

TASC 90

Financial Resources for State Flex Programs

December 12, 2024



The Center's Purpose

The [National Rural Health Resource Center \(The Center\)](https://ruralcenter.org) is a leader in the improvement of rural health – serving as a national knowledge center that provides technical assistance, information, tools, and resources designed to support the financial and operational performance, and sustainability of the country's rural hospitals and clinics, rural health networks, and other rural health care organizations.

The Center's work is focused on strengthening state and local capacity in five key areas:

- Transition to Value and Population Health
- Collaboration and Partnership
- Performance Improvement
- Health Information Technology
- Workforce



ruralcenter.org



The Health Resources and Services Administration (HRSA), Department of Health and Human Services (HHS) provided financial support for this Information Services to Rural Hospital Flexibility Project. The award provided 100% of total costs and totaled \$1,200,000. The contents are those of the author. They may not reflect the policies of HRSA, HHS, or the U.S. Government.

Learning Objectives

By participating in this webinar, participants will be able to:

- Recognize how the updated Financial Distress Index applies to your Flex Program.
- Identify actionable interventions to improve overall critical access hospital (CAH) financial performance sustainability.
- Identify actionable interventions to improve CAH performance to address outmigration.



Predicting Financial Distress in Rural Hospitals

Tyler Malone, PhD

TASC 90 Webinar – December 2024

Disclosure

Most of the presented research is supported by the Health Services and Resources Administration (HRSA) of the U.S. Department of Health and Human Services (HHS). The contents are those of the researchers and do not necessarily represent the official views, nor endorsement by, HRSA, HHS, or the U.S. Government.

Our 2017 article (the classic!)

THE JOURNAL OF **RURAL HEALTH**



ORIGINAL ARTICLE

Predicting Financial Distress and Closure in Rural Hospitals

George M. Holmes, PhD;^{1,2} Brystana G. Kaufman, MSPH;^{1,2} & George H. Pink, PhD^{1,2}

¹ North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

² Department of Health Policy and Management, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Our 2024 article (the new one!)



The screenshot shows the top section of a journal article page. At the top left is the journal title 'THE JOURNAL OF RURAL HEALTH' in green and grey text. To the right is the NRHA logo, which consists of a stylized sunburst icon and the letters 'NRHA' in blue. Below the journal title, there is a row of text: 'ORIGINAL ARTICLE | Open Access |' followed by four icons: a Creative Commons 'CC' icon, a person icon, an equals sign icon, and a crossed-out dollar sign icon. A green arrow points from the text 'Free to everyone!' below to the 'Open Access' text. Below this row is the article title 'An updated model of rural hospital financial distress' in bold black text. Under the title are the authors' names: 'Tyler L. Malone PhD', 'George H. Pink PhD', and 'George M. Holmes PhD', each followed by an email icon. Below the authors is the publication date and DOI: 'First published: 03 October 2024 | <https://doi.org/10.1111/jrh.12882>'. At the bottom left of the article preview is a 'SECTIONS' link with a hamburger menu icon. At the bottom right are three links: 'PDF' with a PDF icon, 'TOOLS' with a wrench icon, and 'SHARE' with a share icon.

THE JOURNAL OF
RURAL HEALTH

NRHA

ORIGINAL ARTICLE | **Open Access** |    

An updated model of rural hospital financial distress

Tyler L. Malone PhD  George H. Pink PhD  George M. Holmes PhD 

First published: 03 October 2024 | <https://doi.org/10.1111/jrh.12882>

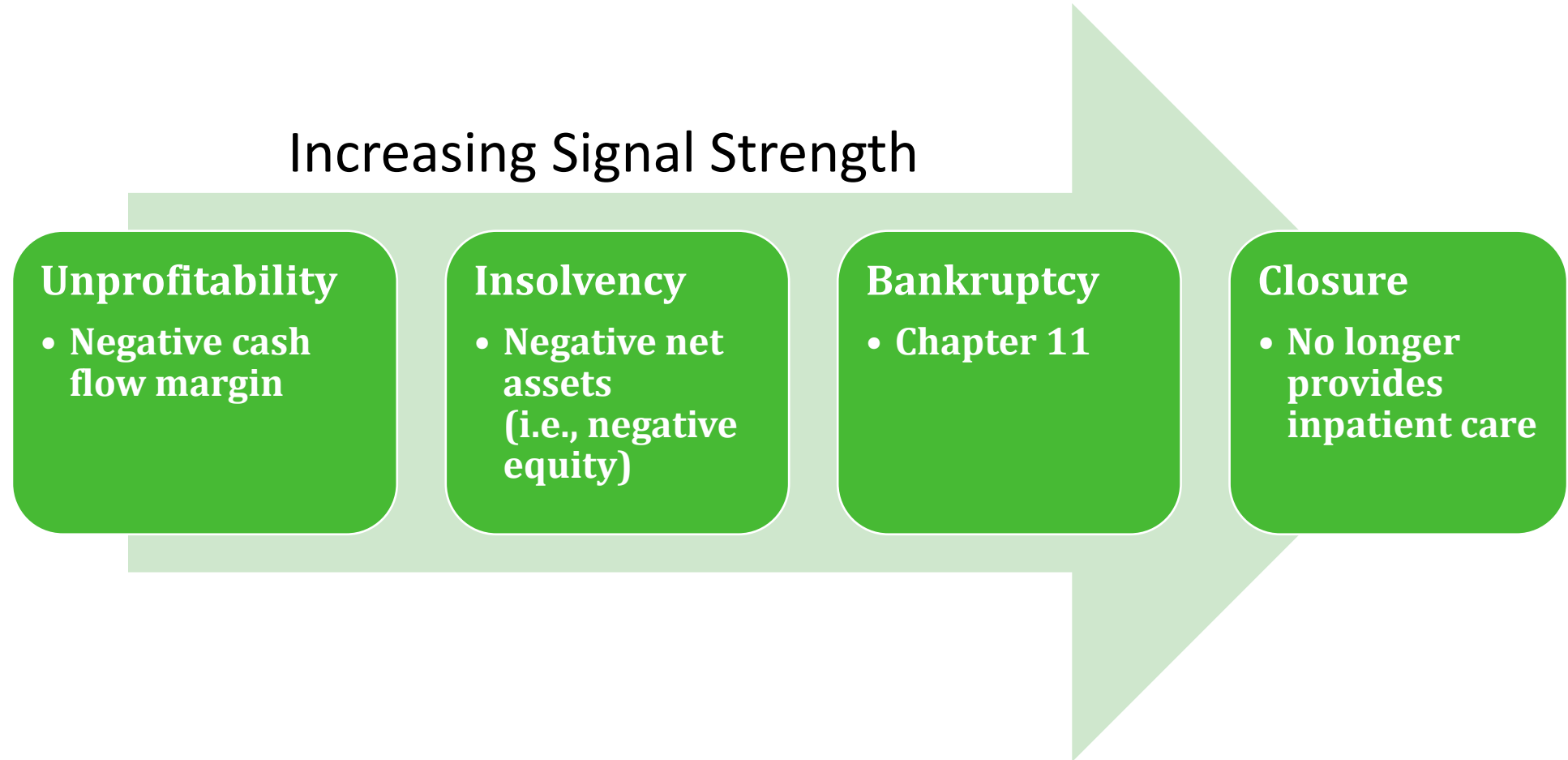
 SECTIONS  PDF  TOOLS  SHARE

Free to everyone!

