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Influenza in Greenland 1914 - 1921

Untold Stories and Diverging Patterns

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The 1918 - 2019 influenza pandemic was particularly devastating in Arctic and other remote populations. In most other places in the world the pandemic came in 2-4 waves during 1918 to 1921. We studied spatial and temporal patterns of influenza-related deaths in Greenland for 1914-1921.

We obtained and digitized 3426 deaths from 14 parish registers representing 4 geographical regions. We retained date and cause of death, age, gender, and settlement. We defined influenza related deaths as: influenza, cold, cold-fever, pneumonia, bronchitis, and “sting”. Population sizes were interpolated from censuses in 1911 and 1921.

Key messages
• Outbreaks of influenza-like illness occurred in 1916, 1919, 1920 and 1921.
• All outbreaks occurred in May-August, when the ports were free of ice and shipping was at its peak.
• Mortality patterns differed dramatically from parish to parish.
• The outbreak in 1916 was local to the Cape region and overall deadlier than the 1919 pandemic.
• Pandemic influenza was delayed by one year and started in June 1919, when the ice cracked and ships arrived in Greenland again.
• In total 1.6% of the population died of influenza related deaths in 1919, similar to 1916 (1.4%).
• Documented arrival of influenza by ship confirms that it was influenza.
• Contrary to well-known pandemic signature patterns, all age-groups were equally affected.

Outstanding questions
• Why does the pandemic in Greenland not stand out relative to seasonal flu?
• Why do mortality patterns differ between regions? Can this be due to shipping routes?
• Why are those aged 21-40 not at elevated risk?
• Why does Greenland seem less affected than other Arctic regions?
• Can shipping records help understand these diverging patterns?