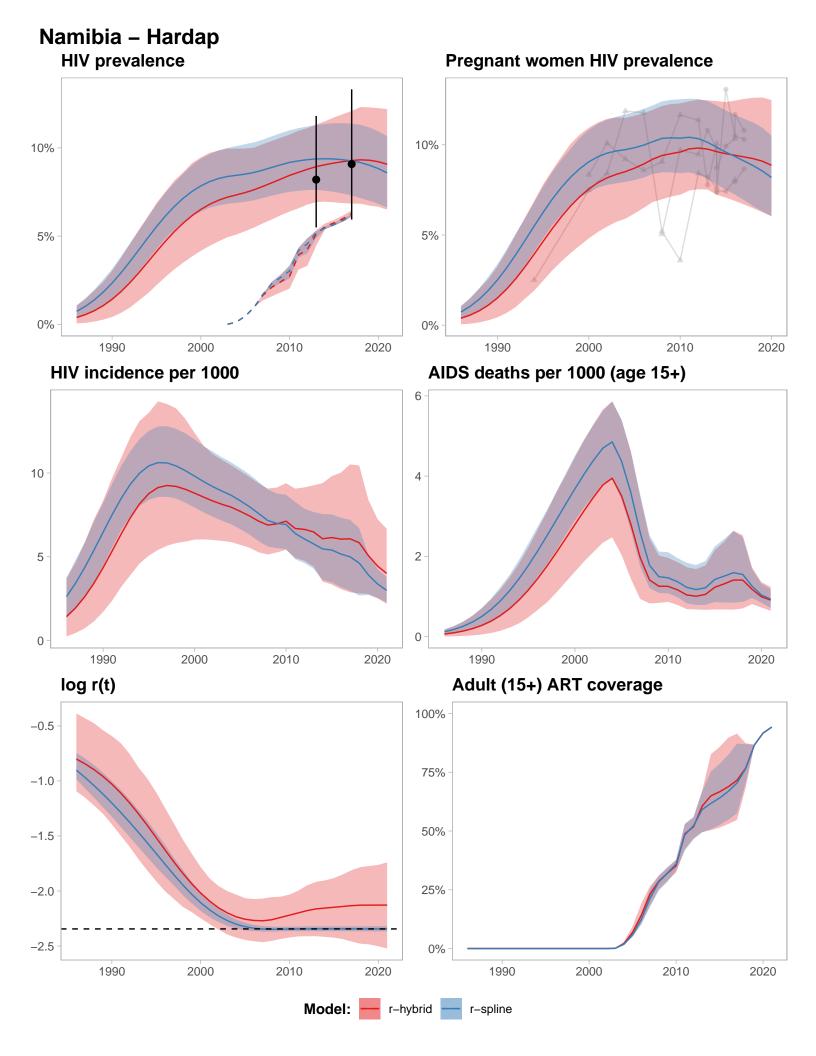


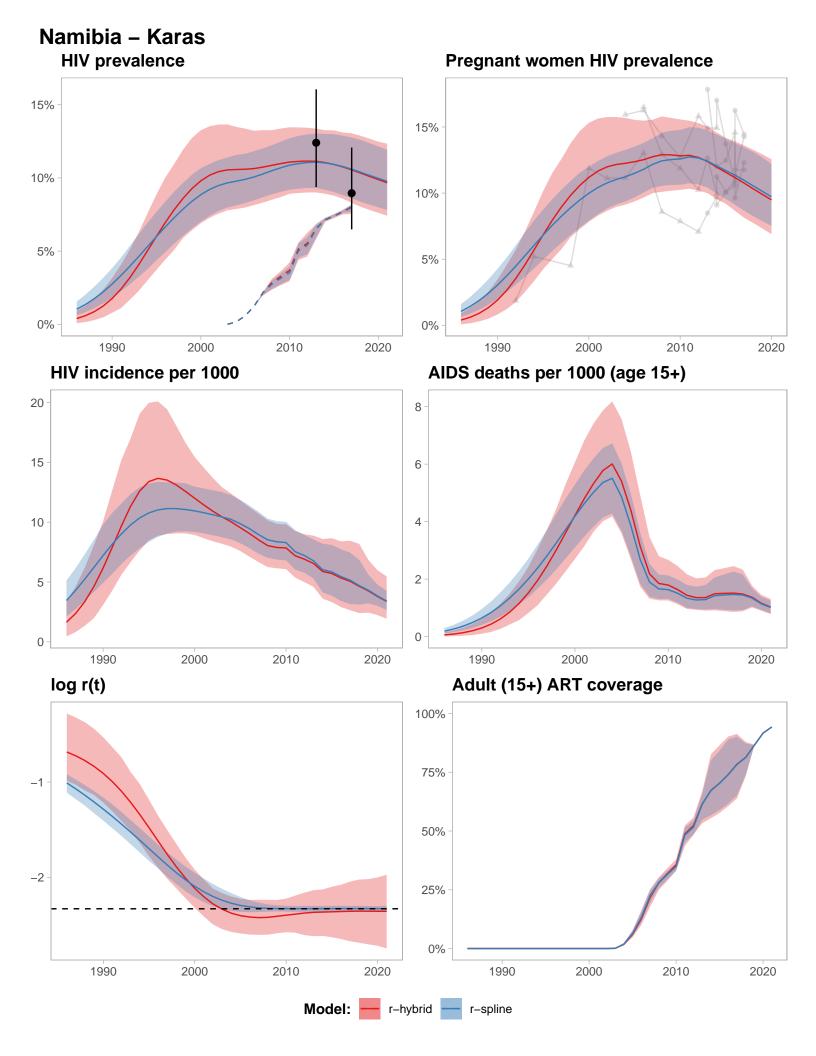


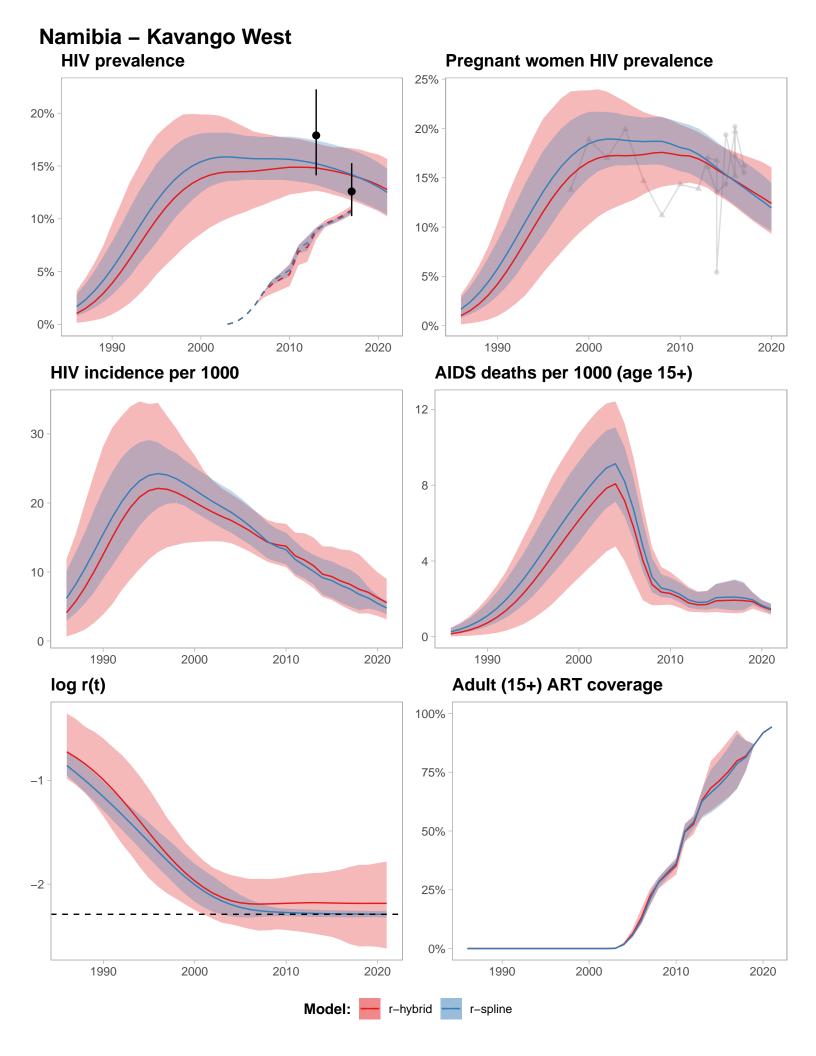


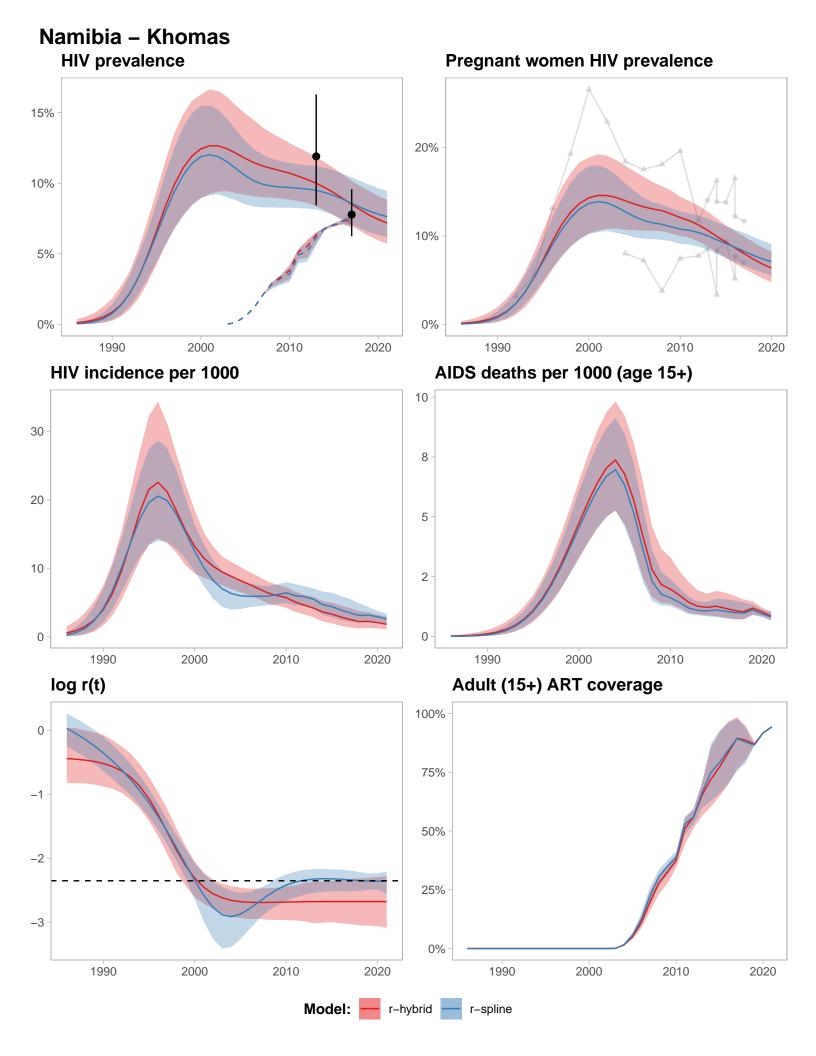


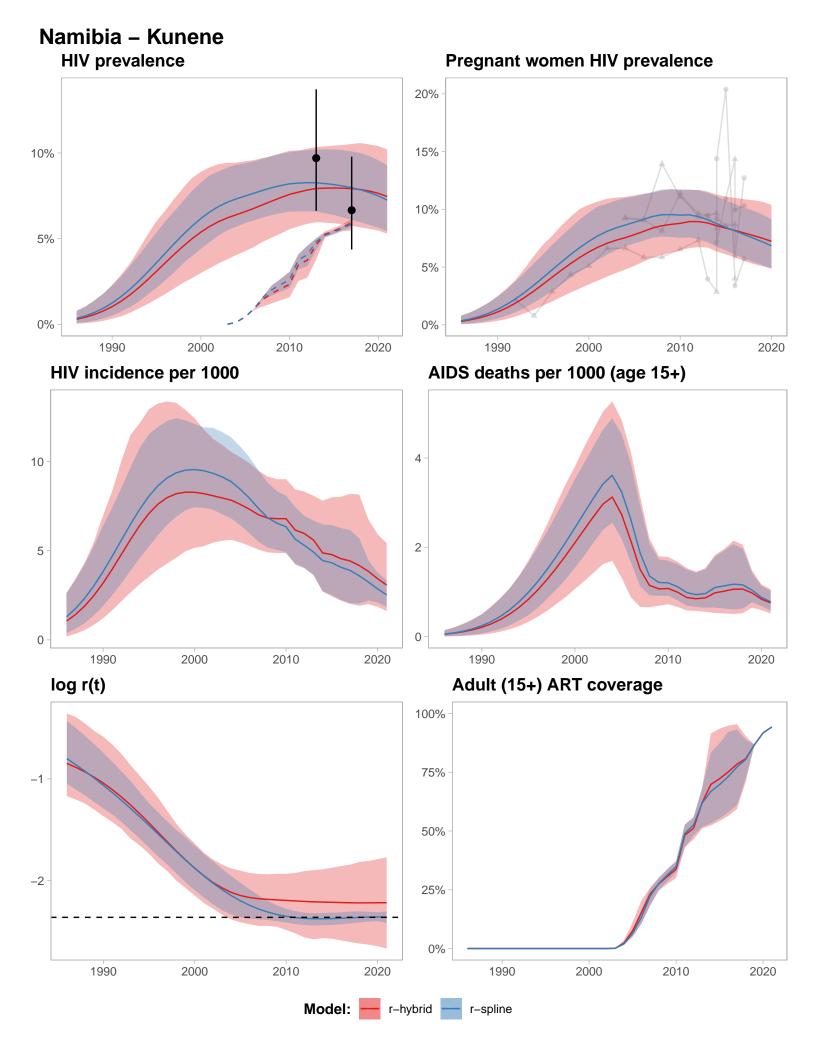


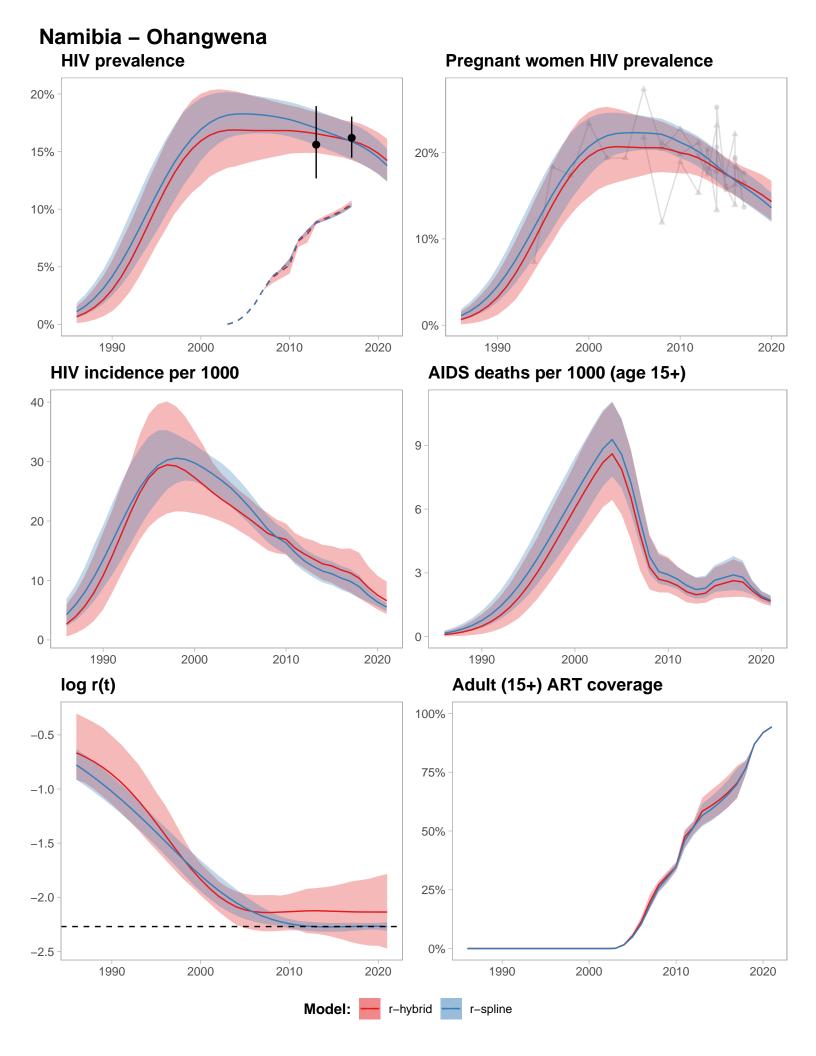


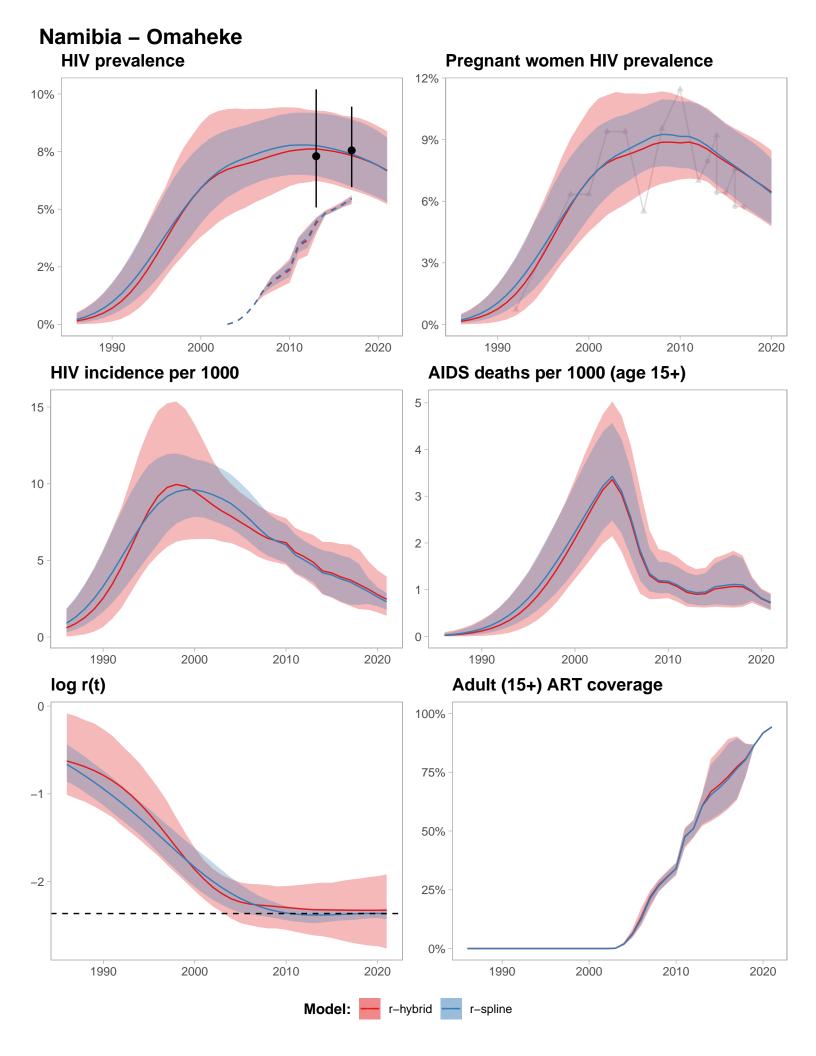


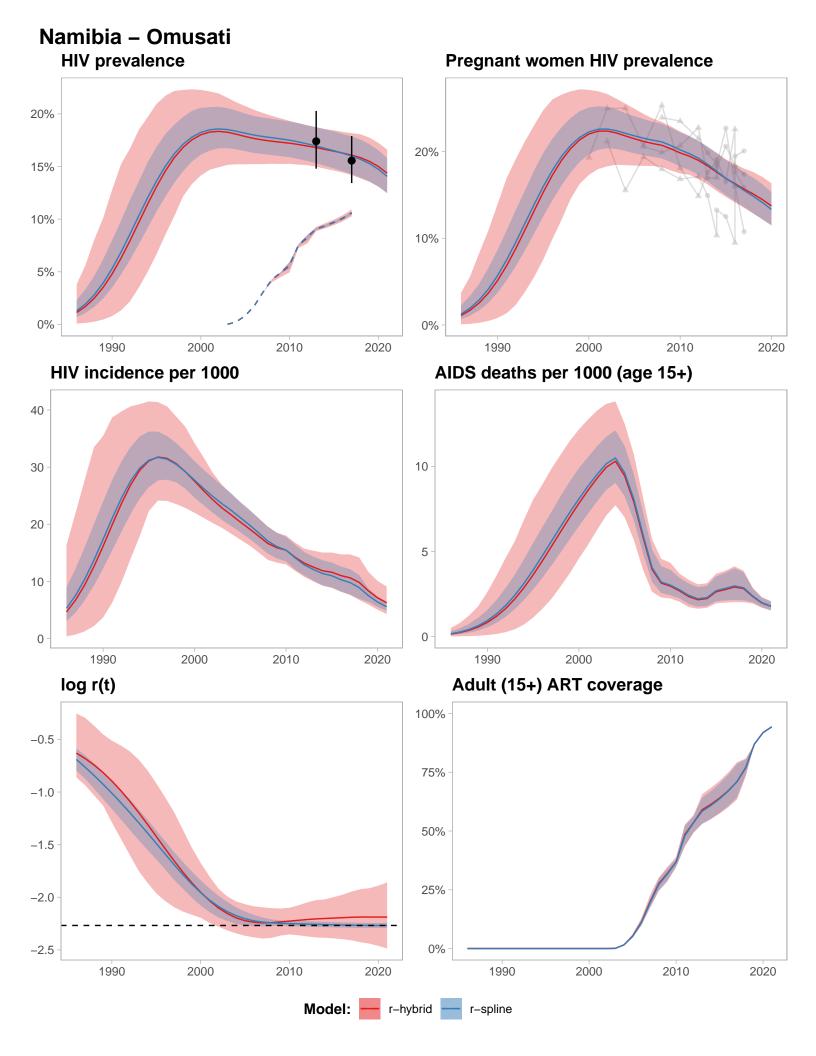


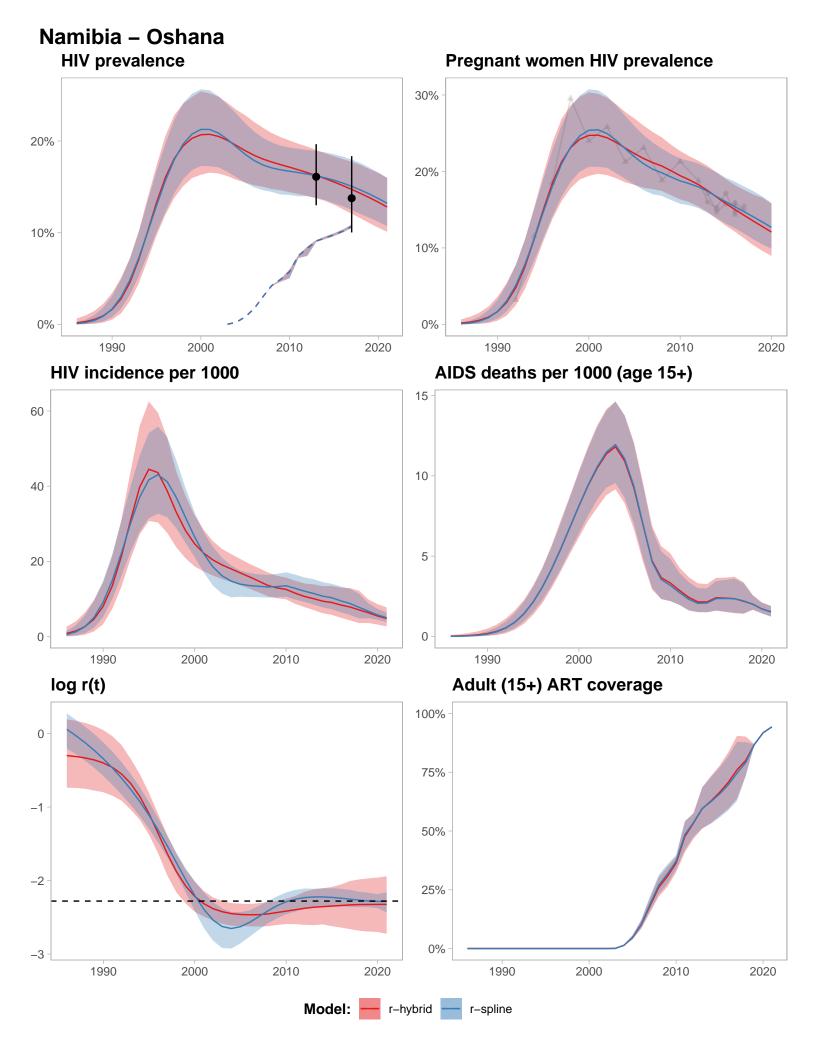


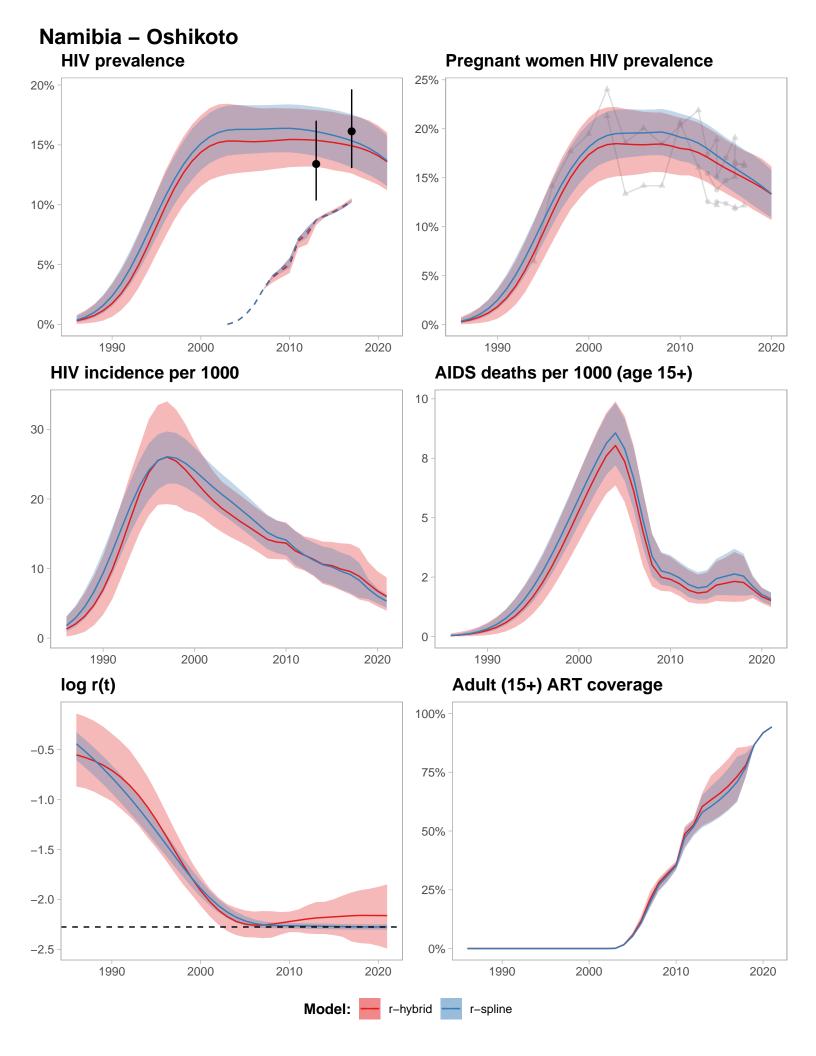


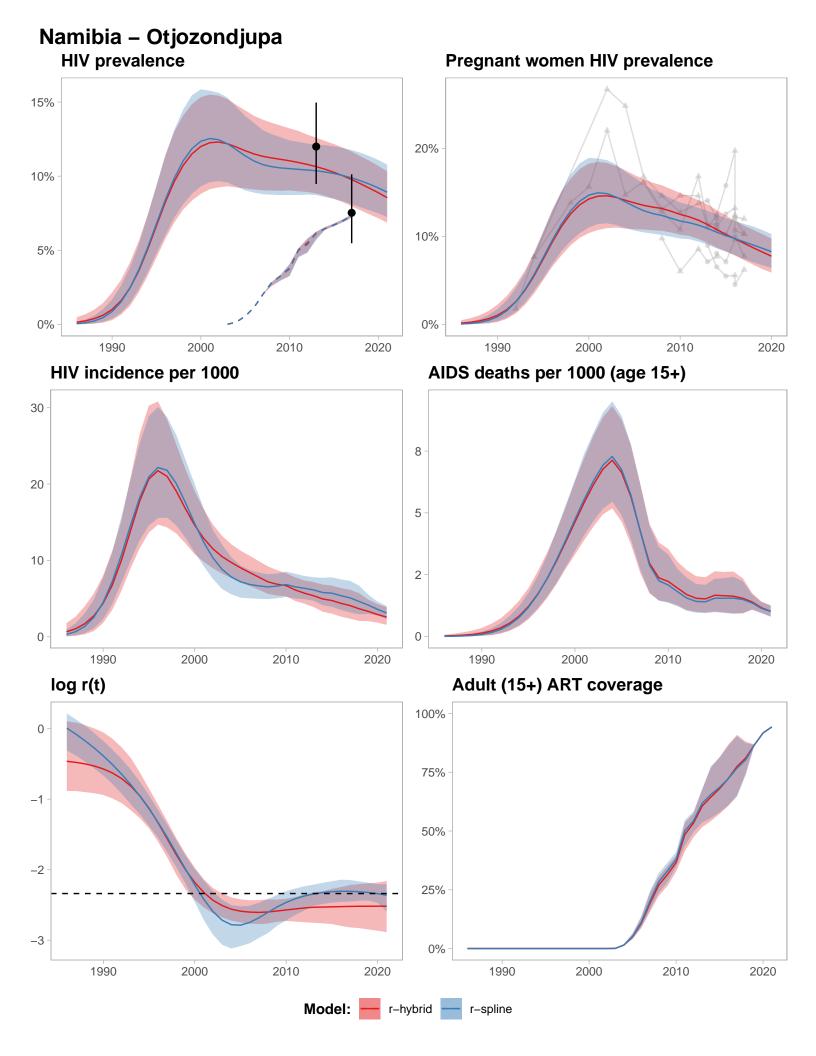


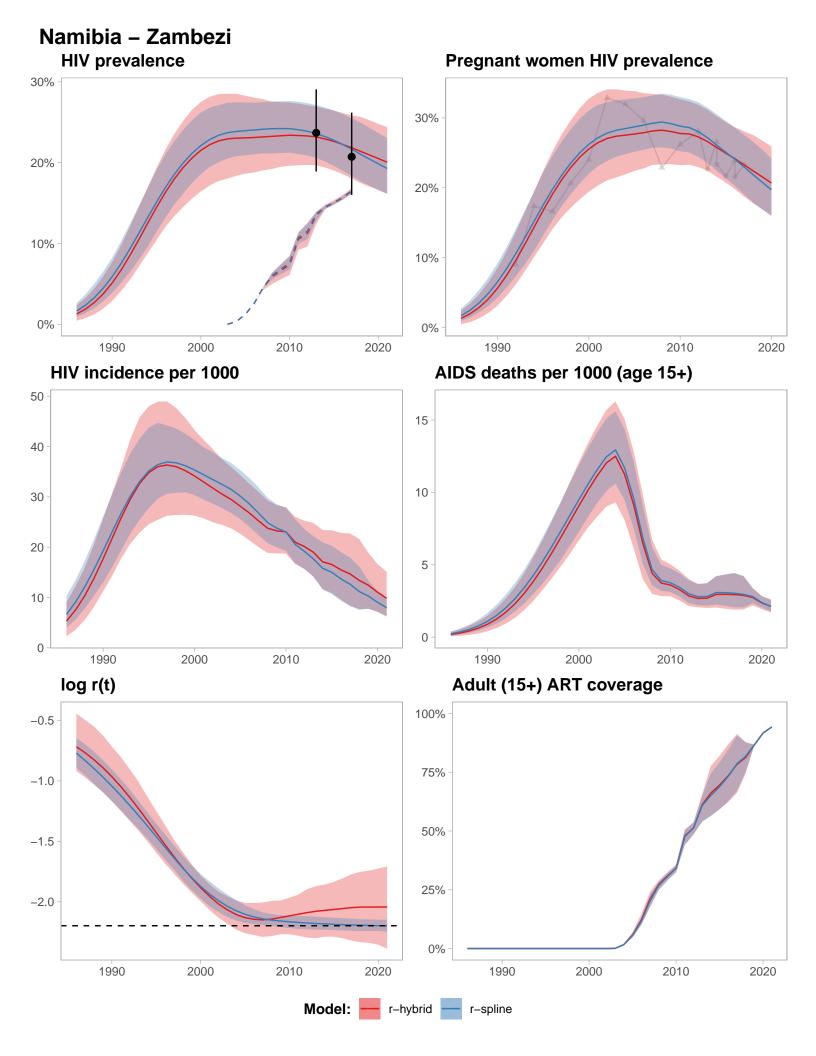


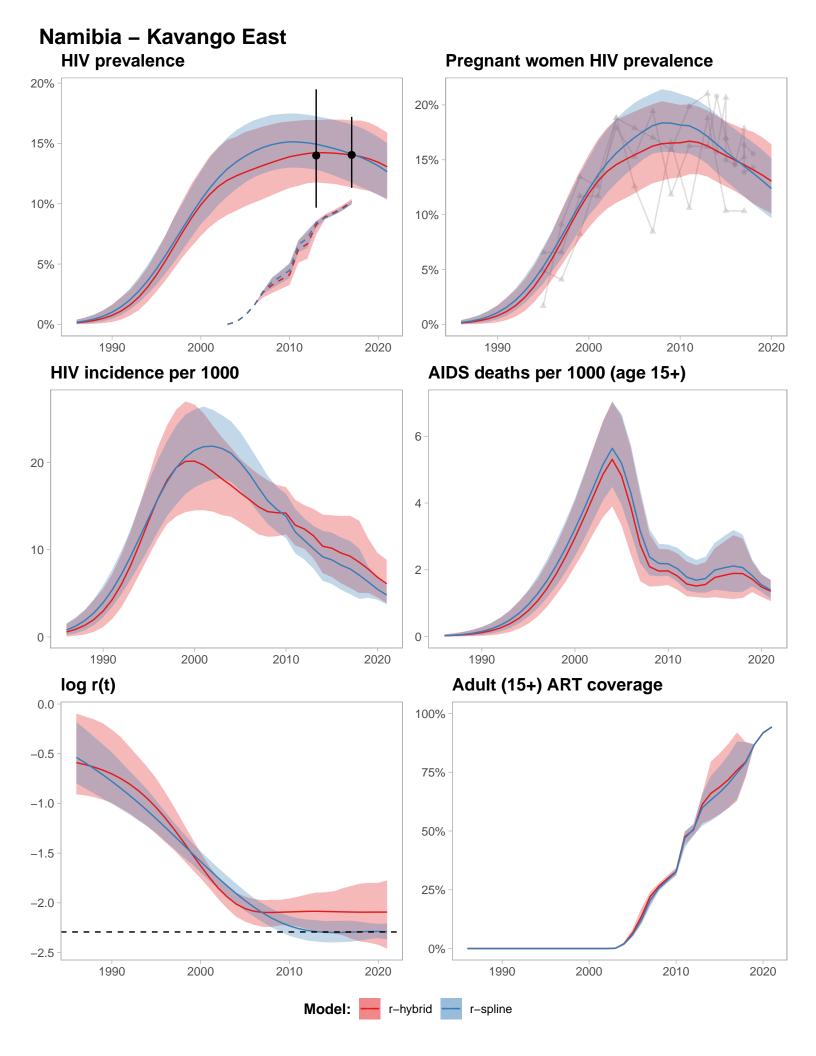


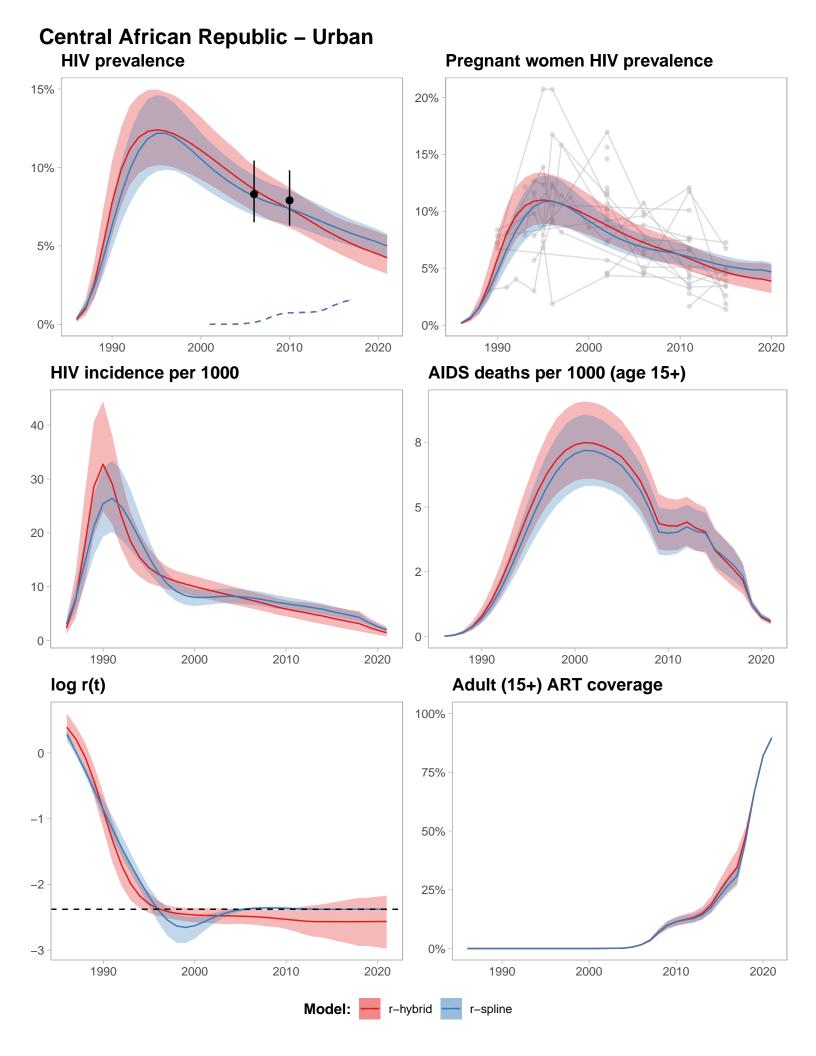


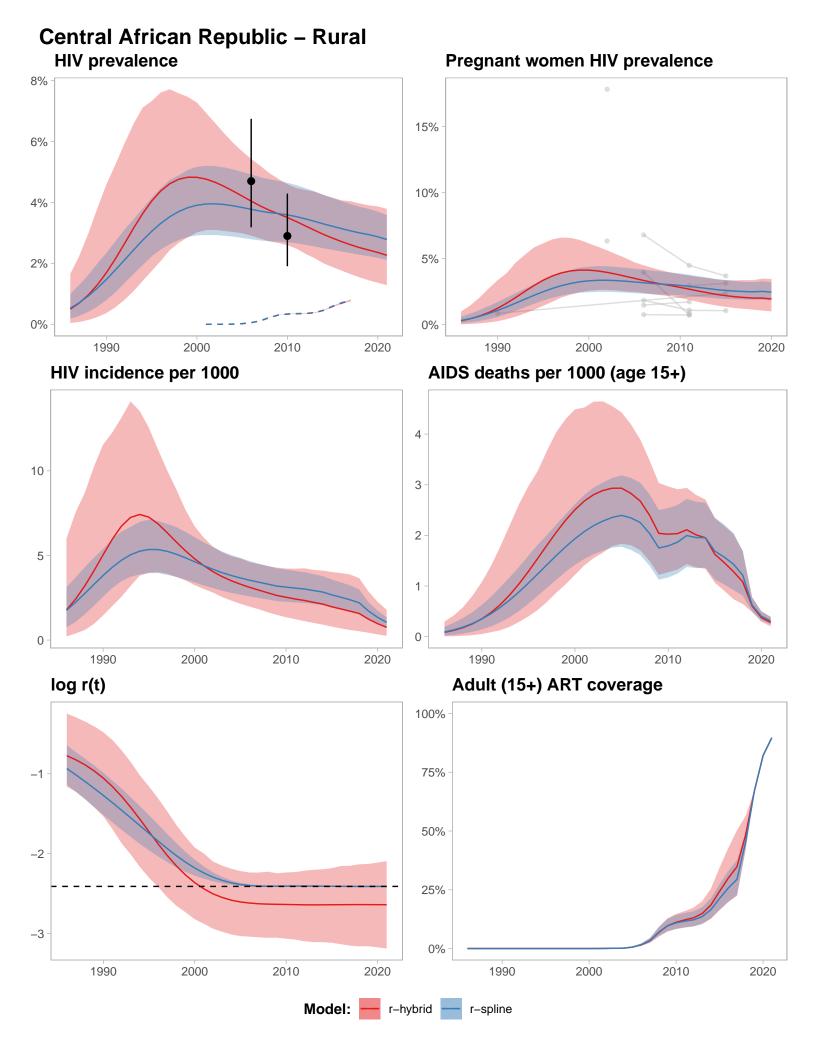


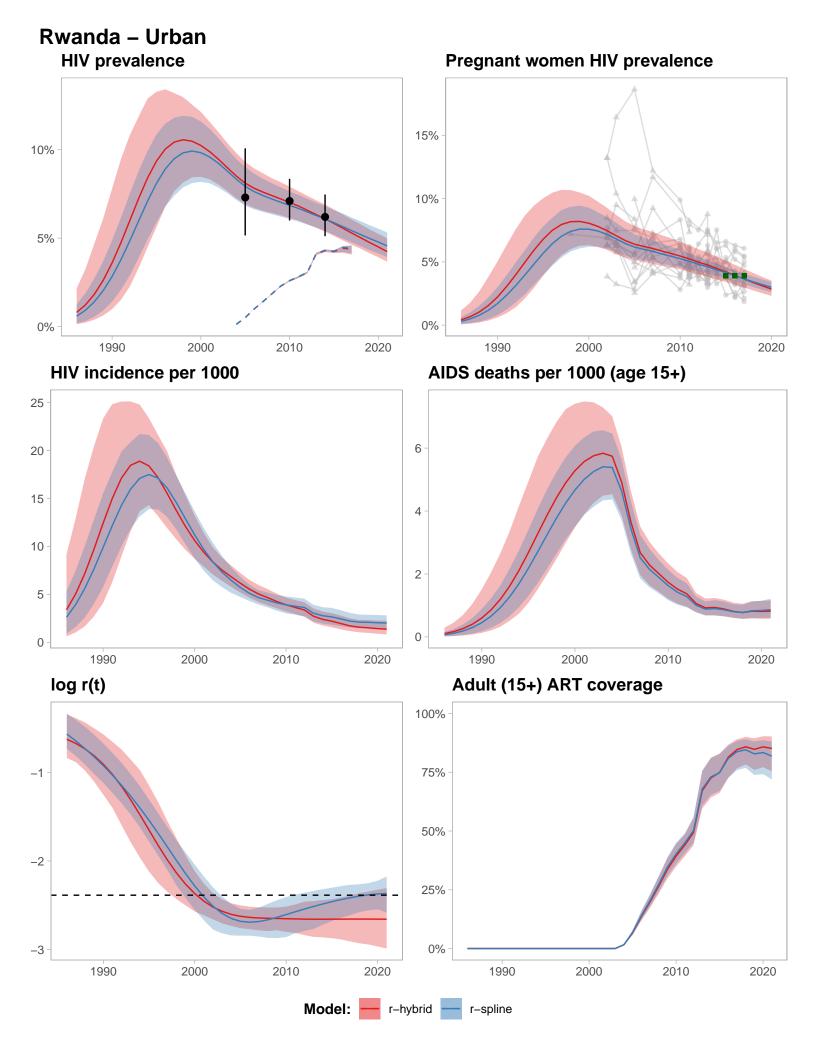


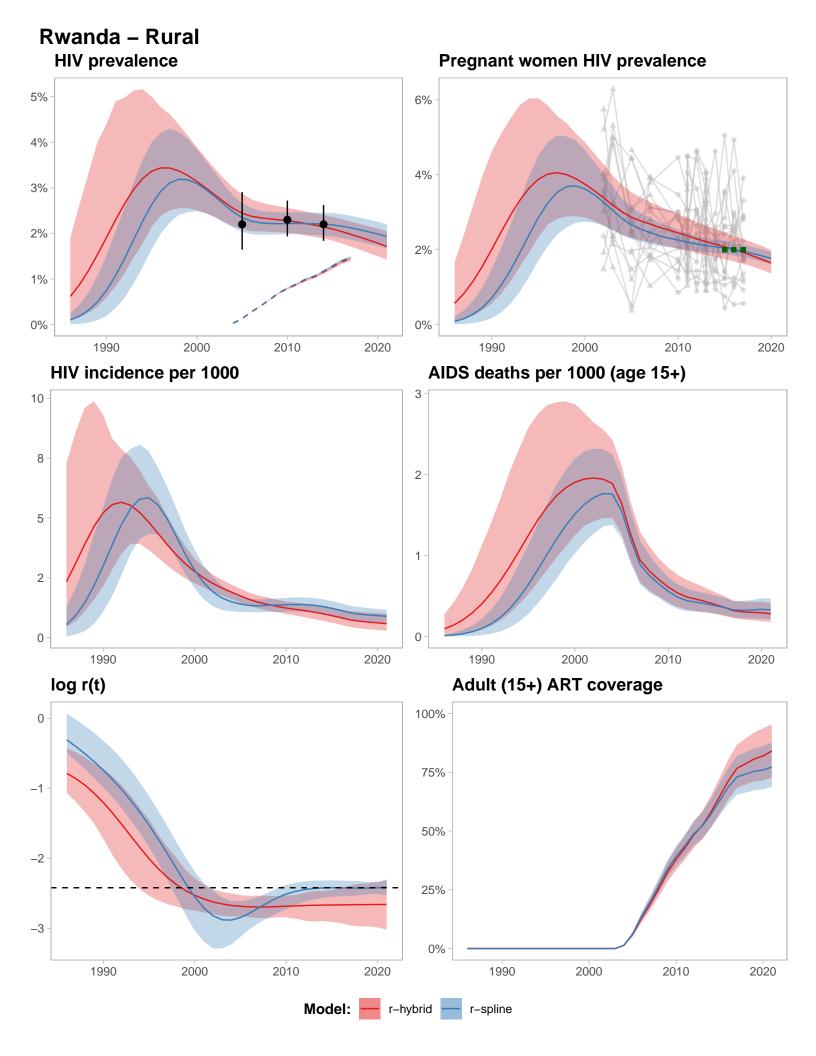


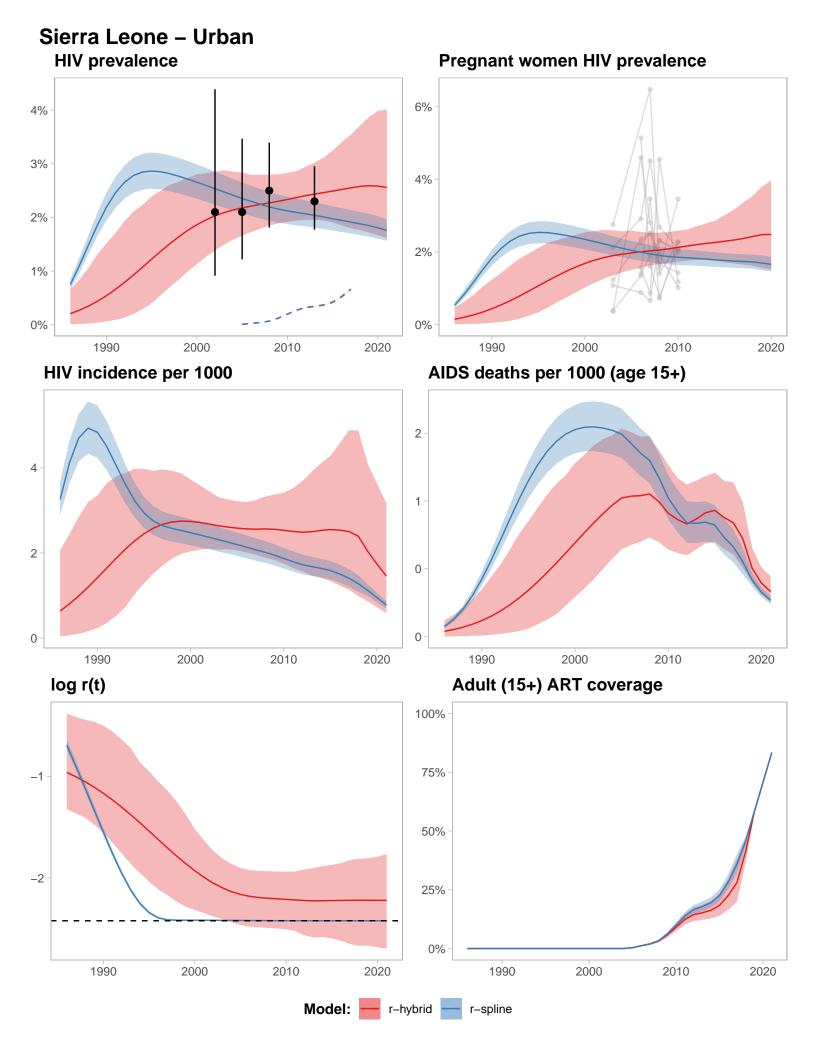


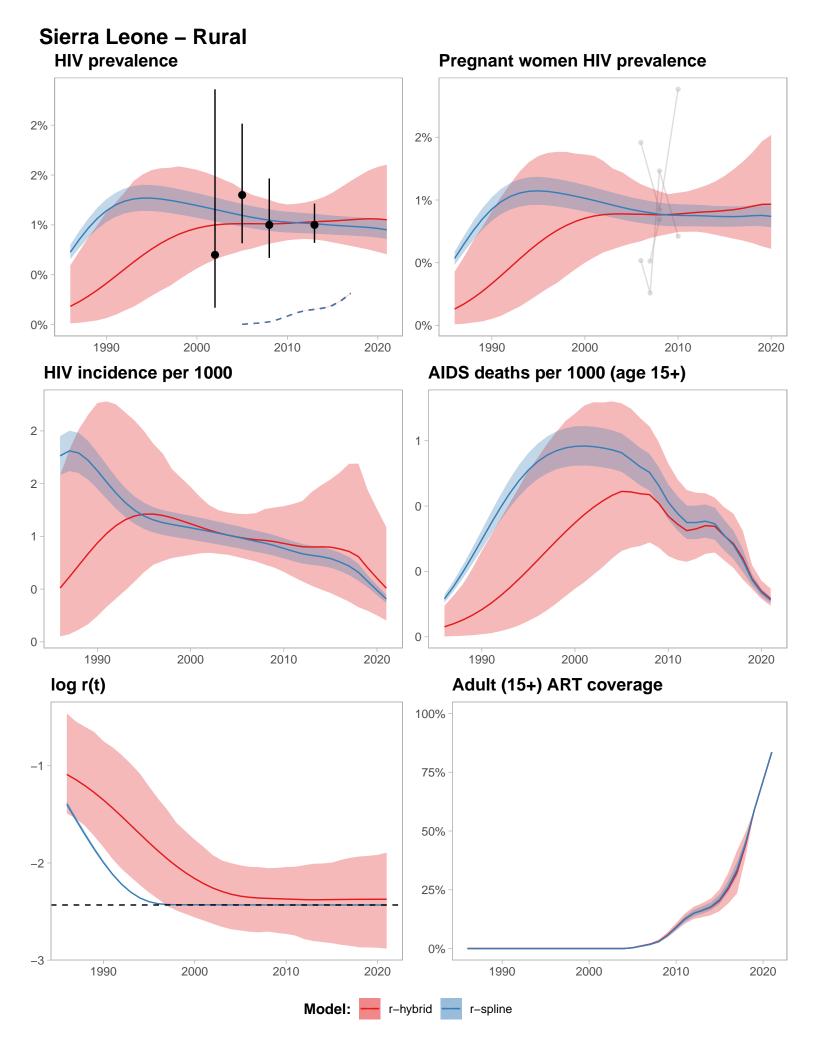


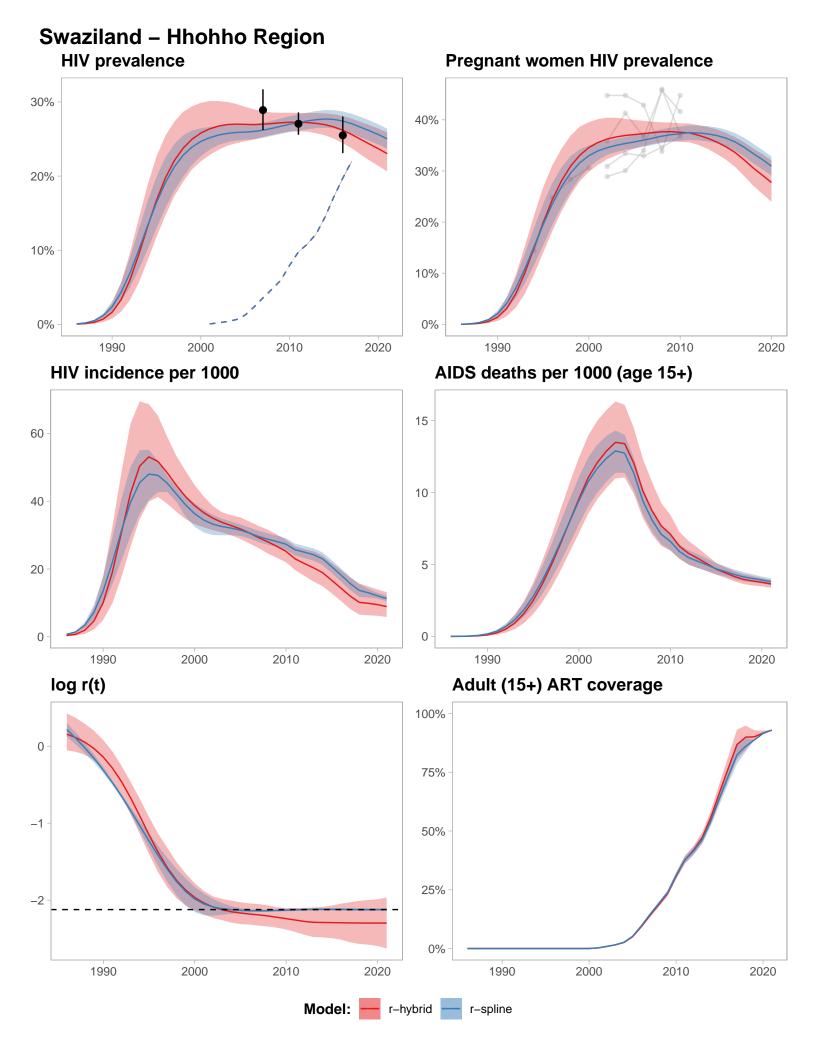


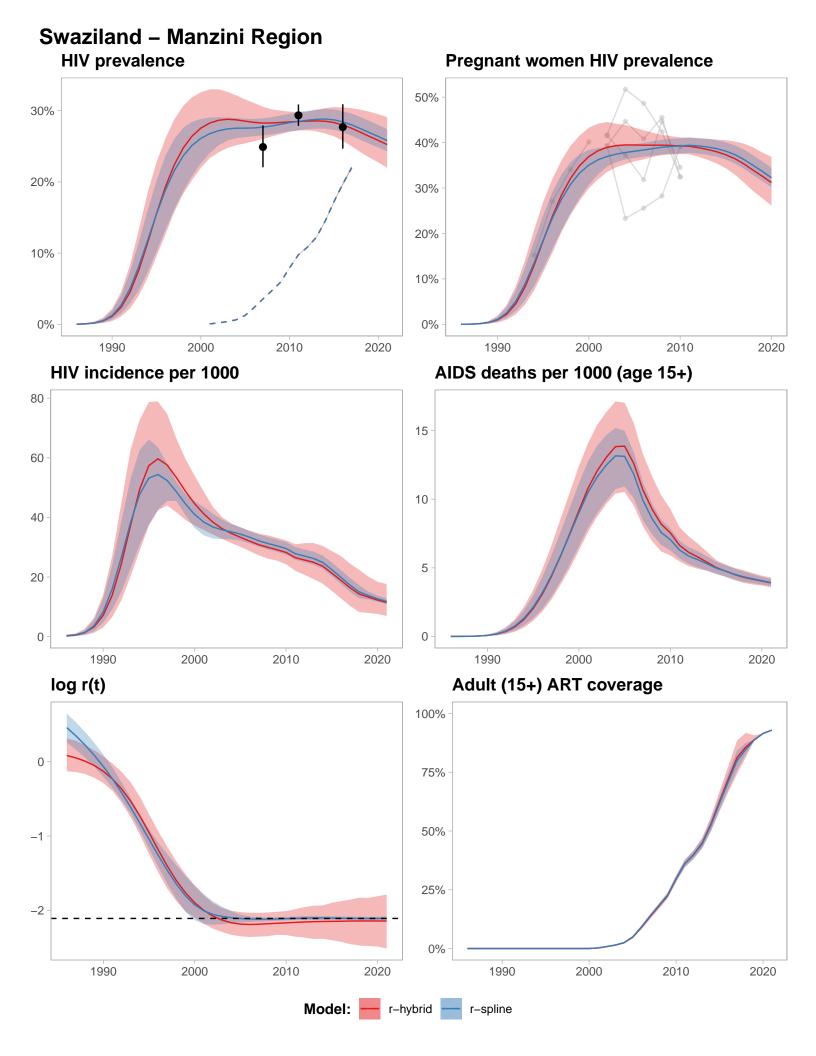


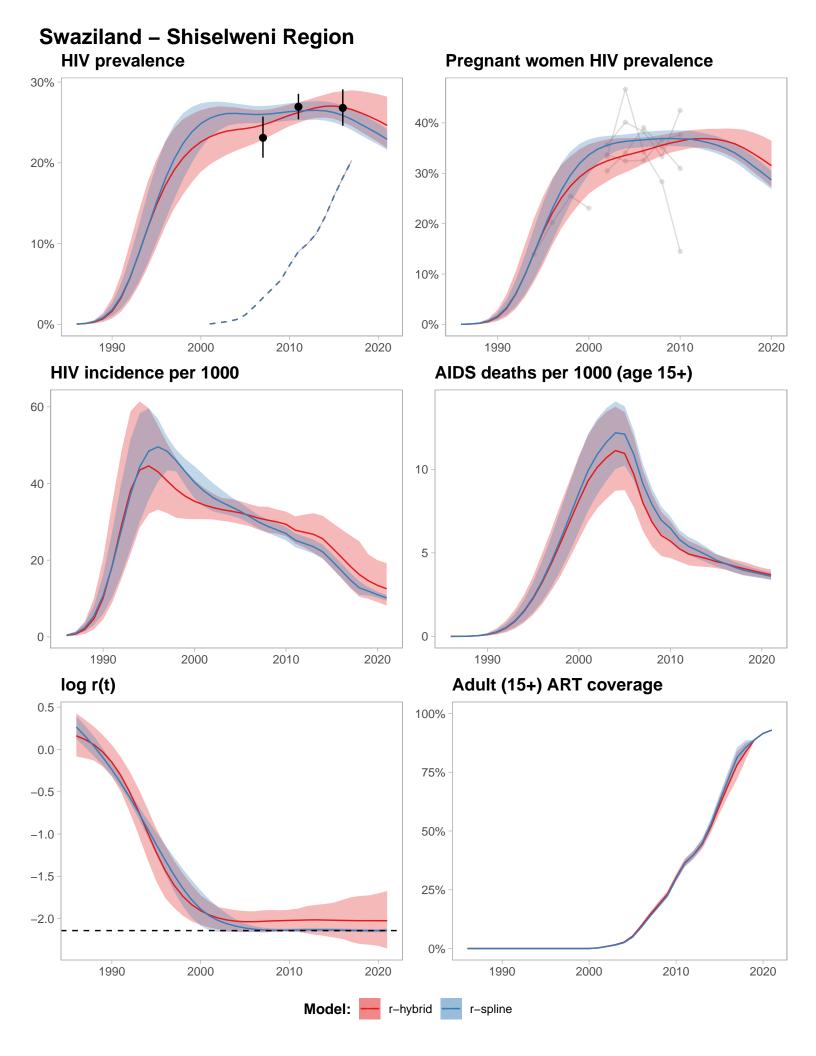


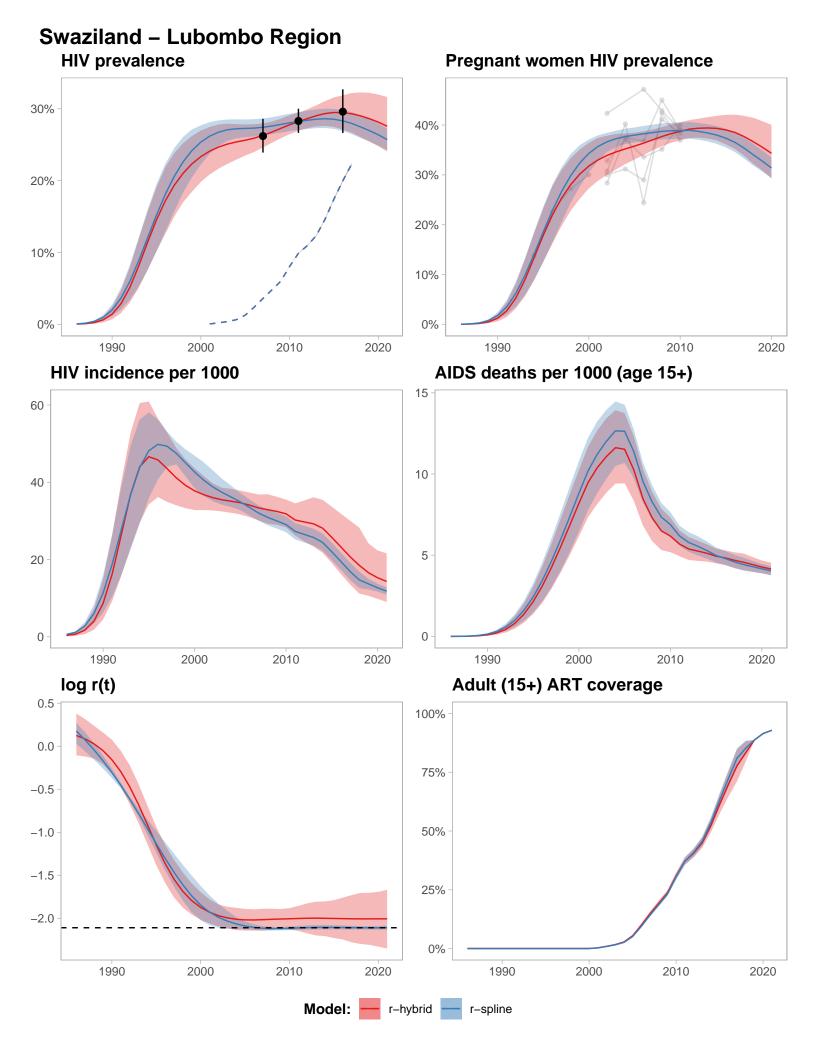


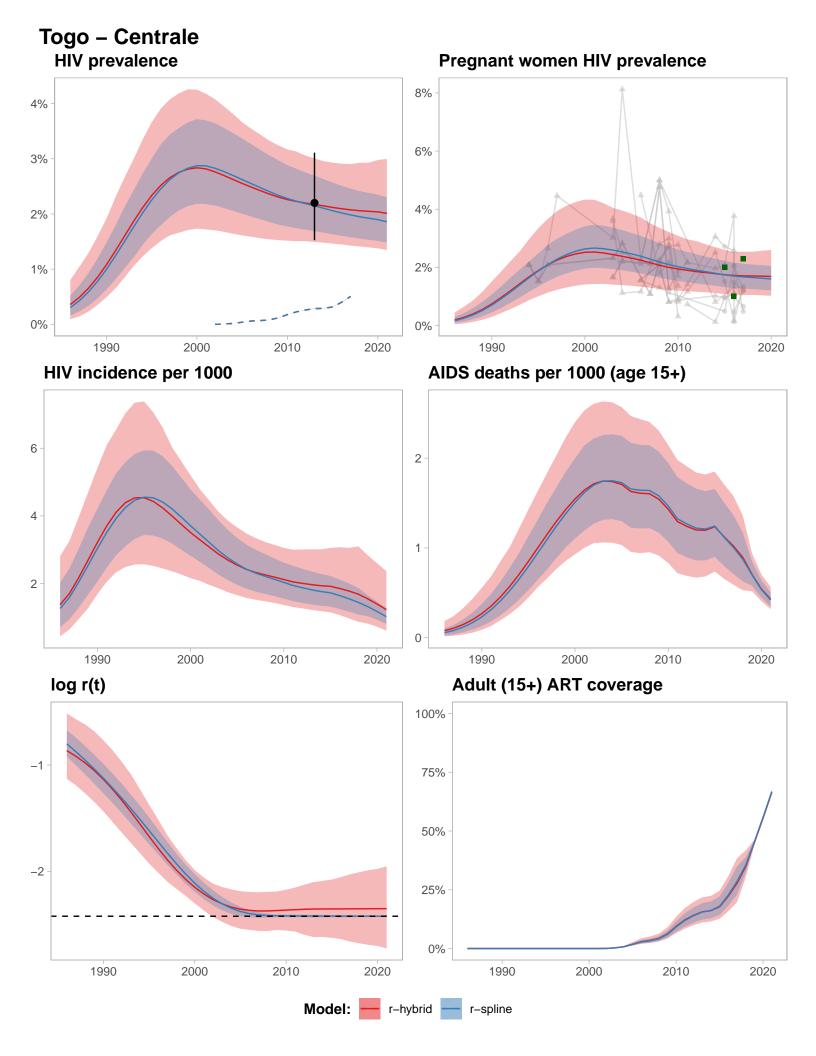


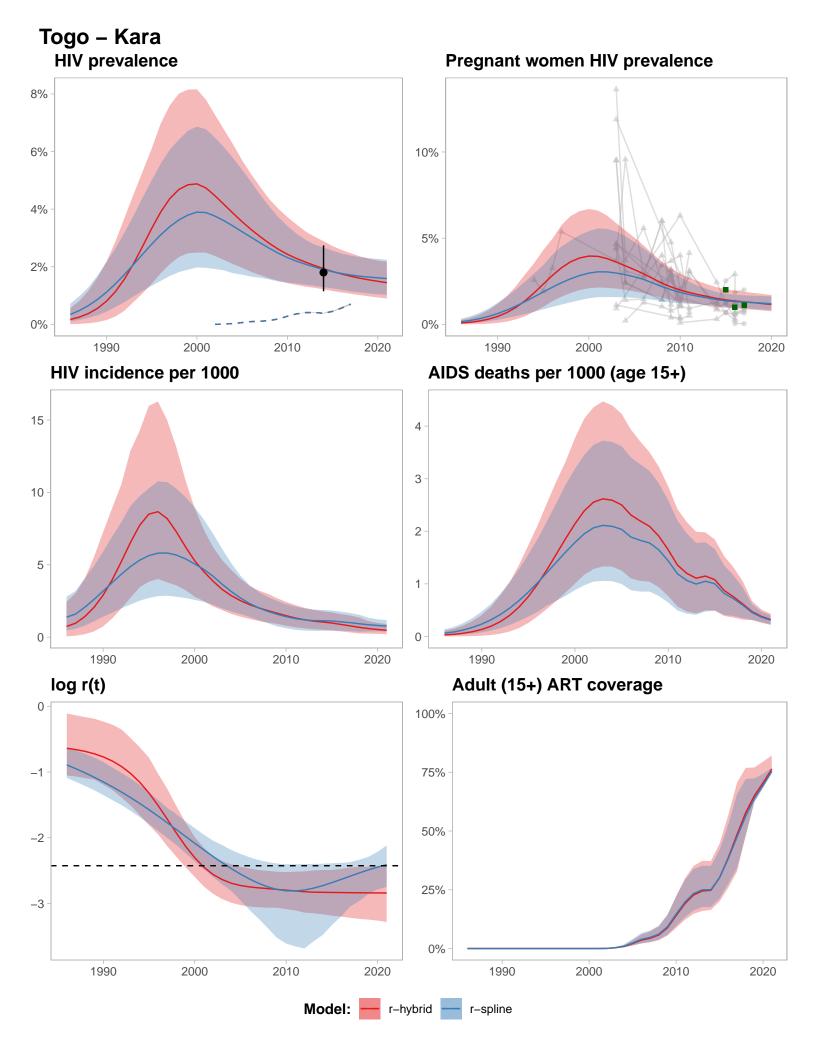


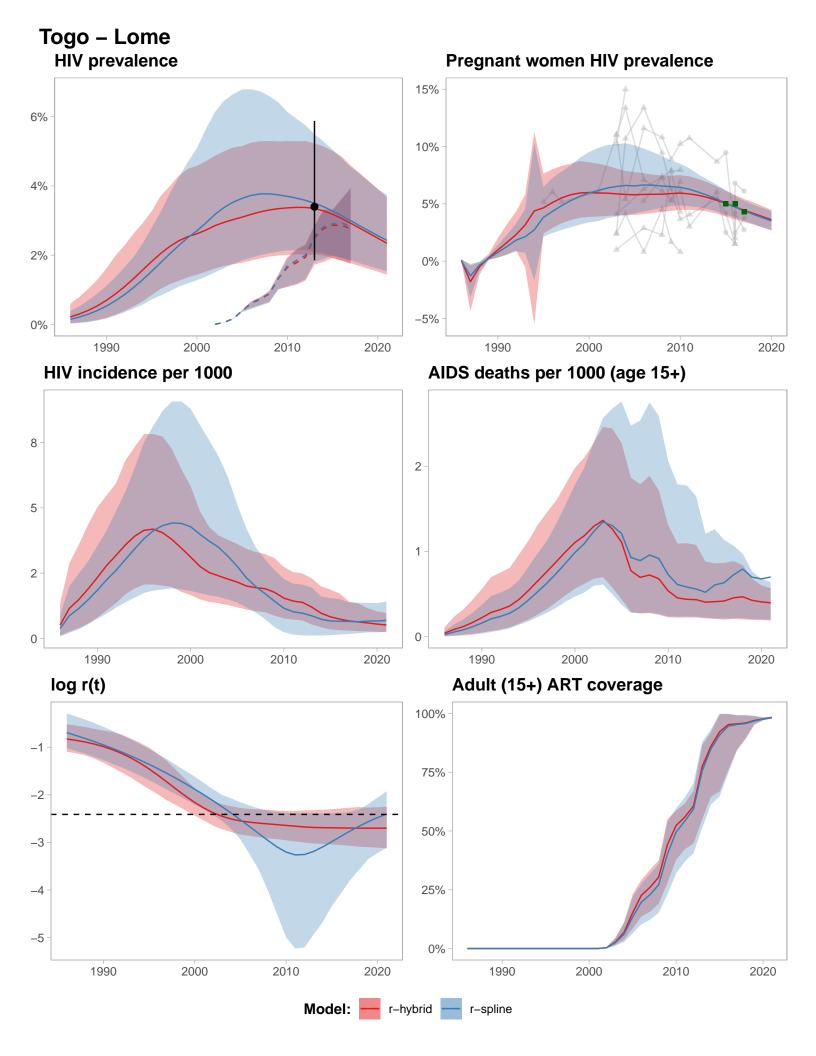




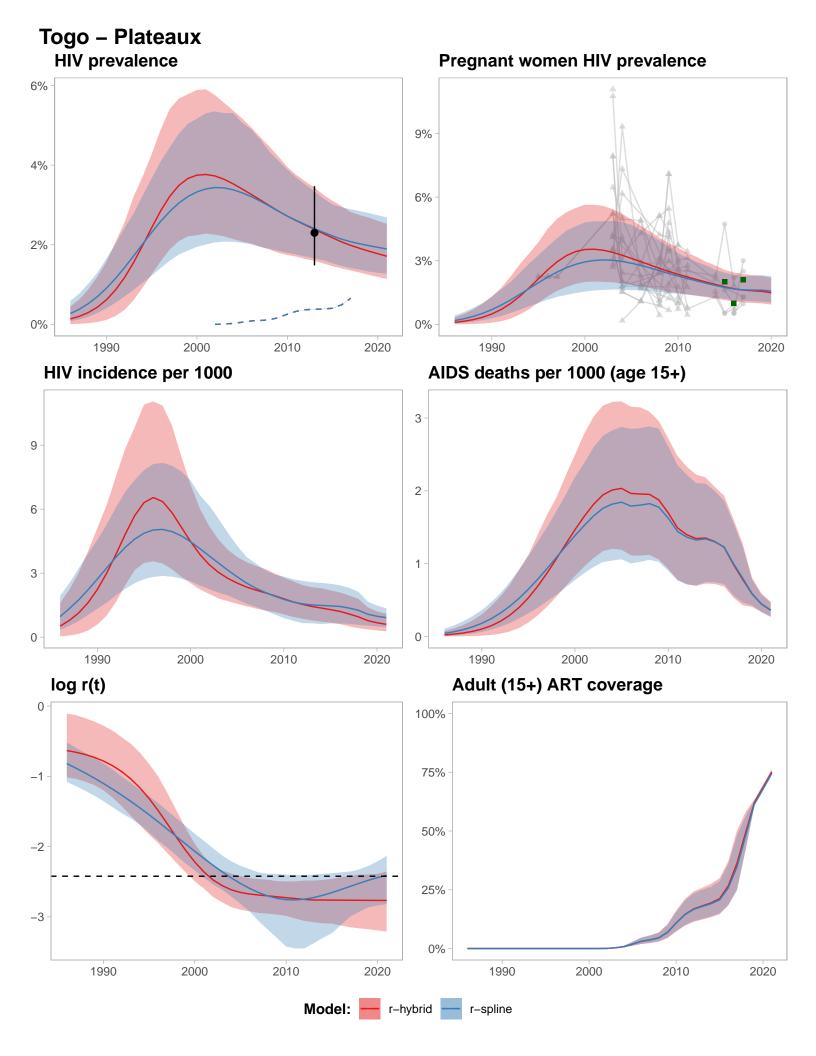








Togo - Maritime sans Lome HIV prevalence **Pregnant women HIV prevalence** 6% 10% 4% 5% 2% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 10 3 8 2 5 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% -3 0% 2000 1990 2000 2010 2020 1990 2010 2020 Model: r-hybrid r-spline