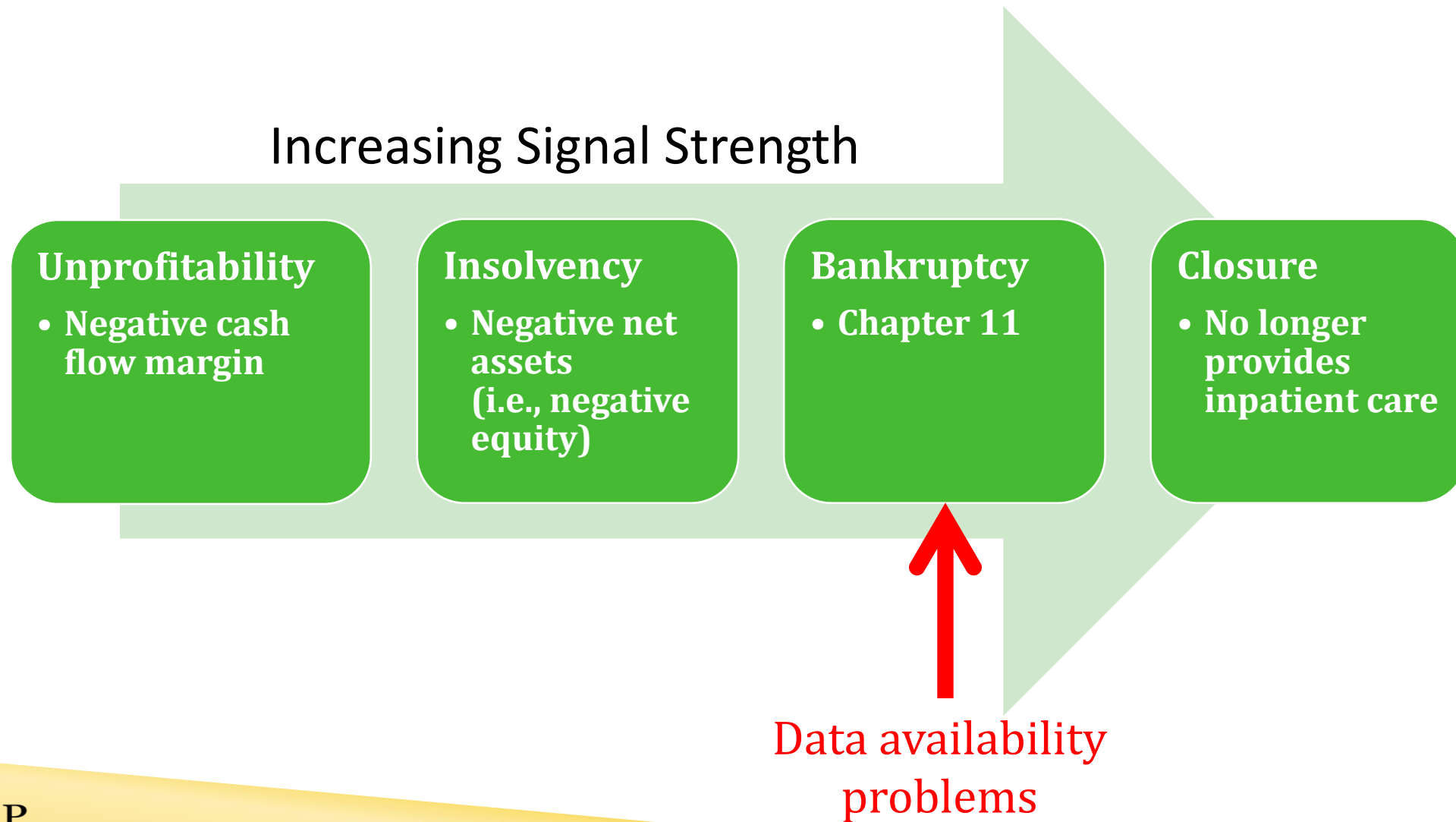
Model of financial distress principles

- ▶ Research goals: the model should...
 1. Be based in financial theory and financial distress literature.
 2. Use a scientific approach to development and validation.
 3. Produce stable results that respond to material changes only.
- ▶ Application goals: the model should...
 1. Identify risk of distress for each rural hospital.
 2. Have high face validity.
 3. Be easy to understand and use.
 4. Be parsimonious and easy to update annually.
 5. Use publicly available data.

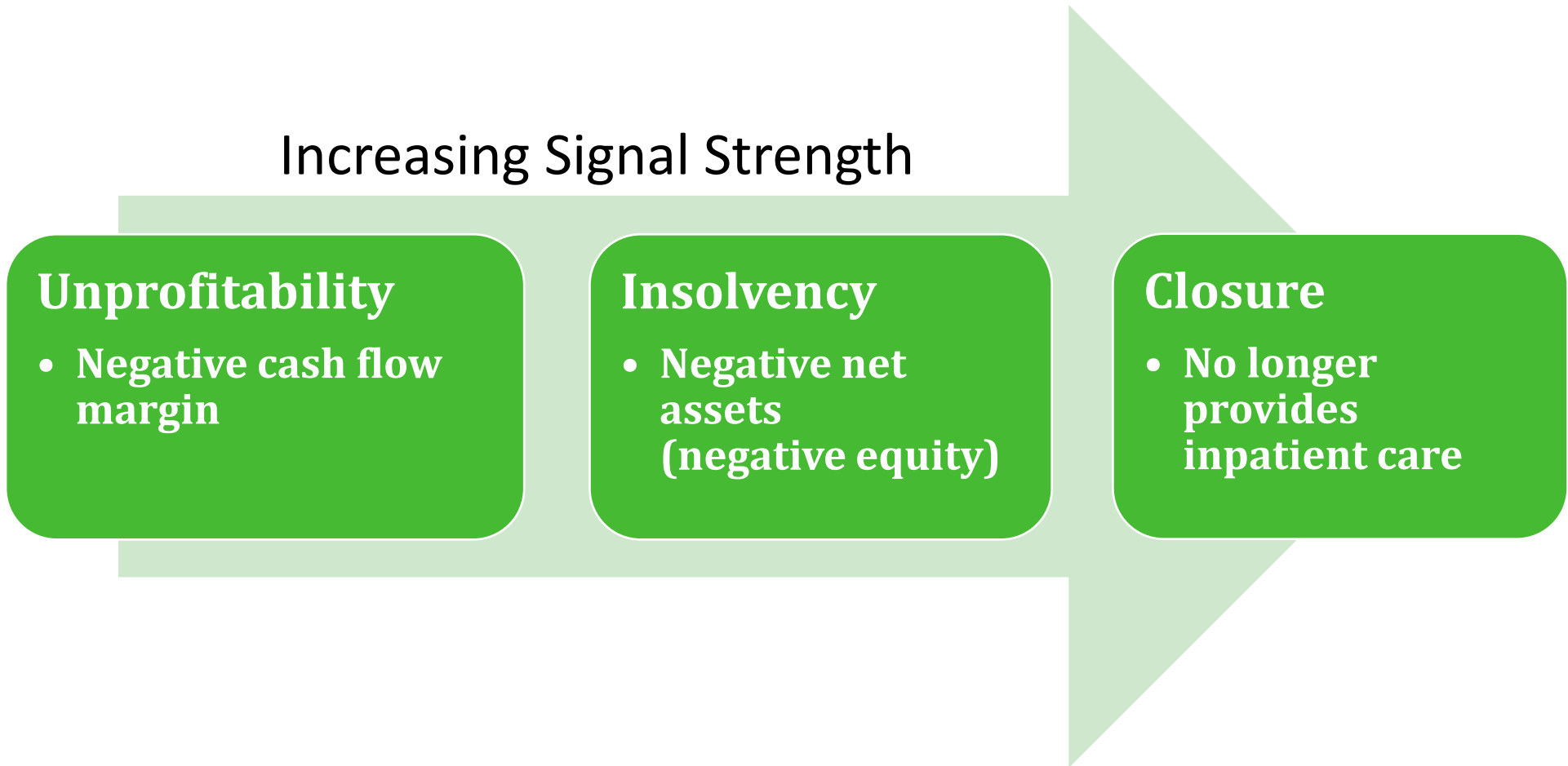
Conceptual framework of financial distress



However:



Therefore, financial distress is defined as:



Updated model of rural hospital financial distress

Current Information

Financial Performance:

Profitability (years t, t-1, t-2)

Outpatient revenue

Uncompensated care

Benchmark performance

Government Reimbursement:

Medicare (CAH, payer mix, MA)

Medicaid (Fee index, payer mix)

Hospital Characteristics:

Ownership

Size

System affiliation

Market Characteristics:

Competition

Economic condition

Market size

Medicare Advantage

Risk of financial distress in 2 years

Highest

Mid-highest

Mid-lowest

Lowest

Updated model of rural hospital financial distress

Current Information

Financial Performance:

Profitability (years t, t-1, t-2)

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Risk of financial distress in 2 years

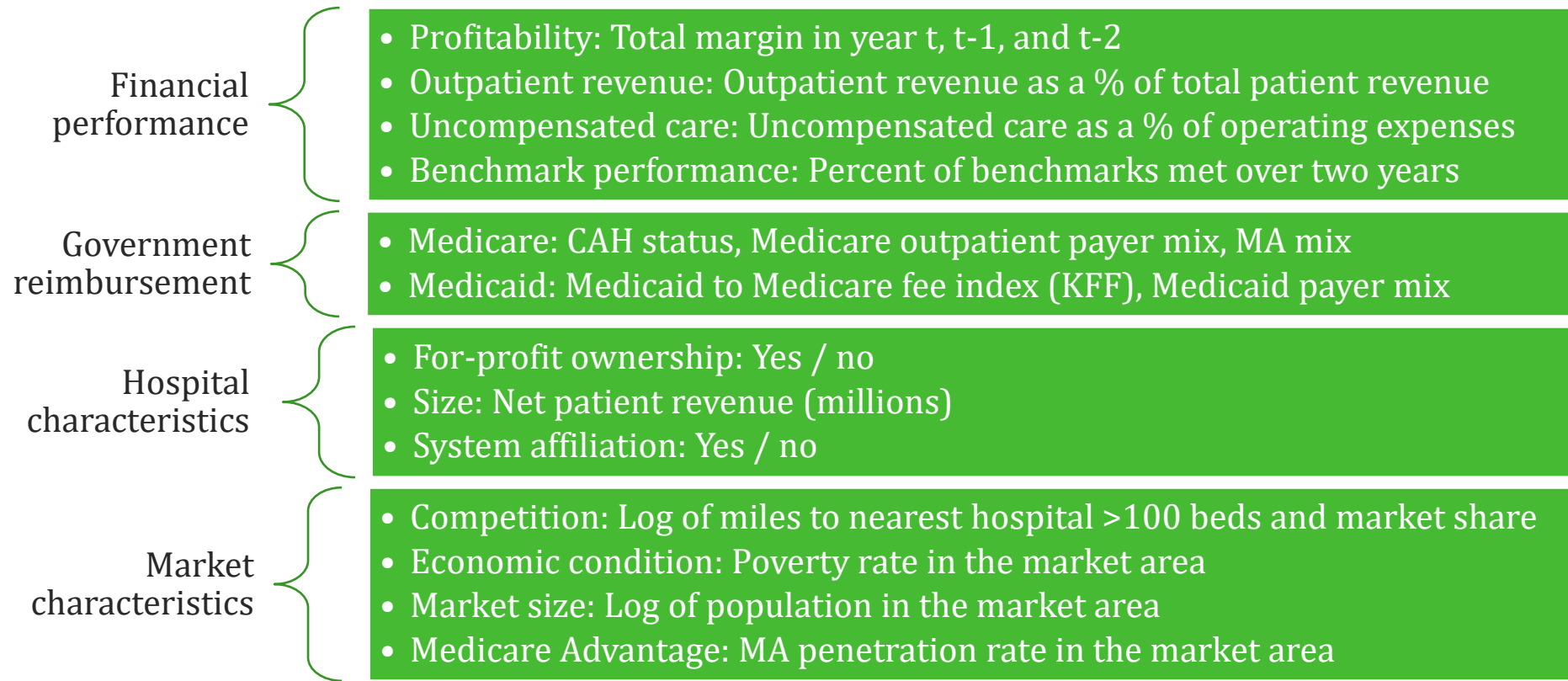
Highest

Mid-highest

Mid-lowest

Lowest

Updated predictors of financial distress



Incomplete information

- Medical staff
 - Number and type
- State and county government
 - Sales taxes and local levies
 - Tax support
- Community circumstances
 - Fund-raising campaigns
- Recent changes
 - Newsflash: The hospital CEO has resigned

