NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE
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Corrections to 2023 and 2024 Health Department NYC Heat-Related Mortality Reports

We identified an error in our heat mortality analytic code that resulted in an underestimate in the annual number of heat-exacerbated deaths above 82°F in our 2023 and 2024 NYC Heat-Related Mortality Reports. The error was due to a typo in the estimation of heat-exacerbated deaths resulting in an underestimated annual count of 340 deaths. We have corrected the error and also updated the analysis to better account for temporal patterns in COVID-19 mortality. These are the corrected estimates:

- From 2017 to 2021, there was an average of **568 (95% confidence interval: 223, 874)** heat-exacerbated deaths (caused indirectly by heat aggravating an underlying illness) per year (2024 NYC Heat-Related Mortality Report).

- From 2016 to 2020, there was an average of **555 (95% confidence interval: 227, 871)** heat-exacerbated deaths (caused indirectly by heat aggravating an underlying illness) per year (2023 NYC Heat-Related Mortality Report).

- Estimates of heat-exacerbated deaths in both the 2023 (2016-2020) and 2024 (2017-2021) reports accounted for about 3% of all natural cause deaths during the warm seasons from May through September.

The overall pattern of deaths above 82°F over time is similar before and after the correction – decreasing since the 1970s followed by a plateau after 2000, and increasing in the past decade with similar rates for the most recent two 5-year periods. Patterns in heat-exacerbated mortality risk have not changed, and estimates have been updated in the reports. Trends in weather, community-level impacts, and heat stress deaths are also unchanged. **Our conclusions about how to prevent and reduce heat-related mortality remain the same.**

Our 2021 and 2022 reports were not affected. Estimates for the 2021 report (347 average annual deaths) and 2022 report (364 average annual deaths) are smaller because they are averages of 9 years of data, including years when the numbers of heat-exacerbated deaths were lower. In 2023 we updated our analyses to use 5-year averages to better identify shorter-term changes in temperature and heat-related mortality trends, given the accelerating pace of rising temperatures. The shorter time period has a trade-off of more uncertainty, as seen in the wider confidence intervals around the estimates.

We have updated the relevant text and figures of the 2023 and 2024 reports and appendices. We have instituted additional internal data verification procedures to mitigate the potential for similar and other mistakes.