

Improving Childhood Pneumonia

The United Nations Children's Fund estimates that pediatric pneumonia kills three million children worldwide each year. Pneumonia remains a significant cause of childhood death in the United States. Pediatric pneumonia is the second leading cause of hospitalization among children in South Carolina.

In 2011, the Pediatric Infectious Diseases Society and Infectious Diseases Society of America introduced evidence-based clinical practice guidelines for managing Community-Acquired Pneumonia in children. These guidelines recommend the use of narrow spectrum antibiotics as the first line of treatment in inpatient hospital settings. The guidelines also include recommendations about the site of care, testing and prevention.

South Carolina's Children Hospital Collaborative is now working together with the help of Health Sciences South Carolina (HSSC) and its clinical data warehouse (CDW) to improve care of children hospitalized with pneumonia across the state, as well as to develop a statewide model for a Rapid Learning Health System for children.

The project is coordinated by Dr. Matt Garber, Palmetto Health Children's Hospital; Dr. Ronald Teufel, MUSC Children's Hospital; and Dr. Elizabeth Tyson, Greenville Health System Children's Hospital. The project will evaluate how the state's children's hospitals are adhering to the new clinical care guidelines, how they are treating their patients, and what approaches are yielding the best results for patients.

It will look at decreasing the overuse of broad-spectrum antibiotics and decrease incidence of multi-drug resistant organisms. Finally, the project will look at hospital utilization such as length of time a child was hospitalized, complications with hospitalization, hospital readmissions, along with the utilization of outpatient services and emergency departments.

The ability to analyze data from children's hospitals from across the state is powerful, said HSSC CMO Dr. Chris Turley. "We are excited about this first project because it will allow researchers and clinicians in South Carolina to fully realize what the clinical data warehouse can do in terms of supporting and accelerating research, but it's also exciting to know this tool will allow us to achieve a new evidence-based standard of care for pediatric pneumonia patients capable of getting better results."