SoonerCare
Health Management Program
2nd National Predictive Modeling Summit. Washington, DC.

Lynn Puckett
Oklahoma Health Care Authority

Karl Weimer
MEDai, Inc., An Elsevier Company
Agenda

- Background

- SoonerCare Health Management Program

- Behavioral Health Grant
Background

- Oklahoma Medicaid Reform Act of 2006
  - Mandated a Disease Management Pilot
    - Decrease cost for chronic conditions
    - Increase quality of care
Background

- Rising provider and state administrative costs led Oklahoma on a search for a new Medicaid Management Information System (MMIS) capable of processing claims more efficiently.
  - EDS transitioned the Oklahoma Health Care Authority's mainframe-based MMIS to a fully integrated Web presence.

- Powered by EDS' interChange system, the regulation-compliant MMIS enables automated claims processing and payment, as well as telephony-based call tracking.

- A 98 percent data-entry accuracy rate ensures 29.2 million claims are processed correctly and quickly.
  - It once took as long as seven days to process an individual claim. Now most claims are handled the same day.
Background

● EDS
  ● Contracted by Oklahoma’s Medicaid Agency (OHCA) to provide claims processing, information systems and strategic technical support
  ● Provides OHCA with integration and service-oriented architecture (SOA) solutions
  ● MEDai selected as predictive modeling vendor
Background

- Oklahoma Health Care Authority (OHCA)
  - Oklahoma’s Medicaid Agency

- SoonerCare
  - Oklahoma’s Medicaid Coverage Product
  - \( \approx 600,000 \) covered lives per month
Member Statistics

○ Oklahoma Ranks:

- 50th in deaths due to heart disease
- 46th in deaths due to stroke
- 46th in deaths due to diabetes

Member Statistics

- 80% of expenditures are for chronic disease
- 40% of members have a chronic disease
- 10% of members account for 70% of cost
- 5% of members account for 50% of the cost
# Top Chronic Condition Diagnosis By Cost

<table>
<thead>
<tr>
<th>Rank</th>
<th>Condition</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HTN</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>COPD</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>CHF</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>DM</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>CAD</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>CKD</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Asthma</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>HIV</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Hepatitis</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Hyperlipidemia</td>
<td></td>
</tr>
</tbody>
</table>

*excludes members in institutional settings and pregnancy related diagnosis*
SoonerCare Health Management Program (SoonerCare HMP)

- Unique and progressive program
- Dual Focus
  - Patient
  - Provider
- Truly comprehensive
- Utilizes state-of-the-art predictive modeling
- Holistic
Truly Comprehensive

- Members are selected by risk, not disease
  - Treat the person not the condition

- Active behavioral health component
- Active community resource support component
- Aggressive case management
- Aggressive provider education and practice re-design
Member Intervention Nurse Case Management

- Health risk assessment
- Health literacy assessment
- Behavioral health screening
- Medication list
- Aggressive education and self-management training
Member Intervention

- Behavioral health referral
  - Full time FTE (OHCA) dedicated to receiving calls from NCMs
- Community resource referral
  - Full time FTE (HMP Vendor) dedicated to receiving referrals
- HMP interfaces with OHCA care management unit
Member Selection and Stratification

- Tier 1 – Face to Face Intervention
  - Top 1000 at very high risk

- Tier 2 – Telephonic Intervention
  - Top 4000 at high risk
Member Selection & Stratification

- Predictive Modeling
  - Based upon risk score, not disease
  - Focus on those with the greatest opportunity to impact
Why Predictive Modeling?

Oklahomans rely on predictions every day.

Vendor of Choice: MEDai, Inc.
About MEDai

Orlando-based Information Technology Company since 1992

Unique Core Technology
Multiple Intelligent Tasking Computer Heuristics (MITCH)
  Most Accurate
  Blended technology
  World Renowned Scientist
Prior Cost Identification Results

 Members in Top 1%
 Current Year

Percentage in top 1% prior year | Percentage not in top 1% prior year
--- | ---
27% | 73%

0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80%
So...What Do We Need?

Provide Care Managers with Appropriate Information to Identify the Right Member at the Right Time

- Identify appropriate members for interventions
  - Prioritize members for intervention
    - Identify High Cost members and "Movers"
    - Evaluate "Impact Index" – Members with most impactful gaps in guidelines or forecasted acute care and assessment of cost impact
  - Risk stratification (1-5) assists in development of appropriate interventions

- Access member-specific actionable information
  - Member Clinical History
  - Member Risk Profile
  - Member Specific Guideline Gap report

- Conduct summary and detailed reporting
  - Provider Profiling
  - Employer Reporting
  - Disease Profiling
The Solution Should…

- **Provide High-Risk Identification**
  - Only Step 1
  - Catastrophic members often not high impact

- **Identify Movers**
  - Helps with “regression to the mean” issues

- **Forecast Inpatient Days, ER Visits and Rx$**
  - Individualized action plans per member

- **Forecast High Chronic Impact Members**
  - Best opportunity for chronic care savings
  - Best opportunity to impact cost by intervening with evidence based guidelines

