Webinar Logistics

• All lines will be muted
• Questions can be sent in the chat box during the webinar; there will be three Q & A segments
  – If the chat panel is displayed but there is not an area for you to enter a question, expand the panel by selecting the down arrow
  – If the chat box is not displayed, click on the ellipsis (...) button to add it to your screen
• Slides, a recording, and a transcript will be posted online within a few weeks of the webinar
Welcome and Overview

Keith Branham, Research Analyst, Medicaid IAP Data Analytics Team, Data and Systems Group, Center for Medicaid and Children’s Health Insurance Program Services, Centers for Medicare & Medicaid Services (CMS)
Purpose and Learning Objectives

• Understand benefits and challenges associated with accessible (i.e., easy to access) data analytic and visualization platforms
• Gain insights into key considerations for effectively conveying analytic results to inform policy
• Learn about state efforts to adopt and utilize common data analytic platforms to develop meaningful reporting mechanisms
Polling Question #1

• Who has joined today’s webinar?
  – State Medicaid agency
  – Other state agency
  – State contractor/vendor
  – Other (*please provide details in the subsequent question*)
Agenda

• Introductions
• Overview of the Medicaid IAP
• Considerations and Best Practices for Analytic Tools
• Resourceful Data Analytics and Actions: State Perspectives
  – Oklahoma Health Care Authority
  – Iowa Medicaid Enterprise
• Key Takeaways and Conclusion
Speakers

• Shannon Harrer
  – Analytics Lead, IBM® Watson Health®
• Ryan Nelson
  – Clinical Outcomes Analyst, Oklahoma Health Care Authority
• Kimberly Köehler
  – Data Analytics Team Lead, Iowa Medicaid Enterprise
Speakers (Cont’d.)

• Regina Kling-Navratil
  – Data Analyst, Iowa Medicaid Enterprise

• Bob Schlueter
  – Business Analyst, Iowa Medicaid Enterprise

• Mike Egan
  – Member/Provider Analyst, Iowa Medicaid Enterprise
Overview of Medicaid IAP

Medicaid Delivery System Reform

Program Areas

- Improving Care for Medicaid Beneficiaries with Complex Care Needs and High Costs
- Promoting Community Integration Through Long-Term Services and Supports
- Supporting Physical and Mental Health Integration
- Reducing Substance Use Disorders

Functional Areas

- Data Analytics
- Quality Measurement
- Performance Improvement
- Value-Based Payment and Financial Simulations
Considerations and Best Practices for Analytic Tools

Shannon Harrer
Analytics Lead
IBM Watson Health
Commonly Used Analytic Tools

• Data has the potential to inform health care delivery, clinical decision-making, and policy
• Tools and methods used to disseminate data can impact our audience’s engagement and understanding
• A picture speaks a thousand words
Today, we will discuss benefits, limitations, best practices, and considerations for using four commonly used tools:

- Microsoft® Excel®
- Tableau®
- SAS®
- Open Source Tools (e.g., R, Python)
Microsoft Excel

• Spreadsheet-based software to organize, format, calculate, and plot data

## Benefits

- ✓ Point and click functionality
- ✓ Commonly used
- ✓ Manipulation and transformation
- ✓ Small datasets
- ✓ Dashboard functionality
- ✓ Simple visualizations

## Limitations

- × Proprietary
- × Uses static data extracts
- × Knowledge of macros required to harness full capability
- × Collaboration limits
Tableau

• Software to represent and visually draw insight from data

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Point and click functionality</td>
<td>× Proprietary</td>
</tr>
<tr>
<td>✓ Integrates with databases for real-time results</td>
<td>× Less common than Excel</td>
</tr>
<tr>
<td>✓ Dashboard functionality</td>
<td>× Barriers to entry</td>
</tr>
<tr>
<td>✓ No coding skills required</td>
<td>× Not designed for data manipulations and transformations</td>
</tr>
<tr>
<td>✓ Easy collaboration</td>
<td></td>
</tr>
</tbody>
</table>
SAS

- Language that supports data manipulation and statistical analyses

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅ Commonly used</td>
<td>✗ Proprietary</td>
</tr>
<tr>
<td>✅ Manipulation and transformation</td>
<td>✗ Many features require programming knowledge</td>
</tr>
<tr>
<td>✅ Ability to handle large datasets</td>
<td>✗ Procedural language that can result in many lines of code</td>
</tr>
<tr>
<td>✅ Dedicated customer support</td>
<td></td>
</tr>
</tbody>
</table>
Open Source Tools