The impact
on risk of
financial
distress may
or may not
be captured

Implication of incomplete information

H H H H H H H H H

■ Highest risk



H H H H H H H H H H

■ Mid-highest risk

H H H H H H H H H H

■ Mid-lowest risk



H H H H H H H H

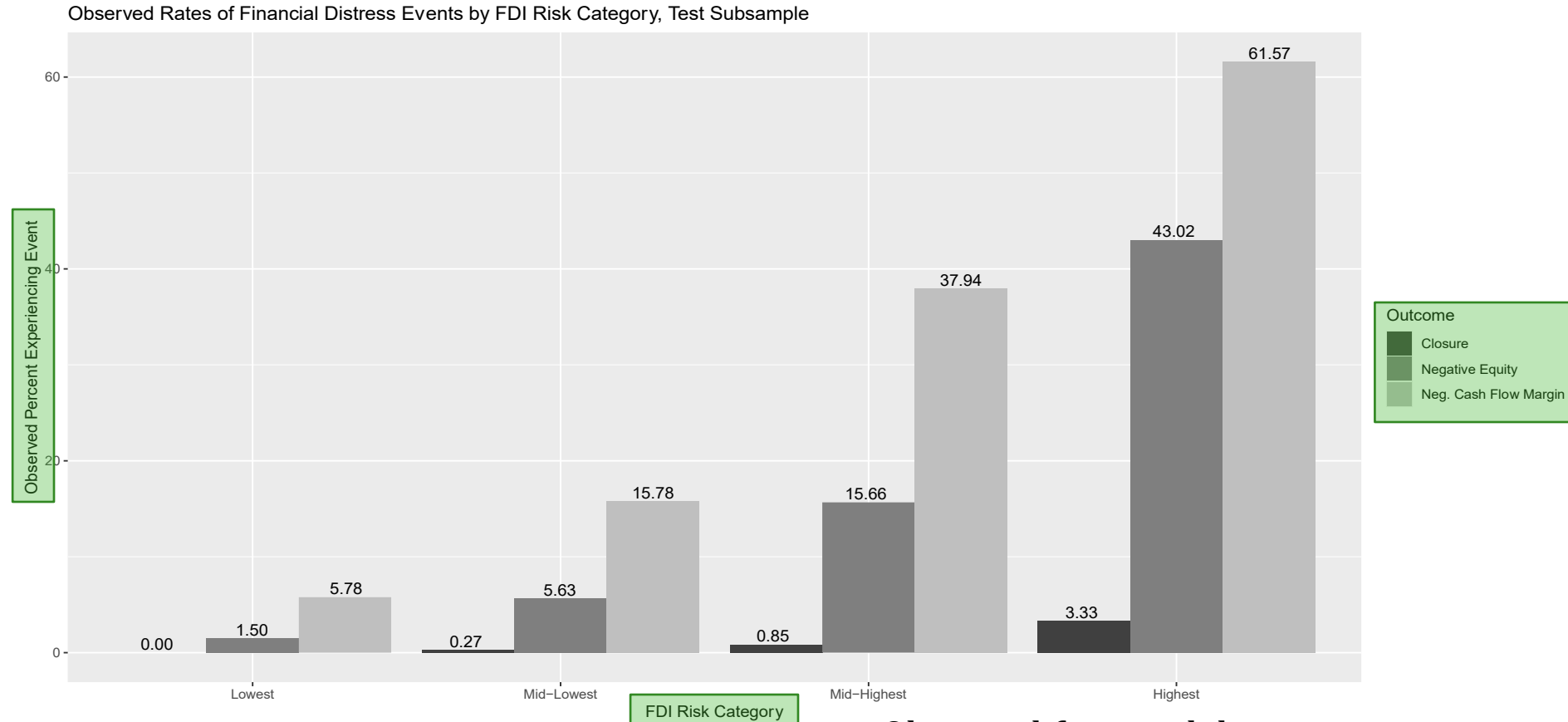
■ Lowest risk

With complete information, a hospital
could be classified differently.

Implication of high risk of financial distress

- If a hospital closes, it is highly probable that it was at high risk of financial distress, but...
- If a hospital is at high risk of financial distress, it is highly probable that it will not close.
- Why? Closure is still a relatively rare event.
- We view the FDI model as a screening tool to identify hospitals that should be examined more closely.
 - i.e., We would like to err on the side of overestimating a hospital's financial distress risk.

How does the updated model perform?



Observed financial distress events increase for higher risk categories.

Risk classification – model v1.0 vs. model v2.0

- Model v1.0 = Model published in 2017
- Model v2.0 = Model published in 2024
- How have risk classifications changed across the two models?

Risk classification – model v1.0 vs. model v2.0

Assessing rural hospital-year observations from 2014 – 2019...

- Approx. 70% had the same risk category across both models.
- Agreement rate was similar when examining individual years.
- Approx. 20% had an *increase* in risk category when switching to model v2.0.
- Approx. 10% had a *decrease* in risk category when switching to model v2.0.

Risk classification – model v1.0 vs. model v2.0

Compared to observations with the same FDI risk category across both models, observations with increased risk had:

- Lower total margin (year t , year $t - 1$, year $t - 2$)
- Lower outpatient to total revenue
- Greater uncompensated care
- Lower percentage of benchmarks met
- Lower Medicare Advantage ratio
- Greater Medicaid:Medicare Fee Index
- Lower Medicaid payer mix
- Lower likelihood of being a for-profit hospital
- Lower net patient revenue
- Lower likelihood of being system-affiliated
- Greater distance to closest 101+ bed hospital
- Lower market share
- Lower market population
- Greater market poverty
- Lower Medicare Advantage market penetration

Overall, observations whose risk category increased from model v1.0 to model v2.0 had worse financial metrics than observations whose risk category stayed the same.

The updated model was able to effectively sort hospitals with lower vs. higher performance.

Risk classification – model v1.0 vs. model v2.0

Compared to observations with the same FDI risk category across both models, observations with decreased risk had:

- Greater total margin (year t , year $t - 1$, $t - 2$)
- Greater outpatient to total revenue
- Lower uncompensated care
- Greater percentage of benchmarks met
- Greater likelihood of being a Critical Access Hospital
- Greater Medicare mix
- Lower Medicaid:Medicare Fee Index
- Greater Medicaid payer mix
- Greater likelihood of being a for-profit hospital
- Lower net patient revenue
- Less likely to be system-affiliated
- Lower distance to closest 101+ bed hospital
- Lower market share
- Lower market population
- Greater Medicare Advantage market penetration

Overall, observations whose risk category decreased from model v1.0 to model v2.0 had better financial metrics than observations whose risk category stayed the same.

Again, the updated model was able to effectively sort hospitals with higher vs. lower performance.

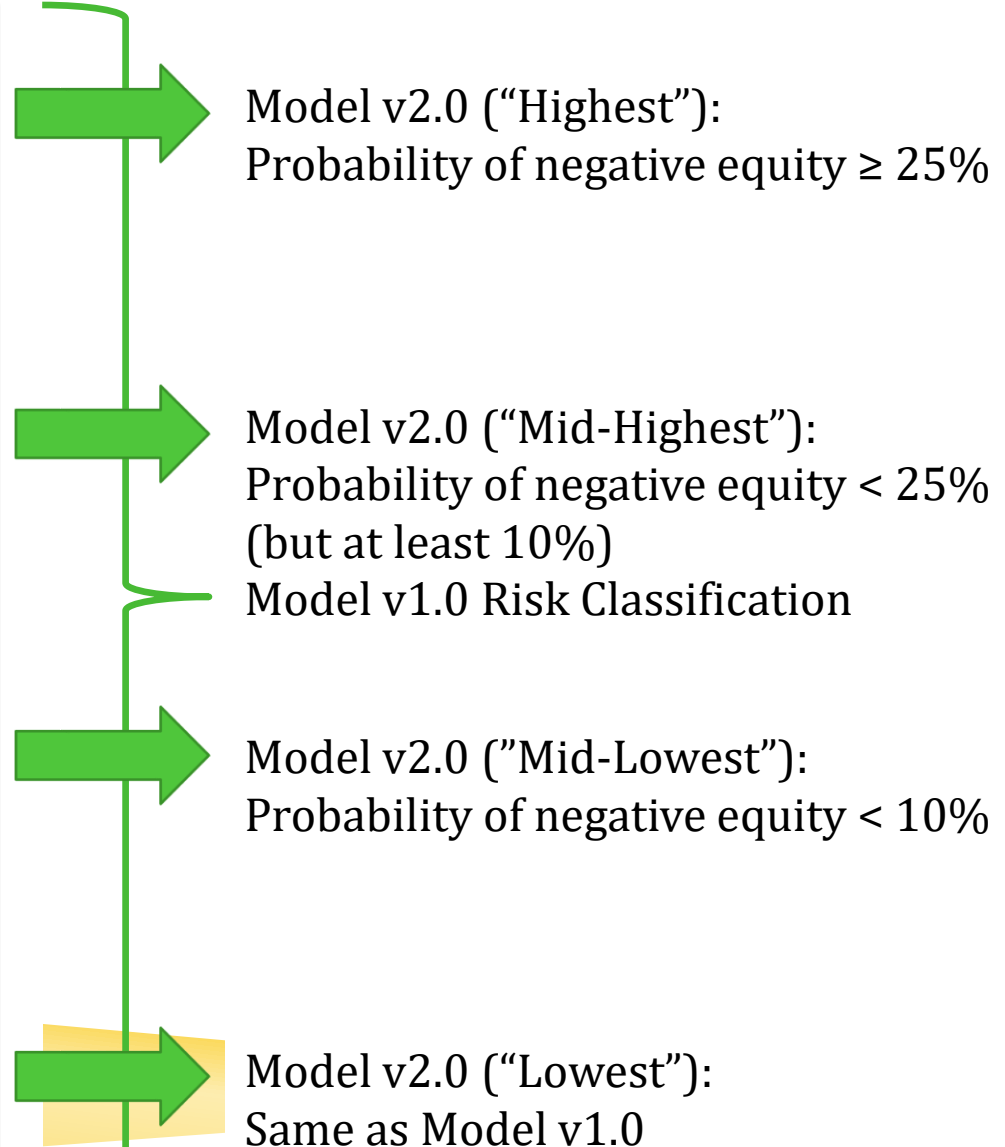
Risk classification – model v1.0 vs. model v2.0

- Model v1.0 had stricter criteria for higher risk classifications
- Model v2.0 places more emphasis on model sensitivity

Risk classification – model v1.0 vs. model v2.0

Predicted Risk Level in Two Years

Theta Score (θ)	HIGH Probability of equity decline <i>or</i> negative equity given θ >50%
	MID-HIGH Probability of equity decline <i>or</i> negative equity given θ >25%
	MID-LOW Probability of equity decline <i>or</i> negative equity given θ <25%
	LOW Probability of unprofitability (negative cash flow) given θ <10%



How to Handle Missing Hospital FDI Data



Welcome to CAHMPAS

Click below to get started.

