NC RHRP

Findings Brief
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Characteristics of Communities Served by Hospitals at High Risk of Financial Distress

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BACKGROUND

Since 2005, there have been 124 rural hospital closures in the United States.[1] Rural hospital closures can intensify already challenging health and economic issues for rural communities. People served by rural hospitals tend to be older, poorer, have access to fewer health care professionals, and have overall worse health outcomes than those served by urban hospitals.[2-4] To better understand the causes of hospital closure, this brief compares the characteristics of communities served by rural hospitals at high risk of financial distress to those served by rural hospitals that are not at high risk of financial distress.

METHODS

Using historical hospital financial performance and hospital and market characteristics, the Financial Distress Index Model (FDI) predicts the probability of rural hospital financial distress and subsequent closure within two years.[5-7] Model results categorize hospitals into one of four risk categories: low, medium-low, medium-high, and high. For this brief, the model was run using the most recent data available (2015) to forecast risk of distress and closure in 2017. For a detailed description of the model, please see Holmes, et al., 2017.[8]

Rural hospital and community data were obtained from the Centers for Medicare & Medicaid Services (CMS) Hospital Cost Report Information System ("Medicare Cost Reports"), Provider of Services, Hospital Service Area File, County Health Rankings, and Nielsen-Claritas Pop-Facts data. Hospital market areas were composed using Medicare discharge counts by ZIP code from the CMS Hospital Service Area File. A ZIP code is included in the market if: when sorted on descending number of that hospital's Medicare discharges, it is in the first ZIPs that comprise 75 percent of that hospital's Medicare discharges; or if it contributes at least three percent of that hospital's Medicare admissions for the year. Except for hospitals in Alaska and Hawaii, ZIP codes more than 150 miles from the hospital are disqualified from being in its market. Markets were used to define the communities for demographics and socio-economic variables, while the hospital's county was used to assign health outcomes data to a market. We identified hospitals as rural based on location outside Metropolitan Core Based Statistical Areas or within Metropolitan areas but in Rural-Urban Commuting Area codes (RUCA) of four or greater (the definition used by the Federal Office of Rural Health Policy). Characteristics of communities served by rural hospitals at high risk of financial distress were compared to communities served by rural hospitals that are not at high risk of financial distress using bivariate analyses.

