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CHART



Unemployment and mortality in Philadelphia

Social and economic circumstances are important determinants of health. Factors like poverty and unemployment are associated with food and housing instability, higher rates of chronic conditions such as diabetes, and higher risk of both contracting and dying from COVID-19. Studies have shown a strong link between job loss and subsequent [mortality](#), and a link between unemployment and [poor mental health](#) that persists even after [retirement](#). Chronic unemployment, especially among men, is particularly [harmful](#) for health.

Unemployment in Philadelphia—as in the country—has spiked in 2020, a consequence of the COVID-19 pandemic. Like so many inequities during the pandemic, that spike has been more pronounced and prolonged among Black and Hispanic/Latinx city residents. In this issue of CHART, we examine the relationship between unemployment and mortality in Philadelphia.

Definitions:

Unemployment assistance is the weekly number of people in Philadelphia who received unemployment compensation after the initial claim was approved (sometimes called continued claims). Data source: [PAWorkStats](#) Weekly Unemployment Claims.

The **working-age population** is all residents of Philadelphia aged 16-64 years. Data source: [American Community Survey](#).

Census tracts are small geographic areas with a population size of approximately 4,000 persons. There are 372 census tracts in [Philadelphia](#). Census tracts are defined by the [US Census Bureau](#).

The **chronic unemployment rate** is the percentage of working-age adults (16-64) who were not employed at any time in the previous 12 months. Data source: [American Community Survey](#), 2018.

The **poverty rate** is the percentage of people living on an annual household income below the federal poverty line, which was \$25,100 for a family of four in 2018. Source: [American Community Survey](#), 2018.

The **mortality rate** is the age-adjusted number of people who died per 100,000 population in 2017. Data source: PA vital registration system, 2020, and [American Community Survey](#), 2018.

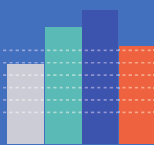
KEY TAKEAWAYS

Unemployment is at a record high due to the COVID-19 pandemic.

Within Philadelphia, mortality is higher in neighborhoods with higher levels of chronic unemployment.

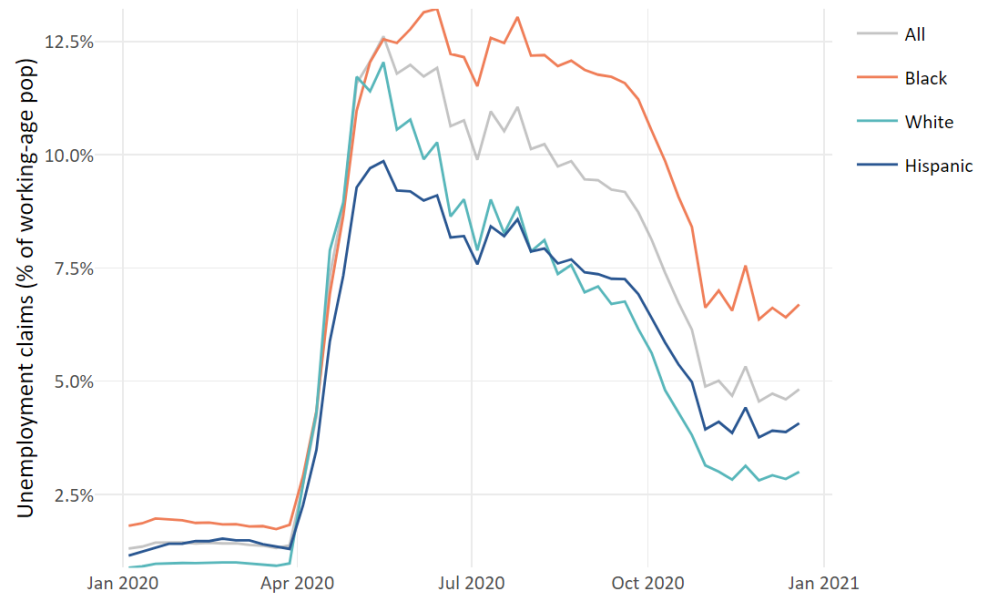
Chronic unemployment and mortality are linked even after accounting for the level of poverty in the neighborhood.

