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CAHMPAS Financial Data Revisions

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OVERVIEW:

Since 2015, approved users have been able to explore financial performance data for critical access hospitals (CAHs) using the Critical Access Hospital Measurement and Performance Assessment System (CAHMPAS). CAHMPAS is a free tool developed by the Flex Monitoring Team (FMT). It has three portals that allows CAH executives, State Flex Coordinators, and Federal staff to analyze and compare CAH performance on financial, quality, and community-benefit measures. This information brief summaries recent updates to the financial portal in CAHMPAS. First, we have added five new indicators:

1. Medicaid Payer Mix,
2. 1-Year Change in Operating Expenses,
3. 3-Year Change in Operating Expenses,
4. 1-Year Change in Operating Revenue, and
5. 3-Year Change in Operating Revenue

Second, we revised the Medicare acute inpatient cost per patient day to reduce missing data. Third, we reorganized the presentation of the financial indicator options into three categories (financial performance, service lines, and operations). And finally, we calculated two-year percentiles for all indicators.

BACKGROUND

Since the development of the initial 23 financial indicators in 2006 and the introduction of CAHMPAS in 2015, there have been significant changes in reimbursement and the rural hospital financial operating environment. These changes have created the need for new measures and/or new reporting mechanisms that facilitate financial performance monitoring and evaluation. To make sure CAHMPAS is still providing the most relevant and useful data for its users, the FMT assessed the quality and usefulness of the original 23 financial indicators. In addition, FMT reviewed and augmented the financial

benchmarks. The revisions were based on a literature review, analysis of the accuracy and completeness of the Medicare Cost Report (MCR) data used to produce the indicators, assessment of the need for new indicators, and extensive feedback received from CAHs, state Flex Coordinators, and staff from the Federal Office of Rural Health Policy.

Each of the changes is summarized in more detail below.

NEW INDICATORS

Medicaid payer mix measures the percentage of total patient charges for Medicaid patients. A value greater than 50 percent indicates that the majority of total patient charges is for Medicaid patients. Very high values may indicate lack of financial diversification due to high dependence on Medicaid reimbursement. A value less than 50 percent indicates that the majority of patient charges is not from Medicaid beneficiaries, but from patients with other forms of health insurance. It is important to note that total charges vary by payer and actual payments are not always the same percent of charges for all payers. Table 1 shows the definition for Medicaid payer mix.

TABLE 1. Indicator, formula, and definition for Medicare payer mix

Indicator	Formula	MCR Definition
Medicaid payer mix	Medicaid charges / Total patient charges	Worksheet S-10, line 6 / Worksheet C Pt. 1 Line 200 column 8

