

Sickle cell raises COVID-19 risk, but vaccination lags: Study

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Credit: National Institutes of Health

Despite the fact that people with sickle cell disease have a much higher risk of serious illness or death if they develop COVID-19, a new study shows they're also much less likely than those without sickle cell disease to have gotten vaccinated against coronavirus.

Completion of the initial COVID-19 vaccination series was nearly two

times lower for adults with [sickle cell disease](#) as others their age, [the analysis of data](#) in Michigan shows.

In in teens and children over 5, who overall have lower rates of COVID-19 vaccination, those with sickle cell [disease](#) were far less likely than other young people to have gotten their doses by summer 2022, the analysis shows.

A team from Michigan Medicine, the University of Michigan's academic medical center, published the findings in *JAMA Network Open* together with colleagues from the Michigan Department of Health and Human Services and U-M School of Public Health. The team behind the study runs the Michigan Sickle Cell Data Collection Program (MiSCDC), part of the national Sickle Cell Data Collection Program.

To produce the findings, the team linked individual-level data from the statewide sickle cell data collection program and immunization registry. In all, they had records from 3,424 people over age 5 with sickle cell disease, and 9.4 million Michiganders over age 5.

In all, 61% of the Michiganders without sickle cell disease, but only 33.5% of those with sickle cell disease, had gotten at least the primary dose or doses of Pfizer, Moderna or Johnson & Johnson COVID-19 vaccines by August 2022.

The very highest-risk group, those over 65, had the highest vaccination rates, at 74% for those with sickle cell disease and 87% for the [general population](#). However, there are only 110 people with sickle cell disease in this age group due to a combination of early mortality and less comprehensive data for this age group.

In adults age 18 to 64, the difference between the two groups was about the same as the overall average.

But in children and teens with sickle cell disease, who the researchers had previously shown have a [higher rate of hospitalization and death](#) if they developed COVID-19 compared to [young people](#) without sickle cell disease, vaccination rates were much lower.

Only 17% of [children](#) age 5 to 11 with sickle cell disease, and 31% of their counterparts age 12 to 17, had gotten even a primary series of COVID-19 vaccine. That's compared with 25% and 41% of the general Michigan population in these age groups.

"It is essential to develop targeted interventions to increase COVID-19 vaccination among people with sickle cell disease," says MiSCDC principal investigator Sarah Reeves, Ph.D. "This population is chronically underserved in health care and society, emphasizing the importance of increasing the accessibility and acceptability of these vaccines."

The lead author of the study is Hannah Peng, M.P.H., a senior statistician on the MiSCDC team. Both she and Reeves are members of the Susan B. Meister Child Health Evaluation and Research (CHEAR) Center in the U-M Department of Pediatrics. Reeves and co-authors Kevin Dombkowski, Dr.P.H., of Pediatrics and Melissa Creary, Ph.D., of U-M SPH, are members of the U-M Institute for Healthcare Policy and Innovation.

More information: Hannah K. Peng et al, COVID-19 Immunization Coverage Among People With Sickle Cell Disease, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2023.51618](https://doi.org/10.1001/jamanetworkopen.2023.51618)

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