## intercept\_table

| **Multinomial Outcome** | **Model Term** | **Effect Type** | **Description** | **Effect** | **p-value** |
| --- | --- | --- | --- | --- | --- |
| HKU9-related Beta-CoV | (Intercept) | Intercept | Prevalence at mean covariate values | -2.7 (-3.54, -1.86) | 0\*\*\* |
| Novel Alpha-CoV | (Intercept).1 | Intercept | Prevalence at mean covariate values | -3.4 (-4.2, -2.6) | 0\*\*\* |
| Novel Beta-CoV | (Intercept).2 | Intercept | Prevalence at mean covariate values | -6.4 (-8.1, -4.7) | 0\*\*\* |

## smooths\_table

| **Model Term** | **Effect Type** | **Description** | **Knots/Levels** | **Effective Degrees of Freedom** | **p-value** | **Minimum Effect Size** | **Maximum Effect Size** | **Evaluated for Rectal Samples Only** | **Evaluated on Dates with Bat Collection Only** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multinomial Outcome: HKU9-related Beta-CoV** | | | | | | | | | |
| s(sample\_type):dummy\_rectal1 | Random Effect | Random effect fecal or rectal baseline prevalence differing from intercept | 2 | 0.00 | 0.7893 | 0 (0, 0) | 0.00012 (-0.0049, 0.0056) | No | No |
| s(day):sample\_typeFecal | Thin Plate Spline | Long-term nonlinear trend of prevalence in fecal samples | 5 | 1.00 | 0.3947 | -0.54 (-1.7, 0.61) | 0.35 (-0.4, 1.1) | No | No |
| s(day):sample\_typeRectal | Thin Plate Spline | Long-term nonlinear trend of prevalence in rectal samples | 5 | 1.00 | 0.5302 | -0.25 (-1.3, 0.85) | 0.25 (-0.84, 1.3) | Yes | Yes |
| s(day,gender\_age):dummy\_rectal1 | Factor-Spline | Random nonlinear effects of trends in prevalence within gender/age groups varying from the common long-term trend | 25 | 0.00 | 0.6351 | -0.00033 (-0.018, 0.019) | 5e-04 (-0.019, 0.018) | Yes | Yes |
| s(day\_of\_year):sample\_typeFecal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in fecal samples | 5 | 1.96 | 0.0002\*\*\* | -1.6 (-2.5, -0.73) | 1.2 (0.51, 2.1) | No | No |
| s(day\_of\_year):sample\_typeRectal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in rectal samples | 5 | 0.98 | 0.0987· | -0.57 (-1.4, 0.24) | 0.41 (-0.14, 0.95) | Yes | Yes |
| s(day\_of\_year,gender\_age):dummy\_rectal1 | Factor-Spline | Random nonlinear effects of trends in prevalence within gender/age groups varying from the common annual cyclic trend | 20 | 0.00 | 0.8388 | -0.00013 (-0.0064, 0.0069) | 0.00024 (-0.0058, 0.006) | Yes | Yes |
| s(fmi\_kg\_m2):dummy\_rectal1 | Thin Plate Spline | Nonlinear effect of bat FMI on prevalence | 5 | 1.00 | 0.1127 | -2.3 (-4.9, 0.36) | 1.9 (-0.31, 4) | Yes | Yes |
| s(reproductive\_condition):dummy\_repro1 | Random Effect | Random effect of prevalence in bats with reproductive conditions (Pregnant, Lactating, Scrotal) varying from intercept | 4 | 0.00 | 0.8151 | -0.00065 (-0.0092, 0.0073) | 0.00021 (-0.0083, 0.0095) | Yes | Yes |
| s(frac\_subadult):dummy\_any\_rectal | Thin Plate Spline | Nonlinear effect of sampled population fraction subadult on prevalence | 5 | 3.95 | 0.0310\* | -2 (-3.3, -0.78) | 0 (0, 0) | No | Yes |
| s(frac\_subadult,sample\_type):dummy\_any\_rectal | Factor-Spline | Random nonlinear effect of sampled population fraction subadult trend within sample types varying from the common effect | 10 | 0.14 | 0.2731 | -0.03 (-0.47, 0.41) | 0.048 (-0.38, 0.49) | No | Yes |
| **Multinomial Outcome: Novel Alpha-CoV** | | | | | | | | | |
