The Skill of Analyzing Data

Division of Continuous Quality Improvement

Putting people first, with the goal of helping all Michiganders lead healthier and more productive lives, no matter their stage in life.
Objectives

• Understand the difference between Qualitative and Quantitative data.
• Identify the different types of Qualitative and Quantitative data.
• Explore ways to evaluate all available child welfare data sources and analyze what the data means.
• Know how to use data to define a problem and investigate causes.
• Practice using data to identify the necessary change for planning.
• Learn how to evaluate what available child welfare data will provide the best tool for tracking and adjusting your plan.
Data will talk to you if you’re willing to listen.
-Jim Bergeson-
**DATA** is a collection of facts used as a basis for reasoning, discussion, or calculation.

It should do three things:

- Confirm or disprove what you were already thinking.
- Make you ask more of the right questions.
- Cause you to act on what you discover.

Two types of data: Qualitative and Quantitative.

**Data tells a story.**
## Qualitative vs. Quantitative Example

<table>
<thead>
<tr>
<th>Aging Out Youth - Qualitative Data</th>
<th>Aging Out Youth - Quantitative Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment readiness</td>
<td>173 youth</td>
</tr>
<tr>
<td>Relationship with birth families</td>
<td>83 girls, 90 boys</td>
</tr>
<tr>
<td>Support systems with caring adults</td>
<td>62% (107) graduating from high school</td>
</tr>
<tr>
<td>Preparedness to live unsupervised</td>
<td>48 youth college-bound</td>
</tr>
</tbody>
</table>
Qualitative data is data that can be observed but cannot be measured.

<table>
<thead>
<tr>
<th>Method and Description</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Michigan’s Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structured Interviews:</strong></td>
<td>Quick, easy and organized.</td>
<td>Does not allow for follow up questions. May appear rigid.</td>
<td>QSR CFSR</td>
</tr>
<tr>
<td>One on one interview using preselected question.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unstructured Interviews:</strong></td>
<td>Allows for follow up questions and provides more details. Open ended question can be exploratory.</td>
<td>Takes more time to complete. Lacks consistency.</td>
<td>QSR Supervision</td>
</tr>
<tr>
<td>No standard list of questions used, exploratory; use of open ended questions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Focus Groups:</strong></td>
<td>Gather information from multiple individuals at once, time effective.</td>
<td>Group dynamics can be challenging, accuracy of data.</td>
<td>QSR CFSR</td>
</tr>
<tr>
<td>Group interviews (8-10 participants) using a preselected set of questions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Direct Observation:</strong></td>
<td>Provides a direct perspective, occurs in natural setting. Immediate feedback can be provided.</td>
<td>Time consuming, perceptions of observer can influence data, may effect participants behaviors.</td>
<td>Fidelity Supervision</td>
</tr>
<tr>
<td>Gather first hand data using direct observation and note taking. Provide immediate feedback.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Written Documents/Case File Review:</strong></td>
<td>Provides detailed and factual information. Convenient, less expensive.</td>
<td>Subjective point of view, verifying validity, may find conflicting information.</td>
<td>CFSR ISEP Reviews (QAPS) Case File Reviews Compliance Reviews (QACR)</td>
</tr>
<tr>
<td>Review of documents, case files, and memos (etc.) to obtain data.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Quantitative data** is that which can be expressed numerically and is associated with a measurement scale.

<table>
<thead>
<tr>
<th>Method and Description</th>
<th>Michigan’s Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Counts:</strong> Counting things.</td>
<td>Case Load Count/Compliance Monthly Fact Sheet Foster Home Recruitment Data</td>
</tr>
<tr>
<td><strong>Calculations:</strong> Mathematical calculations.</td>
<td>Monthly Management Report Missing Outlier Values Report CFSR Data Key Performance Indicators</td>
</tr>
<tr>
<td><strong>Converting:</strong> Converting qualitative human judgements into numbers.</td>
<td>QSR Findings Fidelity Tool Results CFSR Results</td>
</tr>
</tbody>
</table>
## Correlation of Data

<table>
<thead>
<tr>
<th>Good Numbers</th>
<th>Equals</th>
<th>Stronger Safer Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commencement</td>
<td>=</td>
<td>Safety, Engagement, Mentoring</td>
</tr>
<tr>
<td>Face-to-Face</td>
<td>=</td>
<td>Safety, Engagement, Teaming, Planning, Tracking and Adjustment</td>
</tr>
<tr>
<td>Social Work Contacts between Worker/supervisor</td>
<td>=</td>
<td>Teaming, Planning, Tracking and Adjustment and Mentoring</td>
</tr>
<tr>
<td>Social Work Contacts between Worker/child</td>
<td>=</td>
<td>Safety, Engagement, Assessment, Teaming, Planning and Tracking and Adjustment</td>
</tr>
<tr>
<td>Social Work Contacts between Child/parent</td>
<td>=</td>
<td>Family Connections, Assessment, Engagement, Planning, Tracking and Adjustment and Mentoring</td>
</tr>
<tr>
<td>Timely Medicals and Dentals</td>
<td>=</td>
<td>Safety, Assessment, Teaming, Tracking and Adjustment and Mentoring</td>
</tr>
</tbody>
</table>
Without data you’re just another person with an opinion.