KEY FINDINGS

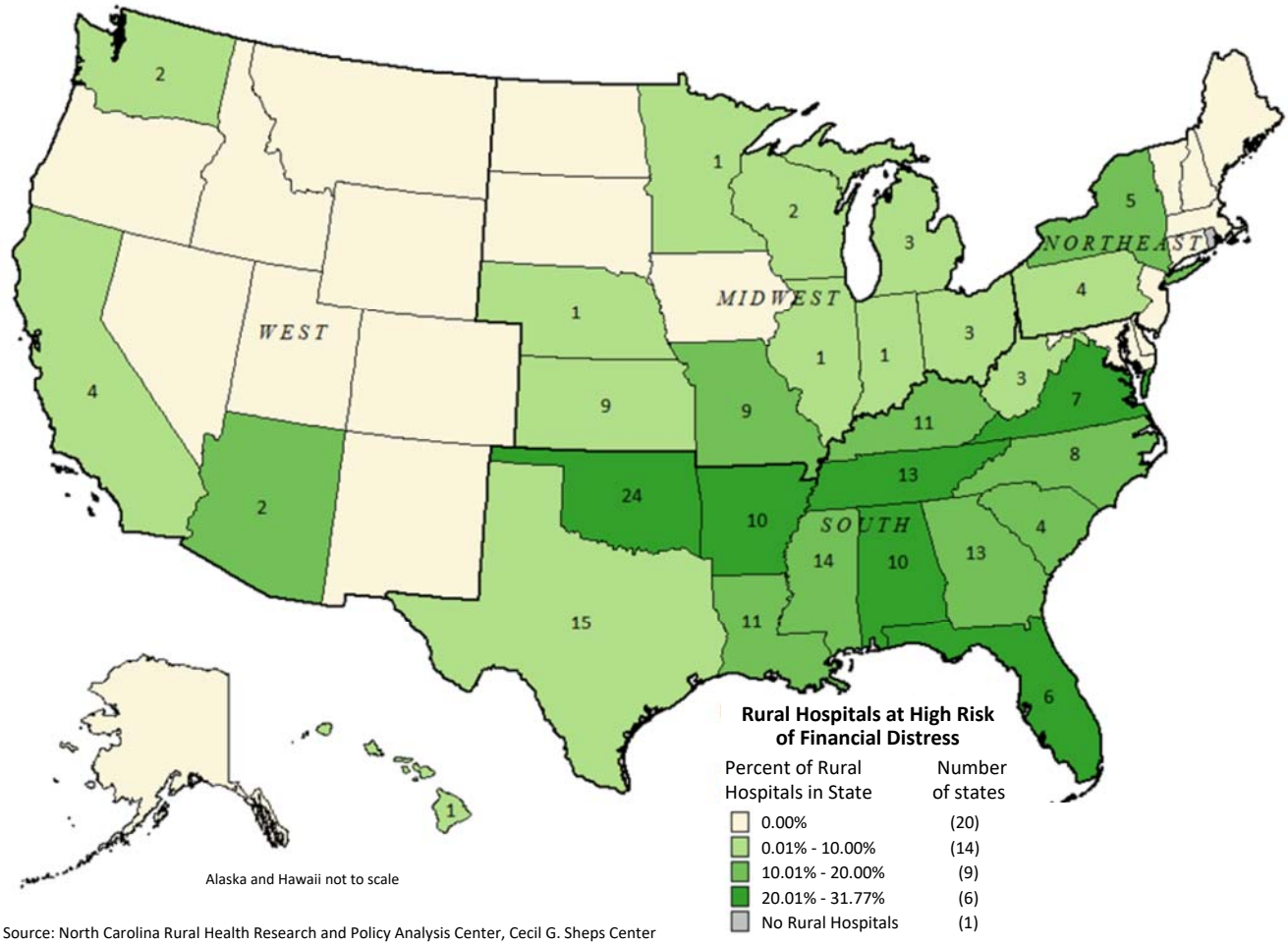
- Hospitals at high risk of financial distress serve a more vulnerable population than those not at high risk. Because hospitals at high risk of financial distress are more likely to close or curtail services, these more vulnerable populations are at increased risk of losing access to some types of health care, exacerbation of health disparities, and loss of hospital and other types of local employment.
- Hospitals at high risk of financial distress serve communities where residents are more likely to be black, be less educated, and/or be unemployed.
- These communities also have significantly higher percentages of residents who report fair to poor health, obesity, smoking, and/or have a greater number of potential years of life lost.

RESULTS

The FDI classified 2,177 rural hospitals; 197 (9%) were at high risk of financial distress, 339 (16%) at medium-high risk, 988 (45%) at medium-low risk, and 653 (30%) at low risk. Figure 1 shows that 149 (76%) of high risk hospitals were located in the South Census Region. States with the largest percentages of rural hospitals at high risk were Oklahoma (31%, n=24), Tennessee (25%, n=13), Florida (25%, n=6), Virginia (24%, n=7), and Alabama (23%, n=10).

Figure 1: Geographic Distribution of Rural Hospitals at High Risk of Financial Distress, 2017

(Number inside state borders is the number of rural hospitals at high risk of financial distress)

