**Supplementary Tables**

This file contains supplementary tables providing the cause of death categorization used in the study and the complete age-specific data on excess mortality for each outbreak of the pandemic and for the overall pandemic period.

***I. Classification of causes of death***

The 1927 provisional International List of Causes of Death (ICD) (1) was used to group causes of death listed on the death certificates. The specific groups chosen reflect the focus of this paper on infectious diseases. The classification used is as follows:

**Web Table 1. Abridged cause of death categories used in the study.**

*Name of category ICD-1927 Provisional List class*

Infectious diseases I, V

influenza 7

pneumonia 45, 46, 47 (some)

tuberculosis 9, 10

bronchitis 44

other respiratory infections (e.g., colds, catarrh) 48

childhood diseases 3-6 (+polio)

other or unknown infectious diseases 1, 2, 8, 11-14

Cancers II

Nutritional disorders II

Nervous system III

Circulatory system IV

Respiratory system (non-infectious) 47 (some), 48

Digestive system (non-infectious) VI

Genitourinary system (non-infectious) VII

Pregnancy and childbirth VIII

Infant problems (congenital malformations, stillbirths, XI, XII

and early infancy

Old age XIII

Violence, accidents XIV

Other causes various

Unknown, unspecified, ill-defined 90

***II. Excess mortality estimates by 5-year age group and pandemic wave***

The table presented below provides estimates of excess mortality for 5-year age groups from birth through age 75+. Ages 5-9 and 10-14 were combined for these analyses due to small group sizes. Graphs of these data are shown in Figures 3 and 4 in the main text. Data used to perform the excess mortality calculations can be found at the project Github site, <https://github.com/anthlsMU/AKNL-AJE23>.

