Beyond The EHR: How Providers are Using Population Health Data to Improve Care and Win Business
Objectives for Today

Understand the practical meaning of new industry terms: Population Health, Data Analytics, Decision Support and Value Based Purchasing.

Develop an appreciation for the different tools available for tracking and reporting on population health data.

Identify 3 challenges to engaging in new models of population health data management and utilization.

Identify 3 ways of operationalizing the change process needed to move from fee for service to population health management.

Identify 3 ways to utilize population health data to drive your business success.
Presenters

• Carol D. Clayton, PhD, Translational Neuroscientist, Relias Learning
• Kathleen Kovach, Deputy Director, OCCMHA
• Jim Wallis, Corporate Director of Business Development, Chestnut Health Systems
• Emma Melvin, LCSW, Director of Wellness Recovery Services, Chestnut Health Systems
**Buzz Words**

**Analytics**: analysis of data, typically large sets of business data, by the use of mathematics, statistics, and computer software.

**Population Health**: using analytics to determine where individuals are along the continuum of well to sick on certain conditions.

**Patient Registries**: Tracking and benchmarking the magnitude of a clinical problem across a population.

**Decision Support**: evidence based information to support clinical actions based on analytics.

**Value Based Purchasing**: paying for population outcomes, not individual services.
Types of Analytics

**Descriptive:** displaying gathered information to understand a situation.

**Diagnostic:** figuring out why something happened.

**Predictive:** using past information to predict future outcomes.

**Prescriptive:** providing insights about possible actions.
Population Health Technology gives you power to:

- Study the population
- Drill down to the individual on a particular condition
Population Health Diabetes Registry

Members of Behavioral Health Home
(31494 members)

+ Diabetes Diagnosis
(13732 members)
Service Claims Data

+ Use of 1 or more Antipsychotic Meds
(7411 members)
Pharmacy Claims

+ BMI > 30
(1109 members)
EMR Data

+ Antipsychotic medications contraindicated with Diabetes (195) members
### Use of 3 or More Antidepressants for 60 or More Days (Under 18 years old)

**CLINICAL ISSUE**
- There is no empirical evidence to support the use of 3 concurrent antidepressants.
- In general, the use of more than one antidepressant at a time should be avoided, if at all possible.
- Fluoxetine (Prozac®) is the only antidepressant approved by the FDA for the treatment of pediatric depression, and should be considered the first choice in this population.
- Antidepressant monotherapy is generally recommended, except in the case of augmentation.
- Depressive symptoms failing to respond to adequate antidepressant trials (adequate doses for sufficient time) may indicate a mixed bipolar or bipolar depressed state.

**CLINICAL CONSIDERATIONS™**
- If you haven’t already, please consider:
  - Reviewing the original diagnosis and consider revising treatment to reflect your current clinical formulation;
  - Reviewing the patient’s treatment history for adequacy of dose and duration of medications;
  - If you haven’t already, please consider tapering one antidepressant, if two antidepressants are needed, please consider using agents with different mechanisms of action (if not already in place);
  - Assessing whether each medication has been tried at the optimal therapeutic dose and duration before adding new medications;
  - Psychoeducational interventions and/or psychodynamic consultation (if you are not a psychiatrist);
  - Reviewing medication use and adherence with patient and/or family.

**REFERENCES**
Value Based Purchasing: Level of Risk Tied to Outcomes

Small % of financial risk | Moderate % of financial risk | Large % of financial risk

Fee-for-service | Performance-Based Contracting | Bundled & Episodic Payments | Shared Savings | Shared Risk | Capitation | Capitation + Performance-Based Contracting

Management via 100% case by case external review | Moderate financial accountability | Internal ownership of performance using internal data management | Full financial accountability

No financial accountability | Moderate financial accountability | Full financial accountability

Passive involvement | Provider engaged | Provider active in management | Providers assumes accountability

Smart Technology: Beyond the EHR

Information technology is a “must” in the new world

Technical Blueprint For IT Functionality in Practice Changes

1. Electronic Medical Record
   - Collect the data generated within a provider practice
     - Clinical symptoms
     - Confounding factors
     - Measures of progress/response
     - Resource utilization
     - Build patient centered longitudinal clinical database
   