-W. Edwards Deming-
The Improvement Process

- **Plan**
  - Identify the goal & outcome.
  - Collect baseline performance.
  - Assess current approach.
  - Brainstorm potential solutions.
  - Design an intervention. Develop a plan for action.

- **Implement**
  - Apply the intervention.
  - Complete the action steps identified in the plan.

- **Track**
  - Measure the performance outcome and assess results.
  - Determine impact of intervention.
  - Assess implementation.

- **Adjust**
  - Adjust intervention as needed.
  - Standardize the intervention or develop a new intervention.
  - Establish future plans.
  - Start the cycle over as needed for new interventions.
Resources available to inform the CQI Team

- Review and act upon reports/information related to progress in the community:
  - Monthly Management Report
  - Missing Outlier Values Report
  - Foster Home Recruitment Data
  - QSR Findings
  - Fidelity Tool Results
  - CFSR Indicators
  - Child Welfare Licensing Findings
  - Office of the Family Advocate
  - Ombudsman Reports
  - Local Reviews (Data or Case Record)
  - Other Sources of Community Information
How does this data drive CQI efforts?

- Assessing and understanding qualitative and quantitative data improves metrics/outcomes. Quality practice leads us to good outcome measures.
- Allows us to establish as baseline for performance, provides insight to define the root cause so we can develop a solution.
- The MiTEAM Fidelity Tool, QSR and Key Practice Performance Indicators (KPIs) are all used to assess overall performance.
  - Have the right data to develop a plan
  - Implement the plan
  - Was the intervention successful
  - Takes time to see results following implementation
- Systemic barriers identified that are beyond local level control may be elevated to the Quality Improvement Council (QIC) for state level assistance and support.
Measuring and Monitoring Progress

Quality Performance
QUALITY SERVICE REVIEW
Data Source: QSR Results
18 Counties Comprise the State Data - FY 2017

Selected Practice Performance Indicators

<table>
<thead>
<tr>
<th></th>
<th>FY 2016</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Identity and Need</td>
<td>96.8%</td>
<td>97.8%</td>
</tr>
<tr>
<td>Engagement</td>
<td>70.5%</td>
<td>65.0%</td>
</tr>
<tr>
<td>Teamwork &amp; Coordination</td>
<td>57.2%</td>
<td>37.4%</td>
</tr>
<tr>
<td>Assessment &amp; Understanding</td>
<td>76.3%</td>
<td>64.4%</td>
</tr>
<tr>
<td>Long-term View</td>
<td>67.1%</td>
<td>64.4%</td>
</tr>
<tr>
<td>Planning Interventions</td>
<td>80.4%</td>
<td>80.8%</td>
</tr>
<tr>
<td>Implementing Interventions</td>
<td>81.2%</td>
<td>74.4%</td>
</tr>
<tr>
<td>Medication Management</td>
<td>95.0%</td>
<td>93.8%</td>
</tr>
<tr>
<td>Tracking &amp; Adjustment</td>
<td>75.0%</td>
<td>52.2%</td>
</tr>
</tbody>
</table>

Selected Child and Family Status Indicators

<table>
<thead>
<tr>
<th></th>
<th>FY 2016</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety: Exposure to Threat</td>
<td>95.4%</td>
<td>97.7%</td>
</tr>
<tr>
<td>Safety: Behavioral Risk</td>
<td>88.0%</td>
<td>93.5%</td>
</tr>
<tr>
<td>Stability</td>
<td>81.5%</td>
<td>86.3%</td>
</tr>
<tr>
<td>Permanency</td>
<td>89.7%</td>
<td>84.1%</td>
</tr>
<tr>
<td>Living Arrangement</td>
<td>95.3%</td>
<td>97.8%</td>
</tr>
<tr>
<td>Physical Health</td>
<td>96.1%</td>
<td>98.9%</td>
</tr>
<tr>
<td>Emotional Functioning</td>
<td>84.3%</td>
<td>94.9%</td>
</tr>
<tr>
<td>Learning &amp; Development</td>
<td>86.3%</td>
<td>86.4%</td>
</tr>
<tr>
<td>Voice &amp; Choice</td>
<td>63.0%</td>
<td>57.5%</td>
</tr>
<tr>
<td>Family Function Resourcefulness</td>
<td>56.5%</td>
<td>31.4%</td>
</tr>
<tr>
<td>Caregiving</td>
<td>92.5%</td>
<td>98.7%</td>
</tr>
<tr>
<td>Family Connections</td>
<td>79.6%</td>
<td>62.3%</td>
</tr>
</tbody>
</table>

QSR values have been rounded to the nearest percentage. Pilot county data impacted higher performance in FY 2016.

