Brenda Reiss-Brennan, MS, APRN, CS, Mental Health Integration Leader
Wayne Cannon, MD, Primary Care Clinical Leader
Doug Smith, MBA, Director Corporate Finance, Economic Leader
Terri Flint, PhD, HR Leader
Adam Wilcox, PhD, Information System Leader
Pascal Briot, MBA, Cost Analysis Leader
Greg Snow, PhD, Director LDS Statistical Data Center
Brent James, MD, Vice President, Quality Research Leader
Vicky Cattrell, Executive Director NAMI, Consumer Leader

Community Health Plan Partners: IHC, DMBA, Medicaid, PEHP, UHC
National Partners: RWJ, Dartmouth/MacArthur, Columbia, Hartford, SAMHSA
Problem Statement

• 300% increase MH treatment in PC 1990-2000
• Hospital ER 20% increase
• Depression/MH conditions second to Cardiovascular disabilities by 2020
• Evidence based treatment available
• Delivery models inefficient and ineffective
• WHO 2001 Report: integration/reform
Lack Training

Family Avoidance

Lack of Time

72% undiagnosed undertreated

Collaboration\Skills

Stigma

"Fall Through Cracks"

Overwhelmed

15 minute visits

Diverse practice patterns

Somatization Rx use

68% of PCP visits have mental health concern

Fragmented Data

20% Offset Not Accepted

MH Carved Out

Individual vs. Family Approach

Lack Technical Support

Lack Financial Incentives

Lack Conceptual Framework/Methodology

Lack Electronic Incentives

Lack Cost Benefit Formula

Stakeholders Different Incentives

Integrated Mental Health Not Available to Patient/ Family in Primary Care
• Care Coordination
• Patient Self Management
• Financing the Business Case
• Information Technology
• Community Activation /Coalition Building
• Measurement
Depression: Key Levers to Overcome Barriers to High Quality Care

1. Team approach to comprehensive care should be emphasized, incentivized and drive “pay for performance”.

2. Uniform electronic medical record that is easily accessible, increases efficient communication among team and for patient and family self-management.

3. Understand what people with depression, and those at risk for, or families living with depression want and need to improve their care and quality of life.

4. Require financial alignment/support to accomplish integration goals.

5. Facilitate sharing of best practices including economic cost modeling.
Hypotheses

Implementation of Mental Health Integration would:

1. Improve PCP ability to identify and confidently treat mental health conditions.
2. Improve detection rate.
3. Improve patient functional status and satisfaction with care.
4. Minimize burden of costs and access barriers.
Method

• Develop MHI quality work teams (Onsite/offsite integrated teams)
• Redesigned delivery: collocation to integration “Quality Principles”
• Built family health mission
• Developed health clinic accountability: PD Regional Proforma
• Analyzed intervention and comparison clinics
• Link cost value to point of recovery
The Clinical Model: “Patient Walk Through”

- **Patient and Family**
  - Self report
  - Self management
  - Preference and Adherence

- **Primary Care Provider (Support Staff)**
  - Screen, Diagnose, Treatment
  - MHI Packet, CW

- **Psychiatrist/ APRN**
  - Consult, MHI Packet, CW

- **Mental Health Specialist**
  - (PhD, MSW, APRN)
  - Diagnosis, MHI Packet, Treatment, CW

- **Care Manager**
  - Follow up, Family Adherence, Education, Outcomes (CMT), CW
Evaluation of Cost Outcomes

- **Payer Costs**
  - Analysis of claims data
  - Trend & cohort (system/region/clinic)
  - Individual & Family

- **Employer Costs**
  - Analysis of productivity impact results
  - Individual & Family

- **Operational Costs**
  - Efficiency of care, productivity of care managers, physicians and MH Specialists
COST TRACKING AND REPORTING – TREND ANALYSIS
1. Establishes historical costs baselines.
2. Reports costs for all Health Plans members.
3. Provides a systematic and standard approach to measuring costs across all facilities.
4. Allows for early detection of outliers and pro-active actions.
5. Relies on financial/actuarial analyses which can be duplicated by IHC's Health Plans or other Health Plans partners.

COST ANALYSIS – COHORT ANALYSIS (QUASI EXPERIMENT)
1. Establishes the cause for differences in costs and utilization.
2. Measures the costs impact of the mental health intervention.
3. Provides a systematic approach for measuring the impact of the mental health integration as it is rolled out to clinics and regions across the IHC system.
4. Applied to a continuously enrolled cohort of patients before and after intervention.
5. Relies on established statistical analyses.

UTAH REGIONS
NORTH | CENTRAL | SOUTH

CENTRAL REGION
1. Bryner Clinic (Test site #1)
2. Sandy Clinic & Mountain View Pediatrics (Control site #2)
3. Other Clinics grouped together or on an individual basis (Control site #3)
Trend Analysis
For Adult Patients with DX of Depression

For Adult Patients with DX of Depression - Rate of Detection

BRYNER
SANDY
CENTRAL REGION
Trend Analysis
For Adult Patients with DX of Depression

For Adult Patients with DX of Depression
Costs of Depression and Psych. Comorbidities

For Adult Patients with DX of Depression - Total Costs

BRYNER  SANDY  CENTRAL REGION

BRYNER  SANDY  CENTRAL REGION
Trend Analysis
For Pediatric Patients with DX of Depression
Trend Analysis
For Pediatric Patients with DX of Depression
Cohort Analysis
For Adult Patients at BRYNER

