Appendix B: Formulae Used for Calculation of Hospital Performance Measures

PERFORMANCE MEASURE	FORMULA
ADJUSTMENTS	
Adjustment Factor	Gross Patient Revenue / Gross Inpatient Acute Care Revenue
Case Mix Adjustment	Hospital Performance Measure / Medicare Case Mix Index
Wage Index Adjustment	[(Hospital Performance Measure × 0.71) / CMS Wage Index] + (Hospital Performance Measure × 0.29)
CAPACITY AND UTILIZATION	
Beds in Service, Total Acute Care	Beds in Service, General Service Units + Beds in Service, Intensive Care Units + Beds in Service, Coronary Care Units + Beds in Service, Other Special Care Units
Total Discharges, Acute Care	Total Discharges, Acute Care
Adjusted Discharges	Total Discharges, Acute Care × Adjustment Factor
Average Daily Census, Acute Care	Total Inpatient Days, Acute Care / 365
Adjusted Average Daily Census	(Total Inpatient Days, Acute Care / 365) × Adjustment Factor
Occupancy Rate, Acute Care	[(Total Inpatient Days, Acute Care / 365) / Beds in Service, Total Acute Care] × 100
Average Length of Stay, Acute Care	Total Inpatient Days, Acute Care / Total Discharges, Acute Care
Average Length of Stay, Acute Care, Case Mix-Adjusted	(Total Inpatient Days, Acute Care / Total Discharges, Acute Care) / Medicare Case Mix Index
Average Length of Stay, Acute Care, Medicare	Medicare Inpatient Days, Acute Care / Medicare Discharges, Acute Care
Average Length of Stay, Acute Care, Non-Medicare	(Total Inpatient Days, Acute Care – Medicare Inpatient Days, Acute Care) / (Total Discharges, Acute Care – Medicare Discharges, Acute Care)

PERFORMANCE MEASURE	FORMULA
PATIENT AND PAYER MIX	
Medicare Acute Care Discharges, as a Percentage of Total Acute Care Discharges	(Medicare Discharges, Acute Care / Total Discharges, Acute Care) × 100
Medicaid Acute Care Discharges, as a Percentage of Total Acute Care Discharges	(Medicaid Discharges, Acute Care / Total Discharges, Acute Care) × 100
Medicare Acute Care Days, as a Percentage of Total Acute Care Days	(Medicare Inpatient Days, Acute Care / Total Inpatient Days, Acute Care) × 100
Medicaid Acute Care Days, as a Percentage of Total Acute Care Days	(Medicaid Inpatient Days, Acute Care / Total Inpatient Days, Acute Care) × 100
Special Care Days, as a Percentage of Total Acute Care Days	[(Inpatient Days, Intensive Care Units + Inpatient Days, Coronary Care Units + Inpatient Days, Other Special Care Units) / Total Inpatient Days, Acute Care] × 100
Outpatient Gross Revenue, as a Percentage of Gross Patient Revenue	(Gross Outpatient Revenue / Gross Patient Revenue, Total) × 100
CAPITAL STRUCTURE	
Average Age of Plant	Accumulated Depreciation / Current Depreciation Expense
Net Property, Plant, and Equipment per Bed, Total Facility	(Total Property, Plant, and Equipment – Accumulated Depreciation) / Beds in Service, Total Facility
Debt per Bed, Total Facility	Total Liabilities / Beds in Service, Total Facility
Capital Costs, as a Percentage of Operating Expense	(Capital Costs, Total / Operating Expense, Total) × 100
Capital Costs per Adjusted Discharge	Capital Costs, Total / Adjusted Discharges
Capital Acquisitions as a Percentage of Net Patient Revenue	(Total Capital Acquisitions / Net Patient Revenue) × 100
Long-Term Debt to Total Assets	Total Long-Term Liabilities / Total Assets
Long-Term Debt to Net Fixed Assets	Total Long-Term Liabilities / (Total Property, Plant, and Equipment – Accumulated Depreciation)
Long-Term Debt to Capitalization	Total Long-Term Liabilities / (Total Long-Term Liabilities + Total Fund Balance)
Cash Flow to Total Debt	(Net Income + Current Depreciation Expense + Interest Expense) / Total Liabilities
Debt Service Coverage Ratio	(Net Income + Current Depreciation Expense + Interest Expense) / (Current Portion of Long-Term Debt + Interest Expense)