- **Implement Forecast via Impact Index**
  - Acute & Chronic Impact Index
  - Easily ranks members

- **Allow for Workflow Integration**
  - Detailed member profiles
Insights are Leveraged in Multiple Functional Areas

- **Care Management** – Identify and stratify patients for focused interventions
- **Physician Integration** – Engage physicians with support for disease management and guideline compliance
- **Actuarial and Underwriting** – Enhance rate setting capabilities and support actuarial processes
Care Management Insights are Generated Around the Population and Members are Stratified Accordingly

1. Well & Low Risk Members (Prevention)
2. Low Risk Members (Prevention and Disease Management)
3. Moderate Risk Members (Disease Management)
4. High Risk, Multiple Disease States (Episodic Case Mgmt- Inpatient Clinical Guidelines)
5. Complex Care (Inpatient - LTC)
ROI: Acute and Chronic Impact Indices

Disease Focus: Diabetes
Total Population: 925,407 members
Diabetic Population: 50,847 members
Savings Potential: $62,643,504

High-Risk Population
Risk Levels 4 & 5
14,250 Members
Forecasted Cost: $14,634
Prior Year Cost: $14,527
Savings Potential: $1,524,750

High Acute & Chronic Impact Population
13,872 Members
Forecasted Cost: $8,698
Prior Year Cost: $5,089
Savings Potential: $50,064,048
Accuracy is Important!
2007 SOA Results
Medicaid Modeling Results

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<thead>
<tr>
<th>Plan</th>
<th>No Truncation</th>
<th>100K Truncation</th>
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<tbody>
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<td>Plan 3</td>
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<tr>
<td>Plan 4</td>
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<td>0.61</td>
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</table>
Some using models
Some not!

**Big 12 South – Oklahoma**

Consensus prediction: *1st place* in the Big 12 South (only *College Football News* failed to pick the Sooners 1st, predicting Oklahoma to finish 2nd)
Why Predictive Modeling

- The goal of the SoonerCare HMP is to help people
  - The whole person, not the disease

- Predictive modeling identifies and ranks people who need that help.
Solutions

- **Risk Navigator Clinical®**
  - Designed for use by the medical management team
  - Identifying and stratifying high risk members
  - Providing actionable information such as guideline gaps and medication compliance

- **Risk Navigator Provider™**
  - Designed to push data to physicians through the web
  - Provides compliance summary to evidence-based medicine treatment guidelines
  - Reporting and display of information designed to be physician-friendly

- **Risk Navigator Performance™**
  - Designed to profile cost and utilization patterns of physicians
  - Incorporating detailed reports on past performance and risk using ETGs
Predictive Modeling

- Members selected for actionable risk-based information based on their entire health profile
  - Acute Risk Score
    - Ranks individuals by opportunity to avoid high-cost acute care
    - Reflects IP and ER component of overall prediction
**Member Profile**

<table>
<thead>
<tr>
<th>Member Information</th>
<th>Total Cost</th>
<th>Forecasted Cost</th>
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<tbody>
<tr>
<td>Member ID</td>
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<tr>
<td>Age/DOB</td>
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<tr>
<td>Gender</td>
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<tr>
<td>Active (Y/N)</td>
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<tr>
<td>Rx Benefits (Y/N)</td>
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<tr>
<td>Address</td>
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</tbody>
</table>

**Forecasted**

- Forecasted IP LOS: 40.00
- Forecasted ER Visits: 8.00
- Forecasted Rx Cost: $1,911
- Forecasted Risk Index: 47.26
- Forecasted Risk Category/Percentile Ranking: Category 5 / Rank 100
- Impact Score: Acute=98.00/Chronic=98.00
- Line Of Business: Choice ABD
- Care Mgmt Program: DM2 - CLOSED
- Primary Diagnosis: Infectious Disease
- Phone Number(s): (home) 0007942584
<table>
<thead>
<tr>
<th>Diagnosis Category</th>
<th>Rx</th>
<th>Mgmt</th>
<th>Facility</th>
<th>Ancillary</th>
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<tbody>
<tr>
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<td>$546</td>
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<td>$1,461</td>
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<td>Count</td>
<td>Total Cost</td>
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<td>-----------------------------------------------</td>
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<tr>
<td>ANTI-ULCER PREPS/GASTROINTESTINAL PREPS</td>
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<td>1</td>
<td>$15</td>
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<td>ANTIARTHRITICS</td>
<td>11/20/07</td>
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<td>$17</td>
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<td>10/13/07</td>
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<tr>
<td>ATARACTICS-TANQUILIZERS</td>
<td>03/09/08</td>
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<td>$10</td>
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<tr>
<td>CEPHALOSPORINS</td>
<td>07/09/08</td>
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<td>$4</td>
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<tr>
<td>DIABETIC THERAPY</td>
<td>05/109/08</td>
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<td>$586</td>
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<td>LIPOPROTICS</td>
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<td>$19</td>
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<tr>
<td>MUSCLE RELAXANTS</td>
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<td>8</td>
<td>$88</td>
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<td>NARCOTIC ANALGESICS</td>
<td>02/01/08</td>
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<td>OTHER ANTIBIOTICS</td>
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<td>$124</td>
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<td>OTHER HYPOTENSIVES</td>
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<td>$7</td>
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<td>PSYCHOSTIMULANTS-ANTIDEPRESSANTS</td>
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<td>8</td>
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<td>SEDATIVE NON-BARBITURATE</td>
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<td>$120</td>
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<table>
<thead>
<tr>
<th>Provider Information - Professional Summary</th>
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</thead>
<tbody>
<tr>
<td>Physician Name</td>
</tr>
<tr>
<td>Doc 1</td>
</tr>
<tr>
<td>Doc 2</td>
</tr>
<tr>
<td>Doc 3</td>
</tr>
<tr>
<td>Doc 3</td>
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<td>Doc 5</td>
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<td>DME 1</td>
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<td>Provider ID</td>
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<td>-------------</td>
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<tr>
<td>AMB 1</td>
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<tr>
<td>Doc 8</td>
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<tr>
<td>Clinic 1</td>
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<tr>
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</tr>
</tbody>
</table>