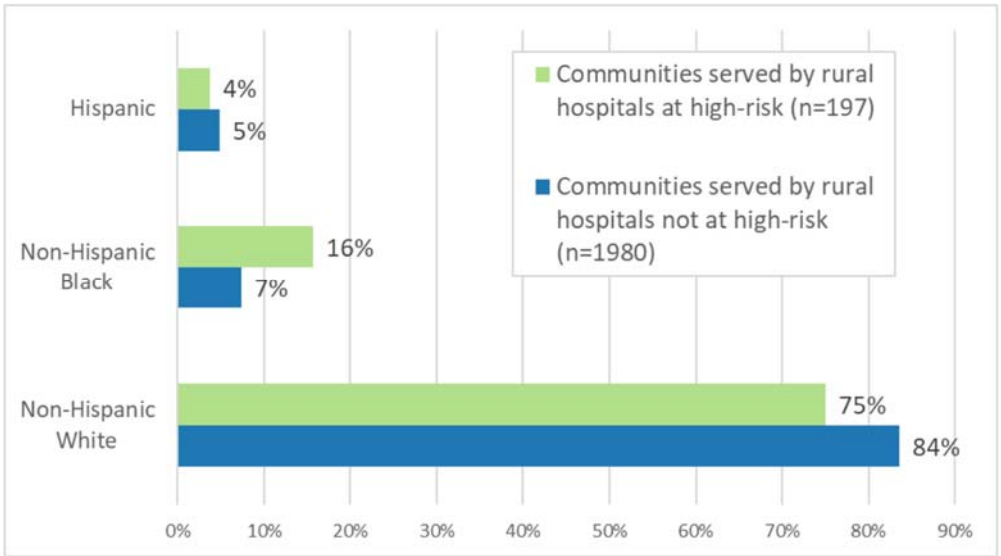


Source: North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, September 2017
http://www.shepscenter.unc.edu/programs-projects/rural-health/

Demographics

Figure 2 and Table 1 show a racial disparity among communities served by hospitals at high-risk of financial distress compared to those served by hospitals not at high risk. Communities served by rural hospitals at high risk of financial distress had a significantly higher percentage of non-Hispanic black residents (16% vs 7%), while those served by rural hospitals not at high risk had a higher percentage of non-Hispanic white residents (84% vs 75%).

Figure 2: Race and Ethnicity of Residents in Communities Served by Rural Hospitals at High and Not at High Risk of Financial Distress



Socio-economics

Communities served by rural hospitals at high risk of financial distress had a significantly higher percentage of residents who did not graduate high school and who were unemployed (see Table 1).

Health Status

Communities served by rural hospitals at high risk of financial distress had a significantly higher percentage of residents who reported having fair to poor health, who were obese, who smoked, and who had increased potential years of life lost (premature mortality) in communities served by hospitals at high risk of financial distress.

Table 1: Characteristics of Communities Served by Rural Hospitals at High and Not High Risk of Financial Distress

	Communities Served by Rural Hospitals				
	At High Risk of Financial Distress		Not at High Risk of Financial Distress		p-value
	Mean(n)	sd	Mean(n)	sd	
DEMOGRAPHICS[a]					
Percent non-Hispanic black	16%	20%	7%	12%	< 0.000
Percent Hispanic	4%	7%	5%	8%	0.079
Percent non-Hispanic white	75%	19%	84%	15%	< 0.000
Percent over age 65	18%	4%	18%	4%	0.067
Percent female	50%	2%	50%	2%	0.222
SOCIO-ECONOMICS					
Percent graduated high school[a]	80%	6%	84%	6%	< 0.000
Percent unemployed[a]	11%	4%	9%	4%	< 0.000
HEALTH STATUS[b]					
Percent in fair/poor health	21%	5%	17%	5%	< 0.000
Percent inadequate social-emotional support	13%	5%	15%	7%	< 0.000
Percent obese	34%	4%	31%	4%	< 0.000
Percent smokers	21%	4%	18%	3%	< 0.000
Years of potential life lost[c] (per 100,000 population)	9,901	2,333	8,033	2,114	< 0.000

[a] Data from Pop-Facts Databases for ZIP Codes for 2015; Nielsen-Claritas, Inc. 2015.

[b] Data from County Health Rankings: University of Wisconsin Population Health Institute. County Health Rankings 2015.

[c] YPLL is a measure of premature mortality. It represents the years of life lost due to a resident dying before age 75.

CONCLUSION

Communities served by rural hospitals at high risk of financial distress (and most vulnerable to closure) are significantly more likely than other rural residents to face risk factors that contribute to poor health outcomes. If a hospital at high risk of financial distress ultimately closes, residents of that community could face loss of access or reduced access to some types of health care; exacerbated health disparities among people who already have or are at increased risk of having a poorer health status; and loss of hospital employment (in addition to multiplier effects, such as loss of local tax base, ability to support local schools, etc.).[9-11] For these reasons, it is important for rural health advocates and policy makers to monitor rural hospitals at high risk of financial distress.

REFERENCES AND NOTES

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