• R and Python are languages that support data manipulation, statistical analyses, and visualizations

**Benefits**

✓ Free to download
✓ Integrates with databases for real-time results
✓ Dashboard functionality
✓ High degree of customization possible but not required
✓ Data manipulation, statistics, modeling, and visualization

**Limitations**

× Requires programming knowledge
× Barriers to entry and acceptance
× Changes to maintained libraries may require periodic updates
# Benefits and Limitations of Commonly Used Analytic Tools

<table>
<thead>
<tr>
<th>Feature</th>
<th>Microsoft Excel</th>
<th>Tableau</th>
<th>SAS</th>
<th>Open Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual license</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
<td>Not Required</td>
</tr>
<tr>
<td>Experience among staff</td>
<td>Common</td>
<td>Less Common</td>
<td>Less Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Versioning concerns</td>
<td>Low</td>
<td>Moderate</td>
<td>Low</td>
<td>Moderate</td>
</tr>
<tr>
<td>Statistical features</td>
<td>Moderate</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Ease of use</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Quality of visualizations</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Dashboard functionality</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Visualization flexibility</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
</tr>
</tbody>
</table>
Best Practices for Implementing Analytic Tools

- Know your audience!
- Develop a plan (e.g., identify the question and approach beforehand)
- Design iteratively
- Request feedback early and often
- Reduce manual processes where possible
Best Practices for Data Visualizations

• Lead with key data
• Identify the take-home message for your audience
• Report metrics with which the audience identifies
• Avoid lengthy text-based summaries
Best Practices for Data Visualizations (Cont’d.)

• Always include labels, values, and/or axes to avoid confusion
• Be consistent with language and color schemes
• Simple is powerful
Polling Question #2

- Which common data analytic and visualization platforms has your state used (*select all that apply*)?
  - Microsoft products (e.g., Excel, Word)
  - Tableau
  - SAS
  - R
  - Python
  - Other (*please provide details in the subsequent question*)
Questions or Comments?
RESOURCEFUL DATA ANALYTICS AND ACTIONS: A PERSPECTIVE FROM OKLAHOMA

Ryan Nelson
Clinical Outcomes Analyst
Oklahoma Health Care Authority
MEDICAID IAP DATA ANALYTICS PROJECT: GOAL

• Goal: Create a report which visually communicated key information about the population with a specific chronic condition

• Report content
  • Prevalence of the condition
  • Demographic breakdown
  • Overview of costs associated with health care services received
MEDICAID IAP DATA ANALYTICS PROJECT: GOAL (CONT’D.)

• These reports help to inform various intervention initiatives throughout the agency
  • The previous reports felt textbook-like
MEDICAID IAP DATA ANALYTICS PROJECT: TARGET AUDIENCE

• Previous reports targeted key decision-makers within the agency
• Objective: Make the reports accessible to all state agencies and external partners
  • Ultimately, reports were developed in a format for the public
MEDICAID IAP DATA ANALYTICS PROJECT: KEY STAKEHOLDERS

• Fred Oraene, Director of Office of Data Governance and Analytics
• Sarah Walker, Clinical Outcomes Manager
• Ryan Nelson, Clinical Outcomes Analyst
• Jennifer Gaskill, Senior Research Analyst
MEDICAID IAP DATA ANALYTICS PROJECT: PLATFORMS CONSIDERED

• Microsoft Office
  • Pro: No additional investment
  • Con: Time-consuming process

• SAP Lumira
  • Pro: Integration with SAP Business Intelligence
  • Con: Additional investment

• Tableau
  • Pro: Ease of use and extensive user community
  • Con: Additional investment
MEDICAID IAP DATA ANALYTICS
PROJECT: PREVIOUS PROCESS

• Hands-on, time-consuming process
• Each report was run separately
MEDICAID IAP DATA ANALYTICS PROJECT: UPDATED PROCESS

• Streamlined process
  • Minimizes the propensity of error

• Greatest challenge
  • Wide and Short versus Narrow and Long data files
SUSTAINING THE GAINS

• Accountability
  • Chronic condition reports are now part of the agency’s public website (http://okhca.org/)

• Future plans
  • Continue to leverage Tableau’s capabilities
  • Create a single dashboard
    • Allow users to create dynamic views
WORDS OF WISDOM