[Get Started](#)

Contact Us

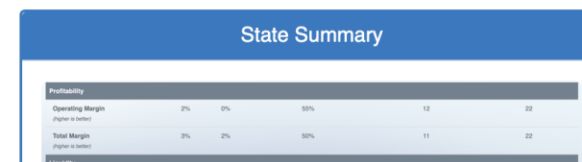
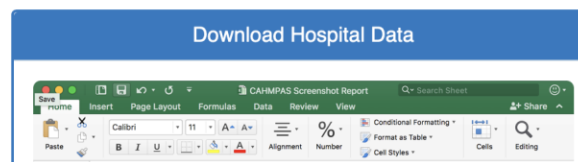
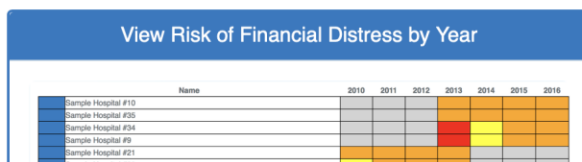
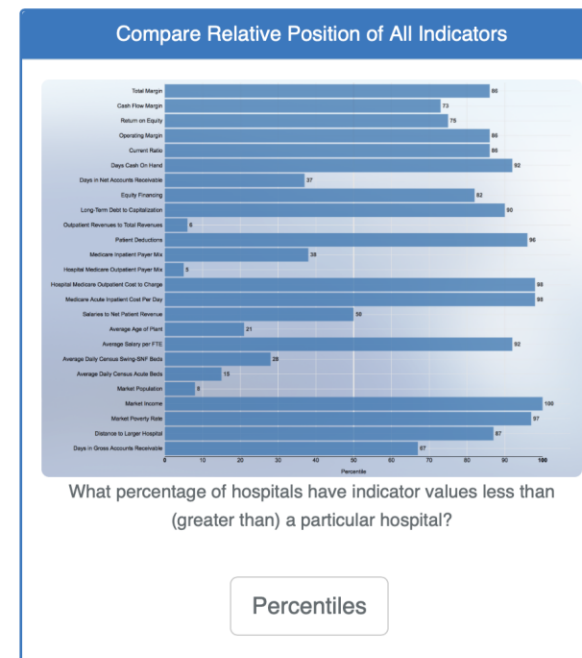
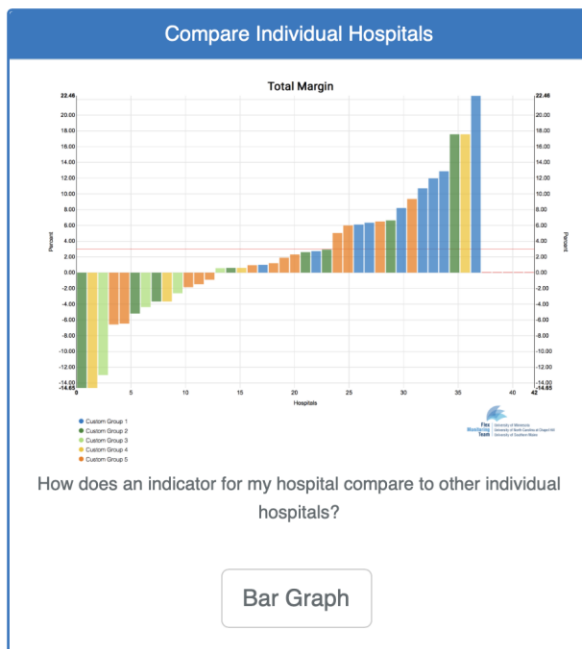
Send comments to monitoring@flexmonitoring.org

About Us

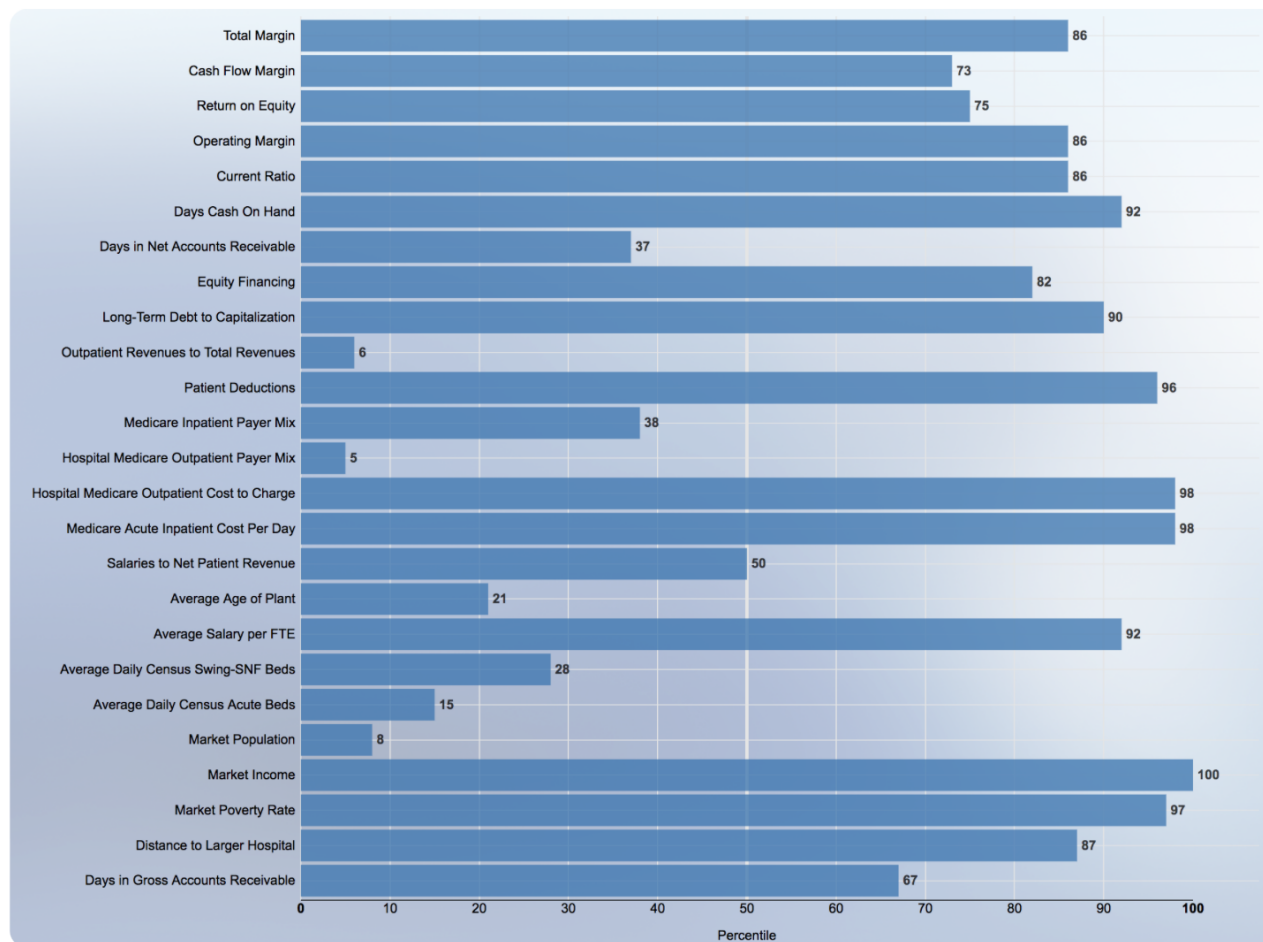
This website was developed by the Flex Monitoring Team with funding from the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS), under PHS Grant No. U27RH01080. The information, conclusions, and opinions expressed in this document are those of the authors and no endorsement by FORHP, HRSA, or HHS is intended or should be inferred.



What do you want to do?



Compare Relative Position of All Indicators



What percentage of hospitals have indicator values less than
(greater than) a particular hospital?

CAHMPAS – Addressing missing data

Using CAHMPAS to Identify a Hospital's Relative Financial Position in the Absence of a Financial Distress Index

Why is this necessary? The model that produces the financial distress index (FDI) was recently updated to improve its predictive ability. New data elements (variables) were added to the model; however, these data elements are sometimes missing for certain hospitals in a certain year (for example, if a hospital has a short cost reporting period due to a merger or CAH conversion, key data elements will be missing because we do not have a full year of data). When data elements are missing, the FDI for that year will also be missing.

If a hospital's FDI is missing, then there are alternative methods to get an overview of how the hospital is performing relative to its peers. These methods involve the use of data and visualizations currently available in CAHMPAS.

