Session Objectives

- Examine one organization’s data on transitions in care
- Review an empirically driven model for guiding care transitions
- Discuss impending considerations around transitions in care
Advocate Health Care & Advocate Physician Partners

13 Hospitals
1,400 Employed Physicians
4,900 Aligned Physicians
737,000 Attributed Lives

Current Value Based Agreements

<table>
<thead>
<tr>
<th>Contract</th>
<th>Lives</th>
<th>Total Spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>427,000</td>
<td>$1.8 B</td>
</tr>
<tr>
<td>Advocate Employee</td>
<td>28,000</td>
<td>$0.1 B</td>
</tr>
<tr>
<td>Medicare Advantage</td>
<td>37,000</td>
<td>$0.3 B</td>
</tr>
<tr>
<td>Medicare ACO</td>
<td>145,000</td>
<td>$1.6 B</td>
</tr>
<tr>
<td>Medicaid ACE</td>
<td>100,000</td>
<td>$0.2 B</td>
</tr>
<tr>
<td>Total</td>
<td>737,000</td>
<td>$4.0 B</td>
</tr>
</tbody>
</table>

*As of June 30, 2015*
Reimbursement Model Shifting

Business Issues

How do I manage? Risk

How do I align? Resources

How do I deploy? Models of care
Resource Alignment

New Model Deploys Associates based on Risk & Need

- High Cost ACO Attributed Patients: BCBS/ Medicare Shared Savings/Medicaid ACO – ensuring warm handoffs between inpatient and outpatient CM to help with resource utilization for these patients.
  - *System to Identify ACO Patients

- High Risk for Readmission: Ensuring patients with high readmission risk scores have interventions/services initiated and put in place to prevent readmissions:
  - ED Visits
  - Post D/C Phone calls
  - Post Discharges Services
  - Initiation of Readmission IPC
  - Safe Transitions and Handovers

- Post Acute Services: Focusing on patients that require:
  - Home Health, Transitional Visit
  - SNE Rehab
  - LTC, etc.

Low Acuity Patients: CMS requires a discharge planning assessment on all patients
- Opportunities exit to leverage the current nursing admission assessment
  - Decrease duplicity
  - Create triggers for CM patients that require D/C needs based on the Nursing Assessment

Readmission Project Objectives

- Improved risk identification
- Improved efficiency
- Improved continuity
Readmission Model Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Admission Model</th>
<th>Discharge Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Utilization</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Lab Tests</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Experimental</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;P</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Medications</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Conditions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedures</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Length of Stay</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Discharge Disposition</td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Performance Measures</th>
<th>Admission Model</th>
<th>Discharge Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development</td>
<td>Discrimination Ability</td>
<td>0.78</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td>C-Statistic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calibration (Model Fit)</td>
<td>Heimann-Lemeshow goodness-of-fit test (Postcut)</td>
<td>36.0 (P=0.002)</td>
</tr>
<tr>
<td></td>
<td>Overall Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brier Score (% improvement over random prediction)</td>
<td>0.062 (7.6%)</td>
<td>0.060 (9.1%)</td>
</tr>
<tr>
<td>Internal Validation</td>
<td>Discrimination Ability</td>
<td>0.77</td>
<td>0.77</td>
</tr>
<tr>
<td></td>
<td>C-Statistic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calibration (Model Fit)</td>
<td>Heimann-Lemeshow goodness-of-fit test (Postcut)</td>
<td>23.6 (P=0.000)</td>
</tr>
<tr>
<td></td>
<td>Overall Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brier Score (% improvement over random prediction)</td>
<td>0.063 (6.6%)</td>
<td>0.065 (9.1%)</td>
</tr>
<tr>
<td>External Validation</td>
<td>Discrimination Ability</td>
<td>0.78</td>
<td>0.78</td>
</tr>
<tr>
<td>(With Readmission)</td>
<td>C-Statistic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calibration (Model Fit)</td>
<td>Heimann-Lemeshow goodness-of-fit test (Postcut)</td>
<td>6.1 (P=0.641)</td>
</tr>
<tr>
<td></td>
<td>Overall Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brier Score (% improvement over random prediction)</td>
<td>0.061 (8.9%)</td>
<td>0.060 (9.1%)</td>
</tr>
</tbody>
</table>

