

Study recommends integrating housing data with health data to improve patient medical care

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A study to be released in the November issue of *Health Affairs* shows that integrating community housing data on such code violations as mold and cockroaches with health data can identify at-risk geographical areas of medical concern and help target patients for medical interventions.

Researchers from Cincinnati Children's Hospital Medical Center used geocoding, or mapping, to examine associations between housing code violations and children's health. They found that children hospitalized for asthma are nearly twice as likely to be rehospitalized or to revisit the [emergency department](#) if they live in census tracts where housing code violations are higher compared to those who live in census tracts with fewer housing violations. The finding held true regardless of poverty levels in census tracts.

"Local agencies that enforce housing policies can partner with healthcare systems to target pediatric asthma care," says Andrew Beck, MD, a pediatrician at Cincinnati Children's and lead author of the study. "These agencies retain data that can be used to pinpoint potential clusters of high asthma morbidity (level of illness)."

Dr. Beck and his colleagues studied 4,355 children between the ages of 1 and 16 who visited the emergency department or were hospitalized for asthma at Cincinnati Children's between January 2009 and December 2012. The researchers geocoded the patients' home addresses and

mapped their homes to the corresponding 2010 census tract.

They calculated the utilization rate by dividing all emergency visits and hospitalizations within a census tract by the number of children who lived in that area. They found that increased density in housing code violations within a census tract was associated with increased asthma-related illness. The density also explained 22 percent of the variation in rates of asthma-related emergency visits or hospitalizations.

"Children who had been hospitalized for asthma had 1.84 greater odds of a revisit to the emergency department or a rehospitalization within 12 months if they lived in the highest quartile of housing code violation tracts, compared to those living in the lowest quartile," says Dr. Beck.

"Data on code violations have been used across large areas to assess associations with allergic sensitization to certain environmental exposures," he adds. "Using data for smaller areas such as census tracts could be even more meaningful in understanding local disparities. Data could also be efficiently brought into patients' electronic health records to inform and improve clinical care."

Data collected and tracked by community agencies could also be used as a cost-effective and efficient approach to improving healthcare delivery at the population and patient level, according to Dr. Beck. This is especially relevant as health systems shift their focus to preventive and accountable care, he says.

He suggests this can be done by targeting at-risk geographical areas of [medical concern](#) and identifying patients for interventions that are aimed at remediating underlying housing risks. These might include home inspections and legal advocacy, he says.

Provided by Cincinnati Children's Hospital Medical Center

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