How Do Neighborhoods Impact Children's Chances of Surviving Leukemia?

Where children with leukemia live can affect whether they receive meds and make it to appointments, find UCSF researchers.

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Acute lymphoblastic leukemia (ALL) and acute myeloid leukemia (AML) are the most common pediatric cancers and among the leading causes of death in children.

To improve kids' chances of survival, early diagnosis and prompt hospital treatment are required. ALL also requires numerous outpatient visits for consistent oral medication. The problem is getting access to such care is much harder for families in some neighborhoods and small towns, according to new research by University of California, San Francisco.

The study, published in Cancer, establishes new neighborhood characteristics that contribute to higher death rates in children with ALL. Lead author Lena Winestone, MD, MSHP, and her team point to these characteristics as opportunities for clinicians and policymakers to save lives.

What They Discovered

Children with ALL who live in mixed middle- and low-income neighborhoods, as well as those who live in Hispanic small towns, have a 30-40% higher risk of death compared to those in upper middle-income neighborhoods.

Compared to ALL, children with AML did not have a higher risk of death by neighborhood type. Why? Shorter AML hospital treatments and fewer outpatient visits likely reduce the challenges associated with following treatment plans for patients residing in underserved neighborhoods, according to researchers.

What Does it Mean?

The study uses a new classification of neighborhoods based on 39 unique characteristics, such as

having an unhealthy food environment and lacking easy access to pharmacies and public transportation.

Based on these characteristics, the team identified tailored interventions to decrease death rates — such as boosting reliable access to care via pharmacies and transportation to appointments. These interventions are crucial for the prolonged outpatient care requiring consistent oral medication for kids with ALL.

Why it Matters

By ensuring every child can receive medication and make it to appointments, we can provide early, prompt and consistent lifesaving treatment for all children regardless of ZIP code.

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