Using Data in the System of Care

William E. Reay, Ph.D.
President and CEO
OMNI Behavioral Health
Coalition for Research To Practice

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Decision Making at the Client-Provider Level

- Potential Outcomes to assess at the client-provider level include:
  - Symptom severity/diagnosis, functioning, consumer perspectives (e.g. satisfaction, quality of life).
  - Environments (e.g., social supports, family functioning, neighborhood stability).
  - Systems (e.g., service use, costs, provider competencies, agency responsiveness, client functional improvement x provider and agency).
Decision Making at the Client-Provider Level

- The SAMHSA National Mental Health Initiative Evaluation Requires Information to be collected and analyzed at intake, 6 months and 12 months and at discharge.
  - Administrative Data
  - Family/Living Information
  - Columbia Impairment Scale
  - Pediatric Symptom Checklist
  - Caregiver Strain Questionnaire
Decision Making at the Client-Provider Level

- The Purpose of the National Evaluation is to describe characteristics of youth, young adults, and families who are receiving SOC services. It is designed to describe how grantees are implementing and expanding the SOC.
- Examine what approaches and mechanisms are related to successful implementation and expansion.
- Describe the individual and family characteristics of youth and families receiving services.
- Track how youth and family outcomes and experiences change over time.
Knowledge of Results is a Critical Ingredient in Facilitating Change

- For Knowledge of results to be fed back to change agents, a rigorous, reliable, and valid measurement system must be in place and routinely utilized.
- Any information gathering system or framework (the architecture) must include comprehensive data.
- While the client is the fundamental unit, clients are nested within larger ecosystems and data gathering must include those systems.
- Providers and Policies must be included as units of data. Providers are nested within larger systems with mediating processes and practices.
Client Symptom Data

- There has been extensive development of clinical assessment instruments to measure symptom severity, and to a lesser extent functional outcomes of clients, with less attention to other outcome domains.

- Feedback to clinicians is critical if the instruments are to generate useful information, thereby facilitating change in service delivery. That feedback should be Client Symptom Data very frequent (daily, weekly, and monthly)
Feedback of client change data to the service provider is more useful in facilitating further change when it is linked with data on change in the mediating processes and practices.

When given feedback about negative outcomes, the clinician also needs additional information about discrepancies between the current and expected course of action in order to make decisions about change in treatment strategies.

When feedback on outcomes is paired with feedback on practices, there is a much greater chance of improving the clinical decision making process.
Decision-Making at the Organizational Level

- The focus of intervention is on the practices and mediating processes at the organizational level that are linked to aggregate-level outcomes.

- The importance of organizational norms such as culture and climate in mental health and child welfare agencies. An organizational climate influences job satisfaction and attrition as well as mental health outcomes for clients.
Decision-Making at the Policy Level

- For policymakers to improve their decision-making they need to know how policies are associated with aggregate-level agency outcomes.

- Data needs to be available to help policy makers establish incentives for better agency-level treatment outcomes or decide whether to invest in treatment rather than preventative services; what treatments provide better proximal and distal outcomes; what treatments to avoid because of demonstrated harmful outcomes.
Integrated Decision Support Systems

- Integrated Data that allows for decision support at all levels within the SOC creates and **learning platform** through reciprocal feedback mechanisms.
- It permits a type of adaptive co-management of all functions within the SOC.
- Using this approach, harvests diverse empirically derived knowledge from and to all decision-makers within the SOC.
Integrated Decision Support Systems: Participatory Approach

- Adopting this approach can bridge the gap between science and practice and lead to substantial improvement in care.

- Participatory approaches that actively involve academics, practitioners, and community members define community and neighborhood problems, develop and test strategies and interventions, and evaluate processes have shown tremendous promise.

- Dissemination and implementation of evidence-based practices requires organizational leaders to place high value on research-informed practices, time efficient approaches to training and monitoring, and the practice of clinical supervision.
Practitioners need assistance from researchers in determining the most powerful components of each evidence-based practice associated with the substantial clinical improvement, iatrogenic effects, and no effect.

Organizational executives must become outspoken advocates for science and the use of evidence. Furthermore, they must be willing to abandon traditional organizational structures and promote bottom-up feedback.
Research to Practice Interaction

- Innovation and change occur through specific actions of persons within social systems.
- Management is about harvesting knowledge from diverse sources and applying that knowledge to practice in a bidirectional manner.
- System and management processes that cause bidirectional learning, knowledge and contextualized understandings become part of the adaptive capacity of the system to change based upon the demands and pressures of the environment.
Case-specific clinical information is recorded daily, weekly, and monthly. Therefore specific intervention processes can easily be identified across the life of the case.

This permits clinicians, researchers, and policy makers to investigate case information, through “serial slicing” (i.e., daily, weekly, monthly, yearly) in an attempt to identify both potent therapeutic activities and doses of activities related to positive, negative, and null case outcomes.