Chronic male unemployment is an important marker of risk of early death.

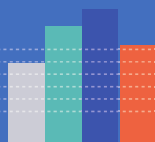


Unemployment spiked with the COVID-19 pandemic

Unemployment assistance by race/ethnicity, 2020.

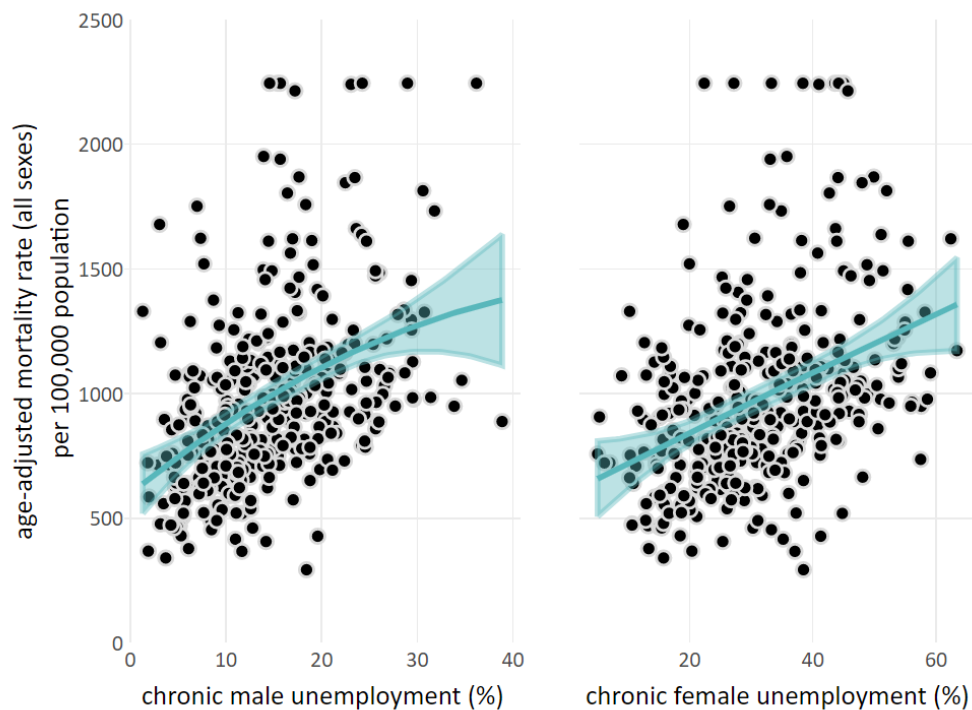


- Unemployment assistance jumped to unprecedented levels as the COVID-19 pandemic hit in 2020. During the week of May 16, near the spring COVID peak, 12.6% of the working-age population in Philadelphia received unemployment assistance (gray line).
- Unemployment increased in all race and ethnic groups, but the recovery has been slower for Black and Hispanic workers compared to White workers.
 - In January-February 2020, before the pandemic, about 1.9% of Black workers and 1.5% of Hispanic workers were receiving unemployment assistance compared to 1.0% of White workers.
 - As of May 16, 12.5% of Black workers, 9.9% of Hispanic workers, and 12.0% of White workers were receiving unemployment assistance.
 - By December 19, 6.7% of Black workers, 4.1% of Hispanic workers, and 3% of White workers were receiving unemployment assistance.

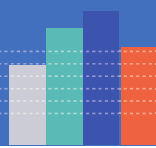


On average, mortality is higher in census tracts with high rates of chronic unemployment

Mortality and chronic unemployment.

