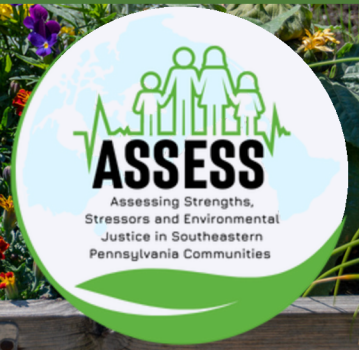


# ASSESS Community and Environmental Health Study



## Study Goals

The purpose of the Assessing Strengths, Stressors and Environmental Justice in Southeastern (ASSESS) Pennsylvania Communities Study was to:

- Collect data for a better understanding of community strengths, stressors, and needs; and
- Describe the **cumulative health impacts** of both chemical (e.g., exposure to air pollutants) and nonchemical (e.g., economic hardship) stressors.

Cumulative impacts are the totality of exposures to pollution and other stressors, and their combined effects on health, well-being, and quality of life (1).

The study team consisted of researchers from Johns Hopkins University and Community Co-Investigators from Clean Air Council, Marcus Hook Neighbors for Public Health, and the larger community.

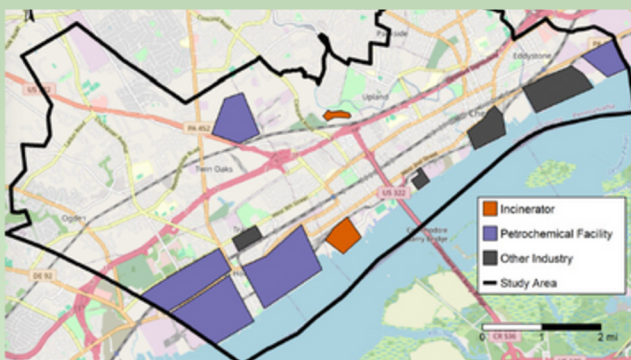
## Study Methods

This study utilized a **community-based participatory research (CBPR)** approach, meaning it was designed and implemented by community co-investigators who themselves are impacted residents.

**147** residents completed an environmental health survey and **22** residents participated in focus groups. Their responses informed this study's key findings and recommendations.

## About The Region

Fenceline communities in Southern Delaware County, PA are exposed to some of the most polluted air in Pennsylvania (2).



The area between I-95 and Delaware River houses industrial sources of pollution such as two trash incinerators, an oil refinery, and several chemical manufacturing and petrochemical processing plants.

## Key Findings

**Odors, air pollution, noise were common environmental health concerns that directly impacted well-being and quality of life.**

- Odors affected the health of residents: **nearly all, 95%**, survey participants reported odors in their communities and identified odors as a major factor affecting their physical and mental health.
- Exposure to air pollution was perceived by a majority of respondents to be a concern for mental and physical health.
- Respondents also reported noise disrupting their daytime activities and sleep, causing mental and physical harm.

**Self reported adverse physical health symptoms (e.g. congestion, headaches, cough) were more common than clinician-diagnosed physical health conditions (e.g. allergies, hypertension, asthma).**

- Physical health diagnoses and symptoms affected respondents' feelings of accomplishment with daily activities and work. Infrastructure inaccessibility and concerns of gun violence made some participants less likely to spend more time outdoors.

**Self reported mental health symptoms consistent with depression and anxiety were more common than professional medical diagnoses of these conditions.**

- Survey participants reported clinical diagnoses of depression (10%) or anxiety (14%). However, 52% of survey participants experienced symptoms suggestive of depression or anxiety disorder based on responses from a validated screening questionnaire. Odors and air pollution were major factors impacting mental health.
- Access to employment and healthcare, COVID-related isolation, and substance use have also impacted respondents' mental health.

**More children experience symptoms consistent with asthma (wheezing and coughing) than have clinician-diagnosed asthma.**

- Living and going to school in high-traffic areas, and access to clean drinking water and safe green spaces are issues that were perceived to impact children's health.





# Key Findings

Participants were proud of their communities and felt a strong connection to and support from other community members.

