# HERCULES
## EXPOSOME RESEARCH CENTER

# Areas of Research

In 2019, we asked HERCULES investigators to provide 3-5 keywords that describe the focus of their research.

## Key Research Areas

49 HERCULES investigators provided 34 distinct research topics. Investigator keywords were grouped into three broad areas*: **Exposure, Health Outcome,** and **Method/Approach.**

*Many investigators' research involves a combination of research areas and so these categories are not mutually exclusive.

## Exposure

A total of 14 HERCULES investigators defined exposures of interest on which their research is focused. These included:
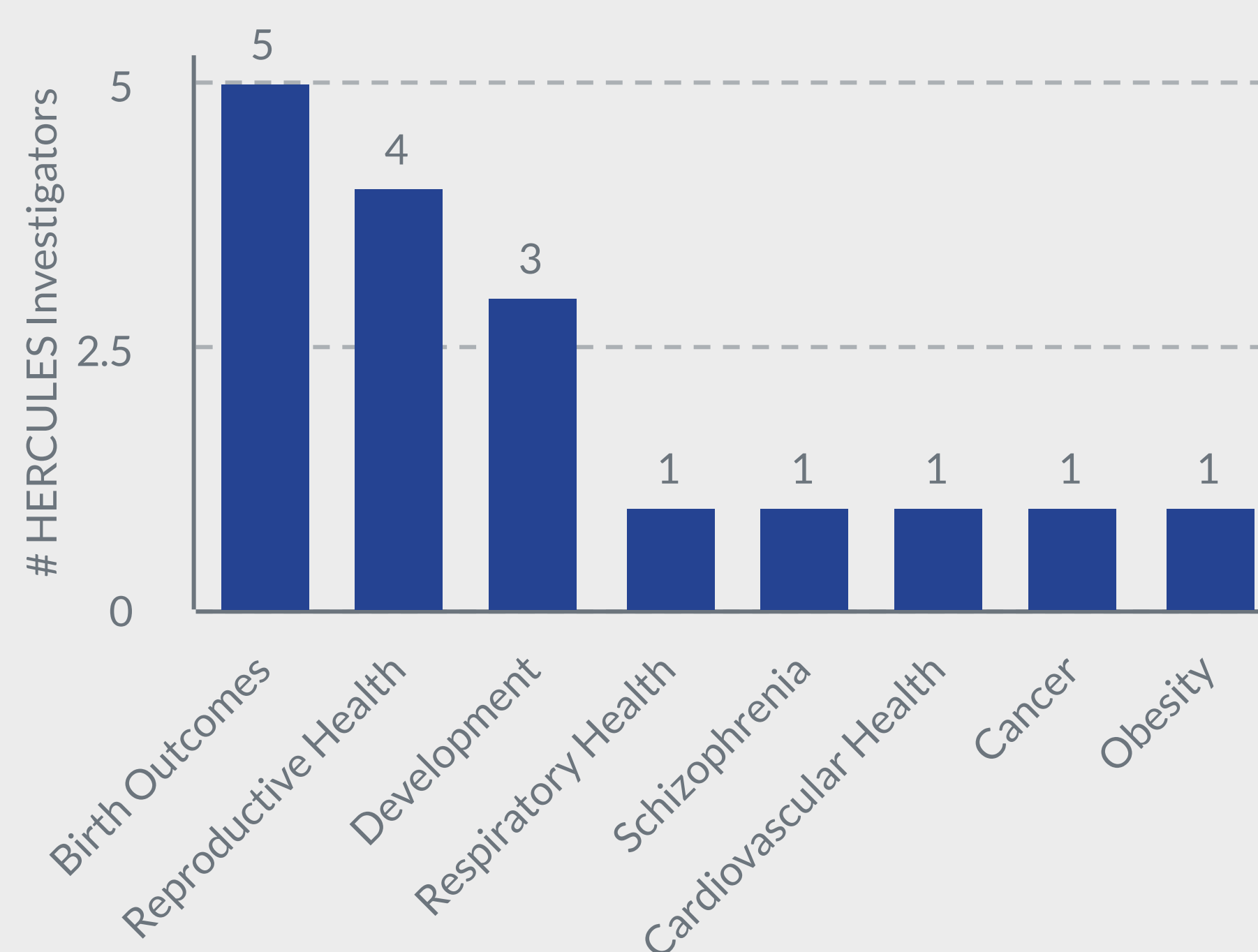
- Air pollution (n=7, 14%)
- Chemicals (n=6, 12%)
- Climate change (n=4, 8%)
- Diet/nutrition (n=2, 4%)
- Soil Pollution (n=1, 2%)
- Infectious diseases (n=1, 2%).