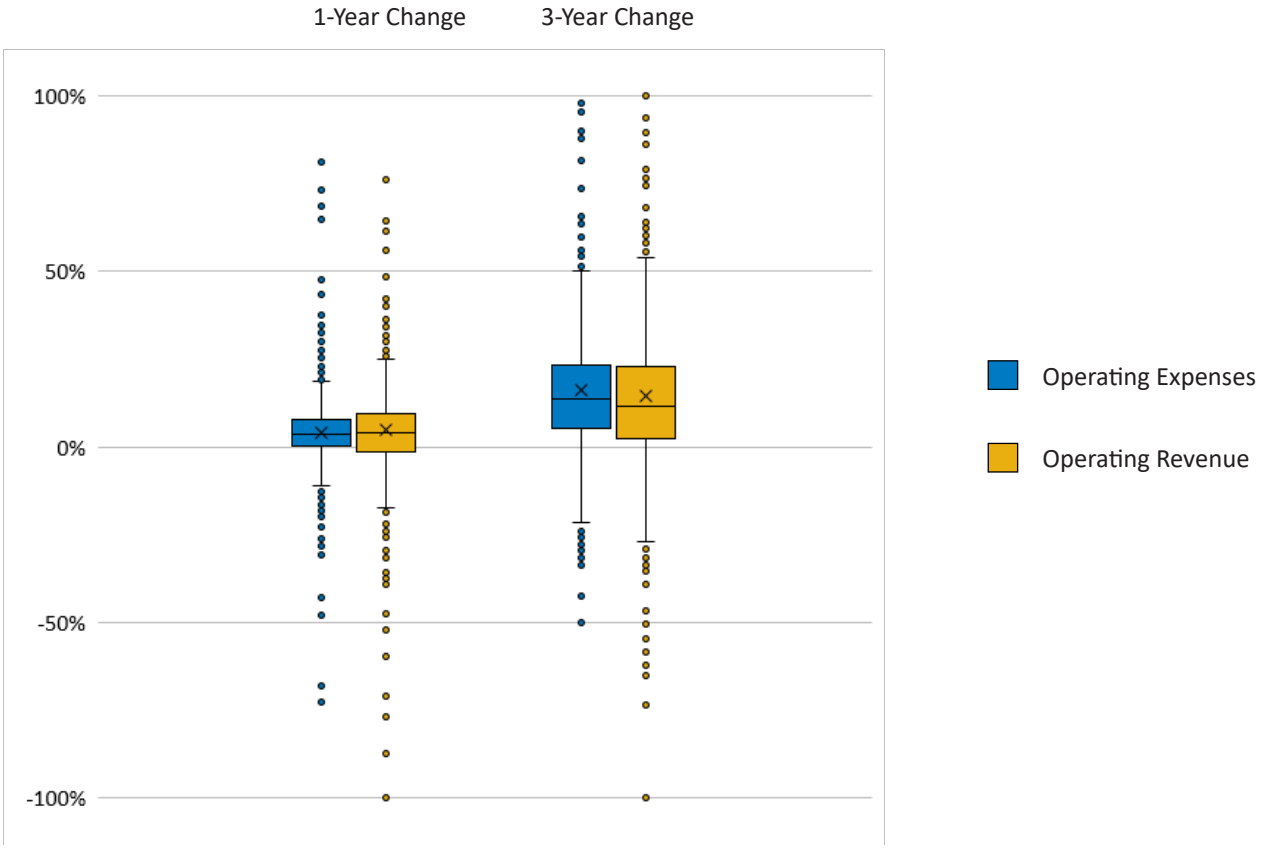
Growth indicators measure the 1-year and 3-year percentage changes in operating revenue and operating expenses. Positive values indicate increases in operating revenue and/or expenses, and negative values indicate decreases in operating revenue and/or operating expenses over a 1-year and/or a 3-year time period. Growth in operating revenue greater than growth in operating expenses results in higher profitability as measured by operating margin. Growth in operating revenue less than growth in operating expenses results in lower profitability. Table 2 shows the formulas and definitions for the growth indicators. Figure 1 shows the distributions of the new indicators.

TABLE 2. Indicators, formulas, and definitions for growth indicators

Indicator	Formula	MCR Definition
1-Year change in operating revenue	$\frac{\text{Operating revenue (year t)} - \text{Operating revenue (year t−1)}}{\text{Operating revenue (year t−1)}}$	Worksheet G-3, line 3 + (8 to 22) + 24
3-Year change in operating revenue	$\frac{\text{Operating revenue (year t)} - \text{Operating revenue (year t−3)}}{\text{Operating revenue (year t−3)}}$	Worksheet G-3, line 3 + (8 to 22) + 24
1-Year change in operating expenses	$\frac{\text{Operating expenses (year t)} - \text{Operating expenses (year t−1)}}{\text{Operating expenses (year t−1)}}$	Worksheet G-3, line 4
3-Year change in operating expenses	$\frac{\text{Operating expenses (year t)} - \text{Operating expenses (year t−3)}}{\text{Operating expenses (year t−3)}}$	Worksheet G-3, line 4

The growth indicators will be calculated for the current year and five previous years, similar to other CAHMPAS indicators.

FIGURE 1. Boxplot of growth indicators for all CAHs



MEDICARE ACUTE INPATIENT COST PER DAY

Our analysis of the MCR data revealed that there was a substantial amount of missing data for Medicare acute inpatient cost. Data for this indicator had been drawn from Medicare Cost Reports Worksheet E-3, Part V, line 4 (Sum of inpatient services, nursing and allied health managed care payment, and organ acquisition). To provide more complete and accurate data for Medicare acute inpatient costs, we are replacing data previously drawn from Worksheet E-3 with data from Worksheet D1 Part 2, line 49 (Total inpatient costs). Table 3 shows the formula, the previous MCR definition, and the new MCR definition.