Patients Distribution per Comorbidity
FOR BRYNER - PRE INTERVENTION

<table>
<thead>
<tr>
<th>Year</th>
<th>Psych</th>
<th>Depression</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>5.5%</td>
<td>71.1%</td>
<td>23.4%</td>
</tr>
<tr>
<td>1998</td>
<td>8.2%</td>
<td>84.6%</td>
<td>9.6%</td>
</tr>
<tr>
<td>1999</td>
<td>9.3%</td>
<td>67.2%</td>
<td>24.6%</td>
</tr>
</tbody>
</table>

n = 777

Patients Distribution per Comorbidity
FOR BRYNER - POST INTERVENTION

<table>
<thead>
<tr>
<th>Year</th>
<th>Psych</th>
<th>Depression</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>6.5%</td>
<td>71.1%</td>
<td>23.4%</td>
</tr>
<tr>
<td>2001</td>
<td>9.6%</td>
<td>84.6%</td>
<td>9.6%</td>
</tr>
<tr>
<td>2002</td>
<td>9.6%</td>
<td>67.2%</td>
<td>24.6%</td>
</tr>
<tr>
<td>2003</td>
<td>8.5%</td>
<td>71.1%</td>
<td>23.4%</td>
</tr>
</tbody>
</table>

n = 777
Cohort Analysis
For Adult Patients at SANDY

Patients Distribution per Comorbidity
FOR SANDY - PRE INTERVENTION

Patients Distribution per Comorbidity
FOR SANDY - POST INTERVENTION
Cohort Analysis
For Adult Patients at CENTRAL REGION

Patients Distribution per Comorbidity
FOR CENTRAL REGION - PRE INTERVENTION

Patients Distribution per Comorbidity
FOR CENTRAL REGION - POST INTERVENTION
Cohort Analysis
For Adult Patients

For Adult Patients with DX of Depression - Rate of Detection

- Rate of Detection:
  - 0.0%
  - 3.0%
  - 6.0%
  - 9.0%
  - 12.0%
  - 15.0%
  - 18.0%
  - 21.0%
  - 24.0%
  - 27.0%
  - 30.0%
  - 33.0%

Years:
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003

Regions:
- Bryner
- Sandy
- Central Region
Cohort Analysis
For Adult Patients – Comparison of Total Costs

Adults

Group: ndd

Group: dd

Group: ndnd

Group: dnd

ndnd = Not Depressed Pre-Intervention
Not Depressed Post-Intervention

ndd = Not Depressed Pre-Intervention
Depressed Post-Intervention

dd = Depressed Pre-Intervention
Not Depressed Post-Intervention

d = Depressed Pre-Intervention
Depressed Post-Intervention
Cohort Analysis
For Pediatric Patients

[Chart showing trends over years for different regions, with labels for Bryner, Sandy, Central Region.]
Cohort Analysis
For Pediatric Patients – Comparison of Total Costs

Pediatric

ndnd = Not Depressed Pre-Intervention
Not Depressed Post-Intervention
dd = Depressed Pre-Intervention
Depressed Post-Intervention
ndd = Not Depressed Pre-Intervention
Not Depressed Post-Intervention
dnd = Depressed Pre-Intervention
Depressed Post-Intervention
Cohort Analysis
For Pediatric Patients – Comparison of Total Costs

Pediatric

Clinic: Bryner

ndnd = Not Depressed Pre-Intervention
nnd = Not Depressed Post-Intervention
dd = Depressed Pre-Intervention
ndd = Depressed Post-Intervention

Clinic: Sandy

Clinic: Other

ndnd = Not Depressed Pre-Intervention
nnd = Not Depressed Post-Intervention
dd = Depressed Pre-Intervention
ndd = Depressed Post-Intervention
More detailed analyses remained to be done using trend and cohort data (control charts per month).

Additional studies will look at how the intervention has affected the medical costs for the families of patients with depression both using trend and cohort data.

Further studies will look at how the intervention has affected the medical costs for patients with other chronic comorbidities (diabetes, asthma) when these patients are known to suffer from depression.

These trend and cohort studies will be repeated for different population of patients at different clinic sites as the depression model is rolled out to the entire state.
**Drilldown Analysis Based upon Risk Stratification**

**GOAL: TO PUT A COST AND QUALITY MEASURE ON THE MH INTEGRATION**

1 – The overall analysis established that the MH integration does not add overall cost to the care of the patient.

2 – This drilldown analysis quantifies what the MH integration “buys” the customers.

3 - For its customers (patients and family, providers, health plans, employers), what is the MH integration offering both in terms of financial and clinical outcomes? How can these be measured and reported?

**DETAIL ANALYSIS FRAMEWORK FOR ADULT AND PEDIATRIC PATIENTS, AND THEIR FAMILIES**

<table>
<thead>
<tr>
<th>MHI CARE MANAGEMENT LEVELS</th>
<th>PCP ONLY</th>
<th>COLLABORATIVE MHI TEAM</th>
<th>MHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - No Comorbidity</td>
<td></td>
<td>1 – Complex Comorbidity</td>
<td></td>
</tr>
<tr>
<td>2 - Responsive family support</td>
<td></td>
<td>2 – Family/Relational isolated chaotic</td>
<td></td>
</tr>
<tr>
<td>3 - GS scores: 1 – 3</td>
<td></td>
<td>3 – GS scores: 5 – 6</td>
<td></td>
</tr>
<tr>
<td>4 - PHQ9: Mild</td>
<td></td>
<td>4 – PHQ9: Mild-Moderate</td>
<td></td>
</tr>
</tbody>
</table>

**FOR PATIENT POPULATION ANALYZED BY TREND METHOD**

**FOR PATIENT POPULATION ANALYZED BY COHORT METHOD**

**HYPOTHESES:**

1 – Costs difference between different levels of MHI management.

2 – Clinical outcomes difference between different levels of MHI management.

3 – Patients with multiple complex and severe comorbidity not receiving adequate level of MHI management.

**MEASURE CLINICAL AND COST OUTCOMES PER LEVEL OF MHI MANAGEMENT**