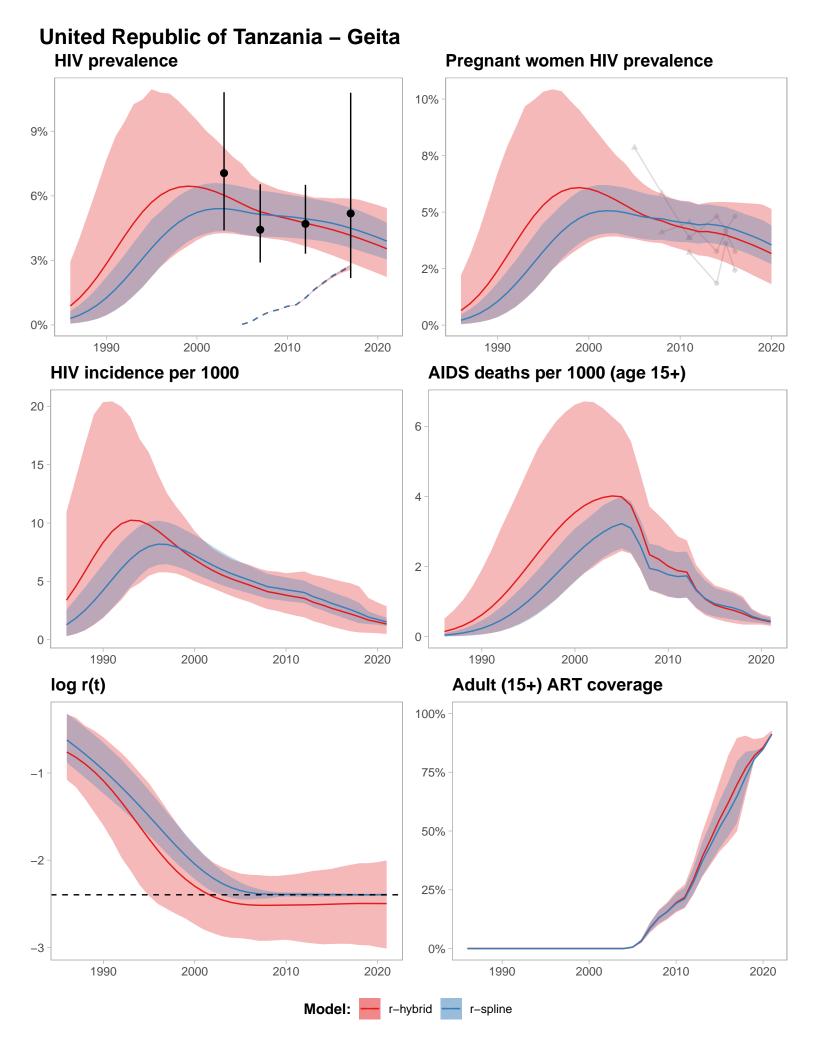


Togo - Savanes Pregnant women HIV prevalence **HIV** prevalence 1% 3% 2% 1% 0% 1% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 1 2 2 0 1 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% -3 0% 1990 1990 2000 2010 2020 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Arusha HIV prevalence Pregnant women HIV prevalence 10% 5% 4% 8% 3% 5% 2% 2% 1% 0% 0% 2000 1990 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 3 8 2 5 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% -3 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania - Dar es Salaam **HIV** prevalence Pregnant women HIV prevalence 16% 15% 12% 10% 8% 5% 4% 0% 2000 1990 2000 1990 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 30 10 8 20 5 10 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% -1.0 75% -1.550% -2.0-2.525% -3.00% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Dodmoa HIV prevalence Pregnant women HIV prevalence 12% 9% 9% 6% 6% 3% 3% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 20 6 15 4 10 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% -2 50% -3 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline



United Republic of Tanzania – Iringa HIV prevalence **Pregnant women HIV prevalence** 20% 20% 15% 10% 10% 5% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 50 15 40 10 30 20 5 10 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania - Kagera **HIV** prevalence **Pregnant women HIV prevalence** 20% 10% 15% 10% 5% 5% 0% 0% 2000 2010 2000 1990 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 10 3 8 2 5 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% -0.575% -1.050% -1.525% -2.0-2.50% 2000 1990 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Katavi **HIV** prevalence **Pregnant women HIV prevalence** 8% 10% 5% 5% 2% 0% 0% HIV incidence per 1000 AIDS deaths per 1000 (age 15+) log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% Model: r-hybrid r-spline

United Republic of Tanzania - Kigoma **HIV** prevalence Pregnant women HIV prevalence 5% 6% 4% 3% 4% 2% 2% 1% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 6 2 4 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania - Kilimanjaro **HIV** prevalence **Pregnant women HIV prevalence** 12% 10% 10% 8% 5% 5% 2% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 4 10 3 2 5 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% -2 50% 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Lindi HIV prevalence **Pregnant women HIV prevalence** 8% 6% 5% 4% 2% 2% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 4 10 3 8 2 5 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Manyara HIV prevalence Pregnant women HIV prevalence 5% 4% 9% 3% 6% 2% 3% 1% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 2 3 1 2 0 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Mara HIV prevalence **Pregnant women HIV prevalence** 9% 10% 6% 5% 3% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 5 4 10 3 2 5 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% 0% -3 1990 2000 2000 2010 2020 1990 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Mbeya HIV prevalence **Pregnant women HIV prevalence** 30% 15% 20% 10% 10% 5% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 30 10 8 20 5 10 2 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% -1.0 75% -1.550% -2.0 25% -2.50% -3.02000 2010 2020 1990 2000 2010 2020 1990 Model: r-hybrid r-spline

United Republic of Tanzania – Morogoro HIV prevalence **Pregnant women HIV prevalence** 12% 8% 10% 8% 5% 5% 2% 2% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 4 9 3 6 2 3 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 0 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Mtwara HIV prevalence Pregnant women HIV prevalence 9% 10% 6% 5% 3% 0% 0% 2000 1990 2010 2020 1990 2000 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 4 8 3 5 2 2 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Mwanza HIV prevalence **Pregnant women HIV prevalence** 12% 10% 10% 8% 5% 5% 2% 0% 0% 1990 1990 2000 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 20 6 15 4 10 2 5 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% -1.075% -1.550% -2.025% -2.5 -3.00% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Njombe HIV prevalence **Pregnant women HIV prevalence** 20% 20% 15% 15% 10% 10% 5% 5% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 40 10 30 20 5 10 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania - Pwani **HIV** prevalence **Pregnant women HIV prevalence** 12% 15% 9% 10% 6% 5% 3% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 6 10 4 5 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania - Rukwa **HIV** prevalence **Pregnant women HIV prevalence** 15% 15% 10% 10% 5% 5% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 10 30 8 20 5 10 2 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 2000 1990 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania - Ruvuma **HIV** prevalence Pregnant women HIV prevalence 10% 9% 8% 6% 5% 2% 3% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 6 12 4 8 2 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania - Shinyaga **HIV** prevalence Pregnant women HIV prevalence 12% 10% 10% 8% 5% 5% 2% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 6 15 4 10 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania - Simiyu **HIV** prevalence Pregnant women HIV prevalence 15% 8% 10% 5% 5% 2% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 12 5 4 10 3 8 2 5 1 2 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