TABLE 3. MCR formulas and definitions

Formula	Old MCR Definition	New MCR Definition
Medicare acute inpatient cost / Medicare inpatient days (excl HMO)	Worksheet E-3, Part V, line 4 / Worksheet S-3, col. 6, line 1	Worksheet D1 Part 2, line 49 / Worksheet S-3, col. 6, line 1

NEW INDICATOR FRAMEWORK

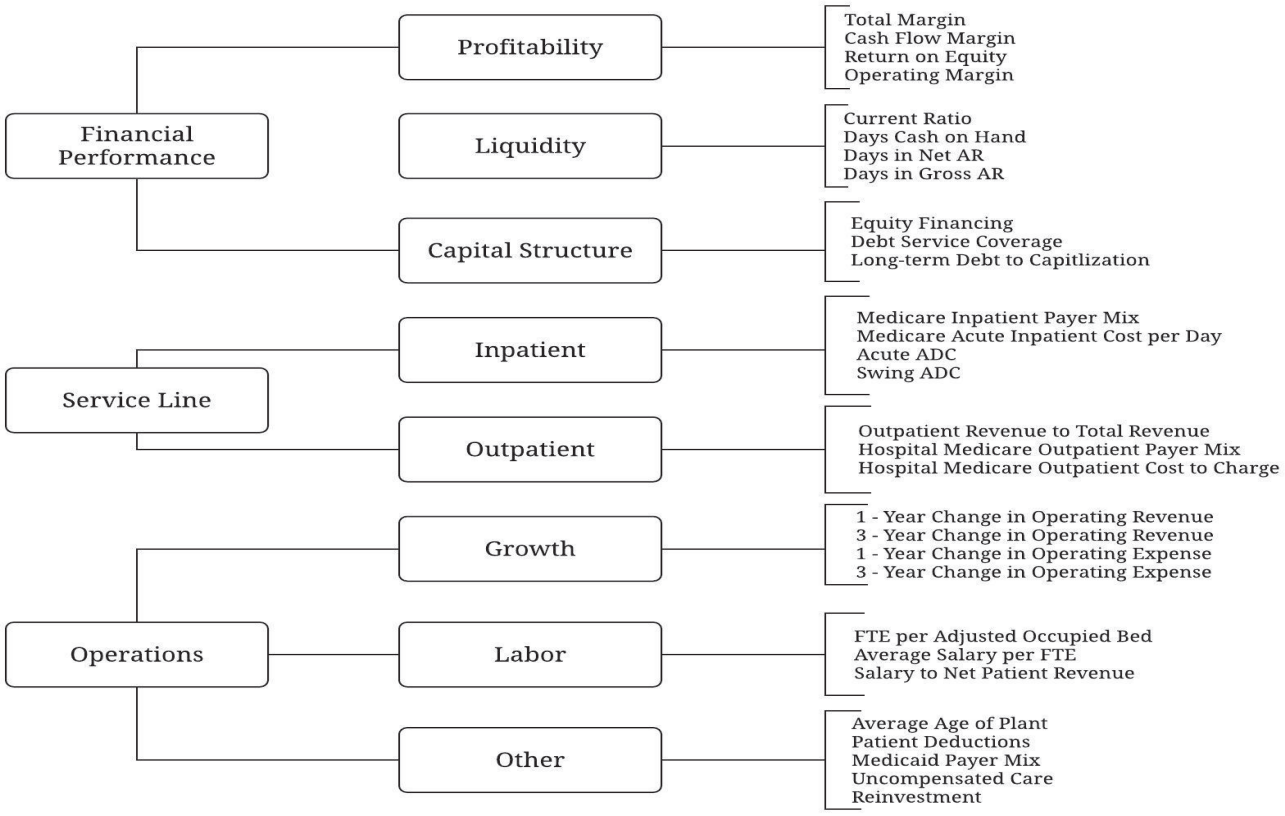
In 2005, the Flex Monitoring Team created indicators to assess the financial performance and condition of CAHs. Potential indicators that were most relevant to CAHs were identified from a literature review and consultation with a Technical Advisory Group. Twenty indicators were selected and grouped into six categories: profitability, liquidity, capital structure, revenue, cost, and utilization.

The addition of Medicaid payer mix and 1- and 3-year growth indicators plus user feedback suggested that a new indicator framework was warranted. The new framework includes indicator category, indicator type, and each indicator (Figure 2). The *financial performance* category includes the original indicator types of profitability, liquidity, and capital structure. Most of the original revenue and utilization indicators are now grouped in a *service line* category, which includes two indicator types: inpatient and outpatient. Most of the original cost indicators and the new indicators are grouped into an *operations* category, which includes three indicator types: growth, labor, and other.

