

THE DEVELOPMENT OF EFFECTIVENESS MEASURES FOR CASE MANAGEMENT

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OBJECTIVES:

Participants will be able to:

- o Identify the objectives for this approach to measuring effectiveness
- o Describe the data collection tool and its implementation
- o Describe the research design as related to reliability
- o Describe the functions of the data application
- o Describe the results of the testing of the data collection tool and data application

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BACKGROUND: SAM's APPROACH to EFFECTIVENESS MEASURES

- o **Mission Statement**
 - o Increase Independence/Self-Sufficiency
 - o Improve Community Integration
- o **Scope of Services**
 - o **Case Management Services/Populations**
 - o Mental Health (MH)
 - o Intellectual Developmental Disabilities (IDD)
 - o Office of Long-Term Living (OLTL)
 - o Early Intervention (EI)
 - o Community Based Care Management (CBCM)
 - o **Geography**
 - o Forty-eight (48) Counties in PA
 - o Six (6) Counties in NJ

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BACKGROUND: SAM's APPROACH to EFFECTIVENESS MEASURES

- o **Current Approach to Effectiveness Measures**
 - o **Effectiveness as a Component of Organizational Outcomes, also including:**
 - o Access
 - o Efficiency
 - o Satisfaction

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BACKGROUND: SAM's APPROACH to EFFECTIVENESS MEASURES

- o **Psychiatric Hospitalizations as a Measure of Effectiveness relative to Independence/Community Integration**
 - o I.e., Hospitalization as Failure to Achieve Independence/Community Integration
 - o Is "Negative"/Indirect Measure
 - o Is not as "Sensitive" as Desired
 - o Fails to Address EI Program
- o **Consideration of Analysis of Completion of Outcomes on Service Plan**

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BACKGROUND: CUP's ORIGINAL DATA COLLECTION TOOL for MEASURING EFFECTIVENESS

- o **The original tool was designed to examine the careful balance between individual needs and the types and sources of supports in vocational settings.**
 - o An examination of work skill needs and how individuals could be supported was undertaken.
 - o The sources of the support were carefully monitored in the hopes that the source of the support would move from professionally-provided support to more natural, less restrictive supports.

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BACKGROUND: CUP's ORIGINAL DATA COLLECTION TOOL for MEASURING EFFECTIVENESS

- o **Research Design**
 - o The original research design utilized areas identified on the Virginia Commonwealth Job matching form.
 - o Utilized because of the strong existing research base
 - o The organizer was used primarily as a monitoring tool for individuals.
 - o No statistical analysis was done or completed.
 - o The movement of sources of support from professionally-provided supports to more natural supports was monitored per individual.



CURRENT PROJECT: SAM and CUP

- o **OBJECTIVES for APPLICATION of the CUP TOOL in CASE MANAGEMENT**
 - o **Address Mission**
 - o **Able to be Implemented with All Populations Served**
 - o Services are provided in a variety of domain areas and over a variety/continuum of settings
 - o Regulations and funding mechanisms are varied and changing.
 - o Many of these changes are tied to the success of consumers and the entities that support them.
 - o **Valid in terms of being Evidence-/Research-Based**
 - o **Relevant to Service Planning**
 - o **User-Friendly - To Minimize:**
 - o Time Required by Case Managers
 - o Data Entry



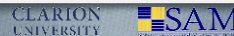
CURRENT PROJECT: SAM and CUP

- o **Useful In Assessment of Programming**
 - o **Able to...**
 - o Consider and appreciate the individual person served
 - o Allow the monitoring of individual-directed and -determined planning
 - o Complete assessment which promotes the mission
 - o Identify and monitor supports from a variety of sources
 - o Identify support needs of cohort groups
 - o **Sensitive enough to ...**
 - o Assess and report an individual's gains in independence and community integration, and
 - o Measure/demonstrate individuals' growth that may be expected from funding sources and other stakeholders



CURRENT PROJECT: SAM and CUP

- o **Able to Yield Statistical Analysis**
- o **Able to Aggregate/Consider Data from Multiple Views:**
 - o Individual Persons Served across Time
 - o Individual Case Managers
 - o Individual Supervisors (Across Case Managers)
 - o Individual Programs (Across Supervisors within a Site)
 - o Multiple Programs (Across Programs with and between Sites)



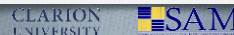
CURRENT PROJECT: SAM and CUP

- o **MODIFICATION of CUP's TOOL/METHODOLOGY for APPLICATION in CASE MANAGEMENT**
 - o **Revision of the Clarion University/Vocational Tool**
 - o Incorporation into Service Planning - Considers:
 - o **Domains of Individuals' Lives**
 - o **Restrictiveness/Frequency of Services**
 - o Initially, considered Levels of Care/Specific Services
 - o Later, established a scale which...
 - o Is based on Restrictiveness/Frequency of Services...
 - o Tracks the type of support needed by individuals as they negotiate the continuum and...
 - o Is consistent with the mission in terms of the expectation for movement from continuous supports provided in a clinical setting to less frequent and more natural supports



