The Future of Healthcare
Credit Analysis
- Seven Emerging Ratios
1. To understand the emerging financial ratios for healthcare providers.

2. To recognize relevant operational ratios/trends occurring given healthcare reform.

3. To apply staffing methodologies of other labor intensive industries.
# Presentation Outline

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<tr>
<th>Emerging Ratio</th>
<th>Why is this important?</th>
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<td>1. Required Capital Ratio</td>
<td>Ability to change strategy</td>
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<td>Future outlook (prospective)</td>
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<td>3. Investment Inc:EBITDA</td>
<td>Independence from healthcare reimbursement</td>
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<td>4. Dynamic Schedule Score</td>
<td>Labor is the largest operating expense</td>
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<td>5. Physician Integration</td>
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<td>6. Outpatient / Inpatient Care</td>
<td>Most care is delivered outside the hospital</td>
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<td>7. Population Health</td>
<td>Risk-based management of quality and cost increasingly important in era of reform</td>
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• Health care spending has grown much faster than the rest of the economy.

Health Spending & GDP

- Leader in spending
  - $2.9 trillion in 2013 (cms.gov)
  - Public: $3,800/capita
  - Private: $4,200/capita (oced.org)

- Health spending as % of GDP
  - 1965: 6%
  - 2010: 18%

Congestive heart failure: Leading cause of hospitalization

Bypass surgery: -50%
All surgeries: +11%. (2000-2010)

“Bending the cost curve” illustrated

8% growth rate per year over 16 years

“The president looked at me and said: ‘We don’t have a spending problem. We have a health care problem.’ And I acknowledge that we have a health care spending problem.” Speaker John Boehner
Transition to Value-Based Care

Donald M. Berwick, MD
Former Administrator of CMS

• CMS initiative: continuity & coordination
  • ACOs, bundled pmt, transition model

• CMS initiative: quality incentive/penalty
  • Better you do, more you get paid

• “Eliminating Waste in U.S. Health Care”
  • 34% median estimate of waste

“If we all share a view of the health care we want – seamless, coordinated, patient-centered, free of waste…” Don Berwick, MD
“Systemic Shift”

FitchRatings special report

• Shift away from fee-for-service to providers “on the hook”

• Pressure to treat in low-cost settings, not hospitals

• Persistent weakness in patient volume growth

• Higher acuity supporting organic growth

The Acquirers

- Focus on Chicagoland including:
  - Adventist Health Systems
  - Advocate Health Care
  - Ascension Health
  - Cleveland Clinic
  - NorthShore University HealthSystem
  - Mayo Clinic Health System
  - Trinity Health

- Years analyzed: 2008 – 2012
- Size: Largest deals by year
- Volume: Health systems announcing two or more transactions
- 57 separate acquirers with 36 not-for-profit transactions

#1. Required Capital Ratio

**Calculation steps:**

- Allocate between plant and equipment
- Determine Avg. Age of Plant
- Obtain multiplier from Marshall & Swift
- Compare unrestricted net assets to current asset costs

<table>
<thead>
<tr>
<th></th>
<th>Plant (at cost)</th>
<th>$1,972,000</th>
<th>64%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Equipment (at cost)</td>
<td>$1,111,000</td>
<td>36%</td>
</tr>
<tr>
<td>B</td>
<td>Acquired cost (total)</td>
<td>$3,083,000</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Accumulated depreciation</td>
<td>$1,787,000</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Depreciation expense</td>
<td>$165,000</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Average Age of Plant</td>
<td>11 years</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Sub-Total (Plant)</td>
<td>$1,622,000</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Sub-Total (Equipment)</td>
<td>$862,000</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Unrestricted net assets</td>
<td>3,363,000</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Capital asset cost</td>
<td>2,484,000</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Required Capital Ratio</td>
<td>135%</td>
<td></td>
</tr>
</tbody>
</table>
Required Capital Ratio

**Tier 1**
For large health systems: motivated buyer
For small hospitals or health systems: capacity to remain independent

**Tier 2**
For large health systems: strategic buyer
For small hospitals or health systems: strategic seller

**Tier 3**
For large health systems: motivated to merge
For small hospitals or health systems: motivated seller
At-Risk Equity

100% is parity when quantifying the cost to maintain current operations. Compares unrestricted net assets & replacement costs.
#2. Modified Sustainable Growth Rate

