



# KETTLEMAN CITY HEALTH QUESTIONNAIRE Summary of Results

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## Introduction

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During the week of September 16, 2013, employees of the Center on Race, Poverty & the Environment, Greenaction for Health and Environmental Justice and members of El Pueblo Para El Aire y Agua Limpio visited the homes of Kettleman City residents to inform them of an upcoming public hearing on the expansion of the nearby Kettleman Hills hazardous waste facility. Residents were also asked to share any concerns they had about the proposed expansion. During these home visits, an unexpected number of residents reported that they had recently been diagnosed with cancer. In fact, in a one block radius on 9th Street, nine residents reported that they had cancer; several had been diagnosed just that week. Residents also expressed concern about high birth defect rates, miscarriages, anemia, asthma, and valley fever that they perceived may be linked to environmental contamination from the existing Kettleman Hills Hazardous Waste Landfill and other sources of pollution.

Based on this information, the Center on Race, Poverty & the Environment determined that a comprehensive health survey of Kettleman City was necessary to determine whether rates of illness in Kettleman City were higher than would be expected. Despite requests from Kettleman City residents, no local, State or Federal agency has conducted a comprehensive health survey in Kettleman City. CRPE determined that while it did not have necessary resources to conduct a comprehensive health survey, it did have the resources to gather more information about Kettleman City resident health through a more focused health questionnaire. CRPE conducted the questionnaire with support from Greenaction for Health and Environmental Justice and El Pueblo para el Aire y Agua Limpio.

This questionnaire is not meant to be scientific, establish causation, or be a replacement for a comprehensive health survey. Rather the questionnaire is designed to provide additional information to the Department of Toxic Substances Control and other agencies to aid them in permitting decisions and other decisions that may affect the health of Kettleman City residents. It also should provide agency decision-makers with additional information on specific vulnerabilities experienced by Kettleman City residents that may be exacerbated by adding more pollution in the area. CRPE hopes that the results of this questionnaire will prompt the Department of Toxic Substances Control and/or other agencies to conduct a comprehensive health survey in order to fully assess the health of Kettleman City residents and determine whether illnesses and ailments in Kettleman City may be linked to environmental factors.

## Methodology

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Questionnaire administrators spent a total of three evenings in Kettleman City asking Kettleman City residents a series of questions about whether they had experienced illnesses and ailments commonly associated with environmental factors. Administrators randomly selected homes in Kettleman City to visit. If a resident answered the door, administrators verbally asked him or her a series of questions and recorded the responses on a questionnaire sheet. Administrators asked participants questions in the primary language of the participants. The majority of residents elected to be given the questionnaire in Spanish. Administrators asked residents to provide answers based on their knowledge of the health of all members of the household. All questionnaires are anonymous; administrators included no identifying information with a resident's responses. In total, 88 residents completed the questionnaire. This represents a little over a quarter of the 350 total households in Kettleman City.

The questionnaire included the following topics:

- Cancer diagnoses
- Birth defect incidences
- Miscarriages

- Anemia
- Valley fever

The question topics were developed based on feedback by members of El Pueblo para el Aire y Agua Limpio and other Kettleman City residents. Residents have expressed concern about a number of illnesses and ailments they believe to be elevated in the town. Ailments that have already been well-documented in Kettleman City, such as asthma, were not specifically included in the questionnaire. However, residents were asked to share any other health concerns they had in order to capture possible illness and ailments that were not specifically included in the questionnaire.