	0	1	2	3	4	5
	Natural Supports - No Professional Services (Beyond Medication Management)	Occasional Professional Services (quarterly or less frequent, or without a routine schedule at the consumer's discretion)	Intermittent Professional Services (monthly or less frequent, but more than quarterly)	Frequent Professional Services (more than monthly, but not more than weekly)	More Intensive Ongoing Professional Support in a Community Setting (more than weekly)	Continuous Professional Services in a Clinical Setting (daily)
DOMAINS						
Living Situation/Housing						
Family/Natural Supports						
Cultural/Spiritual						
Social/Recreational						
Leisure						
Living Skills						
Medical/Health Care						
Financial/Insurance						
Educational						
Learning						
Disabling						
Other System Involvement						
Legal						
Alcohol and Other Drug Use						
Mental Health						
Crisis Safety						
Mobility/Transportation						

** If multiple services, select the frequency/intensity for each service.



SUPPORT ASSESSMENT DOMAINS

- **Living Situation/Housing**
 - E.g., type and stability of residence; household composition; nature of neighborhood; or housing supports
- **Family/Natural Supports**
 - E.g., natural family members; marital status of individual or the parents of a child; non-custodial parent(s); foster family and guardian(s); or natural resources and informal supports
- **Vocational**
 - E.g., employment status; participation in vocational programming/workshops; or volunteering or internships in pursuit of employment



SUPPORT ASSESSMENT DOMAINS

- **Cultural/Spiritual**
 - E.g., family and peer cultural and spiritual beliefs/practices and behavior; persons with whom the individual most identifies; membership/involvement in church/spiritual/community organizations; or meal times, disciplinary techniques, celebrations, traditions, etc.
- **Social/ Recreation/Leisure**
 - E.g., use of leisure time in terms of activities in relaxing/having fun/socializing with friends; hobbies; community supports, clubs, and organizations; or community and volunteer activities
- **Medical/Health Care**
 - E.g., medical illnesses or conditions; physical limitations; brain or other injuries; past surgeries; lead or other toxicity; or adaptive equipment needed



SUPPORT ASSESSMENT DOMAINS

- **Financial/Insurance**
 - E.g., insurance, including prescription coverage; income sources; or debt
- **Educational/Learning**
 - E.g., home school district or alternative educational settings; grade in school; type or characteristics of current class setting; highest level of education completed; any academic, social, or behavioral adaptations, including involvement with Special Education and status of IEP; or relationships with peers/teachers
- **Legal**
 - E.g., involvement in the criminal justice system, civil court, or lawsuits; custody arrangements; or adjudication of delinquent or dependent children/youth



SUPPORT ASSESSMENT DOMAINS

- **Crisis/Safety**
 - E.g., precipitators, indicators, or types of risk of harm toward self, toward others, and by others; or coping/self-care methods and safety plans
- **Mobility/Transportation**
 - E.g., individual/physical mobility; or access to/use of transportation
- **Living Skills**
 - Activities of Daily Living (ADL) skills



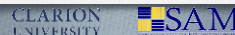
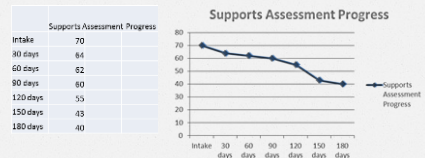
CONTINUUM of SUPPORTS

- **More Restrictive Supports**
 - Continuous Professional Clinical Support in a clinical Setting Daily
 - More Intensive Ongoing Professional Support in a Community Setting (*more than weekly*)
 - Intensive Professional Services (*more than monthly but not more than weekly*)
 - Intermittent Professional Supports (*monthly or less frequently but more than quarterly*)
 - Occasional Professional Services (*quarterly or less frequently, or without a routine schedule, at the consumer's discretion*)
- Natural Supports-No Professional Services (*beyond medication management*)
- **Least Restrictive Supports**



DATA MANAGEMENT PLATFORM

- Data is coded and collected for each individual and added to a spread sheet



CURRENT PROJECT: GENERAL PROCESS OF TESTING

- **Testing of the Data Collection Tool In regard to Intra-/Inter-Rater Reliability**
 - Management Staff Using Service Plans
 - Case Managers Using Scenarios
 - Case Managers Using Service Plans
 - Case Managers Using Scenarios with...
 - Demographics (Age and Gender)
 - Biopsychosocial Information
 - Goals/Steps to Achievement
 - List of Services/Frequency of Services

TESTING: PHASE ONE

- **Format**
 - Provided Case Managers with fabricated scenarios to utilize in completing the data collection tool
 - Two trials – i.e., Two sets of data collected utilizing a one-hour training/test
- **Methodology**
 - Reliability was established using a simple Inter-rater reliability formula: Agreements/Total opportunities for a response x 100 = percent of agreement.
- **Results**
 - Trial #1: Inter-rater reliability level of 70%
 - Trial #2: Inter-rater reliability level of 75%
 - Issue Identified: Case Managers had varying ideas of what services would be provided.
 - Determination: An initial level of agreement sufficient to continue our work was achieved.

