Reducing Hospital Readmissions of Seniors

Stan Lopez Padilla, M.D.
Chief Medical Officer

Brown & Toland Physicians
San Francisco, Ca.
Brown & Toland Physician Organization Overview

• Independent Practice Association (IPA) (formed in 1993)
• 850 physicians in San Francisco area
• Network Relationships: Sutter-CPMC / UCSF / CHW / Seton Medical Center / Chinese Hospital / Stanford
• 160,000 HMO members (commercial and senior)
• 185,000 PPO members
• Health plans by product: 7 HMO, 11 PPO
• 250 employees
• Perform delegated and non-delegated activities
Strategies for Success

• Engaged physician network
• Patient centric case management & disease management
• Physician level clinical outcome and patient satisfaction measurements
• Use of financial rewards based on clinical performance, efficiency and customer satisfaction
• Use of information technology to deliver integrated systems of care to share clinical results, promote patient safety and improve clinical outcomes
• Participation in industry state-wide collaboratives
Brown & Toland Future State

Medical Group Characteristics

Patient Education
- Patient centric
- Accessible services
- Care & care management is coordinated across the continuum
- Clinical & administrative data is accessible enterprise-wide
- Consolidated Practice Management
- Enterprise-wide reporting

Ancillary Services
- Lab
- Radiology
- Pharmacy
- PT

Population Management
- Protocols
- Pathways
- Medical policies
- Practice guidelines
- Clinical decision support
- Alerts & Reminders

Medical Knowledge
- Personal Health Record
- Personal disease management
- Self help
- General Health Information

Patient Intervention
- Case management
- Concurrent review
- Wellness Programs
- Predictive Modeling
- Disease management

Physician Incentives
- Clinical Support reports
- Best practices
- Predictive Modeling

Medical Delivery
- Preventive Services
- Cost Effectiveness
- Use of electronic Tools
- Physician Account Management
- Customer satisfaction

Administration
- Eligibility Management
- Claims processing
- Capitation management
- General financials
- Advanced data integration

Patient Advocacy
- Customer service
- PCP assignment
- Credentialing

Patient Access
- Primary Care Focus
- Nurse advice
- Urgent Care
- Broad Service Area
- Multiple Hospital Choices

Medical Group Characteristics
- Preventive Services
- Use of electronic Tools
- Physician Account Management
- Customer satisfaction

Characteristics of a Medical Group
Clinical Data Management

- Brown & Toland Physicians hosts a sophisticated Information Technology platform that creates an advanced clinically integrated EHR and practice management system for independent community physicians.

- This IT infrastructure allows for clinical data from multiple hospital systems, laboratories and hundreds of physicians offices to be aggregated and ultimately shared among our physicians.

- Clinical integration presents all the available clinical data to our risk stratification and predictive modeling technology.

- Our case management and disease management programs utilize this aggregated risk stratified information to best organize the daunting task of coordinating care for thousands of frail seniors.

- Hospitalist, E.R. physicians, Hospital discharge planners, Home Visiting Physicians have access to robust clinical results reporting.
Predictive Modeling

- Brown and Toland Utilizes Adjusted Clinical Group (ACG) Case-Mix Adjustment to stratify patients for care management interventions and to demonstrate effectiveness of Disease Management
- Predictive modeling provides an objective assessment of a member’s future costs based upon their historical conditions as captured through claims
- It is a method for prioritizing members for care management and stratifying them based upon their financial risk
- Equitable measurement of provider performance
- Actionable quality information
Program Highlights
Medical Group/ Hospital Care Management Collaboration

• Coordinate continuum of patient care with E.R. physician, hospitalist, hospital discharge planners, case managers, PCPs and home visit physician

• Utilize enterprise electronic medical record to maximize knowledge of and support of member

• To identify patients at high risk for readmission and enrollment into Disease Management or Complex Case Management Programs

• Institutionalize Observation Status, direct to SNF admits and Home Health hand offs

• Multidisiplinary rounds

• Assurance of timely post discharge PCP appointment

• Assure rapid access to timely outpatient care with PCP

• All major stakeholders on both Medical Group and hospital Utilization Management Committees
Brown & Toland Programs

• ER Over Utilization Pilot
• Discharge Follow-up Program
• Intensive Home Medical Management
ER Over Utilization Pilot