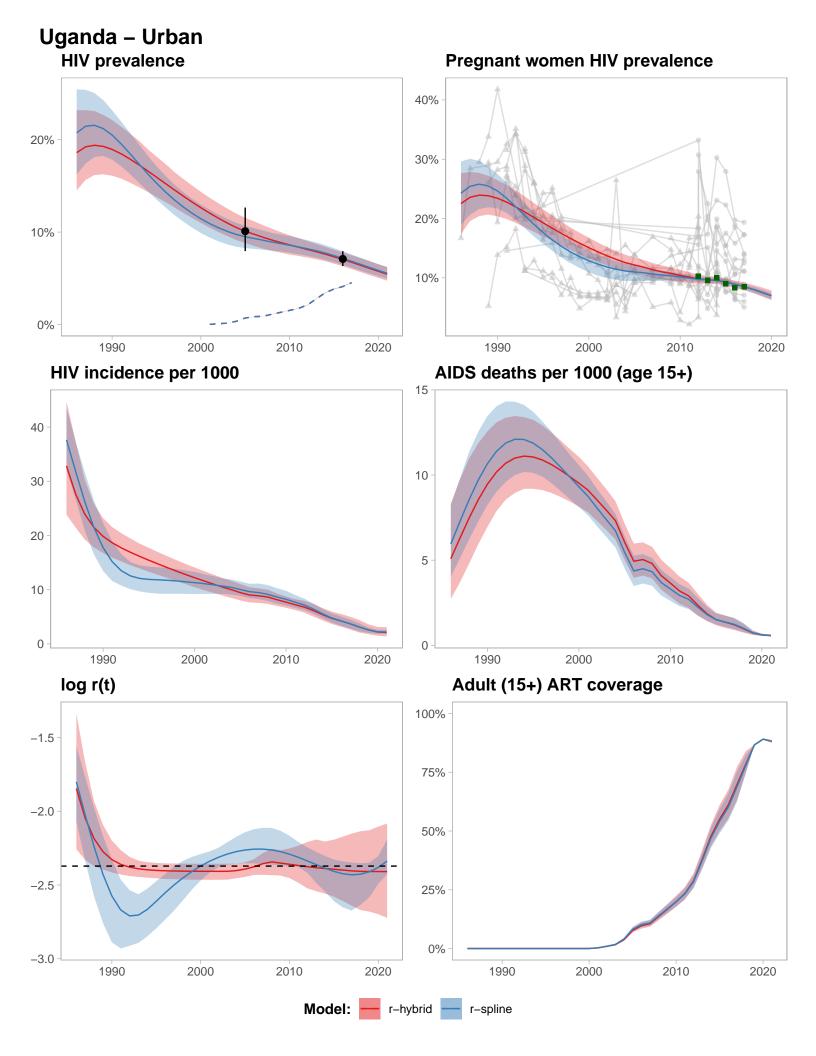
United Republic of Tanzania - Singida **HIV** prevalence Pregnant women HIV prevalence 15% 6% 10% 4% 5% 2% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 3 8 2 5 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% -3 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

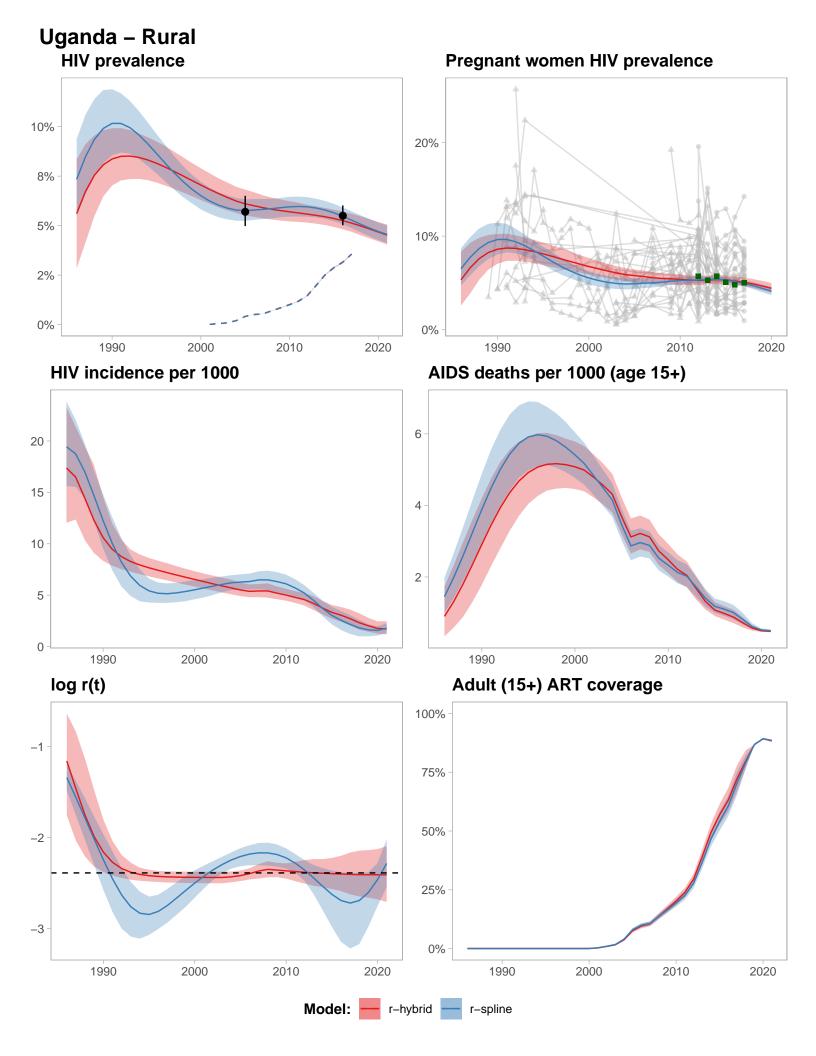
United Republic of Tanzania – Songwe HIV prevalence Pregnant women HIV prevalence 20% 15% 15% 10% 10% 5% 5% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 8 20 6 15 4 10 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% -1.075% -1.550% -2.025% -2.50% -3.01990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

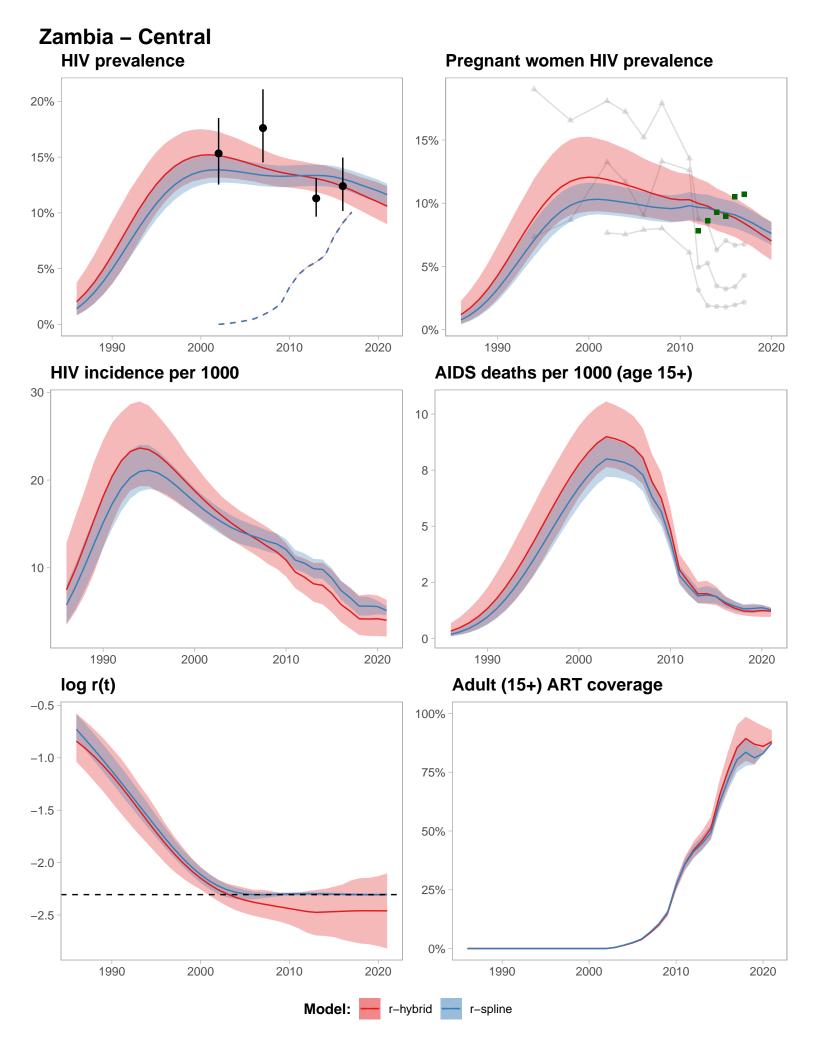
United Republic of Tanzania – Tabora HIV prevalence **Pregnant women HIV prevalence** 12% 10% 9% 6% 5% 3% 0% 0% 1990 2000 2000 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 6 15 4 10 2 5 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

United Republic of Tanzania – Tanga Pregnant women HIV prevalence **HIV** prevalence 15% 10% 8% 10% 5% 5% 2% 0% 0% 2000 2000 1990 2010 2020 1990 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 12 4 10 3 8 2 5 1 2 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

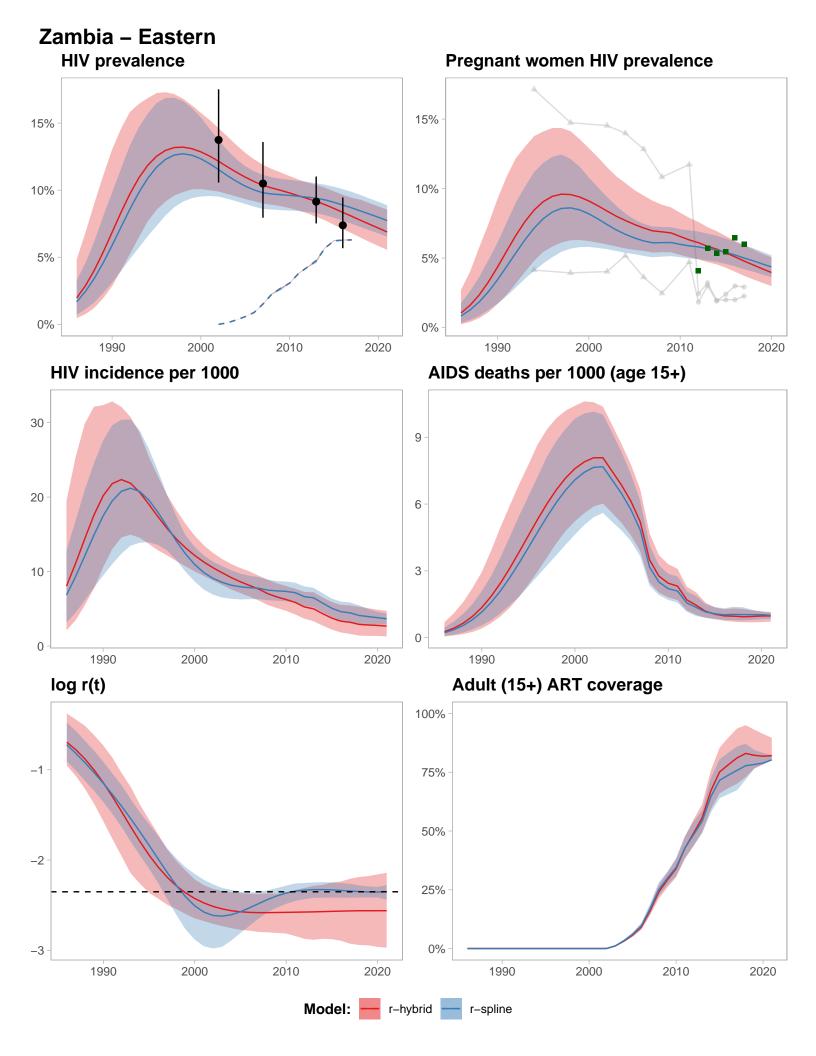
United Republic of Tanzania – Zanzibar HIV prevalence Pregnant women HIV prevalence 2% 6% 2% 4% 1% 2% 0% 0% 0% 1990 2000 1990 2000 2010 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 1 1 2 0 1 0 0 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage 100% 75% 50% -2 25% -3 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