• Continue to look for opportunities to improve your work
GET IN TOUCH

4345 N. Lincoln Blvd.
Oklahoma City, OK 73105

okhca.org
mysoonercare.org

Agency: 405-522-7300
Helpline: 800-987-7767
Questions or Comments?
Resourceful Data Analytics and Actions: A Perspective from Iowa

Kimberly Köehler
Data Analytics Team Lead
Iowa Medicaid Enterprise

Regina Kling-Navratil
Data Analyst
Iowa Medicaid Enterprise

Bob Schlueter
Business Analyst
Iowa Medicaid Enterprise

Mike Egan
Member/Provider Analyst
Iowa Medicaid Enterprise

August 5, 2020
Medicaid IAP Data Analytics Project: Background

• Goal: Provide a high-level infographic overview of the Iowa Medicaid program
• Target population: State legislators and other external interest groups
• Key stakeholders involved: Medicaid Director, who was new to the state at the time of creation and needed to convey data about the program
Medicaid IAP Data Analytics Project: Platforms and Processes

• Rationale for selecting Tableau as the analytic platform
  – Experience working with Tableau (two major dashboards)
  – Unfamiliarity with mapping in other business intelligence platforms

• Processes conducted and results
  – Audience determination
  – Data elements
  – What story do the data elements tell?
Medicaid IAP Data Analytics Project: Platforms and Processes (Cont’d.)

• Challenges and solutions
  – Data consistency for the managed care organizations (MCOs) as well as fee-for-service-(FFS) derived datasets
    • Reporting of Iowa Expenditures found in capitation and FFS
    • Clearly communicate what are state versus MCO expenditures
  – Consistency among other externally published information
    • Need to validate results with other published reports
Medicaid IAP Data Analytics Project: Platforms and Processes (Cont’d.)

• Challenges and solutions (cont’d.)
  – Source information retention
    • Analytics tool does not pull data directly from data warehouse
    • Data are maintained and stored in Excel spreadsheets
  – Destination for audience
    • Significant Iowa Medicaid Enterprise internal review, including colors and images
    • Document noninteractive and published as PDF
Design Change Over Time

The Iowa Medicaid program provides preventive, acute, and maintenance services for low-income Iowans whose income is below 133% of poverty ($15,521 annually for a single person $20,821 for a couple or higher depending on family size).

As of 2017, 677,583 (18%) of Iowans are enrolled in IA Medicaid/CHIP

- CHIP: 50,500
- Disabled: 111,351
- Elderly: 78,874
- Expansion: 183,120
- Families

Iowa Medicaid provides medically necessary healthcare coverage for financially needy adults, children, parents with children, people with disabilities, elderly people and pregnant women to help them live healthy, stable, and self-sufficient lives.

January 2019: 698K or 22% of Iowans are enrolled in IA Medicaid/CHIP

- TANF Adult and Child: 44%
- Wellness Plan: 22%
- Disabled/Dual/PACE: 10%
- Hawki/CHIP: 9%
- FFS: 5%

*Distinct member counts included Hawki, FFS, HIPP and Current MCO Members based on eligibility date pulled after the 10th of the month.
Sustaining the Gains

• Updated results: Iowa is working to update its data to provide an annual refresh of the data in the infographic
  – Automating tasks where possible
Sustaining the Gains (Cont’d.)

• Future plans: Success from this project led to pursuit of additional technical assistance via Medicaid IAP
  – Reducing Substance Use Disorders: Dashboard development (Lead: Kurt Behrens)
  – Using Data Analytics to Better Understand Medicaid Populations with Serious Mental Illness (Lead: Kimberly Köehler; Co-Lead: Mike Egan)
  – Value-Based Purchasing Affinity Group (Bob Schlueter, et al)
Words of Wisdom

- Medicaid IAP encourages relational thinking through data discovery and trending
  - Programmatically
  - Between programs
  - Through external data sources that provide context
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Mike Egan  
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https://dhs.iowa.gov/ime/about/performance-data/infographic
Questions or Comments?
Key Takeaways for Today’s Webinar

• When considering an appropriate analytic tool and approach, identify a concrete purpose and prepare for iterative testing
• Use of accessible analytic tools can support streamlined processes that promote efficiencies in Medicaid
• Current and consistent data across sources are key to effectively convey analytic results and inform policy
Thank You!

Thank you for joining today’s webinar!
Please complete the evaluation form following this presentation.
For more information and resources, please visit Medicaid.gov.