   The Need: Case Tracking Systems

2. Health Information Exchange
   - Aggregation of data generated across the healthcare community
     - Augment the single provider’s EMR with patient data from other sources
     - Transmission of data to other sources
   
   The Need: IT Systems Integration

3. Clinical Analytics
   - Convert aggregated data into actionable information
     - Identify, stratify and synthesize data to identify
       - At risk patients
       - Provider performance
       - Registries
       - Cost profile
       - Benchmarks
   
   The Need: Smart system supports
     - Analytics and Evidence-based reviews

4. Population Health Management
   - From information to action
     - Systems designed to mitigate identified risk
       - Info for provider at point-of-care
       - Integrated info management system
       - Patient-centered records
   
   The Need: Practice redesign
     - Workflow
     - Skill set

Case Studies: Why Beyond the EHR: Challenges, Solutions, Results

• Oakland County Community Mental Health Authority
  – Integrated Healthcare & Population Health Management

• Chestnut Health Organization
  – Using Data to Target and Act on Opportunities to Reduce Admissions and Prove Value to the Payer
Kathleen Kovach, Deputy Director
Oakland County Community Mental Health Authority

Integrated Healthcare
&
Population Health Management
Integrated Healthcare

• Michigan Department of Health & Human Service (MDHHS) and Prepaid Inpatient Health Plan (PIHP) Contract Expectations

  – Partner with Medicaid Health Plans to improve care coordination for mutually served individuals

  – Establish care coordination efforts for individuals with high risk

  – Use CareConnect 360, which is a claims data repository and application, as well as care coordination platform
Operationalizing Care Coordination

• Adapt best practice guidelines - Michigan Quality Improvement Consortium (MQIC)

• Develop and implement staff training curriculum

• Adopt Admission, Discharge, and Transfer (ADTs) notices

• Use data analysis to understand / serve population
Data Information, Solutions & Challenges

• Dashboards and Reports
  – Define health goal or action
  – Identify and agree upon Electronic Health Record (EHR) and population health management tool data elements
  – Share dashboards and reports with providers, and incentivize outcomes.
Dashboards

This dashboard displays the Health CI results that require a 95% completion rate by MDCH. The percentage complete is a calculation based on the number of consumers with a completed record divided by total consumers served for the current fiscal year. Click on the gauge to get the breakdown by CPIA from the CPIA list. Click on any Provider to get the list of consumers who have an incomplete file for that measure. Primary Admission determines Core Provider alignment.

Red Range = Under 95%
Green Range = 95% and Over

- Ability To Hear: 96.95%
- Hearing Aid Used: 95.034%
- Ability To See: 96.931%
- Visual Appliance Used: 95.799%
- Pneumonia (2 or more - 12 months): 96.95%
- Asthma: 96.95%
- Upper Respiratory Infections: 96.91%
- Gastroesophageal Reflux (GERD): 96.866%
- Chronic Bowel Impactions: 96.87%
- Seizure Disorder or Epilepsy: 96.92%
- Progressive Neurological Disease: 96.82%
- Diabetes: 96.84%
- Hypertension: 96.90%
- Obesity: 96.271%
Dashboards

CMH Trends & Analysis: Inpatient Admissions - Excludes Medicare

Number of Inpatient Admissions and Consumers by FY Quarter

Legend
- Admissions
- Consumers

Inpatient Admissions by Hospital

Number of Hospitalizations by Hospital Type - Healthy MI Only

Legend
- IMD
- INP.
- Full Service

Number of Hospitalizations by Fund Source at Admission

Legend
- ABW
- IHM
- GIF
- Medicaid
- Other

Number of Hospitalizations by CPA at Admission

2016

Data is based on Hospitalizations WITH a Discharge Date.