PERFORMANCE MEASURE	FORMULA
LIQUIDITY	
Current Ratio	Total Current Assets / Total Current Liabilities
Acid Test Ratio	(Cash + Temporary Investments) / Total Current Liabilities
Days in Net Accounts Receivable	(Net Accounts Receivable × 365) / Net Patient Revenue
Average Payment Period	(Total Current Liabilities × 365) / (Operating Expense, Total – Current Depreciation Expense)
Index of Predictive Creditworthiness	Performance Measures Used in the Calculation of IPC Score Beds in service, acute care Occupancy rate Medicare case mix index Percent Medicare days Percent Medicaid days Operating profit margin Total profit margin Debt service coverage ratio Cash flow to total debt Current ratio Days in net accounts receivable Average payment period Long-term debt to capitalization Percent capital-related operating expense Average age of plant Interns and residents per bed Location in urban or rural area System-affiliated or freestanding Market structure and market share
REVENUES, EXPENSES, AND PROFITABILITY	
Gross Patient Revenue per Adjusted Discharge	Gross Patient Revenue, Total / Adjusted Discharges
Gross Patient Revenue per Adjusted Discharge, Case Mix- and Wage-Adjusted	{[(Gross Patient Revenue, Total × 0.71 / CMS Wage Index) + (Gross Patient Revenue, Total × 0.29)] / Adjusted Discharges} / Medicare Case Mix Index
Operating Revenue per Adjusted Discharge	(Net Patient Revenue + Other Operating Revenue) / Adjusted Discharges
Operating Expense per Adjusted Discharge	Operating Expense, Total / Adjusted Discharges
Operating Expense per Adjusted Discharge, Case Mix- and Wage-Adjusted	{[(Operating Expense, Total × 0.71 / CMS Wage Index) + (Operating Expense, Total × 0.29)] / Adjusted Discharges} / Medicare Case Mix Index
Laboratory Cost per Adjusted Discharge, Case Mix-Adjusted	(Laboratory, Total Cost / Adjusted Discharges) / Medicare Case Mix Index
Radiology Cost per Adjusted Discharge, Case Mix-Adjusted	(Radiology, Total Cost / Adjusted Discharges) / Medicare Case Mix Index
Pharmacy Cost per Adjusted Discharge, Case Mix-Adjusted	(Pharmacy, Total Cost / Adjusted Discharges) / Medicare Case Mix Index
Administrative Cost per Adjusted Discharge	(Administrative Expense, Total / Adjusted Discharges)
Deductions from Gross Patient Revenue, as a Percentage of Gross Patient Revenue	[(Gross Patient Revenue, Total – Net Patient Revenue) / Gross Patient Revenue, Total] × 100

PERFORMANCE MEASURE	FORMULA
REVENUES, EXPENSES, AND PROFITABILITY *(CONT'D)*	
Operating Profit Margin	[(Net Patient Revenue + Other Operating Revenue – Operating Expense, Total) / (Net Patient Revenue + Other Operating Revenue)] × 100
Total Profit Margin	[(Net Patient Revenue + Other Operating Revenue – Operating Expense, Total) / (Net Patient Revenue + Other Income, Total)] × 100
Cash Flow Margin	[(Net Income + Current Depreciation Expense + Interest Expense) / (Net Patient Revenue + Other Income, Total)] × 100
Return on Assets	(Net Income / Total Assets) × 100
Cash Flow per Bed, Total Facility	(Net Income + Current Depreciation Expense + Interest Expense) / Beds in Service, Total Facility
PRODUCTIVITY AND EFFICIENCY	
Full-Time Equivalent Personnel per Adjusted Average Daily Census	Number of Full-Time Equivalent Personnel / Adjusted Average Daily Census
Full-Time Equivalent Personnel per 100 Adjusted Discharges	(Number of Full-Time Equivalent Personnel / Adjusted Discharges) × 100
Full-Time Equivalent Employees per 100 Adjusted Discharges, Case Mix-Adjusted	[(Number of Full-Time Equivalent Personnel / Adjusted Discharges) × 100] / Medicare Case Mix Index
Salary and Benefits Expense per Full-Time Equivalent Personnel	(Salary Expense, Total + Employee Benefits Expense) / Number of Full-Time Equivalent Personnel
Salary and Benefits Expense, as a Percentage of Operating Expense	[(Salary Expense, Total + Employee Benefits Expense) / Operating Expense, Total] × 100
Overhead Expense, as a Percentage of Operating Expense	(Overhead Expense, Total / Operating Expense, Total) × 100
Beds per Resident—Teaching Hospitals Only	Beds in Service, Acute Care / Full-Time Equivalent Interns and Residents
Direct Medical Expense per Resident—Teaching Hospitals Only	Direct Medical Intern and Resident Expense / Full-Time Equivalent Interns and Residents
Discharges per Bed, Acute Care	Total Discharges, Acute Care / Beds in Service, Total Acute Care
Total Asset Turnover Ratio	Net Patient Revenue / Total Assets

PERFORMANCE MEASURE	FORMULA
PRICING STRATEGIES	
Markup Ratio, All Ancillary Services	All Ancillary Services, Total Charges / All Ancillary Services, Total Fully Allocated Cost
Markup Ratio, Medical Supplies Sold	Medical Supplies Sold, Total Charges / Medical Supplies Sold, Total Fully Allocated Cost
Markup Ratio, Drugs Sold	Drugs Sold, Total Charges / Drugs Sold, Total Fully Allocated Cost
Markup Ratio, Laboratory	Laboratory, Total Charges / Laboratory, Total Fully Allocated Cost
Markup Ratio, Diagnostic Radiology	Diagnostic Radiology, Total Charges / Diagnostic Radiology, Total Fully Allocated Cost