It allows for the identification of factors related to response types to treatment, e.g. negative response, to maximum response to treatment.
Example of Case-Level Analytics
Example of Case-Level Analytics
Example of Service Type Analytics

Table 2
CAFAS Scores at Intake
6 Months and 12 Months Follow-up

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Intake</th>
<th>6 Months</th>
<th>12 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wraparound</td>
<td>109.23</td>
<td>85.38</td>
<td>70.00</td>
</tr>
<tr>
<td>(n = 104)</td>
<td>(83.35)</td>
<td>(47.15)</td>
<td>(41.89)</td>
</tr>
<tr>
<td>MST</td>
<td>107.10</td>
<td>74.73</td>
<td>73.94</td>
</tr>
<tr>
<td>(n = 38)</td>
<td>(34.86)</td>
<td>(51.08)</td>
<td>(46.00)</td>
</tr>
<tr>
<td>Wrap/MST</td>
<td>134.00</td>
<td>89.50</td>
<td>93.50</td>
</tr>
<tr>
<td>(n = 20)</td>
<td>(40.44)</td>
<td>(61.59)</td>
<td>(54.31)</td>
</tr>
</tbody>
</table>
Example of SOC Costs per Case Analytics

Table 2
Budget for Current and Proposed Systems

<table>
<thead>
<tr>
<th></th>
<th>Current System</th>
<th>Proposed System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Child Per Month</td>
<td>$2,101.84</td>
<td>$1,996.75</td>
</tr>
<tr>
<td>Total Annual Costs</td>
<td>$5,069,638.00</td>
<td>$4,816,156.00</td>
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</tbody>
</table>
Example of SOC Level Needs of Parents

<table>
<thead>
<tr>
<th>Top Five Needed Supports</th>
<th>Most Critical Issues Families Are Facing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. parent to parent support</td>
<td>1. coping strategies</td>
</tr>
<tr>
<td>2. support groups for parents</td>
<td>2. knowledge about child’s disability</td>
</tr>
<tr>
<td>3. school advocacy by family</td>
<td>3. getting appropriate mental health</td>
</tr>
<tr>
<td>partners</td>
<td>care</td>
</tr>
<tr>
<td>4. parent representation in</td>
<td>4. establishing good working</td>
</tr>
<tr>
<td>state legislation</td>
<td>relationships with professionals</td>
</tr>
<tr>
<td>5. training for parents</td>
<td>5. accessing educational services</td>
</tr>
</tbody>
</table>
Example of Functional Improvement
SOC Level
The Need for More Informative Clinical Information

- Clients and Families represent a very diverse population. Service developers and policy makers have reduced the manner in which they understand the needs of people to the narrow lens of their statutory responsibility, e.g., delinquent, mentally ill, emotionally disturbed, abuse/neglect.
- Funding sources provide funding associated with their narrow service definitions, e.g., family support hour, outpatient hour, inpatient day.
- Providers have historically responded to those external definitions and have limited their scope of service to those services that will be funded.
- Consequently, treatments are often seen as ineffective, and outcomes remain poor.
Most Common Co-Morbid Conditions of Youth and Families Receiving Publically Funded Services

- Mental health disorders with co-occurring intellectual challenges.
- Parents with unaddressed mental health disorders with co-occurring intellectual challenges.
- Mental health disorders & intellectual challenges with one or more additional physical health disorder.
- Serious and profound environmental stressors with mental health disorders & intellectual challenges.
- Unstable housing, unresponsive schools, violent neighborhoods.
What does the “Big Data” Indicate on the Top 10% of Consumers of Healthcare Dollars?

- The single condition most predictive of an inpatient hospitalization for any reason, is **serious mental illness**.
- The most costly patients for healthcare are consumers with a mental illness with one or two other physical health conditions, which include:
  - **Seizure Disorders** (may or may not be iatrogenic to some medications like antipsychotics)
  - **Diabetes** (abnormal metabolism of carbohydrates)
  - **Chronic Infections** (weakened immune systems)
Environmental Conditions Associated with High-Use Populations

1. Unstable arrangements, and sub-standard housing. Frequent moves from one location to another. Results in diminished support systems.

2. Live in “Food Deserts.” Geographic areas where access to affordable, healthy food options is limited or nonexistent because grocery stores are too far away, or life demands are too great to access them.

3. Extremely limited financial resources resulting in virtually no ability to make meaningful choices.
Evidence-based Practices (EBPs) are not normed on complex populations. Therefore many of the principles associated with the EBP must be adapted to the cognitive, emotional, and social limitations and challenges of complex populations.

Researchers, policy makers, and professional service staff must know the history and development of EBPs they use and accommodate those EBPs to complex populations.

Accommodations must stay within the concepts of the EBP but may result in implementation that is different from the clinical trial delivery.
Workforce Considerations within the SOC

- The vast majority of mental health services are delivered by Master level professionals and below. There is a need to focus on identifying the skills necessary for this group of professionals.

- Developing a provider infrastructure capable of using and producing high-quality clinical data that can inform both the research community and provider groups to undertake the type of ecologically valid research that will guide comprehensive development of the SOC.
Adaptation v. Innovation within the System of Care

- Production of knowledge
  - Aggregate stock of knowledge
    - leads to Entrepreneurship
      - leads to New-to-the-Field Innovation
        - may lead to Outcome Improvement
    - leads to New-to-the-Organization Adaptation
      - may lead to