**Calculation steps:**
- Max. growth rate given financial policy

<table>
<thead>
<tr>
<th>A (calc)</th>
<th>Weight Average Cost of Capital (&quot;WACC&quot;)</th>
<th>6.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>B = D%</td>
<td>Debt (% allocation)</td>
<td>25%</td>
</tr>
<tr>
<td>C = E%</td>
<td>Equity (% allocation)</td>
<td>75%</td>
</tr>
<tr>
<td>D = 1 + B/C</td>
<td>Target Debt:Equity ratio + 1</td>
<td>132.7%</td>
</tr>
<tr>
<td>E = A x D</td>
<td>WACC x Target debt:equity</td>
<td>7.96%</td>
</tr>
<tr>
<td>F (given)</td>
<td>Total assets</td>
<td>7,800,000</td>
</tr>
<tr>
<td>G (calc)</td>
<td>RCR - contribution/deficit</td>
<td>(1,120,000)</td>
</tr>
<tr>
<td>H = F + G</td>
<td>Total assets (current costs)</td>
<td>6,680,000</td>
</tr>
<tr>
<td>I (given)</td>
<td>Total revenue</td>
<td>4,600,000</td>
</tr>
<tr>
<td>J = H / I</td>
<td>Modified capital intensity ratio</td>
<td>145%</td>
</tr>
<tr>
<td>K = E</td>
<td>WACC x Target debt:equity</td>
<td>7.96%</td>
</tr>
<tr>
<td>L = J - K</td>
<td></td>
<td>137%</td>
</tr>
<tr>
<td>M = E / L</td>
<td>Modified Sustainable Growth Ratio</td>
<td>5.80%</td>
</tr>
</tbody>
</table>

- What must change:
  - Capital structure
  - Profit margin
  - Capital intensity
Modified Sustainable Growth Rate

Trinity Health
Ascension Health
NorthShore University HealthSystem
Cleveland Clinic
ACQUIRERS (NATIONAL AVERAGE)
Mayo Clinic Health System
Advocate Health Care
Adventist Health Systems

Standard deviation: 2%
#3. Investment Income

- EBITDA instead of operating income
  - Depreciation: non-cash expense
  - Interest: capital structure expense

- Investment return & income
  - As a percentage of EBITDA
  - Dollar amount

- Smooth volatility
  - 3 year average return
  - FYE timing can skew comparisons
National acquirers: $100 million investment income
25% investment income: EBITDA
#4. Hospital Labor Strategy

1. Labor allocation: Single largest operating expense
   - Average: 55% of operating revenue
   - Min. & Max.: 51.7% & 66.4%

2. Priority: Minimizing overtime for straight time employees

3. Three components to an employee's pay package
   a. Base Wage
   b. Fringe/Cash Benefits
   c. Non-Cash Benefits (Paid Time Off)

4. Many benefits only paid on straight time
   - Cost accounting: Actual cost of overtime is skewed
Staffing Methodologies: Concept

Reserve staff is available to handle peak demand

Minimum staffing means that high amounts of overtime are needed to meet demand

- **Patient Demand**
- **Overtime Strategy**
- **Overstaffing Strategy**
Assumptions

1. Base Wage: $28.36
   a. Average Chicagoland starting wage for RN’s
   b. inclusive of weighted differentials (nights and weekends)

2. Fringe / Cash Benefits:
   a. Straight Time Burden: 25.33%
      I. Benefit cost / total labor expense
   b. Overtime Burden: 10.65%
      I. 7.65% (FICA) + 3% (401k matching)

3. Non-Cash Benefits (Paid Time Off)
   a. Pay ratio of: 1.16
      I. 2080 (hours paid) / 1792 (hours worked)
      II. Presumes 288 hours of paid time off each year
True Labor Cost

Assumptions:
Base Wage: $28.36
Straight Time Burden: 25.33%  Overtime Burden: 10.65%
Pay Ratio: 116%

True Labor Cost:
Straight Time: $28.36 x 1.2533 x 1.16 = $41.26
Overtime: $28.36 x 1.5 x 1.1065 = $47.07

Adverse Cost of Time:
Adverse Cost of Idle Time: $ 41.26
Adverse Cost of Overtime: $47.07 - $41.26 = $5.81

Idle Time is over 7 times more expensive than overtime
Staffing Methodologies: Cost*

*Cost are based on the adverse cost of Idle Time and Over Time as defined on the true labor cost slide.
Dynamic Schedule Score

• The score quantifies how a hospital manages:
  • Their workload to workforce mismatch
  • Changes in workload demand

• The formula for the score is as follows:

\[
\sum_{i=1}^{n} \frac{x_i}{x_i^*} \frac{1}{1 + M(n)} \frac{1}{n}
\]

• The resulting outcome of this calculation is a score (maximum of 100) that rates your ability to meet demand in an efficient manner.
Dynamic Schedule Score

- The following chart outlines ranges of scores from different industries under the dynamic schedule score. As shown, the maximum scores are similar while the minimums change significantly by industry.

![Chart showing score ranges for different industries]
#5. Physician Integration

Percentage of admissions from:

- Employed
- Contracted physicians

In 2010, hospital-owned medical groups employed 28.1% of physicians up from 17.0% in 2003. – MGMA

Median number of employed physicians was 171 in 2012 up from 154 in 2011. – Moody’s US Not-for-Profit Hospital 2012 Medians
Physician Integration---Why?