BENCHMARKS AND PERCENTILES

Benchmarks are a key component of many performance measurement systems because they help to identify good financial performance and provide specific targets for improvement. FMT has been developing and refining benchmarks since 2006 with the input of CAH Chief Executive Officers (CEOs) and Chief Financial Officers (CFOs)—the most knowledgeable about the financial management of CAHs. When the third issue of the CAH Financial Indicators Report (CAHFIR) was distributed in summer 2006, CEOs and CFOs were asked to complete a questionnaire about benchmarks for five key financial indicators. A benchmark was defined as a high but attainable level of financial performance by CAHs. By April 11, 2007, 192 CAH CEOs and CFOs completed the questionnaire, and these responses were used to create benchmarks for five of the indicators included

FIGURE 2. Revised Indicator Framework



in the fifth issue of the CAHFIR issued in Summer 2007. After they downloaded the fourth issue for their facility, CEOs and CFOs were prompted to complete an on-line questionnaire about the five benchmarks. Respondents were asked whether each benchmark was "much too low," "too low," "about right," "too high," or "much too high." The majority of respondents considered each of the benchmarks "about right," so the benchmarks were retained for the fifth issue of the CAHFIR. This method was repeated in 2011 to create benchmarks for seven additional indicators. CAHMPAS currently includes these 12 benchmarks.

More recent feedback from CAHs, State Flex Coordinators, and staff from the Federal Office of Rural Health Policy suggested a need for performance metrics for the CAHMPAS indicators without benchmarks. After careful analysis, medians (50th percentile values) were selected as the measure/benchmark for these indicators. To assess the face validity of using medians, indicator values for 2017 and 2018 were calculated and aggregated into one dataset. Medians, 75th, and 90th percentile values for each indicator were calculated from the multi-year dataset to provide stable estimates of performance. The data are shown in Table 4 on the following page.

TABLE 4. Benchmarks and Percentiles for Aggregate 2017 and 2018 Indicator Values

Indicator	Benchmark*	Median*	75th Percentile	90th Percentile
Profitability				
Total margin (%)	**> 3.0**	2.3	7.1	13.0
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Cash flow margin (%)	**> 5.0**	6.5	12	17.5
Return on equity (%)	**> 4.5**	4.9	12.2	25.5
Operating margin (%)	**> 2.0**	0.6	6.2	12.3
Liquidity				
Current ratio (times)	**> 2.3**	2.5	4.1	6.4
Days cash on hand (days)	**> 60.0**	77.4	170.8	290.1
Days in net accounts receivable (days)	**< 53.0**	51.4	42.3	34.9
Days in gross accounts receivable (days)		**49.2**	34	24.1
Capital Structure				
Equity financing (%)	**> 60 .0**	58.9	77.2	89.3
Debt service coverage (times)	**> 3.0**	3.8	9.3	38.4
Long-term debt to capitalization (%)	**< 25.0**	31.3	12.9	2.4
Inpatient				
Medicare inpatient payer mix (%)		**72.4**	84.3	91.8
Medicare acute inpatient cost per day ($)		**2,650.9**	3,601.6	4,648.7
Acute average daily census (days)		**2.7**	5.5	8.9
Swing average daily census (days)		**1.5**	3.0	4.9
Outpatient				
Outpatient revenue to total revenue (%)		**78**	84.1	88.7
Hospital Medicare outpatient payer mix (%)		**37.1**	44.2	50.7
Hospital Medicare outpatient cost to charge	**< 0.55**	0.44	0.34	0.26
Labor				
FTEs per adjusted occupied bed (FTEs)		**5.6**	8	12.8
Average salary per FTE ($)		**56,826.7**	65,695.9	75,457.4
Salaries to net patient revenue (%)		**45**	51.7	59.0
Growth				
1-Year change in operating revenue (%)		**4.1**	9.8	17.2
3-Year change in operating revenue (%)		**12.3**	24.1	38.8
1-Year change in operating expense (%)		**4.2**	8.2	13.1
3-Year change in operating expense (%)		**12.9**	22.3	35.2
Other				

Indicator	Benchmark*	Median*	75th Percentile	90th Percentile
Average age of plant (years)	**< 10.0**	10.8	7.4	4.0
Patient deductions (%)		**44.3**	56.1	65.8
Medicaid payer mix (%)		**12.9**	19.8	26.6
Uncompensated care (%)		**3.7**	6.6	11.2
Reinvestment (for FDI) (%)		**55.2**	76.1	89.8

* Bolded numbers are performance metrics included in CAHMPAS. Where a benchmark does not exist, the median value is used.

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