Readmission Workflow Improvements

- **Data/Model**
  - Ability to leverage more clinical data
  - Real time data updates

- **Workflow**
  - Automated and continuous calculation (every 2 hours)
  - Embedded into a care manager workflow
The Science of Implementation

Engagement (business owner)  
Drive the Business Need  
Process Efficiency

Implementation (IT)  
Mechanics of Implementation  
Integration

Enabling Process:  
Understand and Communicate the WHY (and make it concrete)

Readmission Outcomes

- Leading the industry
  - ~ 20% better than industry (Yale, LACE, etc.)
  - Solution purchased by 170+ non-Advocate Cerner clients
- Gaining efficiency
  - ~ 3.5 FTE productivity savings across system
  - Automated continuous calculation of risk score in EMR
- Reducing readmissions
  - 20% reduction in readmission rates (for high risk patients that received interventions)
  - Statistically significant reductions observed for sub-populations (e.g., COPD and HF)
Where is the Most Appropriate Location for Our Patients?

Note: In general, acute spinal cord and brain injury patients and complex stroke are most appropriate for acute inpatient rehab.* Patient meets criteria based on applicable Milliman guidelines. Refer to Post-Acute Service Availability Grid; Home Care patients must meet home-bound status** Transition program offered by Home Health Services: check with your site for availability and specific patient inclusion criteria. The readmission risk tool should be used in conjunction with sound clinical judgment when used to help determine post acute care setting and/or intensity. The expected probability of readmission increases with an increase in score, but for any individual patient, other factors (i.e. literacy, social, financial) may impact whether or not the patient actually is actually readmitted.
## Model Overview

- Find patients with similar clinical profiles
- Identify where this patient type is most successful (lower actual readmission rate)
- Quantify the recommendation's impact on readmission risk

![Diagram showing the risk of medical instability and intensity of services with circles for Home, Home Health, Skilled Nursing Facility, Acute Inpatient Rehab, and Acute Long-term Care.]

## Acute Transitions of Care (ATOC) Model Results

<table>
<thead>
<tr>
<th>Discharge Locations</th>
<th>Actual (Historic)</th>
<th>Model recommends higher level</th>
<th>Model recommends lower level</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>67.1%</td>
<td>11%</td>
<td>19%</td>
<td>66.4%</td>
</tr>
<tr>
<td>Home Health</td>
<td>13.2%</td>
<td></td>
<td>15.5%</td>
<td></td>
</tr>
<tr>
<td>SNF</td>
<td>14.7%</td>
<td></td>
<td>14.1%</td>
<td></td>
</tr>
<tr>
<td>Rehab</td>
<td>2.4%</td>
<td></td>
<td>1.6%</td>
<td></td>
</tr>
<tr>
<td>LTAC</td>
<td>2.6%</td>
<td></td>
<td>2.3%</td>
<td></td>
</tr>
</tbody>
</table>
Supporting Evidence: Medicare Spend per Beneficiary

As percent of the total Medicare spend per episode, Advocate incurred a greater than national average spend in the 30 days post-discharge phase.

Research Study Objectives

- **Effectiveness**
  - Assess the impact of TOC Model alignment with readmission rate

- **Validation**
  - Investigate disagreement with the model’s recommendations (both CM disagreement and non-matching between TOC Model and actual discharge disposition)

- **Enhancement**
  - Identify opportunities to improve the TOC Model’s recommendations

- **Care manager feedback**
  - Gather feedback to guide enhancements to the TOC Model
  - Improve implementation education
**ATOC Pilot Results**

- Prospective effectiveness trial (form of a randomized controlled trial)
- Preliminary findings:
  - Indication that alignment between the actual discharge disposition and the ATOC model is associated with lower rates of readmission.