• The natural order of voluntary, independent physicians no longer meets demand
• Shortages of physicians often require employment
• Clinical & financial integration create safe harbors for incentives that align system and physician interests
• Build a network for ACO, bundled payment, risk contracting
• Loss in physician compensation from reimbursement cuts has forced doctors to seek income security of employment
• Meet EHR meaningful use requirements
• Most younger physicians prefer employment by a system or large multi-specialty clinic work-life balance
Physician Integration---How?

- Make or buy? Most are already far down the path of developing these capabilities, but purchasing a large practice may increase speed to market.

- Be selective. Can be a money losing proposition; costs of integration, lost productivity and higher operating costs.

- Critical success/risk factors:
  - Compensation
  - Revenue cycle
  - Scheduling and accessibility
  - Cost management
  - Malpractice
  - Supply chain
#6. Care Delivery Setting

Outpatient (Ambulatory) Revenue to Total Revenue

% of net revenues from sources other than inpatient care

Source: Avalere Health analysis of American Hospital Association Annual Survey data, 2011, for community hospitals.
Moody’s recently began collecting numbers on percentage of net revenue from outpatient and the median was 49.0% in 2012.
It’s where the patients are and it’s what they want.

• Convenient access
• Lower cost
• Better patient experience

Prevention lowers total cost of care

• Necessary for risk-based contracts, lowers total cost of care
• Reach new markets, defends/grows market share
Ambulatory Strategy---How?

• Multi-specialty integration---PCPs & key specialties such as OB/GYN, Peds, Cardiology, neurology psych.

• Follow a retail model

• Geographic access & high visibility

• Little to no waiting

• Transparent pricing

• Provider-based vs. freestanding billing

• Ambulatory services--don’t replicate hospital costs
#7. Population Health

- Percentage of net revenue from:
  - Capitation
  - Shared risk/savings contracts
  - Bundled payments

Moody’s recently began collecting numbers on percentage of net revenue from capitation and other risk-based contracting as well as covered lives.

- 10.5% of net revenue: Combined capitation, risk-based & other (2012)
- Median covered lives: 111,156.
Population Health---Why?

- Affordable Care Act---Value Base Purchasing, Readmission Reduction Programs, Community Health Needs Assessment

- IHI’s Triple Aim: improve population health, improve patient experience, and reduce cost

- Reach new markets and/or grow market share

- Be relevant—if you don’t do it someone else will
You’re probably already doing it
  • Self-insured employee health plan
  • Physician Hospital Organization (PHO) capitated or partial risk
Consider outside partners—payors or other providers
Partner with physicians—employment, physician hospital organization
Define population—by insurance plan, employer, government program, community, etc.
Enter risk-based contracts
  • Accountable Care Organizations/Shared Savings Plans
  • Partial Risk Contract /Full Capitation
  • Medicare Advantage Plans (little penetration in Chicago)
  • Medicaid Accountable Care Entity (ACE)
  • Become a health plan
### Population Health---Strategies

#### Prevention and Care Coordination
- Accessible Primary Care (*ED alternative*)
- Patient Centered Medical Home (*coordination*)
- Post-Acute Network (*reduce ALOS & readmissions*)
- Integrated Behavioral Health (*prevention*)
- Chronic Disease Management & Palliative Care

#### Operational Considerations
- Physician Leadership
- **Information Systems** — EHR, track patients, enterprise-wide master patient index, attribution models, outcome metrics and identify risks/costs
- Referral Network & Case Managers
- Utilization Management, Pharmacy
- Compliance, Claims processing/payment capabilities, Medicare Risk Adjustment coding
The goal is to improve health, patient experience and the total cost of care for the attributed population.

Some of the key metrics include:
- Clinical Integration/Quality Metrics/Disease Mgmt.
- Patient Satisfaction
- ED Visits Per 1,000
- Admissions Per 1,000
- Inpatient Days Per 1,000
- Readmission Rates
- Cost trend vs. the market
## Scorecard

<table>
<thead>
<tr>
<th>Emerging Ratio</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
</tr>
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<tbody>
<tr>
<td>At-Risk Equity</td>
<td>&lt;60%</td>
<td>100%</td>
<td>&gt;130%</td>
</tr>
<tr>
<td>Sustainable Growth Ratio (SGR)</td>
<td>&lt;4%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Investment Income: EBITDA</td>
<td>8%</td>
<td>19%</td>
<td>&gt;35%</td>
</tr>
<tr>
<td>Dynamic Schedule Score</td>
<td>&lt;60%</td>
<td>75%</td>
<td>&gt;90%</td>
</tr>
<tr>
<td>Physician Integration (Pct. of Admits)</td>
<td>&lt;10%</td>
<td>20%</td>
<td>&gt;30%</td>
</tr>
<tr>
<td>Outpatient Care (Pct. of Total Revenue)</td>
<td>&lt;40%</td>
<td>50%</td>
<td>&gt;60%</td>
</tr>
<tr>
<td>Population Health (Pct. of Total Revenue)</td>
<td>&lt;10%</td>
<td>15%</td>
<td>&gt;20%</td>
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