

# CANS: A Communitric, Outcomes Based Measurement

## Validity and Reliability

**Who Developed the CANS Measurement:** John Lyons is a Senior Policy Fellow at Chapin Hall. He is the developer of an outcomes management approach for human services called Transformational Collaborative Outcomes Management (TCOM). Within the TCOM framework, the most commonly used tool is the Child and Adolescent Needs and Strengths (CANS), which supports decision making in child welfare, mental health, juvenile justice, schools and early intervention service provision, including level of care and planning and wellbeing and functional status outcomes, to facilitate quality improvement initiatives. Versions of the CANS are currently used in every state with statewide applications in 36 states. There are implementations on every continent except Antarctica.

**What is the purpose of measurement and how did we come to decide on using CANS:** *To manage human services based on information, it is necessary to create reliable and valid information through measurement.* The traditional approach to measurement in these settings has been psychometric theories (e.g., Nunally, 1978; Lord 1954; 1966); however, psychometric theories have been used to develop measures for purposes of research, not for service delivery. As a result, the focus of these theories of measurement has been on precision and internal consistency reliability. This focus results in measures that are often not helpful to the goals of measurement in service delivery.

In 1956, Virginia Apgar created the first clinimetric measure as an assessment of functioning for new born children (Apgar, 1966). This measurement strategy, which focuses on the clinical utility of information, represents the first significant departure from psychometric theories in measurement in human service delivery. Clinimetrics has informed the development of a variety of simple measures that have proved useful in fast-paced medical environments.

**The primary reason for implementing measurement in human services is to communicate.** Communication between the consumer and the provider; between the direct service provider and his/her supervisor; within a program, across programs, and across an entire system of services all must be supported by information. Effective management requires strong communication about the shared goals and objectives of the system (i.e., effectively helping people). Taking this logic and building on the concept of simplicity and clinical utility in clinimetrics, a communitric theory of measurement is advanced in that it creates measures to optimize their communication value within

service delivery applications (Lyons, 2004). Primary characteristics of a communimetric measure include that they are reliable and valid at an item level and immediately translatable into action with regard to service planning. The selection of items is guided by consideration of the information needed to make key decisions in the service delivery process. The measures then become tools—directly supporting the work. Implications for measurement design are considerable. The nature of reliability and validity create alternative considerations for this theory.

During the past decade, communimetric measures have been developed for child-serving systems (e.g., child welfare, mental health, juvenile justice, schools), medical/surgical services, adult mental health services, and entrepreneurial development. More than 30,000 individuals have been trained in the reliable use of one of these tools, and these measures have been used to support the transformation of services in numerous large jurisdictions. Applications have been successfully implemented in Europe, the United States, Canada, and Asia.

**Principles of Communimetrics:** Considering the communication value of a measure from the beginning changes some core principles of measurement design. This is particularly true when a constitutive view of communication is taken in which communication is viewed as the creation of a shared meaning. There are six key principles of measurement as communication communimetrics:

**1. Each item has implications for differential action:** Like clinimetric measures, communimetric tools are designed so that they can operate at the item level. As described, clinimetric measures have proved false the psycho-metric theory position that only multiple item scales are reliable by demonstrating the feasibility and utility of single-item scales in medical settings. Communimetrics emphasizes the use of single items, but also encourages multiple item approaches to allow comprehensive assessments of multiple constructs to facilitate decision making and outcome monitoring.

**2. Levels of each item are immediately translatable into action:** In other words, the individual items are selected to guide decision making. The levels of these items should further guide decision making by indicating what level of service effort is required.

### **3. Measurement must remove the context, including:**

- a. Services already in place
- b. Culture
- c. Development

**4. Measurement is descriptive and minimizes cause–effect assumptions:** For the majority of items, communimetric tools tend to focus on describing actionable conditions rather than interpreting them within a causal framework.

**5. Observation windows can be trumped by the action levels:** All measures require a definition of the time frame over which an observation can occur. As a thinking tool, communimetrics has a different philosophy in this regard. Time windows for observations (e.g., 30 days, 24 hours, etc) are recommended, but they exist to remind people using these tools that ratings should be fresh; however, these ratings must be implemented with flexibility. At the end of the day, the role of a measurement process in the human services context in which communimetric tools are used is to establish actionable items. Thus, the action levels take precedence over the time frames. Time frames are only relevant as they inform action levels.

**6. Information integration:** Communimetric measurement is an information integration strategy. Information integration refers to the process whereby multiple inputs are combined to generate a measurement. Therefore, communimetrics operates at a higher level of measurement than the direct application of instrumentation.

#### **References:**

<http://www.chapinhall.org/experts/john-lyons>

**Communimetrics: A Communication Theory of Measurement in Human Service Settings**

By John S. Lyons

Google Books: Book Summary on Communimetrics: A Communication Theory of Measurement in Human Service Settings