In CAHMPAS:

- navigate to the visualization titled “Compare Relative Position of All Indicators”
- click on the button labeled “Percentiles”
- search for the hospital you wish to evaluate
- click on “View Dashboard”

Indicator	Benchmark	Hospital's Indicator Value	Is the Hospital at or Better than the Benchmark? (Y / N)	What is the Hospital's Percentile Ranking?
Total margin	>3.0			
Cash flow margin	>5.0			
Return on equity	>4.5			
Operating margin	>2.0			
Current ratio	>2.3			
Days cash on hand	>60			
Days in net accounts receivable	<53			
Equity financing	>60			
Debt service coverage	>3.0			
Long-term debt to capitalization	<25			
Hospital Medicare outpatient cost to charge	<0.55			
Average age of plant	<10			

* Please note that a few hospitals may additionally have missing data for one or more indicators listed in this table. In this case, focus on the indicators with available data to assess financial performance relative to peers.

How to interpret and use the data in the table.

If a hospital is not meeting many of the benchmarks and/or has percentile values that are

North Carolina Rural Health Research Program

Location:

Cecil G. Sheps Center for Health Services Research

University of North Carolina at Chapel Hill

Website: <http://www.shepscenter.unc.edu/programs-projects/rural-health/>

Email: ncrural@unc.edu



Resources

North Carolina Rural Health Research Program

<http://www.shepscenter.unc.edu/programs-projects/rural-health/>

Rural Health Research Gateway

www.ruralhealthresearch.org

Rural Health Information Hub (RHIhub)

<https://www.ruralhealthinfo.org/>

National Rural Health Association

www.ruralhealthweb.org

National Organization of State Offices of Rural Health

www.nosorh.org

Contact information

Tyler Malone

Cecil G. Sheps Center for Health Services Research
University of North Carolina at Chapel Hill

LinkedIn: <https://www.linkedin.com/in/tyler-malone/>

Email: tmalone@live.unc.edu



Scan to see the FDI article
recently published in the
Journal of Rural Health!

Appendix

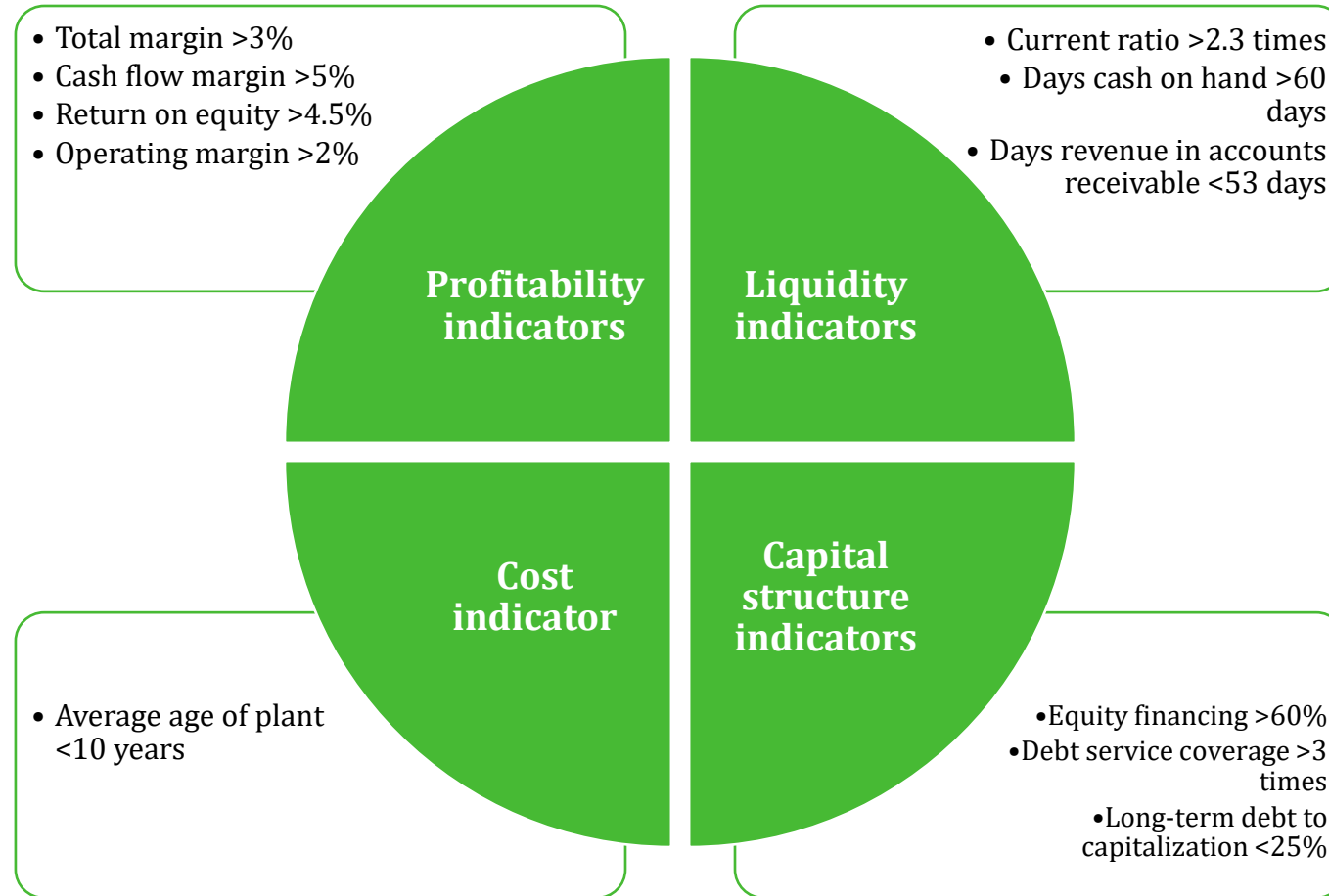
Model of rural hospital financial distress

- Distress is specified as a uni-dimensional index, with the probability of each event independent conditional on the index.
- Given a value of the “Financial distress index”(FDI) the probability of each event differs only due to a constant determined by the overall prevalence of the event.
- The equation is specified as

$$\Pr(y_{kh,t+2} = 1) = f(X_{ht}\beta + \phi_k)$$

where y is an indicator variable that equals one or zero depending on the value of one of the 3 markers of financial distress (indexed by k).

Benchmarks in the model



Variable definitions

Table A1
Rural Hospital Financial Distress Indicators and Predictors

Variable (Variable Type)	General Formula	HCRIS Cost Report Worksheet Formula	FDI Model Rules Applied to Variable
<i>Distress Indicators (Year $t + 2$)</i>			
Negative cash flow margin (binary)	((net income – contributions, investments, and appropriations + depreciation + interest expense) / (net patient revenue + other income – contributions, investments, and appropriations)) * 100%	(Worksheet G-3, line 29 – (6+7+23) + Worksheet A, col. 3, line 1+2+113) Worksheet G-3, line 3 + 25 – (6+7+23) <Result multiplied by 100%>	Create binary indicator for negative cash flow margin (i.e., 1 if < 0%, 0 otherwise). Set as missing if the following criteria are not <u>met</u> : Denominator: >\$0. Minimum value: –100%. Maximum value: +100%.
Negative equity (binary)	equity = total assets – total liabilities	(Worksheet G, col. 1-4, line 36) – (Worksheet G, col. 1-4, line 51)	Create binary indicator for negative equity.
Closure (binary)	Calculate number of days between NCRHRP's listed closure date (either complete or converted closure) and midpoint of year t hospital cost report.	Not applicable	0 = No closure or > 730 days pre-closure 1 = 0 – 730 days pre-closure 8 closed hospitals were excluded from our sample due to hospital CCN sharing and/or transferring that made it difficult to longitudinally track these hospitals over time.

Variable definitions

<i>Distress Predictors (Year t^a)</i>			
Financial Performance:			
Total margin (continuous)	(net income / total revenue) * 100%	Worksheet G-3, line 29 Worksheet G-3, line 3+25 <Result multiplied by 100%>	Set as missing if the following criteria are not met: Denominator: >\$0. Minimum value: -100%. Maximum value: +100%.
Total margin, year $t - 1$ (continuous)	See above entry for "Total margin"	See above entry for "Total margin"	See above entry for "Total margin."
Total margin, year $t - 2$ (continuous)	See above entry for "Total margin"	See above entry for "Total margin"	See above entry for "Total margin."
Outpatient revenue to total revenue (continuous)	(total outpatient revenue / total patient revenue) * 100%	Worksheet G-2, col. 2, line 28 Worksheet G-2, col. 3, line 28 <Result multiplied by 100%>	Set as missing if the following criteria are not met: Numerator: $\geq$ \$0. Denominator: > \$0. Minimum value: 0%. Maximum value: +100%.
Uncompensated care as a percentage of operating expenses (continuous)	((charity care + bad debt) / operating expense) * 100%	Worksheet S-10, line 23 + 29) Worksheet G-3, line 4 <Result multiplied by 100%>	Set as missing if the following criteria are not met: Numerator: > \$0. Denominator: > \$0. Minimum value: 0%. Maximum value: +100%.
Percent CAHMPAS benchmarks met (continuous; See Appendix Table A2 for list of benchmarks)	(number of nonmissing CAHMPAS benchmarks met / total number of nonmissing CAHMPAS benchmarks) * 100%	See Appendix Table A2 for information on individual benchmarks	Create a variable showing the average percent of CAHMPAS benchmarks met over the previous two years (i.e., average across year t and $t - 1$). Exclude hospitals with missing data on > 50% of benchmarks over two-year period.

