

# Neighborhood Variation in Medication Adherence

Following liver transplantation, children are on life-long immunosuppression to protect the transplanted liver from the child's immune system. Non-adherence (or not taking the prescribed medication) is a major challenge facing these children because it jeopardizes the lifespan of their transplanted organ and estimates suggest that non-adherence may occur in over 50% of patients.

Researchers within the Liver Center at Cincinnati Children's are collaborating with researchers in Community Health and with 4 other transplant centers across the United States to better understand the role of a patient's community (i.e. neighborhood socio-economic status) on a patient's ability to adhere to her medication regimen after transplant.

Our pilot data of 75 patients (below) demonstrate that patients from higher deprivation index (lower socio-economic status) neighborhoods, have worse adherence behavior. Through a better understanding of the underlying mechanisms of non-adherence, we hope to develop innovative interventions. One such intervention currently being implemented at the Liver Center is the use of an adherence bundle. A patient's risk of non-adherence is calculated using a novel, objective risk score prior to their clinic appointment. In clinic, patients and families are asked to identify barriers they have to taking their immunosuppression. From this information, targeted interventions are used to improve adherence rates for transplant recipients.

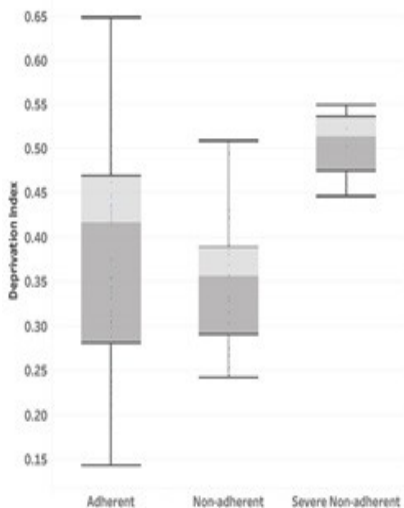


Figure 1. Deprivation index by adherence severity.

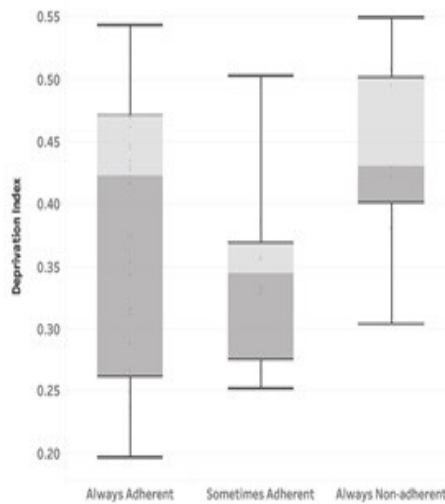


Figure 2. Deprivation index by adherence persistence.