**Provider Information - Inpatient Summary**

<table>
<thead>
<tr>
<th>Provider ID</th>
<th>Provider Name</th>
<th>Specialty</th>
<th>LOS (days)</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hosp 1</td>
<td>HOSPITAL</td>
<td></td>
<td>35</td>
<td>$129,426</td>
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</tbody>
</table>

**Provider Information - Outpatient Summary**

<table>
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<tr>
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<th>Provider Name</th>
<th>Specialty</th>
<th>Total Cost</th>
<th># Services</th>
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</thead>
<tbody>
<tr>
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<td>HOME HEALTH AGENCY</td>
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<td>$939</td>
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<td>HOSP 1</td>
<td>HOSPITAL</td>
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<td>Home Health 1</td>
<td>HOME HEALTH AGENCY</td>
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<td>$1,617</td>
<td>42</td>
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</table>

**Case Management**

<table>
<thead>
<tr>
<th>Case Manager</th>
<th>Initial Implementation Date</th>
<th>Comments</th>
</tr>
</thead>
</table>
Today

- Giving Risk Navigator *Clinical* and provider access to contracted HMP staff
- Printing a PMPs’ panel profile for practice facilitators to discuss with providers
What would we do different

- Select a larger initial group to stratify
- Categorize data by Institutional Levels of Care
- Re-consider including Medicare Members
Lessons Learned

- System of care delivery must change
  - It takes a team

- Patients have to take responsibility
  - We have to show them how

- We help people
  - The whole person, not the disease

- The Health Management Program is the right thing to do
Evaluation

- Independent (Non-biased)
- RFP Released
  - Reduce Utilization
  - Satisfaction Surveys
    - Provider
    - Member
  - Improved health status
Behavioral Health Grant

- Behavioral Health at risk for becoming inpatient
- Highest $ diagnosis is Behavioral Health
- Predicted to have more than 4 Inpatient Days
Behavioral Health

- Specialized Case Management to align member with outpatient services
- Alignment with community partners
- Statistical analysis of outcomes
Vendor Client Support

Karl Weimer
MEDai, Inc.
An Elsevier Company
MEDai Implementation Process

Needs Analysis
- Validate User Needs
- Client Assessment
- Review Data Requirements
- Finalize Project Plan

Data Cleanup and Production Process
- Acquire Data
- Run IDC
- RNC Production
- Set-up Technical Environment

Custom Model Creation
- Develop Custom Model
- Create RNC Test Deliverable
- Validate Model and Data
- Present Validation to Client
- Client Validation of RNC

Delivery
- Web Deliverable
- Flat File
- Train End Users
- Provide Account Management Services

Post Implementation
- Ongoing Account Management Services
- Support Services
- User Conference
- Quarterly Telephonic User Group Sessions
- Leadership Council

Implementation
- Deployment
Account Management

- **Needs Assessment**
  - Clinical, actuarial, network management
  - Understand current processes, business needs, goals, and success criteria

- **Project Manager**
  - Ensure milestones are met in accordance with timeline and business goals

- **End User Training**
  - Customized with focus on needs and business goals
Production/Client Services

- Implementation
  - Data validation and mapping
  - Build analytic files
  - Customize and deploy model
- Production
  - Maintain model and database
- Help Desk
- Technical Support
Product Management

- **Needs Assessment**
  - Document business requirements
  - Develop specifications
  - Maintain and enhance application

- **Project Management**
  - Ensure milestones are met in accordance with timeline and business goals
  - Oversee development
  - Test and validate system
  - Develop documentation
MEDai Customer Focus

- Well-defined SLAs and Help Desk Processes
- Consultative, Proactive Account Management
- User Interaction Opportunities
  - Annual Users’ Conference
  - Two (2) Physician Conferences per year
  - Two (2) Leadership Council meetings per year
- Formal Product Management Function to Manage Customer Requests
  - Two (2) releases per year
Summary

- Team approach to care delivery.
- Predictive modeling identifies and ranks people who need care delivery coordination.
- We help the whole person, not the disease.
- We have to show patients how they have to take responsibility.
Contact Information

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