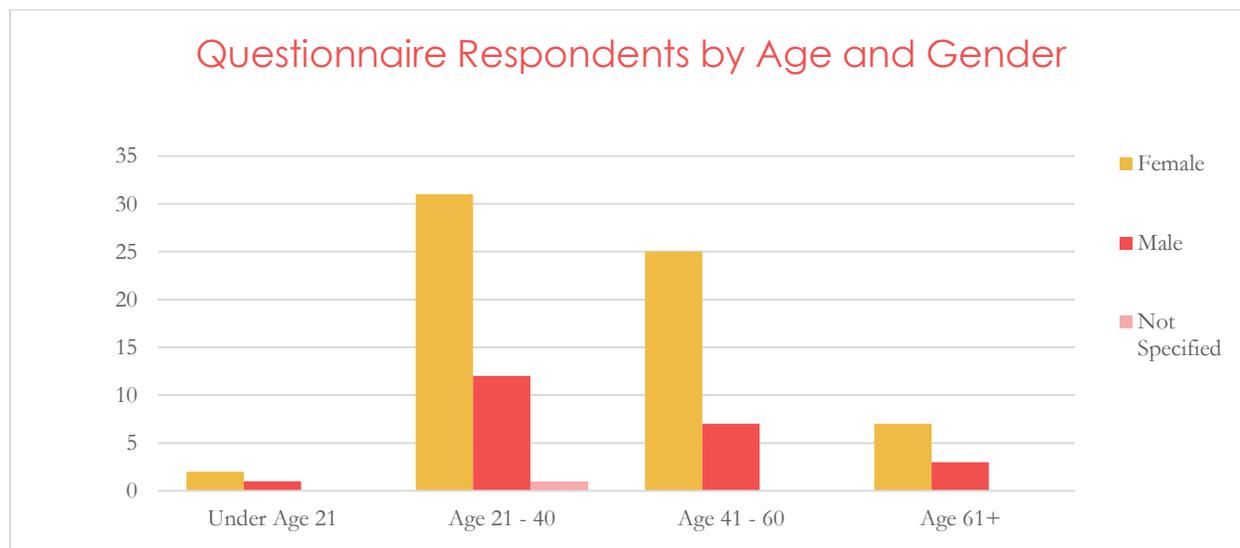
If participants indicated that someone within the household experienced a particular illness or ailment, they were asked follow-up questions to gather additional information specific to that ailment or illness.

The questionnaire administrators checked returned surveys for missing information and responses that would cause scanning errors. After scanning, the responses were imported into Qualtrics. Data analysis was completed using Qualtrics and Microsoft Excel.

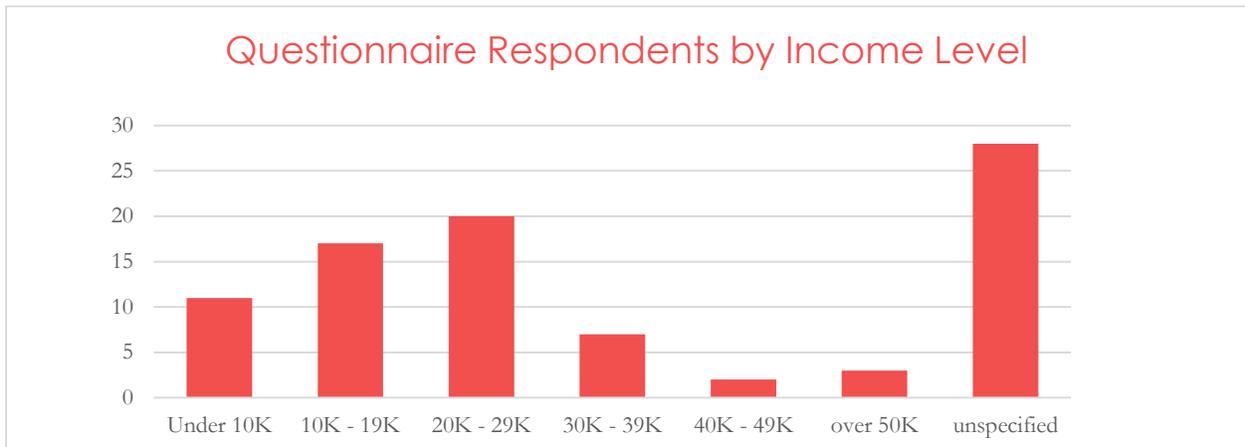
## Demographics

Questionnaire responses are broken out by several demographic categories, as follows:

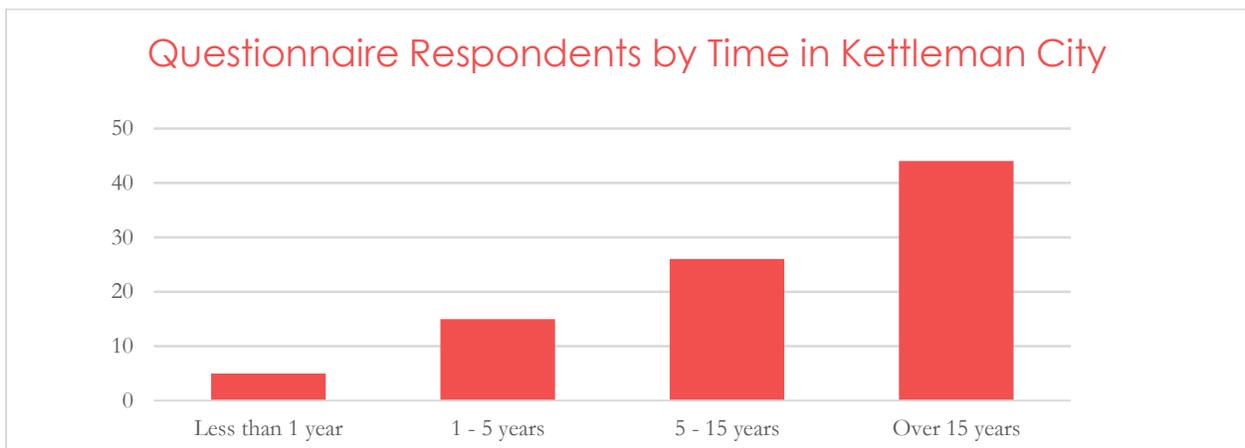
- The percentage of respondents are broken out by:
  - Under age 20
  - Age 21 to 40
  - Age 41 - 60
  - Age 61 and above
- Gender
- Income
- Years of residency in Kettleman City



The vast majority of responders were females between the ages of 30 and 60. Generally, questionnaire administrators asked that the resident participants be over the age of 18. However, one participant was under the age of 18.



According to the 2010 Census, the median income in Kettleman City is \$22,409 per household. The household incomes of questionnaire respondents mirrored the Census results with the vast majority of participants indicating a total annual household income of less than \$30,000. Many participants that did specify an exact income level reported that they did not work or did not have an income.



Questionnaire participants were weighted heavily toward longer-term residents. Fifty percent of participants reported that they had lived in Kettleman City for over 15 years. Only five participants reported that they had lived in Kettleman City for less than a year.

Questionnaire administrators also asked participants about their race/ethnicity. One hundred percent of participants indicated that they were Mexican, Latino, or Hispanic.

# Questionnaire Results

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## Cancer Incidence in the Household

Response	Count and percent
Yes	20 (23%)
No	68 (77%)

Several households indicated more than one cancer, bringing the total identified incidence to 24. Residents reported a range of cancers including kidney (x3), uterus (x3), breast (x2), ovarian (x2), mouth (x2), leukemia (x2), cervix, colon, stomach, prostate, lung, and bone. One resident reported a noncancerous brain tumor in a child; this incidence is not included in the cancer incidence statistics.

There was a wide range of the age at diagnosis, ranging from 6 to 64. However, 83% of the cancers were diagnosed in residents when they were under the age of 55.

## Birth Defect Incidence in the Household

Response	Count and percent
Yes	6 (7%)
No	78 (93%)

Residents reported various birth defects including missing limbs, heart defects, incomplete formation of the eyelid, defects of the cornea, down's syndrome, hearing defects, cleft palate and cerebral palsy. Several households experienced more than one birth defect, bringing the total reported number of children born with defects to ten. Several of these defects occurred after the state released its birth defect investigation, including one in 2010 and two in 2011. Others occurred in 1993, 2004, 2005, 2007, 2008, and 2009(x2). All of the babies survived.

## Miscarriage Incidence in the Household

Response	Count and percent
Yes	18 (21%)
No	66 (79%)

Expectant mothers were in various stages of their pregnancies when the miscarriages occurred, ranging from one month to seven months. Most occurred in the third or fourth months of pregnancy. Several households experienced multiple miscarriages, bringing the total number of miscarriages to 26. The miscarriages occurred between 1989 to 2013, with a majority occurring after 2005 (61%).