Variable definitions

Government Reimbursement:			
CAH status (binary)	Not applicable	Not applicable	Create a binary indicator for whether the hospital is a CAH.
Hospital Medicare outpatient payer mix (continuous)	(hospital Medicare outpatient charges / hospital total outpatient charges) * 100%	Worksheet D, Part V, Title XVIII, (Hospital), col. 2-4, line 202 Worksheet C, Part I, col. 7, line 200 - (88+89+ 94 to 117) <Result multiplied by 100%>	Set as missing if the following criteria are not met: Numerator: > \$0. Denominator: > \$0. Minimum value: 0%. Maximum value: +100%.
Ratio of Medicare Advantage and cost plan days to traditional Medicare acute care days (continuous)	((Medicare Advantage days + Medicare cost plan days) / (Traditional Medicare acute care days)) * 100%	Worksheet S-3, Pt. 1, col. 6, line 2 Worksheet S-3, Pt. 1, col. 6, line 1 <Result multiplied by 100%>	Denominator: > 0.
Medicaid-to-Medicare fee index for "All Services" (continuous)	See Zuckerman and Goin, 2012; Zuckerman et al., 2014; Zuckerman et al., 2017, and Zuckerman et al., 2021.	Not applicable	Use 2012 fee index for 2011 – 2013 hospital observations, 2014 fee index for 2014 – 2015 observations, 2016 fee index for 2016 – 2018 observations, and 2019 fee index for 2019. For states with missing values, impute US average.
Medicaid payer mix (continuous)	(Medicaid charges / total patient charges) * 100% Include Medicaid payer mix as both a linear and quadratic term in the regression model.	Worksheet S-10, line 6 Worksheet C, Pt. 1, col. 8, line 200 <Result multiplied by 100%>	Set as missing if the following criteria are not met: Numerator: ≥ \$0. Denominator: > \$0. Minimum value: 0%. Maximum value: +100%.

Variable definitions

Organizational Characteristics:			
For-profit status (binary)	Not applicable	Defined by Worksheet S-2, Part 1, column 1, line 21 [Type of Control] values 7–13.	Create binary indicator of for-profit status.
Net patient revenue (continuous)	$\log(((\text{net patient revenue}) / 10,000,000) * (365 / \text{days in period}))$	<u>(Worksheet G-3, line 3 * 365</u> 10,000,000 * days in period <Take the logarithm of the result>	Set as missing if the following criteria are not met: Minimum value: \$0. Maximum value: \$500,000,000.
System affiliation (binary)	Not applicable	Worksheet S-2, col. 1, line 141	Create binary indicator for system affiliation status.

Variable definitions

Market ^b Characteristics:			
Miles to nearest hospital with > 100 beds (continuous)	First, calculate geodesic distance from selected hospital to nearest hospital with > 100 beds. Next, convert this distance to its natural logarithm.	Not applicable	See “General Formula” column.
Market share (continuous)	First, identify all ZIP codes in the selected hospital’s market. Next, calculate the percent of visits and discharges from these ZIP codes that attended the selected hospital. Include market share as both a linear and quadratic term in the regression model.	Not applicable	See “General Formula” column.
Market population (continuous)	First, estimate the population of each ZIP code in the market using Census population data and HUD USPS County-to-ZIP crosswalk files. Next, sum the population estimates for all market ZIP codes and take the natural logarithm of the sum.	Not applicable	See “General Formula” column.
Percent market population in poverty (continuous)	First, estimate the proportion of population in poverty for each ZIP code using Census poverty data and HUD USPS ZIP-to-County crosswalk files. Next, calculate the average poverty rate among all ZIP codes in the market, weighting by ZIP code population size.	Not applicable	See “General Formula” column.
Medicare Advantage penetration rate (continuous)	First, estimate the Medicare Advantage penetration rate for each ZIP code using CMS Medicare Advantage penetration data and HUD USPS ZIP-to-County crosswalk files. Next, calculate the average penetration rate among all ZIP codes	Not applicable	See “General Formula” column.

Parameter Estimates and Model Validation

Findings from updated FDI model

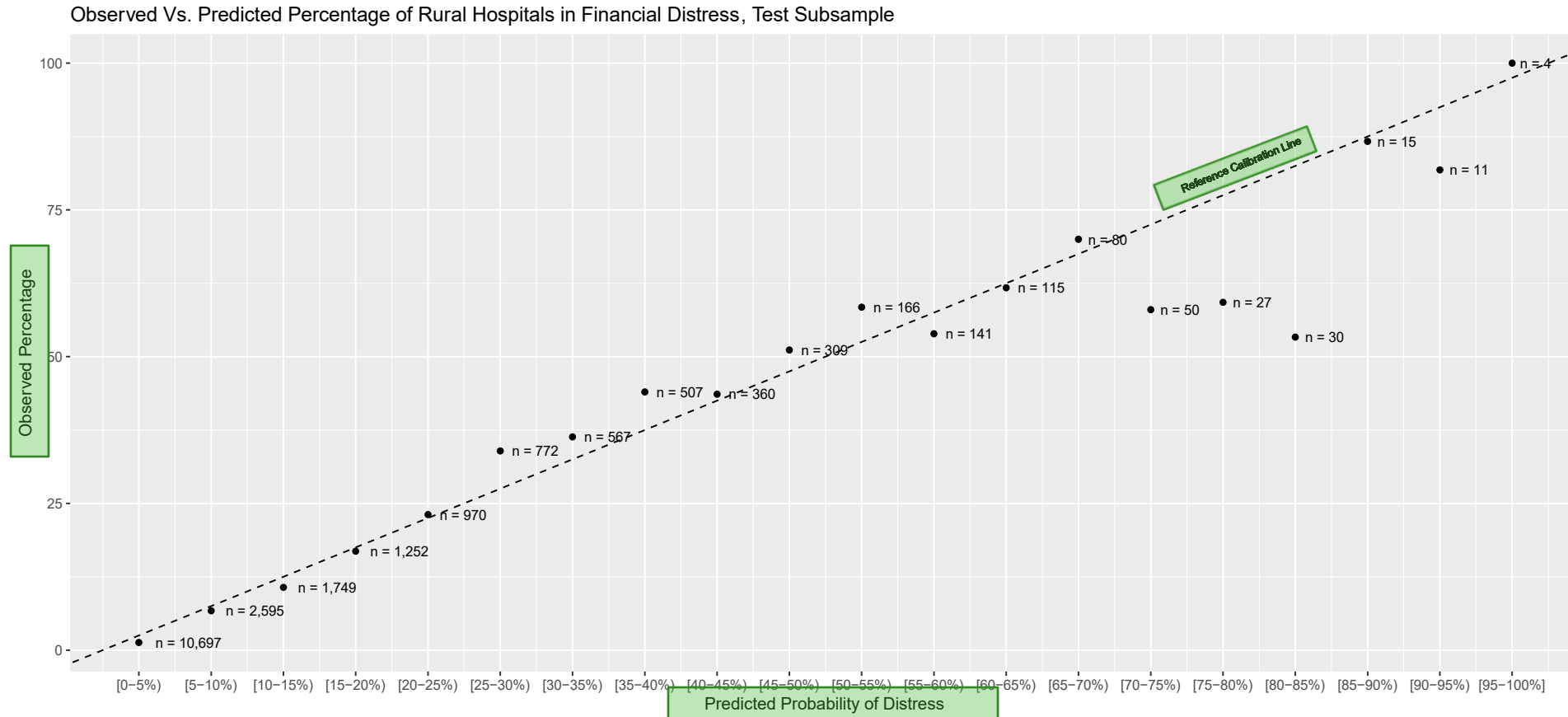
Predictor	Average Marginal Effect on Distress Probability ^a	p-Value	SE
Total Margin, Year t	-2.01	< .001	0.29
Total Margin, Year $t - 1$	-0.67	.02	0.28
Total Margin, Year $t - 2$	-1.64	< .001	0.24
% Outpatient to Total Revenue	-0.49	.20	0.38
% Uncompensated Care	0.33	.24	0.28
Average % Benchmarks Met	-3.62	< .001	0.40
Critical Access Hospital	-3.16	.003	1.08
Medicare Outpatient Mix	-0.89	.02	0.38
MA and Cost Plan Mix	-0.06	.91	0.56
Medicaid:Medicare Fee Index	-0.62	.07	0.35
Medicaid Payer Mix	0.02	.97	0.37

Findings from updated FDI model (continued)

Predictor	Average Marginal Effect on Distress Probability ^a	<i>p</i> -Value	SE
For-Profit Status	2.09	.08	1.20
Log(Net Patient Revenue)	-3.50	< .001	0.57
System Affiliation	2.06	.006	0.74
Log(Distance to 100-Bed Hospital)	-0.45	.44	0.59
Market Share	-1.59	.06	0.84
Log Market Population	-0.41	.57	0.72
% Market Population in Poverty	1.09	.002	0.35
% Market MA Penetration	-0.66	.15	0.46

^a Effect of SD increase in predictor
(for non-logged continuous variables)

How does the updated model perform?



Using the Updated FDI Model to Calculate Financial Distress Risk



April 2024

Using the Updated Financial Distress Index to Describe Relative Risk of Hospital Financial Distress

Tyler Malone, PhD; George Pink, PhD; Kristie Thompson, MA; Mark Holmes, PhD

OVERVIEW

In a 2017 article, we first presented the Financial Distress Index (FDI).¹ The original FDI model used historical data about hospital financial performance, government reimbursement, organizational characteristics, and market characteristics to predict the probability of rural hospital financial distress within two years. The model assigned every rural² hospital to one of four financial risk categories: high, mid-high, mid-low, or low.

Since the original model was developed, there have been many changes in the operating environment that may have affected the risk of financial distress among rural hospitals, thus prompting the need for model revision. Recent changes affecting rural hospitals include the following:

- 1) *More patients are insured by Medicare Advantage plans.* Medicare Advantage plans are projected to enroll a majority of nonmetropolitan beneficiaries by 2025, and the rate of growth continues to be greater in nonmetropolitan counties (10.5% growth per year) than in metropolitan counties (7.2% growth per year).³

KEY FINDINGS

Using an updated version of the UNC Financial Distress Index, this study found that:

- Among 2,063 rural hospitals and selected



Scan to see the full
findings brief!