**Web Table 2. Excess mortality estimates per 10,000 persons by age for Alaska Natives vs. non-Alaska Natives during the four pandemic waves and overall.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Age group | Excess mortality | 95% confidence interval | Excess mortality | 95% confidence interval |
| *Outbreak I. September 1918 through January 1919* | | | | |
|  | Alaska Natives | | non-Alaska Natives | |
| 0-4 | 288.7 | 244.4, 333.0 | 0 | ≤0, 36.8 |
| 5-14 | 177.3 | 163.0, 191.6 | 0.3 | ≤0, 15.9 |
| 15-19 | 186.2 | 161.6, 210.9 | 0 | ≤0, 12.9 |
| 20-24 | 247.7 | 222.2, 278.1 | 47.9 | 38.2, 65.6 |
| 25-29 | 461.6 | 430.5, 492.7 | 111.7 | 94.1, 129.3 |
| 30-34 | 401.1 | 369.4, 432.9 | 71.6 | 54.2, 89.0 |
| 35-39 | 532.3 | 503.2, 561.4 | 41.3 | 25.4, 57.3 |
| 40-44 | 618.0 | 586.1, 649.9 | 14.1 | 0.9, 27.4 |
| 45-49 | 556.1 | 523.1, 589.1 | 13.0 | 4.6, 27.3 |
| 50-54 | 427.6 | 402.1, 470.7 | 40.1 | 24.8, 67.7 |
| 55-59 | 505.4 | 460.6, 550.2 | 43.9 | 22.8, 85.0 |
| 60-64 | 410.3 | 325.6, 494.9 | 14.1 | ≤0, 74.7 |
| 65-69 | 240.7 | 190.2, 342.1 | 8.2 | ≤0, 86.9 |
| 70-74 | 167.7 | 78.4, 284.0 | 69.9 | ≤0, 237.9 |
| 75+ | 349.3 | 180.1, 518.5 | 72.0 | ≤0, 289.8 |
|  |  |  |  |  |
| *Outbreak II. April through July 1919* | | | | |
|  | Alaska Natives | | non-Alaska Natives | |
| 0-4 | 12.4 | ≤0, 50.7 | 0.4 | ≤0, 46.2 |
| 5-14 | 0 | ≤0, 11.4 | 0 | ≤0, 8.0 |
| 15-19 | 29.4 | 17.1, 51.3 | 25.7 | 4.5, 55.1 |
| 20-24 | 40.6 | 10.3, 70.9 | 7.2 | ≤0, 20.7 |
| 25-29 | 42.0 | 10.8, 73.3 | 14.7 | 1.6, 32.0 |
| 30-34 | 77.4 | 45.7, 109.1 | 0 | ≤0, 17.0 |
| 35-39 | 34.6 | 16.6, 64.0 | 0.3 | ≤0, 16.0 |
| 40-44 | 59.7 | 27.1, 92.2 | 0 | ≤0, 3.8 |
| 45-49 | 40.8 | 24.2, 66.1 | 5.4 | ≤0, 13.8 |
| 50-54 | 51.2 | 14.1, 95.3 | 0 | ≤0, 29.1 |
| 55-59 | 30.2 | 8.3, 73.4 | 0 | ≤0, 21.2 |
| 60-64 | 73.9 | 18.0, 155.7 | 0 | ≤0, 24.2 |
| 65-69 | 12.7 | ≤0, 99.5 | 11.4 | ≤0, 81.6 |
| 70-74 | 30.4 | ≤0, 117.3 | 0 | ≤0, 80.4 |
| 75+ | 0 | ≤0, 44.0 | 85.9 | ≤0, 507.6 |
|  |  |  |  |  |
| *Outbreak III. February through June 1920* | | | | |
|  | Alaska Natives | | non-Alaska Natives | |
| 0-4 | 22.1 | ≤0, 44.3 | 0 | ≤0, 4.6 |
| 5-14 | 0 | ≤0, 4.6 | 0 | ≤0, 0 |
| 15-19 | 6.0 | ≤0, 18.3 | 0 | ≤0, 12.9 |
| 20-24 | 8.0 | ≤0, 23.2 | 1.6 | ≤0, 11.0 |
| 25-29 | 18.2 | 2.6, 33.8 | 0 | ≤0, 6.4 |
| 30-34 | 36.6 | 20.8, 52.5 | 43.3 | 34.7, 52.0 |
| 35-39 | 30.9 | 16.1, 45.6 | 24.8 | 16.9, 32.7 |
| 40-44 | 0 | ≤0, 0.0 | 22.0 | 15.3, 28.7 |
| 45-49 | 16.0 | ≤0, 32.5 | 12.9 | 4.5, 21.2 |
| 50-54 | 40.1 | 17.7, 62.4 | 7.2 | ≤0, 22.5 |
| 55-59 | 68.0 | 46.0, 90.0 | 16.1 | ≤0, 37.2 |
| 60-64 | 115.7 | 75.5, 155.8 | 18.6 | ≤0, 49.9 |
| 65-69 | 13.2 | ≤0, 63.3 | 33.1 | ≤0, 75.0 |
| 70-74 | 0 | ≤0, 0.0 | 0 | ≤0, 0 |
| 75+ | 0 | ≤0, 43.4 | 91.5 | ≤0, 309.1 |
|  |  |  |  |  |
| *Outbreak IV. September through December 1920* | | | | |
|  | Alaska Natives | | non-Alaska Natives | |
| 0-4 | 42.1 | 20.0, 64.2 | 0 | ≤0, 9.3 |
| 5-14 | 7.6 | 0.4, 14.8 | 0 | ≤0, 0 |
| 15-19 | 2.1 | ≤0, 14.3 | 0 | ≤0, 0 |
| 20-24 | 5.7 | ≤0, 21.1 | 0 | ≤0, 0 |
| 25-29 | 1.6 | ≤0, 17.4 | 0 | ≤0, 8.8 |
| 30-34 | 0 | ≤0, 0 | 0 | ≤0, 4.3 |
| 35-39 | 10.0 | ≤0, 24.8 | 0 | ≤0, 6.2 |
| 40-44 | 0 | ≤0, 0 | 0 | ≤0, 3.3 |
| 45-49 | 5.6 | ≤0, 21.9 | 0.4 | ≤0, 8.8 |
| 50-54 | 6.3 | ≤0, 27.8 | 2.6 | ≤0, 18.0 |
| 55-59 | 48.0 | 25.6, 70.4 | 9.2 | ≤0, 30.3 |
| 60-64 | 0 | ≤0, 0 | 0 | ≤0, 25.9 |
| 65-69 | 0 | ≤0, 19.9 | 0 | ≤0, 34.0 |
| 70-74 | 0 | ≤0, 25.4 | 176.5 | 79.9, 273.2 |
| 75+ | 0 | ≤0, 68.3 | 0 | ≤0, 0 |
|  |  |  |  |  |
| *Entire pandemic span (January 1918 through December 1920)* | | | | |
|  | Alaska Natives | | non-Alaska Natives | |
| 0-4 | 365.3 | 264.4, 492.2 | 0.4 | ≤0, 97.0 |
| 5-14 | 184.9 | 163.4, 222.4 | 0.3 | ≤0, 24.0 |
| 15-19 | 223.7 | 178.7, 294.8 | 25.7 | 4.5, 81.0 |
| 20-24 | 301.9 | 232.5, 393.2 | 56.7 | 38.2, 97.4 |
| 25-29 | 523.3 | 443.9, 617.2 | 126.4 | 95.7, 176.6 |
| 30-34 | 515.1 | 435.9, 594.4 | 114.9 | 88.8, 162.3 |
| 35-39 | 607.8 | 535.9, 695.9 | 66.5 | 42.3, 112.2 |
| 40-44 | 677.7 | 613.2, 742.2 | 36.1 | 16.2, 63.2 |
| 45-49 | 618.5 | 547.3, 709.7 | 31.7 | 9.2, 71.1 |
| 50-54 | 525.2 | 433.8, 656.3 | 50.0 | 24.8, 137.3 |
| 55-59 | 651.7 | 540.6, 784.0 | 69.3 | 22.8, 173.7 |
| 60-64 | 599.8 | 419.1, 806.5 | 32.7 | ≤0, 174.7 |
| 65-69 | 266.6 | 190.2, 524.8 | 52.7 | ≤0, 277.5 |
| 70-74 | 198.1 | 78.4, 426.7 | 246.5 | 79.9, 591.4 |
| 75+ | 349.3 | 180.1, 674.2 | 249.4 | ≤0, 1106.5 |

**REFERENCES CITED**

1. Commission of Expert Statisticians. International list of causes of death. *Am J Public Health*. 1927;17(9):887-894.