**Bridging the Gap with Transitions**
Operationalizing Transitions

- Systematic approach to Care Coordination
- Safe, seamless handoff’s
- See that patients receive “right care, at right time, and right place”
- System and/or Hospital infrastructure to support programs
- Standard work

AdvocateCare® Programs
**Acute Care Focus**

- ED care coordination optimization
- Inpatient care coordination redesign
- Readmission Risk Assessment and Prevention
- Post acute transitions

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**Advocate’s Standard Model**

- Role Clarity & Accountabilities
- Org Structure & Operational Oversight
- Care Coordination Activities
- Transitioning with Referring Provider / PCP
- Patient Family Engagement
ED Care Coordination

Goal - to identify best practices of ED care coordination in all of Advocate hospitals and agree upon a standard approach of evidence-based practices to:

- Prevent unnecessary admissions
- Avoid readmissions
- Ensure appropriate utilization of resources
- Improved collaboration with the ED Physicians and nurses on awareness of alternatives to admission when appropriate

ED Care Coordination Optimization Outcome

- Implementation of a standard set of practices for ED care coordination at all Advocate hospitals i.e.
  - ED Care Manager Orientation Checklist
  - ED Care Manager Competency
  - ED Workflow Diagram
  - Referral and Handover Process
  - ED Care Coordination FAQ’s

- Implementation of key metrics to track performance

- Patient Education - “Care Options”
Importance of Transition Handoff’s

Key Tenets of Cross-Continuum Care Management

The Care Manager with the patient is the responsible Care Manager

Perfect Handoffs Are expected

Technology would make this much more efficient and reliable
Outpatient Care Management

Components

• Care Manager linked to PCP
• Embedded or Dedicated
• Role Delineation important
• Prospective Identification of Complex Patients
• Outbound Calling to Patients in between Appointments
• Keen Assessment and Coaching Skills to Engage Patient

Functions

• Perform psychosocial evaluations telephonically or in person to assess members needs: Medical, Resources, Financial
• Education/Self Management
• Care Coordination across networks and at transitions
• Support to patient and their families
• Referral to Community Based Resources
• End of Life Support

Staffing

• Nurses vs. Social Workers as Care Manager
• Both effective!
• Nurses: RNs and LPNs
• SW: MSWs; not provider of services
• Consider your social/cultural population needs
• Be willing to consider multiple models/different providers

Outpatient Care Manager Hand-In

- Outpatient CM identifies an enrolled patient has been admitted to hospital or is in the ED
- Has Pt. been Admitted
- OP CM calls ED CM to notify patient in ER
- OP CM Enters Communication Order In Care Connection (See Elements of Order)
- Is patient being Admitted
- Hand In Completed

Elements of OP Communication Order
- Services Enrolled/Support Social
- PCP/Consulting
- Barriers/Concerns
- Risk Management Issues - Phone Call Only
Electronic OP CM Handover

If Discharge Planning orders have been entered for the patient, Discharge Plan Checklist will display in Red in the Patient column. Hover over the orders to see the specific orders listed.

Inpatient Care Manager Hand-Over (OP COMM Order Received)

Inpatient CM Receives OP Comm Order on Task list

IP CM documents the Hand In w/i discharge planning form under communication section

Pt Ready for Discharge

IP CM calls/emails OP CM to notify of discharge /post acute services

IP CM documents the Hand Over w/i discharge planning form under Finalized Summary

Hand Over Completed

All Cases with OP Communicator Order must be handed back to the Outpatient CM upon Discharge No Exceptions
# Post Acute Standards

## Process Deliverables
- Standard Criteria to determine appropriate post-acute care
- Standard data elements for referral to post-acute care
- Standard workflow using ECIN for transition management
- Standard process for offering upfront home care choice to patients

## Tool Deliverables
- Quick reference grid and decision algorithm for appropriate post-acute care
- Pre-define data elements for referral through ECIN
- ECIN Implementation for post-acute transitions and referral management

## Post Acute Services Availability by Program or Location

<table>
<thead>
<tr>
<th>Risk of medical instability</th>
<th>CLINICAL SERVICES</th>
<th>LOWER</th>
<th>LOWER</th>
<th>HIGHER</th>
<th>HIGHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician Care</td>
<td>OP</td>
<td>OP</td>
<td>OP</td>
<td>1-3 visits/week (first visit within 72 hours)</td>
<td>Daily</td>
</tr>
<tr>
<td>Nursing Care</td>
<td>None</td>
<td>One visit &amp; up to 3 phone calls</td>
<td>1-3 visits/week</td>
<td>2-3 RN/LPN - 2-3 CNA hours/day</td>
<td>4-6 RN - 3-5 CNA hours/day</td>
</tr>
<tr>
<td>Therapy</td>
<td>OP</td>
<td>OP</td>
<td>As needed, intermittent up to 7 days/week</td>
<td>Up to 2.5 hours/weekday</td>
<td>4-6 hours/weekday required</td>
</tr>
</tbody>
</table>