Bar chart — # HERCULES Investigators: Air Pollution 7, Chemicals 6, Climate Change 4, Diet/Nutrition 2, Infectious Disease 1, Soil Pollution 1
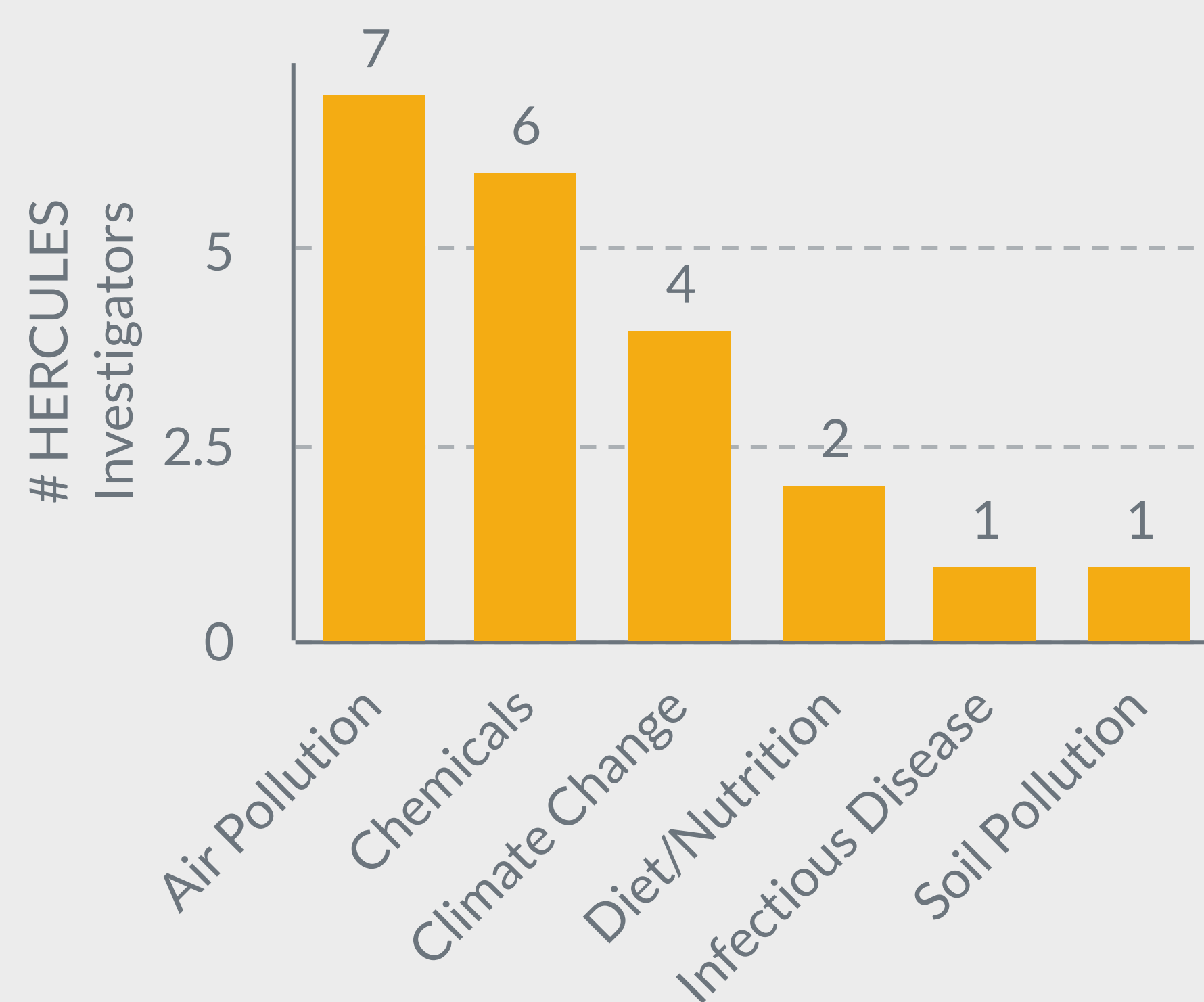
## Health Outcome

A total of 13 HERCULES members defined health outcomes that their research investigates. These included:

- Birth outcomes (n=5, 10%)
- Reproductive health (n=4, 8%)
- Development (n=3, 6%)
- Obesity (n=1, 2%)
- Respiration (n=1, 2%)
- Schizophrenia (n=1, 2%)
- Cardio metabolism (n=1, 2%)
- Cancer (n=1, 2%).

Bar chart — # HERCULES Investigators: Birth Outcomes 5, Reproductive Health 4, Development 3, Respiratory Health 1, Schizophrenia 1, Cardiovascular Health 1, Cancer 1, Obesity 1

## Method/Approach

A total of 37 HERCULES scientists cited 20 different methods or approaches they use in their research. These included:

- Metabolomics (n=10, 20%)
- Biology (n=5, 10%)
- Epidemiology (n=3, 6%)
- Bioinformatics (n=3, 6%)
- Genomics (n=3, 6%)
- Biomarkers (n=3, 6%)
- Toxicology (n=3, 6%)
- Data science (n=2, 4%)
- Environmental justice (n=1, 2%)
- Neuroscience (n=1, 2%)
- Remote sensing (n=1, 2%)
- Machine learning (n=1, 2%)
- Statistics (n=1, 2%)
- Lipidomics (n=1, 2%)
- Mass spectrometry (n=1, 2%)
- Geographic information systems (n=1, 2%)
- Computer modeling (n=1, 2%)
- Impact evaluation (n=1, 2%)
- Technology (n=1, 2%)
- Bioengineering (n=1, 2%)

Bar chart — # HERCULES Investigators: Metabolomics 10, Biology 5, Epidemiology 3, Bioinformatics 3, Genomics 3, Biomarkers 3, Toxicology 3, Data Science 2, Environmental Justice 1, Neuroscience 1, Remote Sensing 1, Machine Learning 1, Statistics 1, Lipidomics 1, Mass Spectrometry 1, GIS 1, Computer Modeling 1, Impact Evaluation 1, Technology 1, Bioengineering 1