What Level of Agreement Is Acceptable?

- Standards for Educational and Psychological Testing (AERA/APA/NCME,1999) do not suggest any specific criterion for agreement or reliability, but simply require that the appropriate measurement be calculated and reported.
- When using percentage of agreement, values from 75% to 90% demonstrate an acceptable level of agreement (Hartmann, 1977; Stemler, 2004)

CAUTIONS/CONSIDERATIONS

- Need to Consider Data from this Tool in Context of Other Data
- Possibility of Decreased Frequency of Services as Result of Decreased Engagement in Services
- Consumer's reactions to sources of support – e.g., some consumers may have no issue with a family member providing transportation, while others may see this as restrictive.
- Development of effectiveness measures as an ongoing process – protocol being revised per results of testing
- Use of a derived supports measure as a way to quantify service needs
 - Although the values are not arbitrary across observers, they are benchmarks

TESTING: PHASE TWO (2/16)

- **Format**
 - Provided Case Managers with service plans to utilize in completing the data collection tool
- **Results**
 - **Need for Clarifications/Revisions to Instructions/Use of Tool**
 - Consider services being delivered at time/on day of completion of tool
 - Include SAM CM as service
 - Include all (up to 4) services (if present) relative to any/all particular domains identified
 - **Statistical Analysis**
 - Informal, but positive
 - Data did not allow more formal analysis
 - Determined decision to move forward and to specify and obtain data required for more formal analysis

TESTING: PHASE THREE (7/16)

- **Format**
 - Case Managers were provided with five (5) Scenarios
 - Demographics (Age and Gender)
 - Biopsychosocial Information
 - Goals/Steps to Achievement
 - List of Services/Frequency of Services
- **Resulting Clarifications/Revisions to Use of Tool**
 - Consider all services, even if not specified in goals/steps to achievement of service plan
 - Consider the same service for multiple domains
 - Need for review and practice of instructions before gathering "test" data

TESTING: PHASE THREE STATISTICAL ANALYSIS

- Considered Total Scores in terms of Domains and Frequency of Services
- Found higher Inter-Rater Reliability relative to Domains identified than relative to Frequency of Services
- Used more sophisticated Inter-Rater Reliability Measures
 - The **Intra-class Correlation Coefficient (ICC)** is a measure of the reliability of measurements or ratings.
 - For the purpose of assessing inter-rater reliability and the ICC, two or preferably more raters rate a number of study subjects.

PHASE THREE STATISTICAL ANALYSIS

- **Absolute Agreement:** systematic differences are relevant
- **Examining Categories**
 - **ICC values for Raters picking the Correct Categories**
 - Trial 1 = 0.667
 - Trial 2 = 0.671
 - Trial 3 = 0.871
 - *With each trial consistency got better*
 - *More experience yields better reliability*

PHASE THREE STATISTICAL ANALYSIS

◦ Examining Categories

ICC values for Total Scores

Initial calculation 0.38

Splitting into two trials

Trial 1 and 2 = 0.234

Trial 3 and 4 = 0.46

Cicchetti (1994)¹¹¹ gives the following often quoted guidelines for interpretation for **kappa** or ICC inter-rater agreement measures:

Less than 0.40 – poor.

Between 0.40 and 0.59 – Fair.

Between 0.60 and 0.74 – Good.

Between 0.75 and 1.00 – Excellent.

NEXT STEPS

- **Continue Implementation in Current Site(s)**
 - Provide remedial training as indicated by results of phase three testing
 - Continue data collection with current and new persons served
 - Upon development of initial service plans
 - Upon review of existing service plans
- **Roll-out in another Site**
 - Utilize revised instructions (per results of phase three testing)
 - Complete at least three (3) practice scenarios before testing
 - Complete at least four (4) test scenarios
 - Upon completion of each test scenario, review scores in comparison to an established score for the particular scenario and clarify instructions as necessary
 - Complete analysis of data and plan accordingly prior to roll-out in next site
- **Finalizing Formats of Reports**
 - Determine points in time for analysis of data
 - Determine priorities for aggregation of data