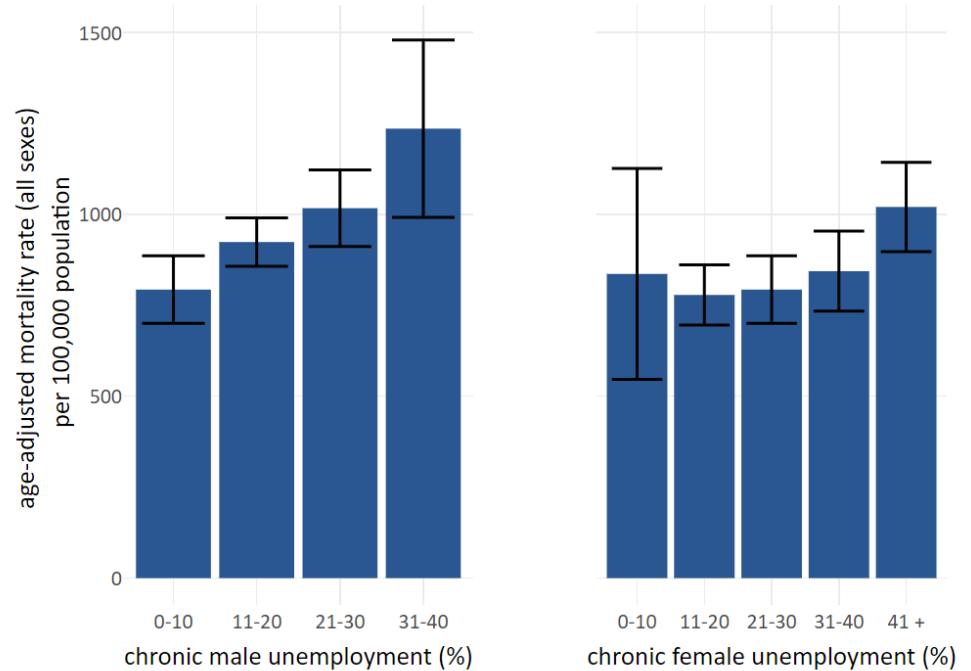


- While there is variation among Philadelphia's census tracts, in general, census tracts with higher rates of chronic unemployment had higher mortality rates.

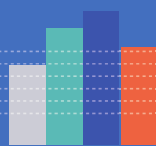


Mortality is more tightly linked to chronic male unemployment than chronic female unemployment

Average mortality by level of chronic unemployment.