- Case Managers call patients with more than two visits to emergency departments within a six month period to assess:
  - Need of Brown & Toland’s Case Management Program or Disease Management Programs (HIV, Asthma, CHF, or Diabetes)
  - Need of further education regarding accessing their PCP timely
  - Further notification to PCP when issues are identified
ER Interventions

- PCP/Specialist care coordination on medication adherence and ER usage.
- Avoiding additional ER visits by communication of how to contact PCP after hours. Education on an urgent care resource.
- Enroll patients into programs: Case Management/Disease Management
# ER Utilization Pre-Post Analysis

<table>
<thead>
<tr>
<th></th>
<th>UM*</th>
<th># ER Visits (Pre)</th>
<th># ER Visits (Post)</th>
<th>Mean Change/UM*</th>
<th>p-value**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comm</td>
<td>168</td>
<td>491</td>
<td>141</td>
<td>2.1</td>
<td>&lt;.0001</td>
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<tr>
<td>Senior</td>
<td>49</td>
<td>196</td>
<td>116</td>
<td>1.6</td>
<td>.001</td>
</tr>
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</table>

*UM – unique member

**Pre-post analysis performed using paired t-test methodology
Summary ER Utilization Pilot

- Identify high-risk members
- Targeted as a Case Management intervention
- Redirection of patient care to more appropriate setting
- Not developed to address overall ER usage
- ER visits are trending down for this group
Senior Hospital Discharge Program

• Case Managers contact senior members upon discharge home from hospital or SNF
• coordination and continuity of health care as patients transfer between different levels of care
• Our integrated EHR allows our case managers to review hospital based consultations, operative summaries, discharge summaries, discharge orders/medications and other relevant information prior to engaging the discharged senior
• program is critical to assure that the patient, their care givers, attending physicians and our case mangers are all engaged to avoid a readmission
Post Discharge Focus

Case Management has standing orders for multiple Home Health visits for all complex patients discharged and all patients with history of prior admission

- Care giver assessment and support
- Medication reconciliation
- Safety evaluation
- Coordination of home therapeutic services
- Assessment of patient’s progress
- Communication to PCP and assure access to timely outpatient follow up
Discharge Follow-up: Workflow

1. Hospital progress notes
2. Discharge Summary
3. Medication List

Patient visit:
1. Self-introduction
2. Discharge Program Brochure

BTMG:
1. EMR
2. BTCare Authorizations

Patient call:
1. First Call made within 48-hours
2. Second made seven days later
D/C Follow-up Sample Survey Questions

- Were you given and do you understand your hospital discharge instructions?
- Did you get your prescription(s) filled after you left the hospital? Are you still taking those medication(s)?
- Do you have a follow up appointment with your physician?
- Did you receive any medical equipment? Did you receive any home health services?
Senior Discharge Follow-up Program Analysis Methodology

- Study population: patients who received at least one follow-up call (if within 3 days of D/C)
- Intervention Date = date the first follow-up call was made
- Analysis period: 9 months pre/post intervention date (enrollees must have B&T eligibility throughout analysis period)
- Outcomes evaluated: Readmissions, ER utilization, Outpatient follow-up
## Discharge Follow-up Program Population Characteristics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td># Unique Members</td>
<td>568</td>
</tr>
<tr>
<td>Average Age</td>
<td>80.1</td>
</tr>
<tr>
<td>Percent male</td>
<td>42.6</td>
</tr>
<tr>
<td>Average Risk*</td>
<td>11.2</td>
</tr>
</tbody>
</table>

*Represents the morbidity burden derived from the Johns Hopkins ACG® Risk Adjustment System
Overall B&T Senior Readmit Rate*

*Readmits are attributed to the facility where the readmit occurred
Non-Study B&T Senior Admissions vs. Readmit Rate*

*Readmits are attributed to the facility where the index admit occurred
Readmissions Rate Program Enrollees*

*Readmits are attributed to the facility where the prior admission occurred.
Impact on ER Utilization

*Pre/post analysis performed using paired t-test methodology

*Pre/post analysis performed using paired t-test methodology
## Outpatient Follow-up* Post Discharge

*Follow-up visit may be with PCP or Specialist  
**Pre/post analysis performed using paired t-test methodology

<table>
<thead>
<tr>
<th>% of admits with follow-up w/in</th>
<th>Pre Enrollment</th>
<th>Post Enrollment</th>
<th>p-value**</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 days</td>
<td>34%</td>
<td>36%</td>
<td>0.54</td>
</tr>
<tr>
<td>14 days</td>
<td>54%</td>
<td>68%</td>
<td>0.01</td>
</tr>
<tr>
<td>30 days</td>
<td>74%</td>
<td>77%</td>
<td>0.21</td>
</tr>
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D/C F/U Summary