| s.1(sample\_type):dummy\_rectal1 | Random Effect | Random effect fecal or rectal baseline prevalence differing from intercept | 2 | 0.00 | 0.6460 | 0 (0, 0) | 0.00022 (-0.0035, 0.0039) | Yes | Yes |
| s.1(day):sample\_typeFecal | Thin Plate Spline | Long-term nonlinear trend of prevalence in fecal samples | 5 | 1.96 | 0.0000\*\*\* | -1.6 (-2.4, -0.74) | 1.2 (-0.46, 2.5) | No | No |
| s.1(day):sample\_typeRectal | Thin Plate Spline | Long-term nonlinear trend of prevalence in rectal samples | 5 | 3.11 | 0.0000\*\*\* | -1.6 (-2.2, -0.96) | 1.9 (0.7, 3.2) | Yes | Yes |
| s.1(day,gender\_age):dummy\_rectal1 | Factor-Spline | Random nonlinear effects of trends in prevalence within gender/age groups varying from the common long-term trend | 25 | 0.00 | 0.8588 | -0.00025 (-0.0062, 0.006) | 0.00017 (-0.0068, 0.0073) | Yes | Yes |
| s.1(day\_of\_year):sample\_typeFecal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in fecal samples | 5 | 2.19 | 0.0000\*\*\* | -1.2 (-1.9, -0.61) | 1 (0.53, 1.5) | No | No |
| s.1(day\_of\_year):sample\_typeRectal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in rectal samples | 5 | 0.00 | 0.2141 | -0.00054 (-0.015, 0.015) | 0.00041 (-0.01, 0.011) | Yes | Yes |
| s.1(day\_of\_year,gender\_age):dummy\_rectal1 | Factor-Spline | Random nonlinear effects of trends in prevalence within gender/age groups varying from the common annual cyclic trend | 20 | 0.00 | 0.8121 | -8.8e-05 (-0.0028, 0.0027) | 0.00017 (-0.0025, 0.003) | Yes | Yes |
| s.1(fmi\_kg\_m2):dummy\_rectal1 | Thin Plate Spline | Nonlinear effect of bat FMI on prevalence | 5 | 1.00 | 0.0151\* | -1.7 (-3, -0.32) | 1.4 (0.28, 2.5) | Yes | Yes |
| s.1(reproductive\_condition):dummy\_repro1 | Random Effect | Random effect of prevalence in bats with reproductive conditions (Pregnant, Lactating, Scrotal) varying from intercept | 4 | 0.87 | 0.2356 | -0.55 (-1.6, 0.34) | 0 (0, 0) | Yes | Yes |
| s.1(frac\_subadult):dummy\_any\_rectal | Thin Plate Spline | Nonlinear effect of sampled population fraction subadult on prevalence | 5 | 4.77 | 0.0000\*\*\* | -2 (-4.2, -0.22) | 2.4 (1.5, 3.3) | No | Yes |
| s.1(frac\_subadult,sample\_type):dummy\_any\_rectal | Factor-Spline | Random nonlinear effect of sampled population fraction subadult trend within sample types varying from the common effect | 10 | 0.00 | 0.6259 | -0.00015 (-0.0043, 0.0038) | 3e-04 (-0.0067, 0.0075) | No | Yes |
| **Multinomial Outcome: Novel Beta-CoV** | | | | | | | | | |
| s.2(sample\_type):dummy\_rectal1 | Random Effect | Random effect fecal or rectal baseline prevalence differing from intercept | 2 | 0.00 | 0.6061 | 0 (0, 0) | 0.00058 (-0.011, 0.013) | Yes | Yes |
| s.2(day):sample\_typeFecal | Thin Plate Spline | Long-term nonlinear trend of prevalence in fecal samples | 5 | 1.00 | 0.8646 | -0.078 (-1.4, 1.5) | 0.051 (-0.95, 0.95) | No | No |
| s.2(day):sample\_typeRectal | Thin Plate Spline | Long-term nonlinear trend of prevalence in rectal samples | 5 | 1.00 | 0.6206 | -1.4 (-5.2, 2.2) | 1.4 (-2.2, 5.2) | Yes | Yes |
| s.2(day\_of\_year):sample\_typeFecal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in fecal samples | 5 | 2.19 | 0.0001\*\*\* | -3.9 (-5.4, -2.3) | 5.1 (3, 7.2) | No | No |
| s.2(day\_of\_year):sample\_typeRectal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in rectal samples | 5 | 1.75 | 0.0328\* | -2.3 (-4, -0.39) | 3.1 (0.62, 5.4) | Yes | Yes |