Excludes Medicare

Click button to Include Medicare

National Council for Behavioral Health

#NATCON17  #BH365
Data Information, Solutions & Challenges

• Care Management Technologies (CMT) / Relias ProACT Tool
  – Behavioral healthcare data analytics and decision-support tool that combines clinical and claims data to gain a clear view of a person’s care and needs
  • Interfaces with CareConnect 360 claims data
Relias – A Data + Learning Analytics Solution
Using Data to Drive Business Success

• PIHP contract incentives:
  – Demonstrate that joint care plans exist for individuals with high risk who are mutually served by MHP and PIHP
  – Meet performance measurements for individuals 6+ years who received a follow up within 30 days post psychiatric hospitalization
Using Data to Drive Business Success

• Value Based Purchasing
  – Created case rate funding model for Assertive Community Treatment (ACT)
    • Ensure consistency in service, rates / funding, and accountability
    • Associate funding with performance standards and outcomes
    • Identify incentives for performance standards
    • Share in financial risks and savings
    • Use Dashboards to track encounters and costs
Value Based Purchasing – Performance Measures

- ED Admissions, Psychiatric In-Patient Admissions, Crisis Interventions (CG)
- Psychiatric In-Patient Re-admissions
- Healthcare Coordination
- Stable Housing
- Employment
- Involvement with Criminal Justice System
- Engagement in SUD Recovery
Using Data to Drive Business Success

• Health outcomes, including social determinants, are data driven and tied to payment and incentives.

• Practices and payments are increasingly aligned with the ‘Triple Aim’:
  – Better care
  – Improved health
  – Smarter spending
Questions?
IBHHC Project Summary

1. Managed Care company engaged Provider Owned Network in a project to address HIGH USERS throughout Central Illinois.

2. Evaluation of project based on evaluation of total health claims Pre referral and Post referral at 3, 6, 9 month intervals.

3. Annualized savings of approximately 1 million dollars realized on co-hort of 79 high users. If scaled 25 times (2000), savings of 26 million might be realized.

4. Currently negotiating this scale up

5. What is a “good enough” ROI? 2/1; 3/1; 4/1; ???
Illinois Medicaid Managed Care > 2 million
Illinois Behavioral Health Home Coalition

Partner Locations

Knox County
Bridgeway Inc.
Galesburg, Illinois

Macon County
Heritage Behavioral Health
Decatur, IL

Madison County
Chestnut Health Systems
Maryville, IL

McLean County
Chestnut Health Systems
Bloomington, IL

Peoria County
HSC
Peoria, IL

Sangamon County
Memorial Health System
Springfield, IL

Vermilion County
Crosspoint Human Services
Danville, IL
What is a high user?

- 2-3 inpatient episodes < 6 months
- 2 or more ED visit < 6 months
- MLR 300% - 2000% based on claims
- Chronic co-morbid conditions (3-5)
- Drug abuse/addiction
IBHHC Cohort Population

- N = 79
- Mood Disorders = 68
- Alcohol and Drug Abuse Disorders = 56
- Psychotic Disorders = 43
- Medical comorbidities – Ambulatory Care Sensitive Conditions (ACS):
  - 1 member has 13; 2 have 8; 1 has 7; 2 have 6; 4 have 5; 6 have 3; and the rest have 2 or less.
  - 33 individuals have hypertension
  - 20 have asthma
  - 16 have metabolic disorder, lipid.
  - 46 (58%) have an Ambulatory Care Sensitive Condition (ACS)
CHCS Multi-Morbidity - Top 25 Complex Disease States With Highest Per Capita Hospitalizations

- D4. Antipsychotic/Mood Stabilizer Drugs, Anxiety Disorders, Depression, Drug/Alcohol Disorders, Personality Disorder, Schizophrenia
- D9. Antipsychotic/Mood Stabilizer Drugs, Anxiety Disorders, Asthma/COPD, Depression, Drug/Alcohol Disorders, Schizophrenia
- D14. Antipsychotic/Mood Stabilizer Drugs, Asthma/COPD, Depression, Drug/Alcohol Disorders, Schizophrenia
- D22. Antipsychotic/Mood Stabilizer Drugs, Anxiety Disorders, Depressive Disorders, Drug/Alcohol Disorders, Schizophrenia
- D23. Asthma/COPD, Drug/Alcohol Disorders, Mental Illness, Schizophrenia
- D25. Asthma/COPD, Chronic Pain, Coronary Heart Disease, Drug/Alcohol Disorders, Hypertension, Mental Illness, Spine Disorders