## Specialty Services

<table>
<thead>
<tr>
<th>Speciality Services</th>
<th>Dialysis</th>
<th>Infusion</th>
<th>Ventilator</th>
<th>Complex Wound Care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OP</td>
<td>OP</td>
<td>NA</td>
<td>OP Wound Program</td>
</tr>
<tr>
<td></td>
<td>OP</td>
<td>OP or In-house</td>
<td>OP or In-house</td>
<td>OP Wound Program</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>IV meds parenteral &amp; enteral nutrition/hydration</td>
<td>NA</td>
<td>Site specific (typically chronic)</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>IV meds parenteral &amp; enteral nutrition/hydration</td>
<td>NA</td>
<td>Site specific (typically chronic)</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>IV meds parenteral &amp; enteral nutrition/hydration</td>
<td>NA</td>
<td>In-house (primarily intent to wean)</td>
</tr>
</tbody>
</table>

### Anticipated Discharge Location

<table>
<thead>
<tr>
<th>Anticipated LOS (Post-Acute)</th>
<th>Home</th>
<th>Home w/ skilled services</th>
<th>IRF/SNF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipated Discharge Location</td>
<td>NA</td>
<td>NA</td>
<td>Home w/ skilled services</td>
</tr>
<tr>
<td>Anticipated LOS (Post-Acute)</td>
<td>NA</td>
<td>NA</td>
<td>2 days - 6 weeks</td>
</tr>
</tbody>
</table>

* Transition program offered by Advocate at Home: check with your site for availability and specific patient inclusion criteria
* ** Highly dependent on payer and specific benefits - validate coverage on a case-by-case basis.
Post Acute Business Model

- Business to Business Model
- Same referral flow
- Similar goals to improve delivery of care:
  - quality
  - readmissions
  - reduce cost of care
  - manage continuum leakage
- Tools for managing care/offering different levels of care
- Centralized oversight / strategic alignment

The SNF Care Model

- The SNF Care Model is currently in place as a nationally recognized model of APN/Physician SNF Rounding Team

1-2 Physician FTE + 1 APN FTE = Capability to manage SNF ADC

* Physician visits 1x per week, APN 5x’s per week
### Typical SNF Care Model vs PAN SNF Model

<table>
<thead>
<tr>
<th>Typical SNF</th>
<th>PAN SNF</th>
</tr>
</thead>
<tbody>
<tr>
<td>High volume physicians encouraged to practice at the facility</td>
<td>PAN SNFist agrees to performance standards and is held accountable</td>
</tr>
<tr>
<td>SNF medical director encourages referrals</td>
<td>Patients informed of extra services and quality when selecting SNF</td>
</tr>
<tr>
<td>Physician gives phone orders</td>
<td>Advance Practice Nurse (APN) sees patient within 24 hours</td>
</tr>
<tr>
<td>Physician sees patient ~every 30 days</td>
<td>Physician/APN see patients ~3x weekly and are on site 3-5 days weekly</td>
</tr>
<tr>
<td>Unreliable handoffs to covering physicians</td>
<td>Consistent handoffs between team members</td>
</tr>
<tr>
<td>Physician not focused on length of stay (LOS), readmission rates</td>
<td>SNFist team manages LOS, readmission risk, use of in-network services and transition back to PCP</td>
</tr>
</tbody>
</table>

### Post-Acute Network (PAN)

- 36 facilities are currently part of the Advocate PAN SNF program

- On average, a $2,000 decrease in SNF cost and a 5 day decrease in SNF LOS for patients managed by the PAN, compared to non-PAN patients (all MS-DRGs)
AdvocateCare® Programs Across the Continuum