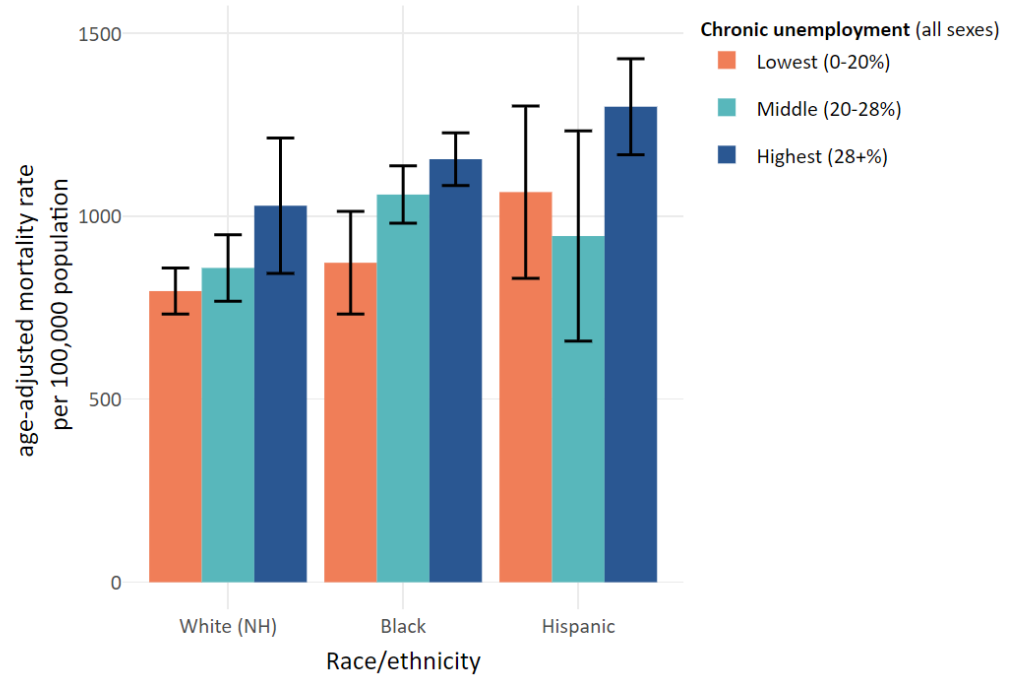


- On average, census tracts with chronic male unemployment rates of 21-30% had mortality rates 28% higher than those of tracts with chronic male unemployment rates of 0-10%, controlling for chronic female unemployment rates (left panel).
- On average, census tracts with chronic female unemployment rates of 31-40% had mortality rates 8% higher than those of tracts with chronic female unemployment rates of 11-20%, controlling for chronic male unemployment rates (right panel).
- Mortality rates are generally lower in tracts with low rates of chronic unemployment compared to tracts with high rates of chronic unemployment. A given percentage point difference in chronic male unemployment is associated with a larger difference in the mortality rate than the same percentage point difference in chronic female unemployment.



Mortality by level of chronic unemployment and race/ethnicity.

Mortality is higher in tracts with high chronic unemployment no matter what the predominant race/ethnicity

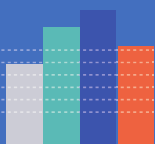


- The relationship between mortality and chronic unemployment holds in census tracts that are predominantly non-Hispanic White and Black: mortality rates are lower in tracts with lower rates of chronic unemployment.
- The pattern appears to be the same in predominantly Hispanic tracts, though there are too few predominantly Hispanic tracts to be certain of the pattern.

WHAT CAN BE DONE

The Health Department is:

- Using data to identify public health interventions that can address the high burden of health challenges in specific populations and neighborhoods.
- Working with other city departments and agencies to address the major underlying causes of death and disability.
- Preparing to evaluate the health and mortality impact of City jobs programs as they roll out and expand.
- Piloting the Philly Youth Health Corps, a partnership with community-based organizations to provide jobs, mentoring, and skill building in areas related to the prevention of chronic conditions and gun violence to opportunity youth in the city.



Health care providers should:

- Ask patients about their employment status and refer to relevant city services:
 - Community College of Philadelphia offers financial aid including Octavius Catto scholarships for first-time college students and links to career services.
 - [Philadelphia Works](#) offers a variety of workforce development opportunities for youth and young adults.
 - [PowerCorpsPHL](#) engages disconnected young adults and returning citizens in advancing their lives through service.
- Treat chronic male unemployment as a risk factor for poorer health outcomes, recognize its roots in structural racism, and work with patients to optimize control of chronic conditions to minimize risk.

Employers can:

- Reach out to [Philadelphia Works](#) to learn more about their programs to help find, grow, and retain workers.
- Learn about support for [On the Job Training](#), an occupational skills training program that enables employers to hire and train new employees at their place of business while being reimbursed.
- Consider starting an apprenticeship program. To learn more, visit [apprenticeshipphl.org](#).
- Learn more about how to become an Employer of Choice, Fueling Philadelphia's Talent Engine and partner, by contacting the [Commerce Department Workforce Division](#).

TECHNICAL NOTES

- All mortality rates are age-adjusted using the 2000 US population.
- Seven census tracts with population < 1000 are excluded from the analysis. One census tract, largely comprised of Philadelphia's prisons, is also excluded.
- Average mortality rates are estimated from linear regression models.
- Error bars on graphs are 95% confidence intervals.
- The low/medium/high designations for chronic unemployment are based on tertiles of all tracts.

Suggested citation:

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