E-Supplement

Medicaid Data

The data were centrally compiled and cleaned by the Research Data Assistance Center

(ResDAC, University of Minnesota, Minneapolis, MN) and obtained by the authors in August

2018. Three states were excluded from the analysis because of concerns about data quality:

Maine, which had incomplete utilization data, and Idaho and Rhode Island, which had

abnormally low levels of enrollment (<1000 individuals). In addition, five states were excluded

because greater than 15% of subjects had missing data for race/ethnicity: Colorado, Iowa,

Massachusetts, Vermont, and Washington. Use of the data was approved by the Johns Hopkins

School of Medicine Institutional Review Board.

Definition of Covariates

Race/ethnicity was defined by self-report, and categories included "White," "Black," "Asian,"

"Hispanic," "North American Native," ">1 race (Hispanic), >1 race (non-Hispanic), Hawaiian,

and "Unknown." For the purpose of analysis, "Native American/Alaskan," ">1 race (Hispanic),

">1 race (non-Hispanic)," and "Hawaiian" were combined into "Grouped." Urbanization was

categorized according to this scheme as "large central metro," "large fringe metro (suburban)"

"medium metro" (250,000-999.999 population), "small metro" (50,000 – 249,999 population),

"micropolitan" (10,000 – 49,999 population, and "noncore" (rural, <10,000 population).

Neighborhood-level poverty was defined as the proportion of families at or below the poverty

level in the ZCTA. Distance to provider was categorized as "<10 miles," "10-25 miles," "26-50

miles," "51-100 miles," "101-200 miles," and ">201 miles).

24   **Statistical Analysis**

25   Age, race, gender, ZCTA-level poverty, county urban-rural code, and distance to provider were

26   all treated as categorical variables in the multivariable logistic regression models. We first

27   assessed the association between distance to provider, urban/rural status, and poverty using

28   empirical cumulative distribution functions as a descriptive summary. Sensitivity analyses were

29   conducted defining distance to provider as a continuous variable on linear and log-transformed
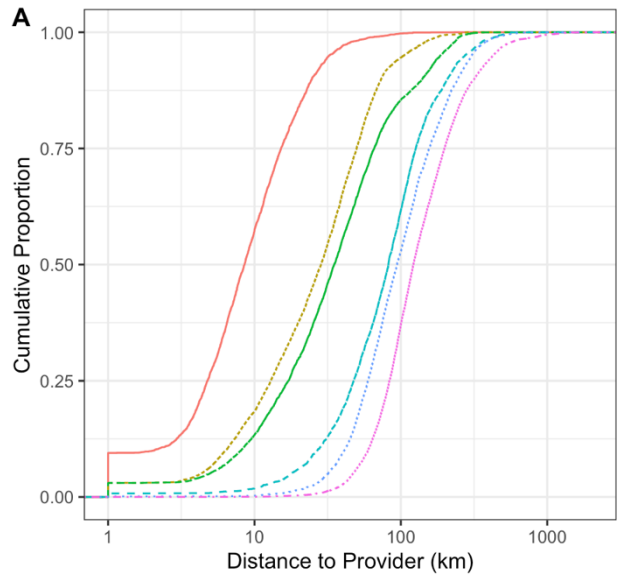
30   scales.

31

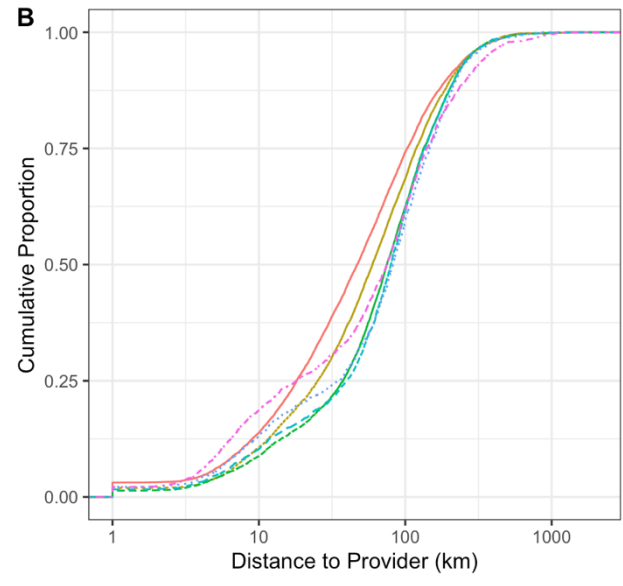32   **Figure Legend:**

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34

35

A

B

Urban-Rural Category		
— Large Central Metro	- - Medium Metro	⋯ Micropolitan
⋯ Large Fringe Metro	- - Small Metro	-·- Non-core (Rural)

Neighborhood Poverty		
— 0 - 5%	- - 11 - 15%	⋯ 21 - 25%
⋯ 6 - 10%	- - 16 - 20%	-·- 26 - 100%

Urban/Rural Status   **Neighborhood-Level Poverty**