

# Diversity rate, poor access to health professionals may influence lupus therapy adherence

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Adherence to lupus therapy may be lower among Medicaid beneficiaries who live in areas with higher proportions of African-American individuals, fewer hospitals and less access to health professionals, according to new research findings presented this week at the 2017 ACR/ARHP Annual Meeting in San Diego.

Lupus is a chronic (long-term) inflammatory autoimmune disease in which an unknown trigger causes the body's immune system to attack its own healthy tissues. The most common type of lupus is [systemic lupus erythematosus](#) (SLE), a complex, multiple symptom autoimmune disease that can cause inflammation, pain and damage to various parts of the body. While anyone can develop lupus, it occurs 9-10 times more often in women than in men, and is 2-3 times more common among women of color.

Adherence to hydroxychloroquine (HCQ), the mainstay of therapy for lupus management, is suboptimal among all lupus patients. Individual factors like age, poverty and race have been associated with poorer adherence. A group of researchers at Brigham and Women's Hospital, Harvard Medical School and the Harvard T.H. Chan School of Public Health in Boston, set out to investigate how contextual factors, such as zip code-level poverty and the county-level concentration of health care resources, may influence adherence.

"Studies in other chronic diseases demonstrate that where individuals live has a significant effect on their health-related behaviors and on disease control and outcomes. One study among SLE patients by Yelin et al. found that individuals living in an area of concentrated poverty had increased SLE disease activity," said Candace Feldman, MD, ScD, Assistant Professor of Medicine at Harvard Medical School and a lead author of the study. "Adherence is a complex behavior that has an important effect upon disease activity, morbidity and mortality among patients with SLE. To date, most interventions to improve adherence among SLE patients have been unsuccessful and significant racial/ethnic and socioeconomic disparities persist. Understanding the influence of area-level factors on this behavior may provide additional clues to inform future interventions."

The researchers identified SLE patients enrolled in Medicaid, a United States government insurance program for low-income Americans, from 2000 to 2010 from 28 U.S. states. They included new users of HCQ with no use in six months or less, with 12 months or more of continuous enrollment with complete drug dispensing data following the initiation of HCQ therapy. They measured adherence to HCQ over this 12-month period using medication refill data and defined adherence as 80 percent or greater of days covered.

They identified individual-level characteristics from the Medicaid data, including demographics, medications and comorbidities. They obtained zip code, county- and state-level characteristics, such as the percentage of people in the area who were below the federal poverty level, educational attainment and the percentage of the residents who were black, from the American Community Survey. They gathered health resource data, including the hospitals and physicians per capita and the areas where there was a shortage of health professionals, from the Area Health Resources Files.

Among 10,268 new HCQ users with SLE in the study who resided within 4,930 zip codes in 1,414 counties in 28 states, only 15 percent were adherent to HCQ by the 80 percent or more of days covered definition, the researchers found. After they adjusted for individual-level characteristics, they also observed lower odds of adherence across zip codes with higher percentages of African-American residents. This association remained after controlling for concentration of residents below the federal poverty line and educational attainment. In this population of low-income individuals, many of whom live in poor neighborhoods, there were no significant differences in adherence observed by degree of area-level poverty.

Odds of adherence to therapy were higher in the counties with the greatest number of hospitals versus the fewest, and lower in counties defined as Health Professional Shortage Areas. There was no association with the county-level per capital numbers of physicians or pharmacists.

Medicaid beneficiaries with lupus had lower odds of adherence to their HCQ therapy if they lived in areas with higher percentages of African-American residents, fewer hospitals, and in Health Professional Shortage Areas, the researchers concluded.

"The limited data available to us to protect patient anonymity did not allow for further investigation of the potential association between racial residential segregation and adherence," said Dr. Feldman. "Further studies are needed to better understand the mechanisms by which these contextual factors influence adherence behavior, and how recognition of these factors could be incorporated into future interventions to improve adherence and reduce disparities."

Provided by American College of Rheumatology

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