- DCFU program had a favorable impact on ER utilization
- DCFU program had a favorable impact on the follow-up at 14 days post D/C
- Negligible impact on readmissions
Intensive Home Medical Management Criteria

• Medical Group Senior member
• Access to care issues: homebound, bed bound, or insufficient access to PCP
• Has an advanced illness and not enrolled in hospice
• Hospital discharge requiring transitional care by home visiting physician
• PCP must agree with the referral
Intensive Home Medical Management

• Brown & Toland Case Management identifies at risk frail seniors for in-home medical management and provides administrative support of program
• Physicians provides in-home care to targeted frail and home bound seniors
• Home visiting physicians organize in-home ancillary services such as lab, radiology, and home health and coordinate with primary care doctors to avoid admissions
• Brown & Toland Medical Director oversight
Intensive Home Management Pre/Post Methodology

• Enrollment requirements:
  – Homebound senior
  – IHMM enrollment date range: 1/1/06 – 1/1/09
  – ≥1 year of IHMM enrollment
  – ≥1 year of B&T enrollment pre IHMM enrollment
  – ≥1 year of B&T enrollment post IHMM enrollment
  – Not deceased within 3 year analysis period

• Outcomes evaluated: Acute IP admits, ER visits, ALOS, Acute days
## Population Characteristics

<table>
<thead>
<tr>
<th></th>
<th>IHMM Participants</th>
<th>B&amp;T Seniors*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N</strong></td>
<td>200</td>
<td>10,755</td>
</tr>
<tr>
<td><strong>Average Age</strong></td>
<td>81.2</td>
<td>73.5</td>
</tr>
<tr>
<td><strong>% male</strong></td>
<td>40.3</td>
<td>37.6</td>
</tr>
<tr>
<td><strong>Average ACG Risk Score</strong></td>
<td>8.9</td>
<td>3.6</td>
</tr>
</tbody>
</table>

*Average for B&T seniors over study period*
Admissions vs. Readmission %

p-value (admits) = .001; Pre/Post analysis was performed using paired t-test methodology

p-value (readmits) = .02; Pre/Post analysis was performed using paired t-test methodology
Chronic Conditions among those Readmitted

Number of Chronic Conditions

- 0-5, 35.9%
- 6-11, 49.8%
- 12+, 14.3%

% with Selected Chronic Conditions

- Depression: 51.7%
- Cancer: 3.4%
- CKD: 28.5%
- CHF: 35.1%
- COPD: 17.0%

Condition
Admissions and Bed Days

p-value (admits/000) = .001; Pre/Post analysis was performed using paired t-test methodology
p-value (days/000) < .0001; Pre/Post analysis was performed using paired t-test methodology
Average Length of Stay

Pre/Post analysis was performed using paired t-test methodology

*Pre/Post analysis was performed using paired t-test methodology
ER Utilization

*Pre/Post analysis was performed using paired t-test methodology

**Graph Details**

- **Pre** ER visits: 642.1
- **Post** ER visits: 613.8
- **B&T Seniors** ER visits: 256.9

*P-value = 0.56*
Pre/Post IHMM Enrollment Statistical Analysis*

<table>
<thead>
<tr>
<th>Utilization Outcome</th>
<th>Confidence Interval</th>
<th>p-value</th>
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<tbody>
<tr>
<td>Admits</td>
<td>(-1.05, -0.23)</td>
<td>.001</td>
</tr>
<tr>
<td>Readmits</td>
<td>(-0.39, -0.08)</td>
<td>0.02</td>
</tr>
<tr>
<td>Bed Days</td>
<td>(-9.78, -4.51)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>ALOS</td>
<td>(-3.2, -1.0)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>ER Visits</td>
<td>(-0.12, 0.37)</td>
<td>0.56</td>
</tr>
</tbody>
</table>

*Pre/Post analysis was performed using paired t-test methodology
Summary

• IHMM favorably improves utilization outcomes:
  – Significant decrease in admissions (p=.001)
  – Significant decrease in readmissions (p=.02)
  – Significant decrease in bed days (p<.0001)
  – Significant decrease in ALOS (p<.0001)
    • ALOS post program enrollment is below that of B&T average for seniors

• IHMM had nominal effect on ER utilization