Results
OUTCOMES
Data Source: Uniform Methods
As of 9/30/2017

* Maltreatment in Foster Care

* Recurrence of Maltreatment

Permanency in 12 Months for Children Entering Foster Care
State 31.0%

Permanency in 12 Months for Children in Foster Care 12-23 Months
State 46.4%

Permanency in 12 Months for Children in Foster Care for 24 Months or More
State 40.9%

Re-Entry to Foster Care in 12 Months
State 5.5%

Placement Stability
State 3.5%

* Data not yet available

Michigan Strengthening Our Focus – September 2017
Fidelity Tool Defined

• The fidelity tool is an assessment/measurement of how well case practice behaviors have been implemented.

The tool tells us:
• If our behaviors in the field are aligned with the enhanced MiTEAM practice model.
• Insight into the quality of our work.
**QSR MEASURES**

**CASE PRACTICE MODEL IMPLEMENTATION IN OUR CHILD WELFARE COMMUNITIES**

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**Child and Family Status Indicators**

1. Safety from Exposure
2. Safety from Behavioral Risks to Self or Others
3. Stability
4. Permanency
5. Living Arrangement
6. Physical Health
7. Emotional Functioning
8a. Early Learning and Development
8b. Academic Status
8c. Preparation for Adulthood
8d. Transition into Adulthood
9. Voice and Choice
10. Family Functioning and Functioning
11a. Caregiving Functioning (family setting)
11b. Residential Care (group setting)
12. Family Connections

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**MiTEAM Competencies**

1. Engagement
2. Assessment
3. Teaming
4. Case Planning
5. Placement Planning
6. Case Plan Implementation
7. Mentoring

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**Practice Performance Indicators**

1. Responsiveness to Cultural Identity and Need
2. Engagement
3. Teaming
4. Assessment and Understanding
5. Long-term View
6. Planning Interventions
7. Implementing Interventions
8. Tracking and Adjustment
What is the CSA Monthly Management Report?

• A set of reports generated from information entered into the MiSACWIS application.
• The purpose of the report is to look at trends within an agency and use the information to guide increased outcomes for children.
• The report currently contains 15 categories and 42 metrics – more will be added as information is available in the data warehouse/InfoView.
• The average is based on the total number of events due over the given period divided by the total number of events completed timely.
• Agency trends are shown in 3, 6, and 12 month increments.
1) CFSR assesses the outcomes of services provided to children and families.

2) CFSR examines systemic factors that affect the ability of the State to help children and families achieve positive outcomes.

The CFSR includes a review of:

- Michigan AFCARS and NCANDS data
- Statewide Assessment
- Case reviews conducted by Federal and State reviewers
- Interviews with key stakeholders
CFSR-Assessment of Outcomes

❖ **Safety Outcome 1**: Children are, first and foremost, protected from abuse and neglect.

❖ **Safety Outcome 2**: Children are safely maintained in their homes whenever possible and appropriate.

❖ **Permanency Outcome 1**: Children have permanency and stability in their living situations.

❖ **Permanency Outcome 2**: The continuity of family relationships and connections is preserved for children.

❖ **Well-Being Outcome 1**: Families have enhanced capacity to provide for their children’s needs.

❖ **Well-Being Outcome 2**: Children receive appropriate services to meet their educational needs.

❖ **Well-Being Outcome 3**: Children receive adequate services to meet their physical and mental health needs.
Any questions?
Audience Exercise

- Review the material provided.
- After reviewing the documents please discuss with your team.
- Please complete the attached plan.

Please include all the following steps:
- Define the Problem
- Plan what to Measure
- Implement a Plan of Action
- Track the progress
- Adjust the plan
Connecting data to the Child Welfare Community

Child & Family Teaching Stories → Performance Results For Practice Indicators → Respectful & Helpful Feedback

Local Practice Conditions → Next Step Action Planning → Practice Improvements
References

• Grand Canyon University (2018). Types of Qualitative Data - Center for Innovation in Research and Teaching. [online] https://cirt.gcu.edu/research/developmentresources/research_ready/qualitative/data.