States with >1 rural* hospital at highest risk



	State	Highest	Mid-highest	Mid-lowest	Lowest	Total
States with Multiple Hospitals at Highest Risk	TX	9	30	46	48	133
	OK	8	19	27	14	68
	TN	8	10	15	11	44
	AL	6	14	14	12	46
	KS	5	23	44	30	102
	MS	5	20	29	9	63
	GA	4	16	21	26	67
	AR	3	5	23	17	48
	LA	3	11	16	19	49
	NC	3	7	15	26	51
	CA	2	4	19	25	50
	VA	2	8	4	14	28
	WI	2	5	12	55	74

* Includes urban CAHs, MDHs, RRCs, and SCHs

States with 1 rural* hospital at highest risk



	State	Highest	Mid-highest	Mid-lowest	Lowest	Total
States with 1 Hospital at Highest Risk	FL	1	4	10	9	24
	IL	1	6	21	44	72
	IA	1	2	27	65	95
	KY	1	12	18	31	62
	MI	1	8	15	33	57
	MN	1	4	26	62	93
	MO	1	4	29	26	60
	NY	1	9	27	15	52
	ND	1	4	13	18	36
	SC	1	5	6	9	21
	UT	1	0	3	17	21
	WV	1	5	10	10	26

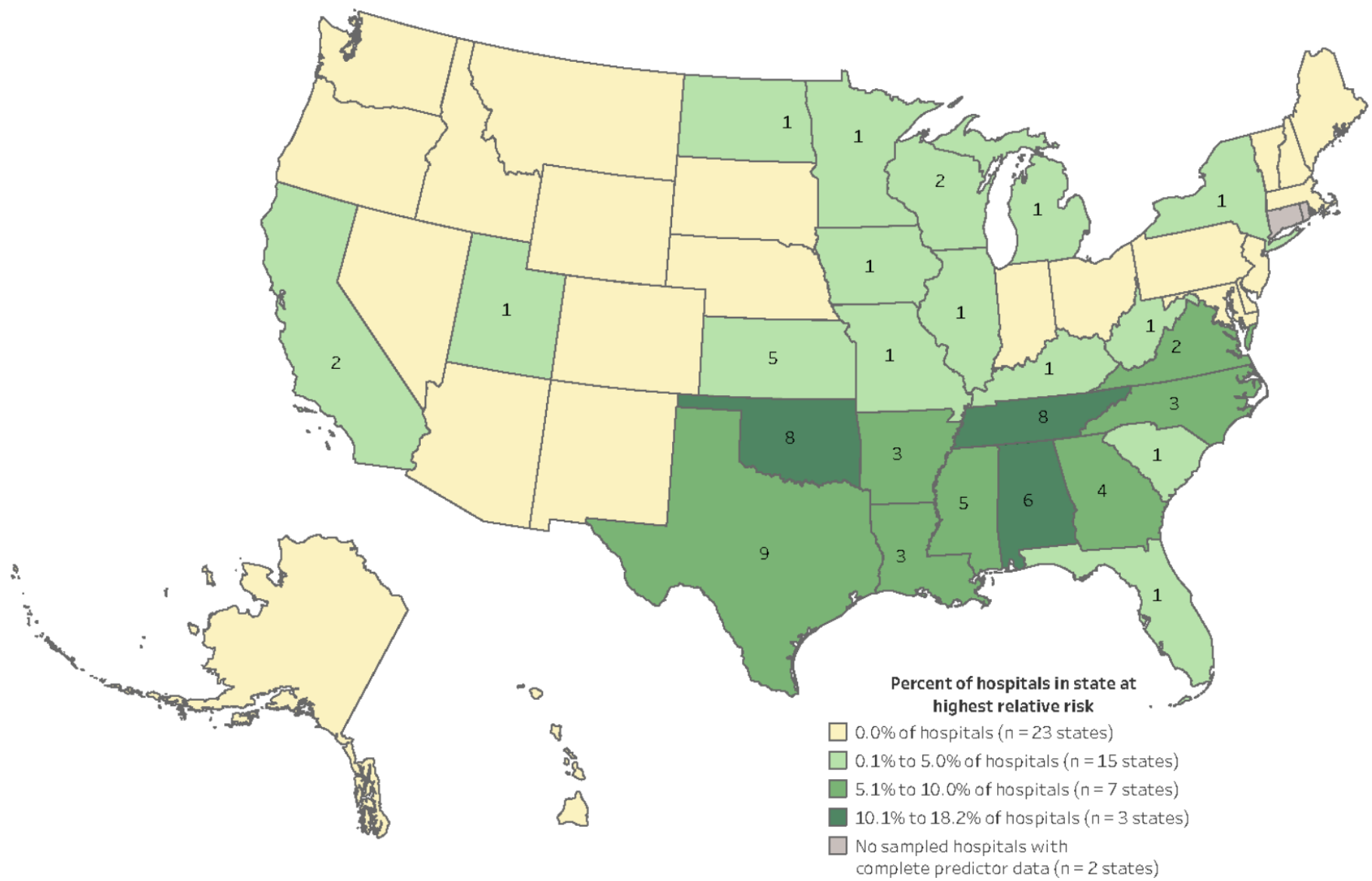
* Includes urban CAHs, MDHs, RRCs, and SCHs

States with 0 rural* hospitals at highest risk



	State	Highest	Mid-highest	Mid-lowest	Lowest	Total
States with 0 Hospitals at Highest Risk	AK	0	1	1	9	11
	AZ	0	1	3	16	20
	CO	0	2	10	30	42
	CT	0	0	0	0	0
	DE	0	0	0	2	2
	HI	0	3	2	4	9
	ID	0	1	4	23	28
	IN	0	7	12	35	54
	ME	0	1	4	11	16
	MD	0	0	1	4	5
	MA	0	0	1	4	5
	MT	0	9	13	26	48
	NE	0	4	14	52	70
	NV	0	1	6	6	13
	NH	0	0	2	12	14
	NJ	0	0	1	1	2
	NM	0	3	8	12	23
	OH	0	6	13	53	72
	OR	0	3	7	19	29
	PA	0	6	6	21	33
	RI	0	0	0	0	0
	SD	0	5	12	28	45
	VT	0	0	3	10	13
	WA	0	4	16	23	43
	WY	0	2	9	13	24

Figure 3. Number and Percent of Hospitals^a within Each State at Highest Relative Financial Distress Risk in 2023



^a Includes (1) rural hospitals and (2) selected urban hospitals with a Medicare special payment designation.

How to Improve Financial Outcomes

How to improve financial outcomes

- The FDI is primarily a screening tool and is not designed to “treat” financial distress.
 - E.g., More of a blood pressure monitor; less of an ACE Inhibitor
- However, our Research Center (in collaboration with the University of Minnesota and University of Southern Maine) has put together several examples of how hospitals can use financial indicators to address performance.



Their Hospital

- Let's look at indicator values for *Their Hospital*
- What do you think about the financial performance and condition of *Their Hospital*?
 - Profitability
 - Liquidity
 - Capital structure





Profitability Indicators

		2020	2021	2022
Total margin	<i>Their Hospital</i>	3.9%	-5.6%	0.3%
	Peer Group Median CAH	5.6%	5.0%	3.0%
	State Median CAH	5.7%	5.1%	3.2%
	U.S. Median CAH	5.4%	13.1%	3.9%
Cash flow margin	<i>Their Hospital</i>	10.0%	2.7%	7.8%
	Benchmark	5%	5%	5%
	Peer Group Median CAH	9.2%	9.3%	8.7%
	State Median CAH	10.3%	10.4%	9.8%
	U.S. Median CAH	8.5%	15.4%	7.3%
Return on equity	<i>Their Hospital</i>	8.0%	-10.2%	1.5%
	Peer Group Median CAH	11.5%	11.6%	11.0%
	State Median CAH	10.2%	10.3%	9.7%
	U.S. Median CAH	9.9%	20.7%	6.4%
Operating margin	<i>Their Hospital</i>	1.3%	0.9%	0.4%
	Peer Group Median CAH	2.0%	2.0%	1.4%
	State Median CAH	1.4%	1.0%	0.5%
	U.S. Median CAH	3.6%	10.9%	3.2%





Profitability – Indicator Findings

- Profitability declined and then increased. Could be an extraordinary one-time expense.
- Better than cash flow margin benchmark in most recent year
- Worse than peer group and state
- Negative total margin but positive cash flow margin can occur because cash flow margin includes depreciation and interest expense in numerator
- Conclusion: profitability is a concern.





Profitability – Potential Explanations

- Gross charges are relatively lower (less volume, lower rates, poorer payer mix, Medicaid?)
- Allowances are relatively higher (more competition?)
- Costs are relatively higher (wage rates, bad debt, charity care, inefficiency, or new debt?)
- Non-operating income is relatively lower (lower investments, less state or county support, lower charitable revenue?)
- Outpatient, Inpatient, Growth, Labor, and Other indicators may provide additional insights





Profitability – Hospital Actions

- Increase revenues (better data capture, fewer referrals, fewer denials, new services, new markets, more physicians?)
- Control expenses (wage rates, staffing patterns, group purchasing, 340B, equipment management, information technology?)
- Improve negotiation policy with third party payers
- Increase investment returns
- Reduce charity care and bad debt



