## intercept\_table

| **Multinomial Outcome** | **Model Term** | **Effect Type** | **Description** | **Effect** | **p-value** |
| --- | --- | --- | --- | --- | --- |
| HKU9-related Beta-CoV | (Intercept) | Intercept | Prevalence at mean covariate values | -3.9 (-4.38, -3.42) | 0\*\*\* |
| Novel Alpha-CoV | (Intercept).1 | Intercept | Prevalence at mean covariate values | -2.4 (-2.7, -2.1) | 0\*\*\* |
| Novel Beta-CoV | (Intercept).2 | Intercept | Prevalence at mean covariate values | -6 (-7.34, -4.66) | 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: Novel Alpha-CoV** | | | | | | | | | |
| s(sample\_type):dummy\_rectal1 | Random Effect | Random effect fecal or rectal baseline prevalence differing from intercept | 2 | 0.00 | 0.5156 | 0 (0, 0) | 0.00014 (-0.014, 0.014) | Yes | Yes |
| s(day):sample\_typeFecal | Thin Plate Spline | Long-term nonlinear trend of prevalence in fecal samples | 5 | 2.57 | 0.1733 | -1.1 (-3.1, 0.89) | 2.4 (-0.3, 5) | No | No |
| s(day):sample\_typeRectal | Thin Plate Spline | Long-term nonlinear trend of prevalence in rectal samples | 5 | 1.00 | 0.6887 | -0.13 (-1.1, 0.88) | 0.13 (-0.89, 1.1) | 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 | 0.9056 | -0.00037 (-0.0089, 0.0086) | 0.00024 (-0.01, 0.0097) | Yes | Yes |
| s(day\_of\_year):sample\_typeFecal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in fecal samples | 5 | 2.25 | 0.0000\*\*\* | -2.7 (-4.1, -1.4) | 2 (1.2, 2.8) | No | No |
| s(day\_of\_year):sample\_typeRectal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in rectal samples | 5 | 1.35 | 0.0484\* | -0.7 (-1.4, 0.023) | 0.54 (-0.011, 1.1) | 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 | 0.9000 | -4e-04 (-0.0084, 0.0068) | 0.00045 (-0.0078, 0.0088) | Yes | Yes |
| s(fmi\_normalized):dummy\_rectal1 | Thin Plate Spline | Nonlinear effect of bat FMI, normalized within age, sex, and reproductive calss, on prevalence | 5 | 1.00 | 0.0744· | -2 (-4.2, 0.41) | 2.4 (-0.49, 5) | 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 | 0.9113 | -0.00025 (-0.015, 0.013) | 0.00034 (-0.013, 0.013) | Yes | Yes |
| **Multinomial Outcome: HKU9-related Beta-CoV** | | | | | | | | | |
| s.1(sample\_type):dummy\_rectal1 | Random Effect | Random effect fecal or rectal baseline prevalence differing from intercept | 2 | 0.00 | 0.4588 | 0 (0, 0) | 9.6e-06 (-0.0055, 0.0057) | No | No |
| s.1(day):sample\_typeFecal | Thin Plate Spline | Long-term nonlinear trend of prevalence in fecal samples | 5 | 2.34 | 0.0015\*\* | -1.3 (-2.1, -0.49) | 0.65 (0.31, 1.1) | No | No |
| s.1(day):sample\_typeRectal | Thin Plate Spline | Long-term nonlinear trend of prevalence in rectal samples | 5 | 2.63 | 0.0558· | -0.65 (-1.2, -0.078) | 0.75 (-0.26, 1.8) | 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 | 0.8664 | -0.00028 (-0.0037, 0.0032) | 0.00015 (-0.0035, 0.0034) | Yes | Yes |
| s.1(day\_of\_year):sample\_typeFecal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in fecal samples | 5 | 2.41 | 0.0000\*\*\* | -1.6 (-2.2, -0.96) | 1.5 (0.97, 1.9) | No | No |
| s.1(day\_of\_year):sample\_typeRectal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in rectal samples | 5 | 2.07 | 0.0005\*\*\* | -0.63 (-1.4, 0.082) | 0.83 (0.27, 1.5) | 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 | 0.8028 | -0.00033 (-0.0072, 0.0062) | 0.00015 (-0.007, 0.0067) | Yes | Yes |
| s.1(fmi\_normalized):dummy\_rectal1 | Thin Plate Spline | Nonlinear effect of bat FMI, normalized within age, sex, and reproductive calss, on prevalence | 5 | 1.00 | 0.1651 | -0.87 (-2.1, 0.35) | 1 (-0.43, 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 | 1.83 | 0.0254\* | -1.5 (-3, -0.23) | 0 (0, 0) | Yes | 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 | 0.7581 | 0 (0, 0) | 3.1e-05 (-0.011, 0.01) | Yes | Yes |
| s.2(day):sample\_typeFecal | Thin Plate Spline | Long-term nonlinear trend of prevalence in fecal samples | 5 | 1.00 | 0.9236 | -0.017 (-1.6, 1.7) | 0.011 (-1.1, 1) | No | No |
| s.2(day):sample\_typeRectal | Thin Plate Spline | Long-term nonlinear trend of prevalence in rectal samples | 5 | 1.00 | 0.5572 | -1.2 (-4.4, 2) | 1.2 (-1.9, 4.4) | Yes | Yes |
| s.2(day\_of\_year):sample\_typeFecal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in fecal samples | 5 | 2.07 | 0.0000\*\*\* | -3.2 (-4.5, -1.9) | 4.3 (2.5, 6) | No | No |
| s.2(day\_of\_year):sample\_typeRectal | Cyclic Cubic Spline | Annual nonlinear cyclic trend of prevalence in rectal samples | 5 | 1.48 | 0.0363\* | -1.6 (-3.1, -0.23) | 2.2 (0.35, 4.1) | Yes | Yes |