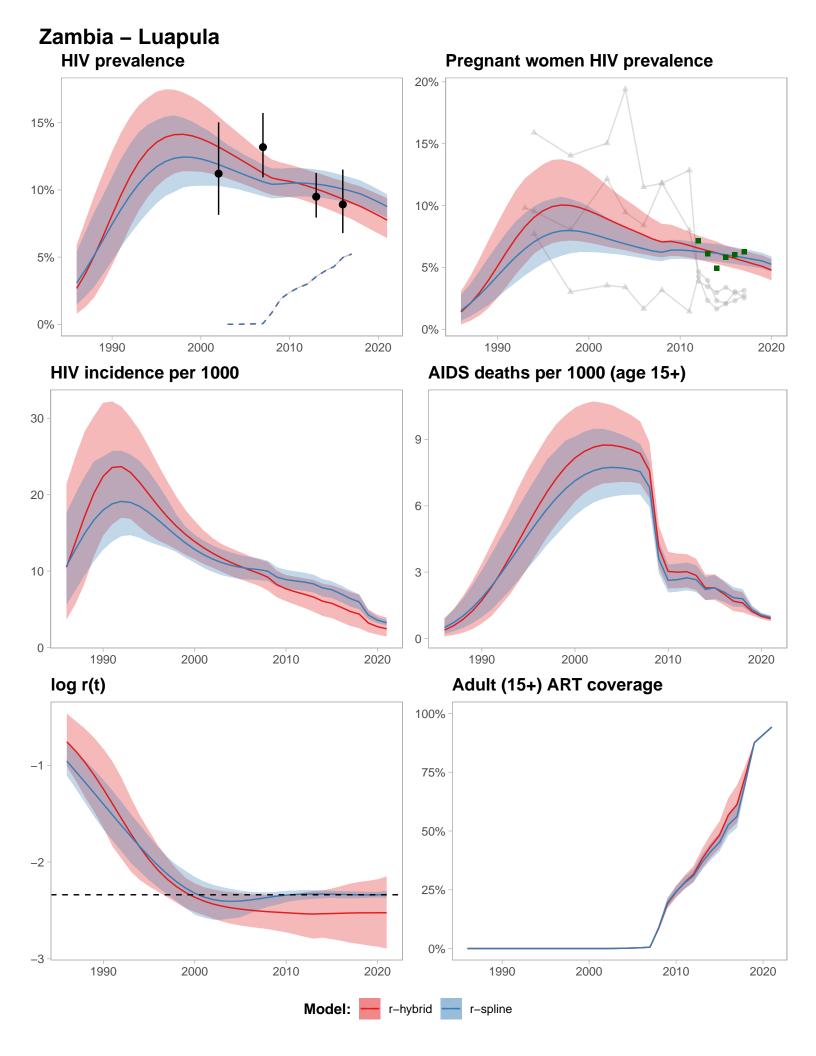


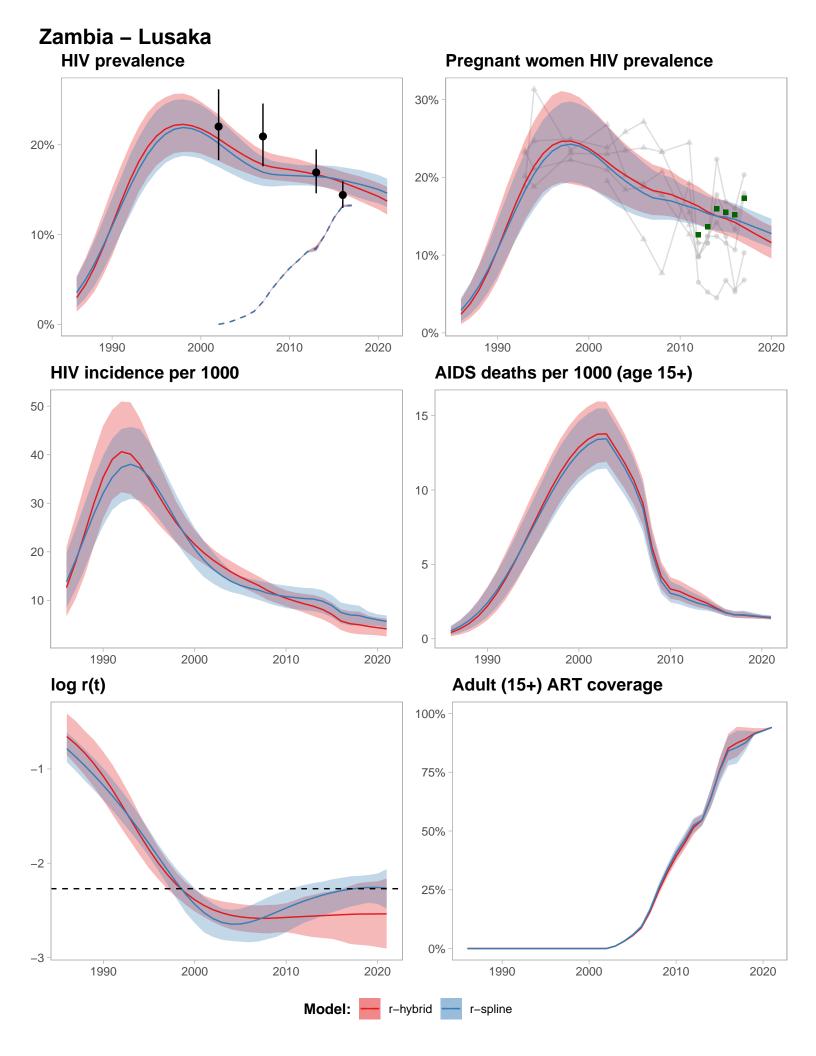


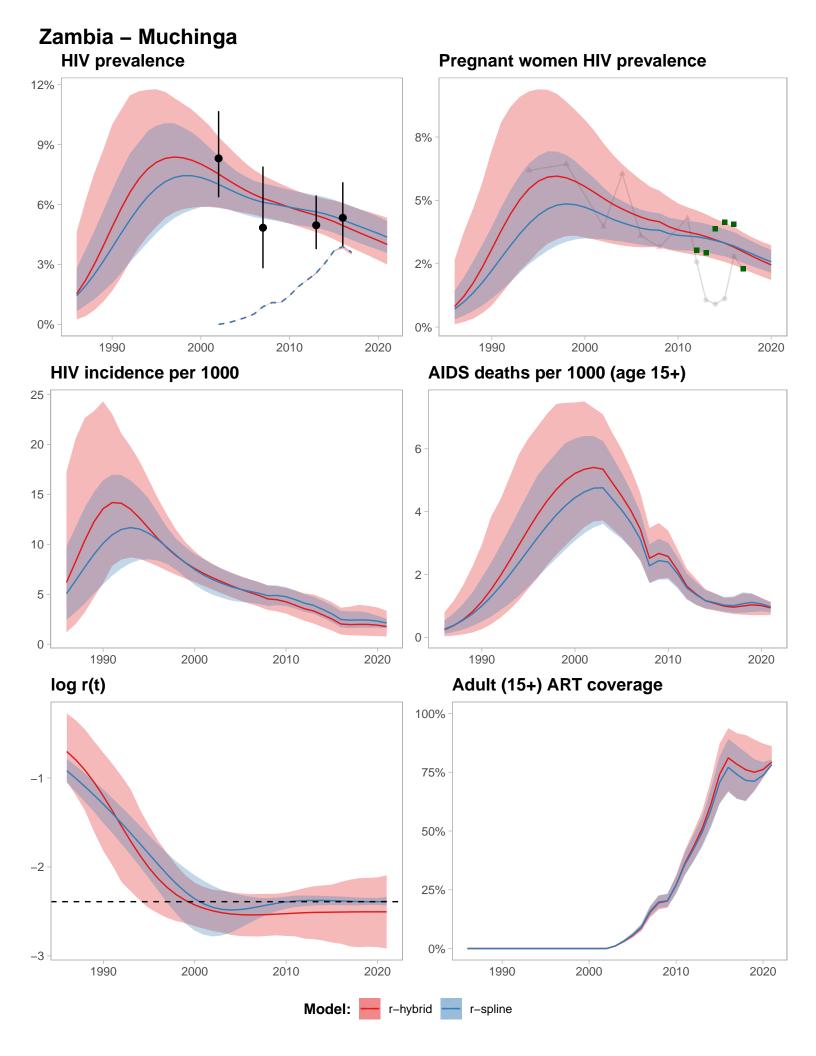


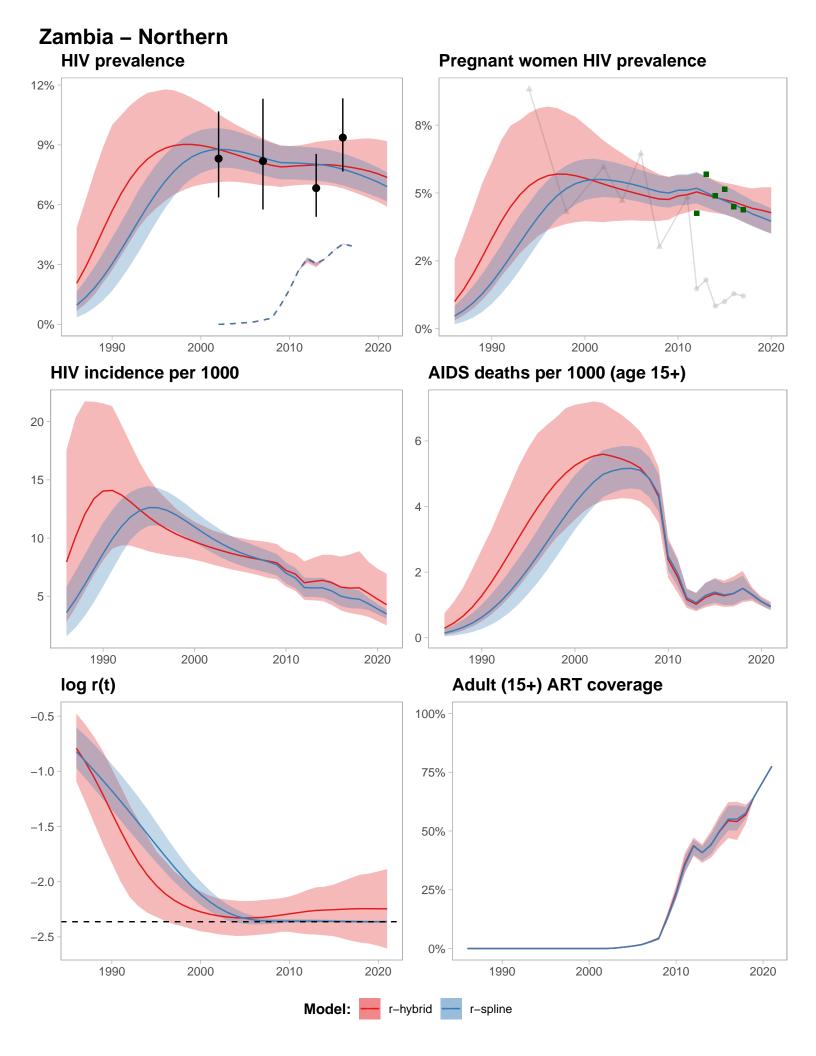
Zambia - Copperbelt Pregnant women HIV prevalence **HIV** prevalence 30% 20% 20% 15% 10% 10% 5% 0% 0% 1990 2000 2010 1990 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 40 10 30 20 5 10 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% 0% -3 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline



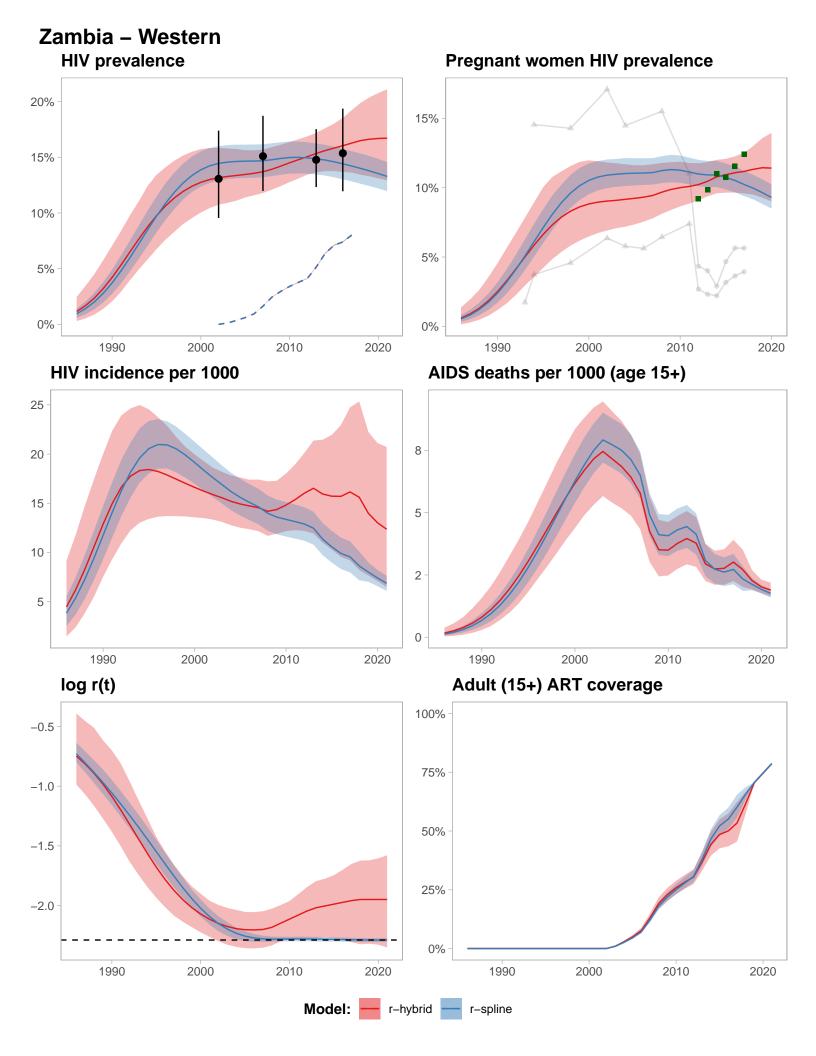


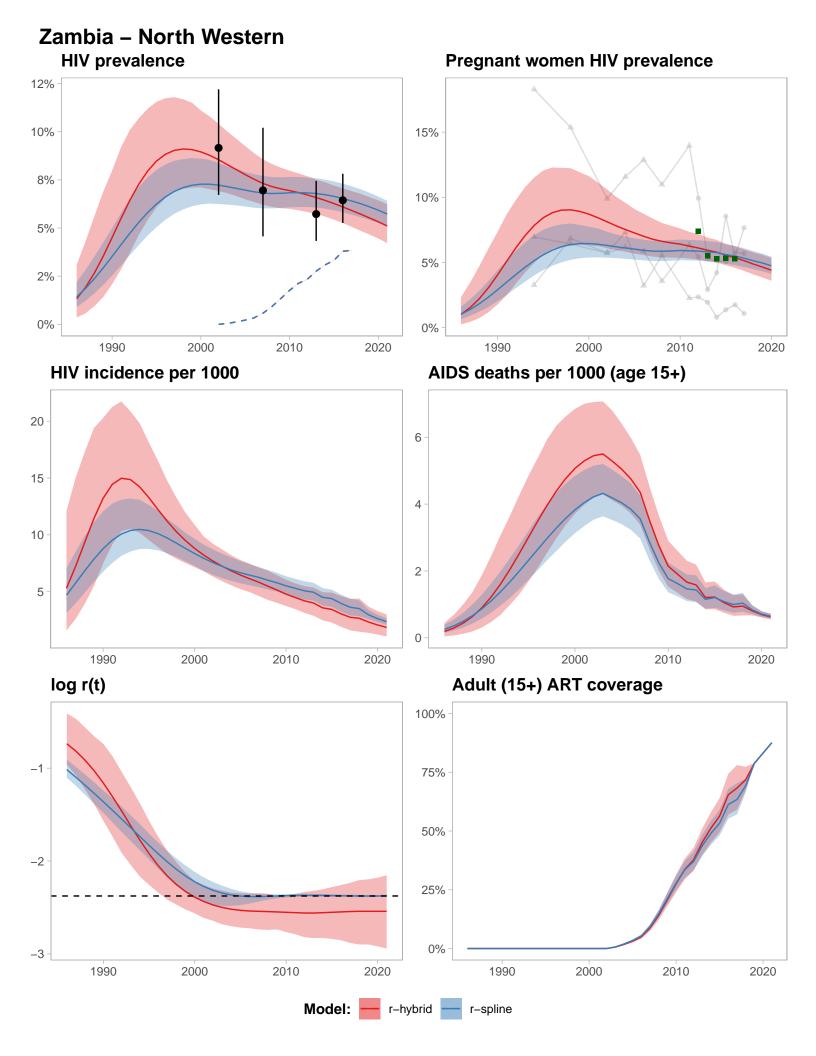


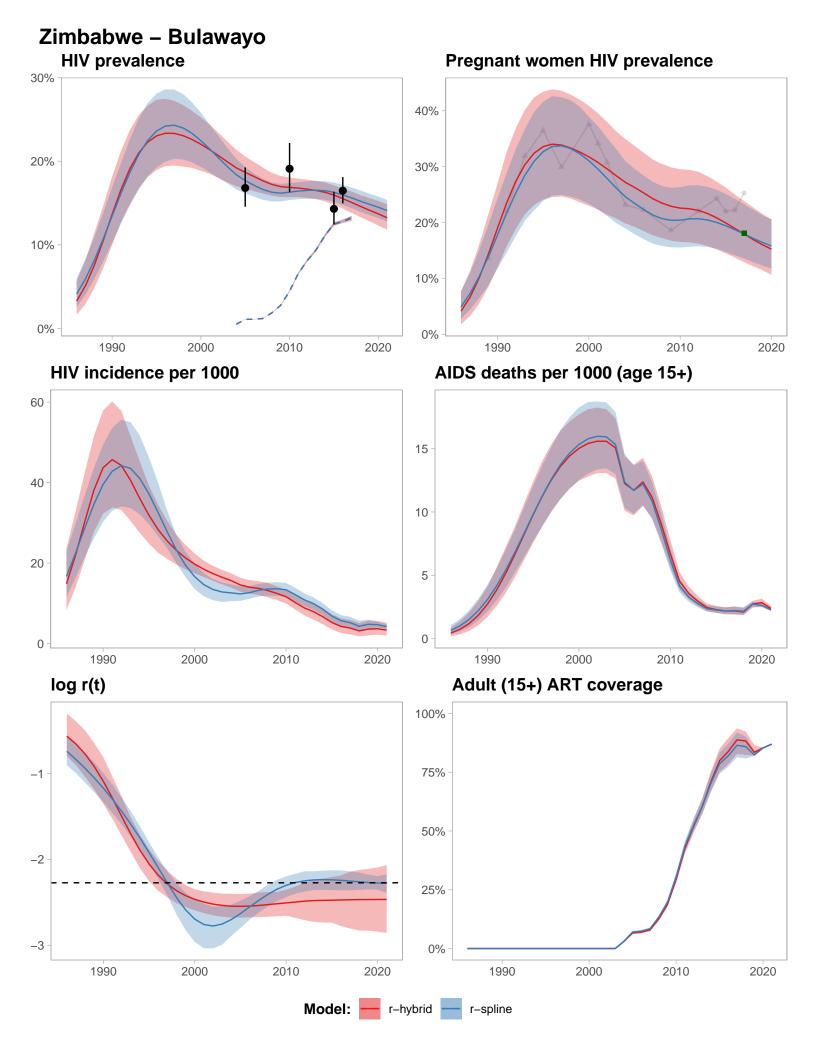


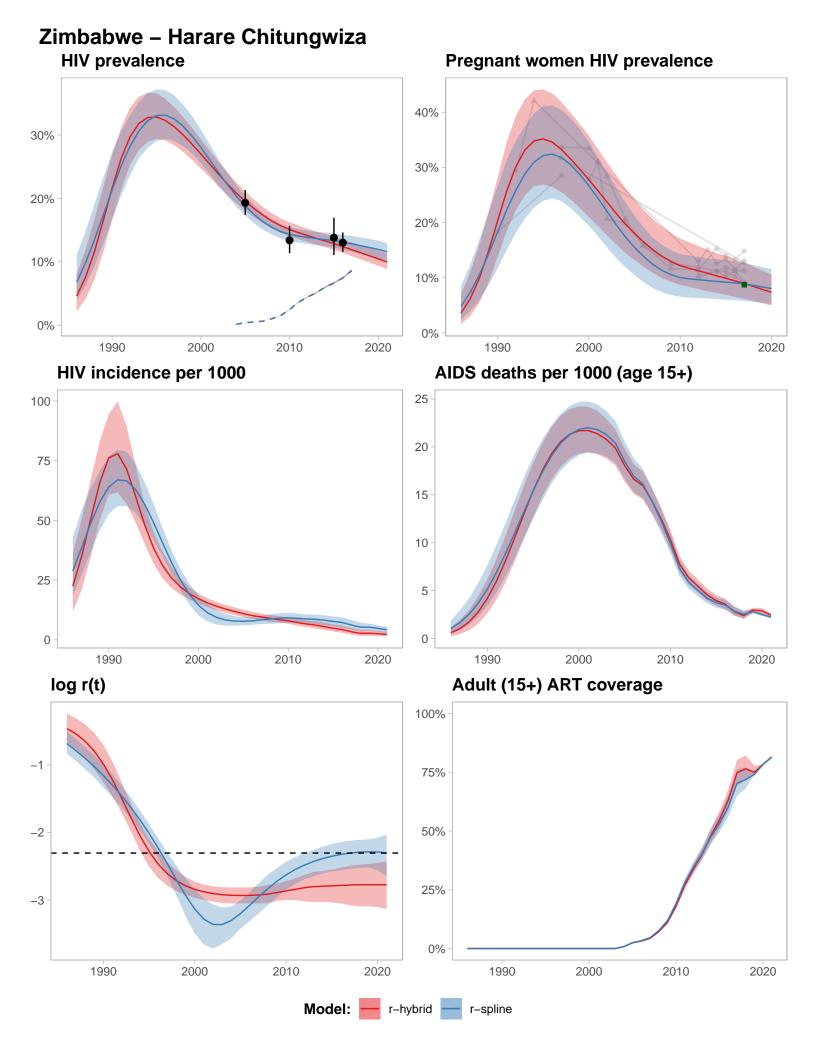


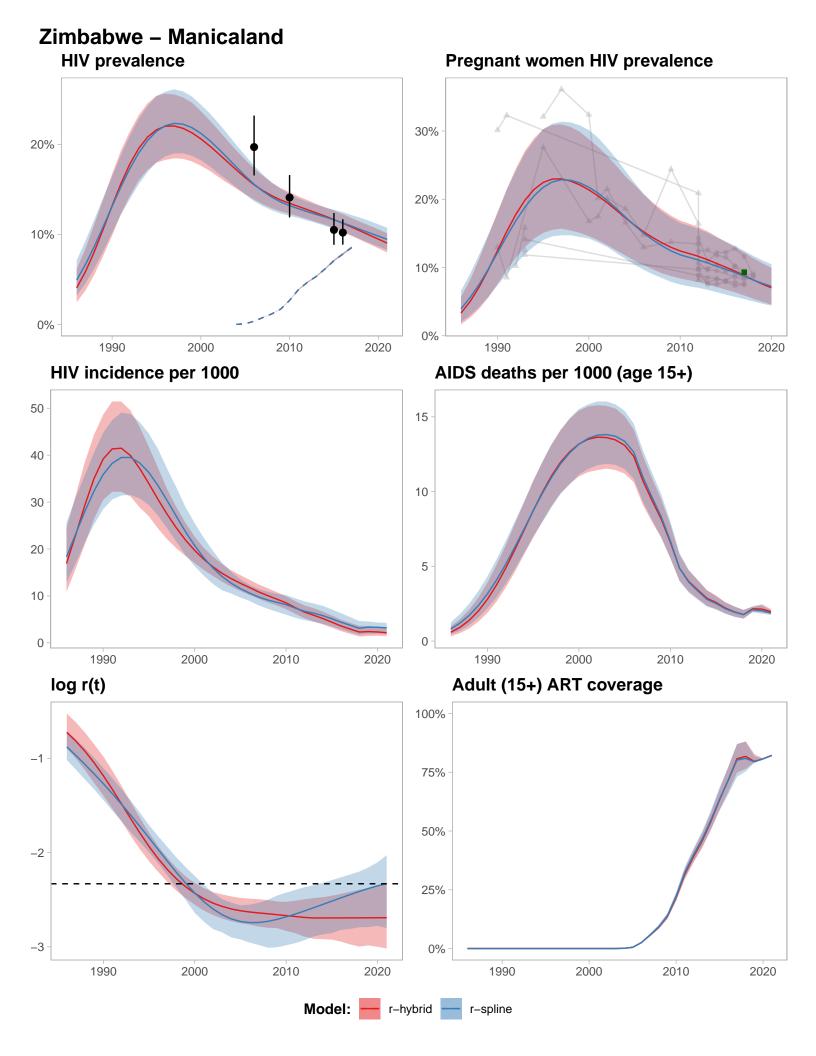
Zambia - Southern **HIV** prevalence **Pregnant women HIV prevalence** 20% 20% 15% 15% 10% 10% 5% 5% 0% 0% 1990 2010 1990 2000 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 40 12 10 30 8 20 5 10 2 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

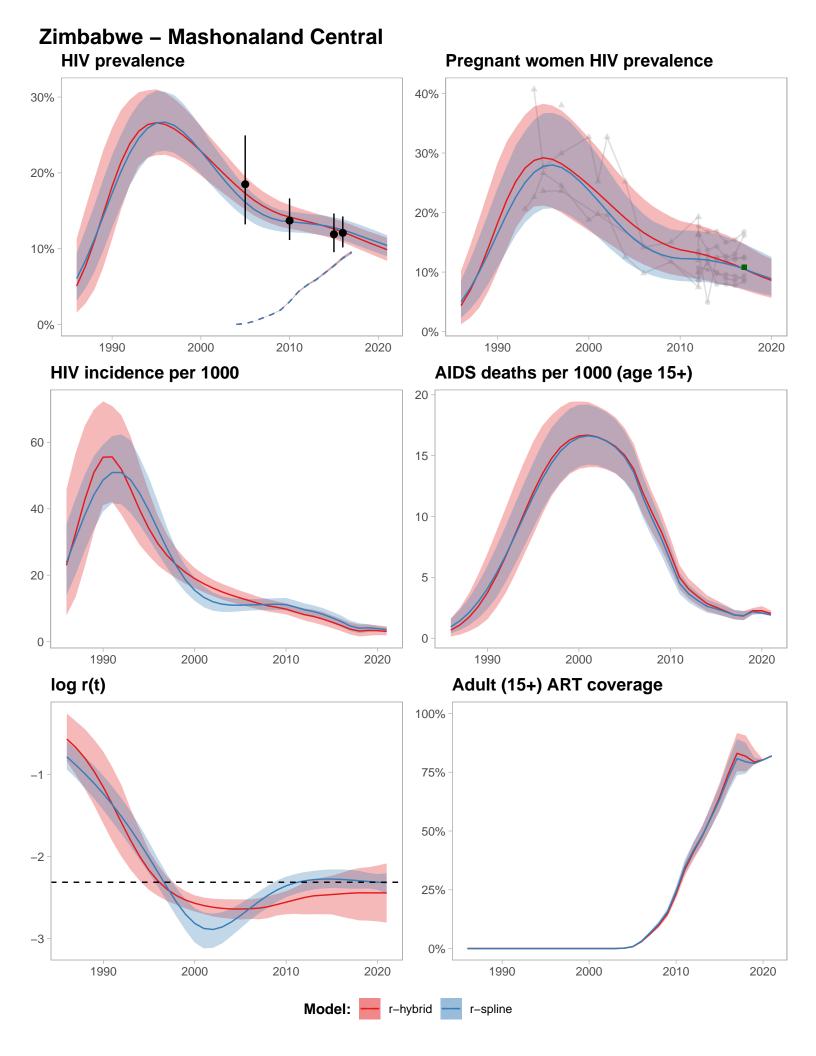


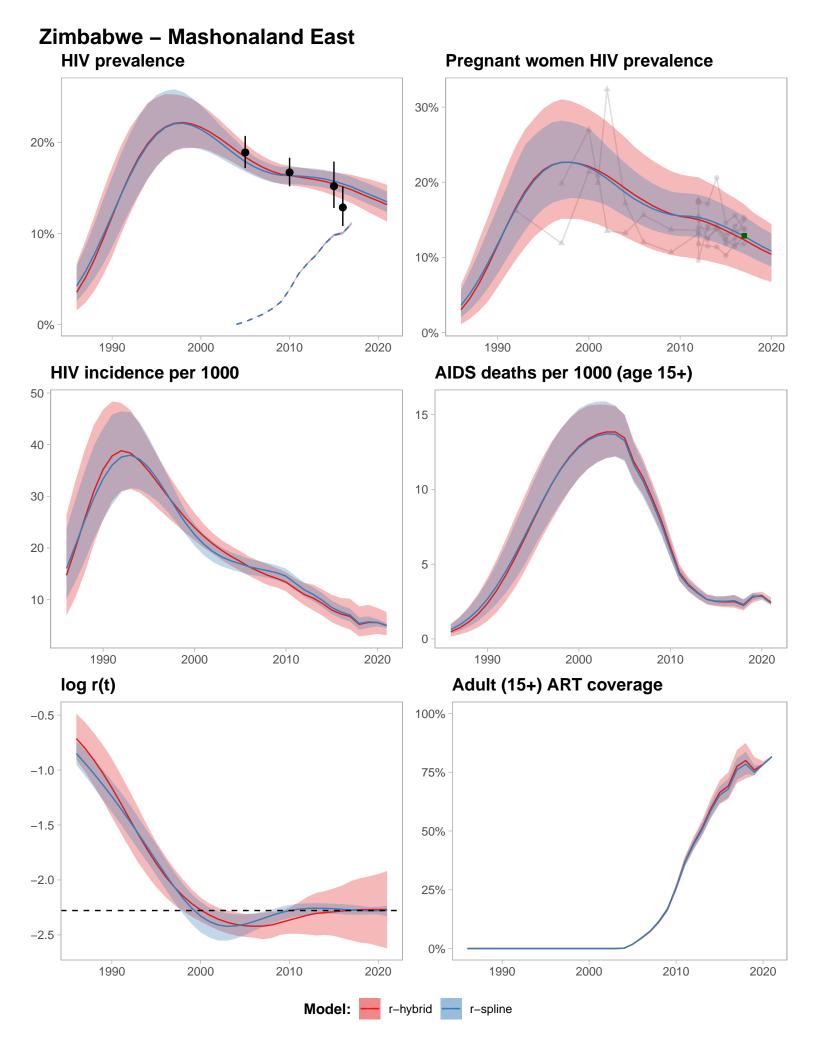


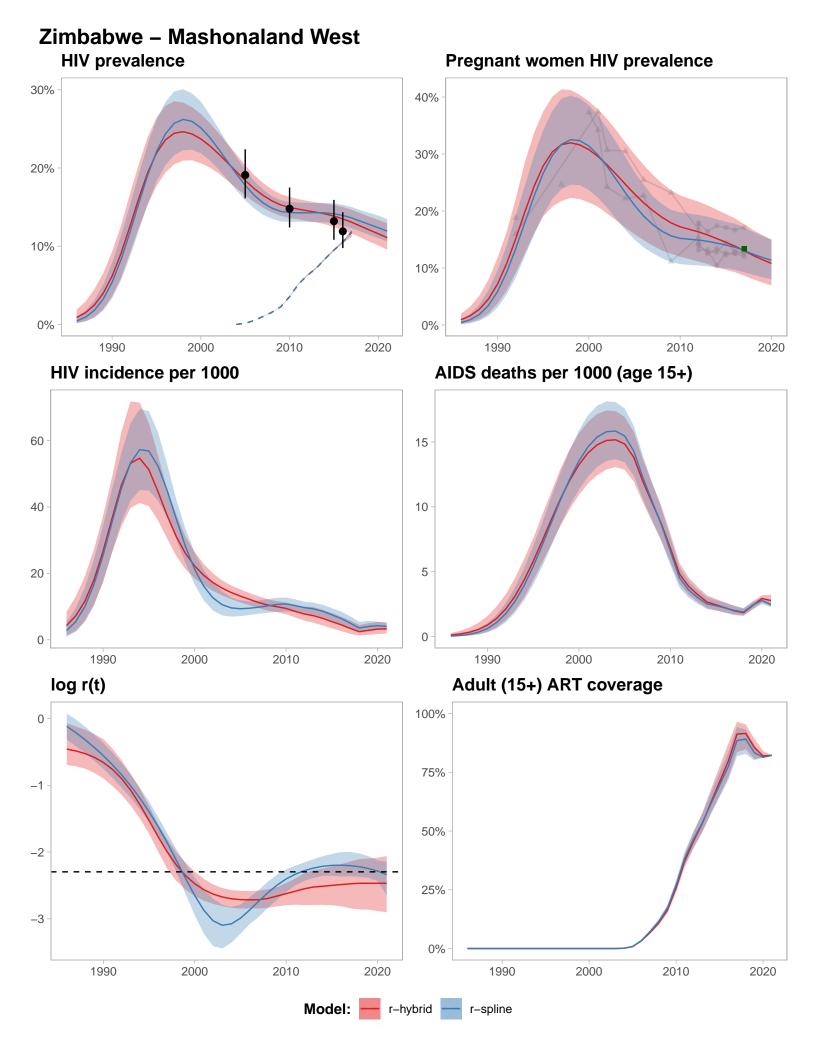




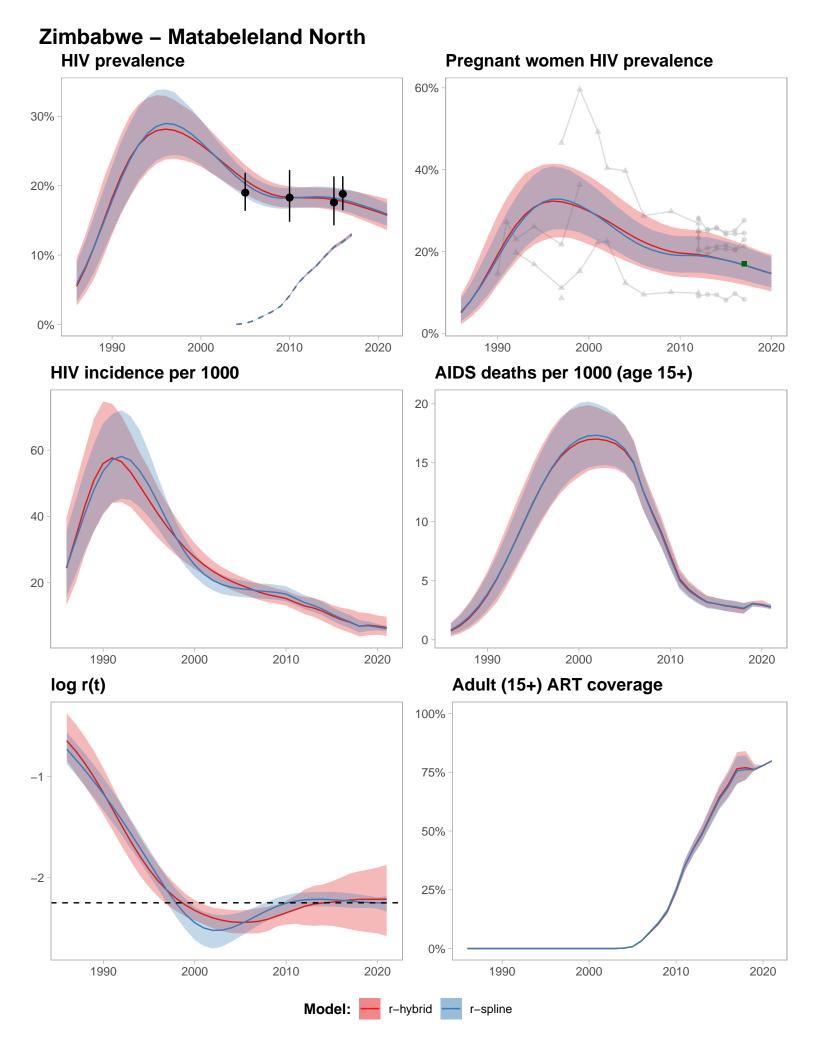








Zimbabwe - Masvingo **HIV** prevalence **Pregnant women HIV prevalence** 25% 20% 30% 15% 20% 10% 10% 5% 0% 0% 1990 2000 2010 1990 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 15 50 40 10 30 20 5 10 1990 2000 2010 2020 1990 2000 2010 2020 log r(t) Adult (15+) ART coverage -0.5 100% -1.075% -1.550% -2.025% -2.50% 2000 2010 1990 2020 1990 2000 2010 2020 Model: r-hybrid r-spline



Zimbabwe - Matabeleland South HIV prevalence **Pregnant women HIV prevalence** 50% 30% 40% 20% 30% 20% 10% 10% 0% 0% 1990 2000 2010 1990 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 80 20 60 15 40 10 5 20 0 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% -0.575% -1.050% -1.5-2.025% -2.5 0% 1990 2000 2010 2020 1990 2000 2010 2020 Model: r-hybrid r-spline

Zimbabwe - Midlands Pregnant women HIV prevalence **HIV** prevalence 40% 20% 30% 20% 10% 10% 0% 1990 2000 2010 1990 2000 2020 2010 2020 HIV incidence per 1000 AIDS deaths per 1000 (age 15+) 50 15 40 10 30 20 5 10 1990 2000 2010 2020 1990 2000 2010 2020 Adult (15+) ART coverage log r(t) 100% 75% 50% -2 25% 0% 2000 1990 2000 2010 2020 1990 2010 2020 Model: r-hybrid r-spline