

# What Works Cities

Bloomberg  
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SUMMIT ON  
TRANSFORMING  
**DATA**  
≡ INTO ≡  
**ACTION**

# 2

# Health



**GovEx**

# How did Chicago use predictive modeling to address public health threats?



# The role of leadership

The two projects were lead by Chicago Department of Public Health.



Credit: Gorden Walek



# The role of data - health inspections

Datasets included:  
business licenses, food  
inspections, crime,  
garbage cart  
complaints, sanitation  
complaints, weather,  
and sanitation  
information.



Credit: Pixabay

# The role of data - lead poisoning prevention



Two datasets key to the researchers' analysis included blood lead level tests and home lead inspection records.

Credit: MLive Media Group

# The role of technology



Lead Poisoning Prevention: To clean and aggregate the data, the team from DSSG used PostgreSQL with the geospatial extension PostGIS. Python was utilized to assemble datasets and rid them of duplicates.



Health Inspections: Analysis done using R.



All code is available on GitHub.

# The methodology

Research the problem



Collect data



Created by Dmitry Baranovsky  
from Noun Project



Strong collaboration and support

Combine and clean data



Created by Ivan 14  
from Noun Project



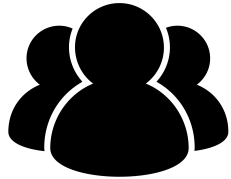
Created by Dmitry Baranovsky  
from Noun Project

Select model



Created by Rffor  
from Noun Project

Validate model



Deploy new strategies



# The role of people and partnerships

Lead Poisoning: The team from DSSG worked with the Lead Poisoning Prevention Program at the CDPH, but the team also included an epidemiologist and support from the local Women Infant and Children (WIC) clinics.

Health Inspections: The City worked with two external partners, including Civic Consulting Alliance and Allstate Insurance. (Allstate Insurance's data science team is credited with helping to develop the predictive model.) Three analysts developed the model, while three additional individuals acted as project manager and assisted with coordination.



# Summary of Key Insights and Replication Considerations

- Harness the power of open data to engage external stakeholders in problem-solving.
- Use data from local, state, and national sources to make your analysis more robust.
- Once a successful model is developed, gather resources that would support your change in strategy.

# To learn more about this project

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