Additional Resources Offered by the North Carolina Rural Health Research Program

Rural hospital closure tracker

193 Rural Hospital Closures and Conversions since January 2005

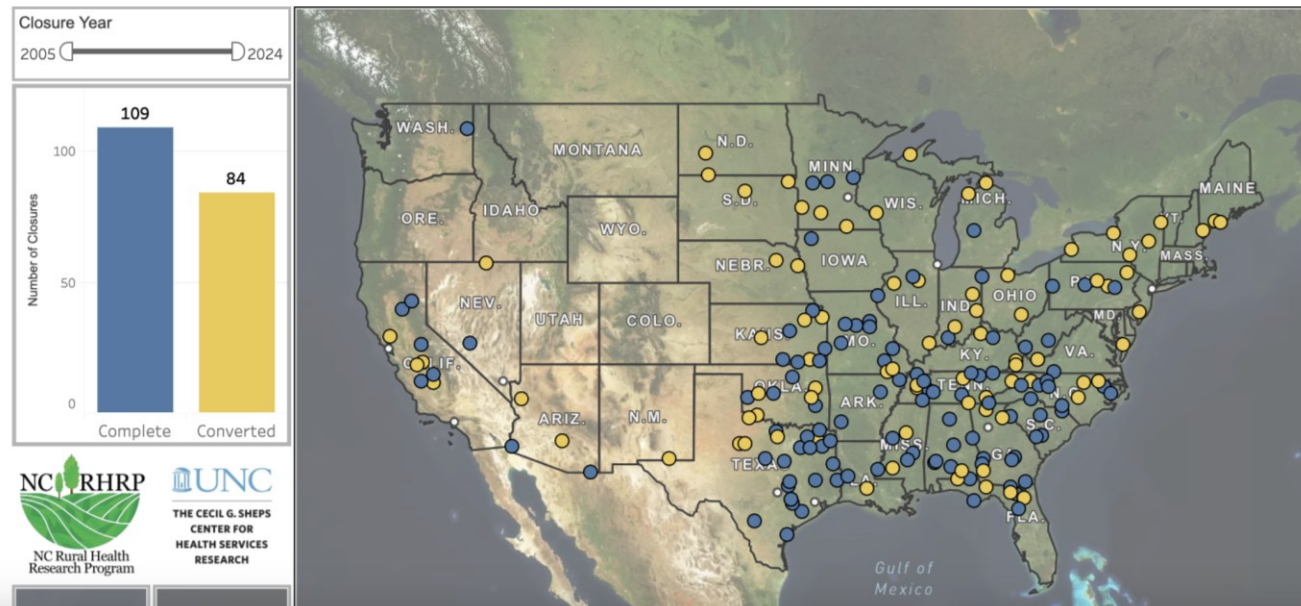
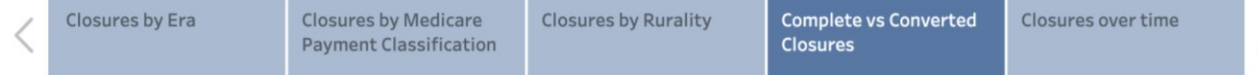
109 complete closures* + 84 converted closures**

150 Closures and Conversions since 2010

86 complete closures* + 64 converted closures**

- Numbers of rural hospital closures and conversions do not include conversions to Rural Emergency Hospitals (REHs), a new type of provider.
- A list of REHs can be found at [Rural Emergency Hospitals Map](#).
- More information on recent changes to our rural hospital closure and conversion website ([October 2023](#)).

Rural Hospital Closures Maps, 2005 – Present



Rural Emergency Hospital conversion tracker





CRITICAL ACCESS HOSPITAL FINANCIAL SUSTAINABILITY GUIDE

CRITICAL ACCESS HOSPITAL FINANCIAL SUSTAINABILITY GUIDE

The Health Resources and Services Administration (HRSA), Department of Health and Human Services (HHS) provided financial support for this Information Services to Rural Hospital Flexibility Project. The award provided 100% of total costs and totaled \$1,200,000. The contents are those of the author. They may not reflect the policies of HRSA, HHS, or the U.S. Government.

PURPOSE

- Discussion regarding potential interventions CAHs may employ to address ongoing and systemic financial challenges.
- Successful adoption and implementation (change) of interventions will assist CAHs in improving overall performance over the long-term.
- Potential users:
 - Leaders of CAHs
 - Rural Hospital Flexibility (Flex) Program leaders

INTERVENTIONS

- Strategic, financial, and operational assessments
- Cost report review and strategy
- Revenue cycle management
- Clinic practice management assessments
- Lean process improvement training
- Financial education for CAH department managers
- Financial education for CAH boards

INTERVENTIONS

- Pooling Small Rural Hospital Improvement Program (SHIP) dollars
- Developing chief financial officer (CFO) networks
- Benchmarking financial indicators
- Market assessments
- Strategic planning
- Service line assessments
- Marketing plan assessments
- Rural Emergency Hospital conversions

INTERVENTIONS - HIGHLIGHTS

Strategic, Financial and Operational Assessment

- Overall assessment of the facility which includes a number of other interventions mentioned separately.
- Higher cost due to review of more areas of the facility.
- “Big picture” of the financial opportunities for the facility.
- Opportunity to impact multiple financial indicators.
- Some areas reviewed:
 - ☐ Org Structure
 - ☐ Benchmarking financial indicators
 - ☐ Revenue Cycle
 - ☐ Medicare cost report
 - ☐ Strategic Plan
 - ☐ Market Assessment
 - ☐ Productivity
 - ☐ Telehealth engagement
 - ☐ Quality engagement

INTERVENTIONS - HIGHLIGHTS

Medicare Cost Report Review and/or Education

- Typically about 25% to 60% of CAH revenue
- Sometimes results in quick dollars based upon findings. Other findings can result in dollars each year.
- Affects multiple financial indicators.

INTERVENTIONS - HIGHLIGHTS

Revenue Cycle Management

- Many opportunities to improve either front-end, middle or back-end revenue cycle functions.
- Can be overall assessment or many other “focused” assessments:
 - ☐ Denial reviews
 - ☐ Chargemaster review
 - ☐ Health Information Management/Coding/Charge Capture
 - ☐ Prior Authorization
- Can improve cash flow significantly thereby reducing accounts receivables, increasing days cash on hand, and improving other financial indicators.

INTERVENTIONS - HIGHLIGHTS

Clinic Practice Management Assessments

- Focused on clinic reimbursement, demand, staffing and operational processes.
- Typically takes around 3 months to complete and results in 6-9 months.
- Potential to positively impact days cash on hand, total and operating margin, debt service coverage and a few other financial indicators.

INTERVENTIONS - SUMMARY

- Many other interventions to assist CAHs improve financial stability.
- Results of interventions are dependent upon CAH management and staff having “buy-in” to make changes based upon findings of interventions/assessments.
 - It's one thing to agree to have intervention completed
 - Another item to implement recommendation(s) from intervention
- Can see positive outcomes anywhere from 1 month to more than year.
- Many outcomes can be year over year improvements to assist positive financial sustainability.

SUSTAINABILITY GUIDE

Appendix A – Sample Timeline

<u>Intervention</u>	<u>3 months</u>	<u>6 months</u>	<u>9 months</u>	<u>12 months ></u>
Strategic, Financial and Operational Assessments	Assessment	Assessment Implementation Results	Implementation Results	Implementation Results
Medicare Cost Report Review, Strategy and Education	Assessment	Implementation	Implementation Results	Results
Revenue Cycle Assessment & Improvement Analysis	Assessment Implementation Results	Assessment Implementation Results	Results	
Denials Management Reviews	Assessment Implementation Results			
Point of service / sale collections review	Assessment Implementation Results			
Coding and documentation / charge capture reviews	Assessment Implementation	Implementation Results	Results	

SUSTAINABILITY GUIDE

Appendix B – Potential Impact on Financial Indicators

	<u>Days in Net A/R</u>	<u>Days in Gross A/R</u>	<u>Days Cash in Hand</u>	<u>Total Margin</u>	<u>Operating Margin</u>	<u>Debt Service Coverage</u>	<u>Salaries to Net Patient Revenue</u>	<u>Medicare Inpatient Patient Mix</u>	<u>Average Age of Plant</u>	<u>Long-Term Debt to Capitalization</u>
Strategic, Financial, Operational Assessments	X	X	X	X	X	X	X	X		X
Medicare Cost Report Review, Strategy and Education			X	X	X	X	X			X
Revenue Cycle Management	X	X	X	X	X	X	X			X
Clinic Practice Management Assessments			X	X	X	X	X			X

PRESENTERS



Brian F. Bertsch

Principal

Sioux Falls, SD



Ralph Llewellyn, CPA

Partner

Fargo, ND





THANK YOU

eidebailly.com

Strategies for Critical Access Hospitals to Address Outmigration

Michelle Rathman, CEO
Impact! Communications, Inc.
michelle@doitwithimpact.com



To reverse outmigration, understand what drives it.

AVOIDABLE

- Convenience
- Customer Service and Surroundings
- Privacy / Trust
- Physical Plant
 - Curb Appeal
 - Courtesy
 - Comfort

UNAVOIDABLE

- Services Do Not Exist / Unavailable
- Out of Network (Cost)

Communication and Community Member Engagement Strategies to Maintain Market Share and Address Outmigration

PREVENTION IS THE REMEDY

Building a Strong Communication Foundation

- Brand and Consistency (including name changes)
- Key Messages
- Elevator Pitch (for everything)
- Storytelling
- Social Media
- Ambassador Engagement

Shifting from Outbound to Inbound Engagement Strategies

(“JOE PUBLIC DOESN'T CARE ABOUT YOUR CT SCANNER”)

Outbound	Inbound
Interruption-Based	Permission-Based
One-Way Communication	Two-Way Communication
Patient Came via Print, TV, Radio, Banner ad, etc.	Patient Came via Search Engine, Referrals, Social Media, etc.
High-Cost Spending	Low-Cost Spending
Educate on a Specific Service	Fuel Personal Interest and Self-Motivation
Build Awareness	Builds Engaged and Entertained Loyal Audiences

Attract

Newcomers are strangers to your brand. "Attract" builds brand awareness, reaches new audiences, and pulls traffic to your digital assets before stepping foot into your doors.



Convert

Woo them during digital encounters. On your website, they subscribe and share information. On social, they follow, providing you with a window into their world—crucial intelligence gathering and lead generation.



Close

You've secured leads through volunteered information and initial social engagement. Now is the time to utilize the information captured through contact relationship management strategies and key trust-building opportunities.



Delight

Content delivered to their inbox conveys, "We care about you," has them thinking, "They heard me." You're engaged with them on social, wishing them a happy birthday/anniversary, congratulations, and gratitude.

Sample Inbound Engagement Strategies





Guide Summary

Successfully addressing outmigration requires a shift in mindset, acknowledging that community members will travel long distances for care if they believe there are better options in the next county. Patient loyalty is established not because a CAH is closer, but because it has earned their trust.

Contact Information

TASC

tasc@ruralcenter.org

800-997-6685