Creating a Data-Driven Culture to Right-Size Capacity and Enhance Quality and Safety

MaryPat Sullivan, CNO and Chief Experience Officer, Overlook Medical Center, Atlantic Health System, Summit, NJ

Jacalyn Liebowitz, Sr. VP, Regional CNO and CQO - North Region, Mercy Health Toledo, Toledo, OH

Moderator: Tamira Harris, PhD, MBA, MSN, CPHQ, CCM, McKesson Sr. Business Analyst
Adjunct Faculty, Case Western Reserve University, Ursuline College and Regis University.
Agenda

• Introductions

• Industry Challenges

• Creating a Data-Driven Culture

• Transparency + Goal Alignment = Throughput

• Predictive Analytics for Capacity Planning

• Panel Questions
Capacity Management

• Today’s challenges

- Lower reimbursement
- Uncertain inpatient volumes
- Merger and consolidation
- Physician Alignment
- ACO Participation
- Regulatory
- Equipment and supply costs
- Move from volume to value
- Competition
- Population Health
- Physician Alignment
- Population Health
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- Physician Alignment
- Population Health
- Merger and consolidation
- ACO Participation
- Regulatory
- Equipment and supply costs
- Move from volume to value
- Competition
- Population Health
- Physician Alignment
- Population Health
McKesson Capacity Management

• **Impact of strategic pressures**

  - **Uncertain inpatient volumes**
  - **Lower reimbursement**
  - **Move from volume to value**

**External Response**
-Buy outpatient and physician practices
-Get more referrals
-Negotiate for better rates
-Etc...

**Internal Response**

**Margin Impact**

**Operational Efficiency**
Managing 5 aims, Managing Capacity

- Predict patient demand
- Balance Staffing
- High Quality of Care
- Manage avoidable days
- Improve productivity
Jacalyn Liebowitz, Sr. VP, Regional CNO and CQO - North Region, Mercy Health Toledo, Toledo, OH
Mission
We extend the healing ministry of Jesus by improving the health of our communities with emphasis on people who are poor and under-served.

Shared Values
Compassion, Excellence, Human Dignity, Justice, Sacredness of Life and Service

Promise
To make lives better—mind, body and spirit.
To genuinely enjoy being of service.
To make healthcare easier.
Mercy Health At-a-Glance

- Catholic ministry serving Ohio and Kentucky for more than 150 years
- Organized as a system in 1986
- Based in Cincinnati, OH
  - 7 market-based health systems (6 Ohio, 1 Kentucky)
  - 22 Ohio and 2 Kentucky hospitals; plus 5 affiliated
  - 6 Senior Health and Housing campuses

<p>| | |</p>
<table>
<thead>
<tr>
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<tr>
<td>Total Assets</td>
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<tr>
<td>Net Operating Revenues</td>
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<td>Net Income</td>
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<td>Total Annual Community Service Benefits</td>
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| Bond Rating        | Moody’s: A1  
                       S&P: AA-  
                       Fitch: AA- |
Mercy Health: Cohesive Care Delivery Network

Numbers represent care delivery elements across all markets as of 10/2014.
Manage Length of Stay

Maximize patient flow, minimize length of stay

2 Main

- Forecast door-to-door activity
- Tightly manage LOS
- Set and meet discharge targets
- Track patients from admission to discharge
- Identify bottlenecks and care delays
- Streamline care coordination
Quality Flow Rounds Drive Process

Developed a table grid that is displayed on all units and updated during their quality flow rounds to ensure everyone is in sync.

<table>
<thead>
<tr>
<th>Room</th>
<th>Name</th>
<th>RN</th>
<th>DR</th>
<th>LOS</th>
<th>GLOS</th>
<th>Acuity</th>
<th>Location</th>
<th>Bed Req</th>
<th>QA</th>
<th>MA</th>
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Value Added - Length of stay management

MSVMC Length of Stay-Jan 2015 - Sept 2015
(HBI Data)
Value Added - Quality Outcomes


- Patients with CLABSI
- Rate-CLABSI
- Linear (Rate-CLABSI)
Value Added - Quality Outcomes