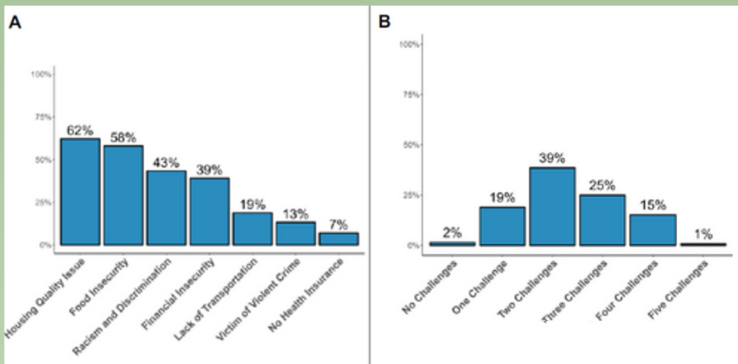
*“The community does really come together when there's events for families in need.”*

*Participant 4*

Focus group participants had pride in their community's diversity and willingness to show up to support and care for one another.

Southern Delco residents faced many non-environmental challenges (*financial limitations and food insecurity*). Those who reported facing more challenges had poorer health.

Environmental, physical, and mental health challenges were not isolated and instead compounded to affect well-being.



Percentage of survey participants who reported various types of personal challenges (Panel A) and different numbers of total personal challenges (Panel B)

**Strong alignment between health-harming factors and factors participants want policymakers to address: pollution and chemical exposures, violence and crime, food insecurity.**

Focus group participants emphasized the need for more community resources and education programs on health and well-being, advocacy and policy action on existing pollution sources, improved transparency around potential environmental risks, and community representation in decision-making spaces.

*“You know, it's just a stressor. You're gonna have that constant anxiety of, you know, what do I do? Do I, you know, pay my electric bill? Or do I feed my kids this week? There's always gonna be that constant choice.”*

*Participant 5*

# Recommendations

## State and Local Regulators / Policymakers

Enact EJ legislation to address cumulative burdens in permit approval processes that:

- Consider existing pollution sources and community level environmental and public health data.
- Require applicants to demonstrate the proposal(s) will mitigate and not exacerbate existing stressors.

The Pennsylvania Department of Environmental Protection (DEP) should issue a rulemaking requiring permit applicants to conduct cumulative risk assessments that show potential cancer and non-cancer risks associated with proposed projects do not exceed science-based thresholds. The DEP should use the risk assessment to inform decisions on permit approvals.

Prioritize community engagement, inclusion, and transparency in decision-making processes that affect fenceline residents before permit(s) are approved.

- Broaden the definition of community health and safety to address more concerns and needs.
- Leverage community strengths in relevant discussions.

## Community Organizations and Advocates

- Organize and educate community members and groups on key findings to empower policy and permitting changes in ways that are inclusive of cumulative burdens.
- Educate local officials, community groups, and residents on existing cumulative impact laws and policies in the US.
- Empower residents to advocate for cumulative burden considerations.

## Academic Resources

- Broaden concepts of health to include measures of mental health and well-being.
- Expand consideration of symptoms, not just diagnoses.
- Increase use of community-based participatory research (CBPR) approaches to improve the rigor, relevance, and reach of studies.

To read the full ASSESS report, please visit [tinyurl.com/assess610](https://tinyurl.com/assess610) or use the QR below



### Endnotes

(1) Julius, S., S. Mazur, N. Tulve, S. Paul, N. Loschin, T. Barzyk, K. Buck, K. Dionisio, A. Geller, J. Hoffman, S. Lee, B. Owens, A. Shatas, D. Smith, J. Williams, O. Nweke, C. Lee, C. Braverman, M. Small. Cumulative Impacts: Recommendations for ORD Research. US Environmental Protection Agency: Washington, DC, 2022.

(2) Pennsylvania Department of Environmental Protection. PA Environmental Justice Areas. 2024. <https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/Pages/PA-EnvironmentalJustice-Areas.aspx>