<table>
<thead>
<tr>
<th>Catchment Area</th>
<th>Total Patients</th>
<th>Population %</th>
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<tbody>
<tr>
<td></td>
<td>9</td>
<td>11.392</td>
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<table>
<thead>
<tr>
<th>Total Spend</th>
<th>% of Total Spend</th>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
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<table>
<thead>
<tr>
<th>Hospital Admits</th>
<th>ED Visits</th>
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<tbody>
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<td>45</td>
<td>116</td>
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- Per Member Per Year Spend: 0.00
- Max Member Per Year Spend Observed: 0.00

CHCS Multi-Morbidity - Top 25 Complex Disease States With Highest Per Capita Hospitalizations

<table>
<thead>
<tr>
<th>CHS-CMS Morbidity Score</th>
<th>CHS-CMS Morbidity Score</th>
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<td>1</td>
<td>2</td>
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<tr>
<td>3</td>
<td>4</td>
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<tr>
<td>5</td>
<td>7</td>
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Illinois County Map - Count of Unique Patients

Total Spend - Medications and Services
- Non-BH ($) - BH ($) - Total ($)
Top 5 Co-Morbid Diagnosed ACSC Population

Hypertension, Essential
Asthma
Diabetes Mellitus
Urethral/Urinary Tract Disorder, Other
Heart Failure

Volume (per 1000 patients)
## ADMITS, BED DAYS, ED VISITS AND PMPM% CHANGE

<table>
<thead>
<tr>
<th>OUTCOME</th>
<th>IP ADMITS / 1000 (AUTH)</th>
<th>BED DAYS / 1000 (AUTH)</th>
<th>ED VISITS / 1000</th>
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<tbody>
<tr>
<td>PRE</td>
<td>4,531</td>
<td>18,301</td>
<td>12,106</td>
</tr>
<tr>
<td>POST</td>
<td>1,942</td>
<td>7,288</td>
<td>8,385</td>
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<tr>
<td>DIFFERENCE</td>
<td>2,589</td>
<td>11,013</td>
<td>3,721</td>
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<tr>
<td>% DIFFERENCE</td>
<td>57%</td>
<td>60%</td>
<td>31%</td>
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<table>
<thead>
<tr>
<th>OUTCOME</th>
<th>MED PMPM</th>
<th>RX PMPM</th>
<th>TOTAL PMPM</th>
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</thead>
<tbody>
<tr>
<td>PRE</td>
<td>$2,375</td>
<td>$324</td>
<td>$2,699</td>
</tr>
<tr>
<td>POST</td>
<td>$1,217</td>
<td>$411</td>
<td>$1,629</td>
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<tr>
<td>DIFFERENCE</td>
<td>1,158</td>
<td>-87</td>
<td>1,070</td>
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<tr>
<td>% DIFFERENCE</td>
<td>49%</td>
<td>-27%</td>
<td>40%</td>
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6 Month Data: 53% increase in rx PMPM • 51% decrease in IP admits • 58% decrease in bed days • 25% decrease in ED visits • 30% decrease in total PMPM
Challenges to Engaging New Models

• Organizations are complex
• Accessing a new database
• Engaging the client’s system of care
• Requires decisions regarding staff resources
FFF to Population Health Management

• Encourage staff to ‘think outside of the box’
  – More time to focus on client engagement

• A population health approach requires a coordinated effort
  – Opportunity for integrated care
Utilizing Data to Drive Services

- Staff engagement
- Activating change
- Drive quality improvement initiatives
- Identifying successful interventions
- More efficient workflows
“There has to be an easier way for me to get my wings.”

Clarence Oddboddy
Angel 2nd Class
“It’s a Wonderful Life”
Questions?
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