- Patients with CAUTI
- Rate-CAUTI
- Linear (Rate-CAUTI)
Capacity Management nets Results

Through Standardized Quality Flow Rounds we:

• Manage avoidable days
• Improve quality
• Improve productivity
• Align our roles and resources
Overlook Medical Center, Atlantic Health System
Mary Pat Sullivan, RN, MSN, CNS
Chief Nursing Officer & Chief Experience Officer
Atlantic Health System

At a Glance
- 12,114 employees
- 3,168 physicians
- 280 medical residents
- 1,339 licensed beds
- 72,892 admissions
- 7,191 births
- 19,033 inpatient surgeries
- 28,658 same day surgeries
- 205,898 emergency visits
- 697,416 outpatient visits, 833 hospice days

Size and Scale
- 4 hospital system with $1.8B in revenue
- Efficient contracts with largest areas health insurance plans
- Alignment strategies with key physician groups
- Non-union

Quality and Specialized Services
- Gagnon Cardiovascular Institute
- Carol G. Simon Cancer Centers
- Goryeb Children’s Hospital
- Atlantic Neuroscience Institute
- UHC data base participant

Market Leader
- Leading market share position, more than double next nearest competitor
- Excellent socio-demographic characteristics
- Currently overseeing 2 ACO’s
Atlantic Health System

Vision
Empowering our communities to be the healthiest in the nation

Mission
• Deliver high quality, safe, affordable patient care within a healing culture
• Educate, in an exemplary manner, present and future health care professionals
• Innovate through leadership

Shared Values
Professionalism, Respect, Involvement, Dignity, Excellence, Pride
Atlantic Health System

- 24,478 admissions
- 5,917 inpatient surgeries
- 9,279 same day surgeries
- 96,612 ED visits
- Fortune 100 Best Place to Work

U.S. News and World Report

- Best Regional Hospital for Neurology, Neurosurgery, Gastroenterology, GI Surgery, Geriatrics, Gynecology, Nephrology, Pulmonology and Urology
- Neuroscience Institute - Hub for New Jersey Stroke network - treat 40% of state stroke patients
Desired End State

Organizational Transparency

Desired Competencies

✓ Proactive/real-time decision-making
✓ Improved patient placement
✓ Ability to address and monitor
  • Service line profitability
  • Labor analytics

Primary Goals

• Improve patient throughput, initially ED
• Match nurse staffing to patient demand

Enabling Technology

• Self-serve analytics
Capacity Planner

Process by which hospitals can effectively determine the resources (beds and staff) required to meet the forecast patient demand over a given time period.
Aligning Resources with Predicted Patient Demand

• Identify patterns and trends
• History based on last 4 years patient demand, last 2 years staffing
• Apply assumptions based on seasonal changes
• Fine-tune timing of demand what initiatives did we put in place
Executive Hospital Overview
Anticipating hourly Admissions and Discharges

Why are the projected discharges higher than the actual? Can we make adjustments?
## Projection Accuracy

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<th>Midnight on:</th>
<th>Census from CapPlan</th>
<th>1 Day Prior</th>
<th></th>
<th>2 Day Prior</th>
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<td>315.3</td>
<td>98.3%</td>
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Leveraging Data across Planning Horizons

**Long Term Planning**
- Model impact of network changes, regional plan
- Budget and physical capacity decisions
- Set targets and assumptions (linking plans)

**Weekly & Monthly Planning**
- Manage current variation to plan
- Update forecasts and schedule resources
- Informed decision making

**Daily Planning**
- Unit focus- manage current and projected patients
- Focus on relieving immediate patient flow issues
- Prevent Overtime and Agency for next few days
Benefits/Value

- **Patient and Staff Satisfaction**
  - Anticipated arrivals, reduced wait times
  - Predictable schedules

- **Treatment/Clinical**
  - Optimal resource allocation
  - Engaged physician leadership
  - Decreased care silos

- **Electronic Secure Data**
  - Proactive, data-driven behavior
  - Data leveraged across planning horizons

- **Savings**
  - Right-sized capacity
  - Reduced labor costs
  - Increased efficiency & productivity
Panel Discussion Questions
THANK YOU!