

Child's home address predicts hospitalization risk for common respiratory diseases

July 20 2015

Children who require hospitalization for several common respiratory illnesses tend to live in inner-city neighborhoods with less than optimal socioeconomic conditions, according to Cincinnati Children's Hospital Medical Center researchers who studied census tract data and hospitalization records.

They believe that identifying these geographical areas can serve as a vital sign - helping doctors and hospitals predict which children are at greater risk of hospitalization and intervene, at a reduced cost, through patient- and population-level management of acute conditions.

The study will be published online July 20 in *JAMA Pediatrics*.

"The 20 percent of those most hospitalized with bronchiolitis had a hospitalization rate six times that of the 20 percent least hospitalized," says Andrew Beck, MD, a pediatrician at Cincinnati Children's and the study's lead author. The 20 percent of those most hospitalized with pneumonia had a [hospitalization rate](#) 11 times that of the 20 percent least hospitalized.

"These inequalities were associated with underlying differences in socioeconomic measures and were clustered geographically, with hospitalization hot spots in the inner city and cold spots in outlying suburbs," says Todd Florin, MD, a pediatrician at Cincinnati Children's and co-lead author. "This has substantial clinical and public health implications, suggesting small areas that could be targets for prevention

and cost containment."

The study follows a 2013 Cincinnati Children's study of asthma hospitalization demonstrating that rates varied 18-fold across local neighborhoods. The neighborhoods in the asthma study often overlapped those in the new *JAMA Pediatrics* study, which calculated bronchiolitis and pneumonia hospitalization rates for Hamilton County, OH, and for each of 222 census tracts in the county.

The study was based on children hospitalized for bronchiolitis or pneumonia at Cincinnati Children's between 2010 and 2013. Virtually all children in Hamilton County hospitalized for these conditions are admitted to Cincinnati Children's. Those hospitalized with bronchiolitis were younger than 2, and those with pneumonia were younger than 18. Patients were identified using discharge diagnosis codes and then geocoded to their home census tract.

"Most of the [inner city](#) is a hot spot for [bronchiolitis](#) and [pneumonia](#), including the neighborhoods of Price Hill, Over-the-Rhine, Fairmount, Avondale and Evanston," says Dr. Beck. "This is similar to what we found for asthma."

Provided by Cincinnati Children's Hospital Medical Center

Citation: Child's home address predicts hospitalization risk for common respiratory diseases (2015, July 20) retrieved 5 July 2024 from <https://medicalxpress.com/news/2015-07-child-home-hospitalization-common-respiratory.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--