Asthma in Indiana – Using a Community Health Matrix to Determine Asthma Health Factors for Indiana Counties

◆ **Mikayla Burrell**, Rachael Casey, Dennis Savaiano

Background: Asthma and its appropriate treatment are public health issues in Indiana that Indiana Joint Asthma Coalition (InJAC), a partnership within CTSI, is attempting to address. This is done through state-wide coalition building, which unifies efforts regarding asthma health and education and promotes interprofessional collaboration. Because time and resources are limited, InJAC must choose the areas that would benefit most from their focused work. A matrix was developed to establish the 10 counties with poorest asthma health and highest vulnerability to social determinants to aid in this choice. We hypothesize that the 10 counties with the highest vulnerability to social determinants of health will have the worst asthma health.

Methods: Asthma health outcomes, contributing asthma-related variables, and social determinants of health were identified in all 92 counties in Indiana. Counties were compared by composite z scores to determine the top 10 counties with the poorest health statistics for asthma and social determinants. In addition, qualitative data will be used to identify local health coalitions that have the capacity and desire to work with InJAC to improve asthma treatment. InJAC will begin sessions with these counties to determine if long-term, sustainable, health promotions are feasible.

Results: The top 10 counties that were identified as having the poorest asthma health and factors were Lake, Grant, Madison, Marion, Huntington, Vanderburgh, Howard, La Porte, Blackford, and Noble. These are represented as the blue counties in **Figure 1**. The top 10 counties with highest vulnerability to social determinants were Owen, Ripley, Daviess, La Grange, Fayette, Wayne, Elkhart, Newton, Switzerland, and Marion. These counties are represented as the orange counties in Figure 1. The majority of current asthma-related resource clusters for the state of Indiana are represented as white circles in **Figure 1**.
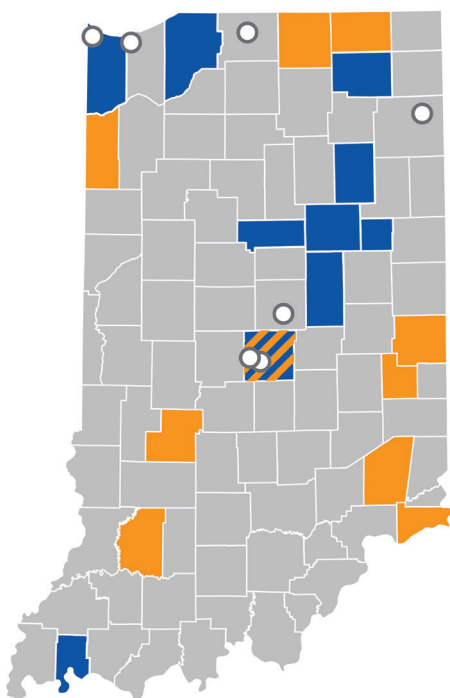
Potential Impact: The data from this matrix will help direct InJAC to the areas of Indiana with the most need for asthma coalition efforts. This will be done through improvement on education, awareness, and quality of care based on the Indiana State Asthma Plan.

Figure 1.

Mikayla Burrell is a third year medical student who is currently interested in pediatrics. She believes that "motivating children will help the next generations to make the world a better place."

What is your most important takeaway from your research?
There are great disparities in health care and health outcomes throughout our own communities. I learned that the best way to address this is through involving our own communities and community leaders and through policy change. While these new, innovative ways of treating or addressing health issues are vital, they serve no purpose if this research cannot be disseminated or integrated into the communities which need it most.