Table S3: Incidence rate ratios (IRR) by number of vaccines administered, vaccine-type (HPV vs. non-HPV) and vaccine-associated vs. venipuncture-associated syncope, 2013-2019, Vaccine Safety Datalink.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Ages** | **Comparison groups** | **Syncope events** | **Vaccine events** | **IRR** | **Lower CI** | **Upper CI** | **p-value** |
| Overall | 1 vaccine (REF)  2 vaccines | 21  13 | 139311  33172 | 2.61 | 1.27 | 5.18 | **0.010** |
|  | 1 vaccine (REF) 3 or more vaccines | 21  25 | 139311  25159 | 6.59 | 3.68 | 11.91 | **<.001** |
| 9 to 12 years | 1 vaccine (REF)  2 vaccines | 11  5 | 50920  12661 | 1.86 | 0.57 | 5.18 | 0.279 |
|  | 1 vaccine (REF) 3 or more vaccines | 11  22 | 50920  19368 | 5.22 | 2.57 | 11.25 | **<.001** |
| 13 to 15 years | 1 vaccine (REF)  2 vaccines | 5  <5 | 43514  7319 | 3.64 | 0.70 | 15.44 | 0.114 |
|  | 1 vaccine (REF) 3 or more vaccines | 5  0 | \_\_ | \_\_ | \_\_ | \_\_ | \_\_ |
| 16 to 18 years | 1 vaccine (REF)  2 vaccines | 5  5 | 44877  13192 | 3.40 | 0.92 | 12.65 | 0.066 |
|  | 1 vaccine (REF) 3 or more vaccines | 5  <5 | 44877  3824 | 7.18 | 1.39 | 30.48 | **0.022** |
| Overall | 1 non-HPV vaccine (REF)  1 HPV vaccine only | 13  8 | 95684  43627 | 1.36 | 0.53 | 3.26 | 0.505 |
|  | 2 non-HPV vaccines (REF)  2 vaccines with HPV | 6  7 | 13095  20077 | 0.76 | 0.25 | 2.41 | 0.627 |
|  | 3 non-HPV vaccines (REF)  3 vaccines with HPV | <5  23 | 2414  22745 | 1.14 | 0.34 | 7.67 | 0.858 |
| Overall | Venipuncture-associated syncope (REF)  Vaccine-associated syncope | 20  59 | 12246  197642 | 0.18 | 0.11 | 0.31 | **<.001** |
| 9 to 12 years | Venipuncture-associated syncope (REF)  Vaccine-associated syncope | <5  38 | 2326  82949 | 0.93 | 0.21 | 21.83 | 0.948 |
| 13 to 15 years | Venipuncture-associated syncope (REF)  Vaccine-associated syncope | 10  8 | 4011  52800 | 0.06 | 0.02 | 0.16 | **<.001** |
| 16 to 18 years | Venipuncture-associated syncope (REF)  Vaccine-associated syncope | 9  13 | 5909  67893 | 0.14 | 0.06 | 0.34 | **<.001** |

Cells with counts less than 5 are denoted with ‘<5’ to protect patient confidentiality