**SUPPLEMENTARY MATERIAL**

Supplementary Table S1. LCA of three indicators of pertussis (Table according to [[3](#_ENREF_3)])

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Response patterna | Observed frequency | Posterior probability of pertussis | Predicted latent class | Individuals probably having pertussis |
| 000 | 861 | 0.000 | 0 | 0 |
| 001 | 6 | 0.000 | 0 | 0 |
| 010 | 42 | 0.000 | 0 | 0 |
| 100 | 16 | 0.251 | 0 | 0 |
| 101 | 1 | 0.920 | 1 | 1 |
| 110 | 18 | 0.968 | 1 | 18 |
| 111 | 4 | 0.999 | 1 | 4 |

a Response pattern represents the cross-classification of the three binary indicators for pertussis (1 positive; 0 negative) in the following order: PT IgG, PT IgA, Bp PCR.

Supplementary Table S2. LCA of three indicators of adenovirus

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Response patterna | Observed frequency | Posterior probability of adeno | Predicted latent class | Individuals probably having adeno |
| 000 | 705 | 0.000 | 0 | 0 |
| 001 | 14 | 0.000 | 0 | 0 |
| 010 | 101 | 1.000 | 1 | 101 |
| 011 | 6 | 1.000 | 1 | 6 |
| 100 | 53 | 0.000 | 0 | 0 |
| 101 | 1 | 0.001 | 0 | 0 |
| 110 | 67 | 1.000 | 1 | 67 |
| 111 | 2 | 1.000 | 1 | 2 |

a Response pattern represents the cross-classification of the three binary indicators for adenovirus (1 positive; 0 negative) in the following order: Adeno IgG, Adeno IgA, Adeno PCR.

Supplementary Table S3. LCA of three indicators of influenza A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Response patterna | Observed frequency | Posterior probability of influenza | Predicted latent class | Individuals probably having influenza A |
| 000 | 771 | 0.001 | 0 | 0 |
| 001 | 9 | 0.001 | 0 | 0 |
| 010 | 121 | 0.001 | 0 | 0 |
| 011 | 1 | 0.002 | 0 | 0 |
| 100 | 36 | 0.999 | 1 | 36 |
| 101 | 1 | 0.999 | 1 | 1 |
| 110 | 10 | 0.999 | 1 | 10 |

a Response pattern represents the cross-classification of the three binary indicators for influenza A (1 positive; 0 negative) in the following order: InflA IgG, InflA IgA, InflA PCR.

Supplementary Table S4. LCA of three indicators of influenza B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Response patterna | Observed frequency | Posterior probability of influenza | Predicted latent class | Individuals probably having influenza B |
| 000 | 672 | 0.000 | 0 | 0 |
| 001 | 5 | 0.000 | 0 | 0 |
| 010 | 28 | 0.000 | 0 | 0 |
| 100 | 214 | 0.000 | 0 | 0 |
| 101 | 1 | 0.000 | 0 | 0 |
| 110 | 27 | 0.673 | 1 | 27 |
| 111 | 2 | 0.971 | 1 | 2 |

a Response pattern represents the cross-classification of the three binary indicators for influenza B (1 positive; 0 negative) in the following order: InflB IgG, InflB IgA, InflB PCa.