## Valley Fever Incidence in the Household

Response	Count and percent
Yes	17 (20%)
No	71 (80%)

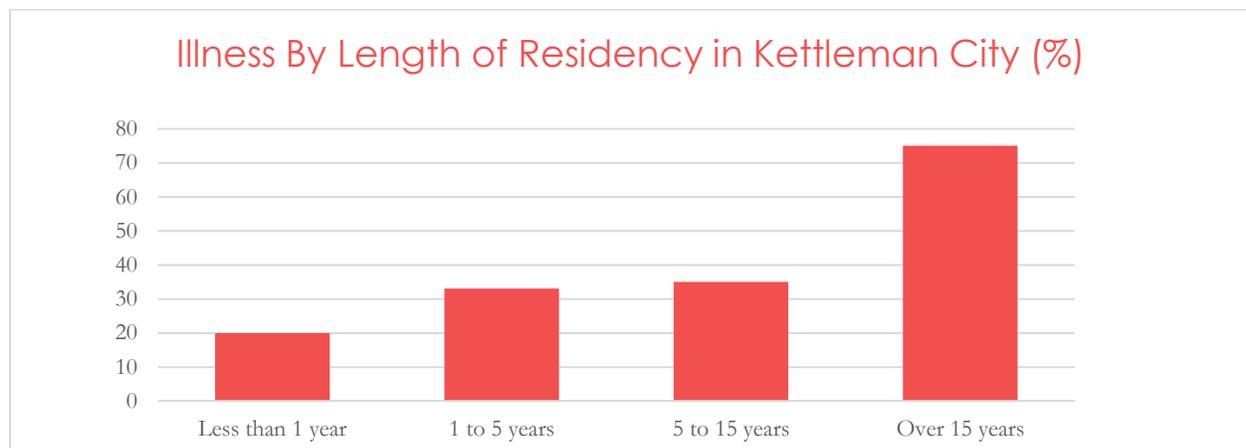
## Number of Households Experiencing at Least One Illness or Ailment<sup>1</sup>

Response	Count and percent
Yes	48 (55%)
No	40 (45%)

Over half of the questionnaire participants indicated that at least one person in the household experienced an illness or ailment that is commonly associated with environmental factors. Many participants reported more than one ailment or illness in the household. The questionnaire invited participants to share any other ailments or illness experienced in the household. Asthma was by far the most common response, followed by allergies. Other residents identified respiratory problems, reproductive problems, diabetes, and headaches in the household. Though the questionnaire did not specifically ask residents about asthma incidence, many residents reported asthma in addition to the other illnesses and ailments specifically included in the questionnaire.

## Illness and Ailments by Length of Residency in Kettleman City

Amount of Time in Kettleman City	Percent experiencing illness or ailment
Less than 1 year	1 out of 5 (20%)
1 to 5 years	5 out of 15 (33%)
5 to 15 years	9 out of 26 (35%)
Over 15 years	33 out of 44 (75%)



Residents who reported living in Kettleman City the longest also reported the highest levels of illnesses and ailments. Seventy-five percent of residents who have lived in Kettleman City for over 15 years reported at least one person in the household suffered from an illness or ailment

<sup>1</sup> For purposes of the Questionnaire Results section, all references to “illness or ailment” refer only to the five indicators covered specifically in the questionnaire: cancer, birth defect, miscarriage, anemia, and valley fever.

that is commonly associated with environmental factors. Of those, about half indicated multiple illness or ailments in the household. Only one resident who had lived in Kettleman City for less than one year reported an illness or ailment.

## Conclusion

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The questionnaire confirms that Kettleman City residents are right to be concerned about illnesses and ailments that may be caused by environmental factors. Many households in Kettleman City appear to be coping with at least one serious illness or ailment that would affect the family's health and financial well-being. Many of the affected households were low or very low income and, therefore, least equipped to defray expensive medical costs associated with illness and ailments.

Families that have lived in Kettleman City the longest, appear to be at greatest risk from ailments and illness. Based on these data, one could infer that living in Kettleman City is a causal factor in developing these illnesses and ailments.

Based on the composite responses to the questionnaire, CRPE believes that the Department of Toxic Substances Control should complete a comprehensive health survey of Kettleman City to determine the extent of illness and ailments in town that are commonly associated with environmental factors. In addition to the illness and ailments covered by this questionnaire, the comprehensive health survey should include questions about asthma, respiratory problems, and allergies.

The Department of Toxic Substances Control and the Department of Public Health should evaluate and notify Kettleman City residents what the expected rates of these illness and ailments would be in a town the size of Kettleman City.

Agencies should not permit additional polluting facilities in or near Kettleman until a full comprehensive health survey is complete. If the health survey confirms that illness and ailments that are commonly linked to environmental factors are elevated in Kettleman City, agencies must not permit additional sources of pollution and instead must take steps to reduce the pollution burden in Kettleman City. Agencies must provide additional health resources to help residents cope with elevated levels of illness and ailments in town.