

# Level-of-Care Decision Making in Behavioral Health Services: The LOCUS and the CALOCUS

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## *Introduction by the column editor:*

**An essential ingredient in the matrix of factors required to achieve best practices is a sound, evidenced-based decision support system that ensures fair—and replicable—assignment of a patient to the appropriate level of care. The authors of this month's Best Practices column report on an impressive effort on behalf of the American Association of Community Psychiatry to design such a decision support tool. The Level of Care Utilization System for Psychiatric and Addiction Ser-**

**vices (LOCUS) and the children's LOCUS (CALOCUS) will make it possible to take the next step toward defining what best practices really are.**

For more than a decade, developing behavioral health service practices that are of high quality and that use available resources effectively has been the somewhat elusive goal of system designers. This goal can be achieved only if there is a method to consistently guide decisions that match clients' needs with the intensity of service—or level of care—to be recommended. In the absence of standardized, clinically grounded instruments to inform decision making, clinicians' recommendations are highly variable and idiosyncratic (1–6).

Previously developed medical necessity criteria have usually not been practical or reliable for clinical use. Clinicians find such criteria difficult to use, vague, inflexible, and uninformative. The rigidity of these instruments limits their ability to account for individual differences in treatment planning, and their complexity effectively excludes clients from participation in that process (7).

In considering the best practices for level-of-care decision making, we describe the efforts of the American Association of Community Psychiatrists in the development of the Level of Care Utilization System for Psychiatric and Addiction Services (LOCUS) (8) and AACP's later collabora-

tion with the American Academy of Child and Adolescent Psychiatry to develop a version of the LOCUS for children over the age of six years (CALOCUS) (9). These instruments were developed through the formation of small work groups of the membership of the two organizations. After the work of these groups was completed, the products were reviewed and ratified by the parent organizations' board of directors.

## **Developing and testing of the instruments**

Beginning in 1995, principles were elaborated for instrument development, which were derived from a thorough review of existing patient placement practices and clinical experience with these practices. Those principles suggested that medical necessity instruments should be simple (easy to understand and use), dimensional (contain a method for systematic consideration of relevant variables), concise (limiting redundancies and irrelevant detail), quantifiable (facilitating communication, interactivity, consistency, and tracking change), integrated (capable of valid recommendations regardless of diagnosis or comorbidities), flexible (adaptable to a variety of service systems and locations), consumer centered (defining individual needs that translate easily into service plans), empowering (allowing providers and consumers to participate in recommendations), and reliable and

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valid (consistently make decisions that result in good outcomes).

The LOCUS and the CALOCUS were designed to incorporate these principles (7). The LOCUS has now been available for seven years and the CALOCUS for about four years. Both instruments have undergone extensive field testing and have been revised accordingly. Reliability and validity testing has been completed, and good results were obtained for both the LOCUS and the CALOCUS.

Reliability testing of the LOCUS consisted of ratings of ten 700- to 900-word case vignettes by ten clinician reviewers with various mental health and addiction backgrounds and various levels of training in the use of the instrument. The interclass correlation coefficient (ICC) for placement recommendations was at the high end of the "good" range at .68. The mean recommendation of the clinician reviewers was compared with the consensus recommendations of the expert panel and the ratings of one of the instrument's authors through a mixed linear regression technique to determine the degree to which the ratings corresponded. The slope of the clinicians' regression line corresponded closely with the author's ratings and trended in a manner similar to the recommendations of the expert panel's ratings, with convergence at the most intensive levels of care (7).

The CALOCUS has been evaluated through a multisite national study of its reliability and validity involving 94 users (78 nonpsychiatrists and 16 child and adolescent psychiatrists) and 614 youths. It achieved a strong interrater reliability level, with ICCs ranging from .57 to .95 on the subscales and from .89 to .93 for the overall CALOCUS score. When the CALOCUS score was compared with the total score of the Child and Adolescent Functional Assessment Scale (CAFAS), a Pearson correlation coefficient of .62 was obtained, indicating a high level of agreement. Dimensions related to child functionality were highly correlated, whereas those dealing with the family and community environmental context demonstrated low correlations, as would be expected (10).

### Use of the instruments

Both instruments have been well received by clinicians and administrators in the field (11) and are being used by state and local behavioral health agencies across the nation. Both are easily administered. Once a clinician is experienced in the use of the instrument, the instrument can be completed in less than five minutes.

The LOCUS uses six assessment parameters. One of these scales has two subscales, for a total of seven ratings to be completed in each patient assessment. Each parameter is rated on a scale of 1 to 5, with specific criteria or anchor points for each increment in rating. A composite score ranging from 7 to 35 is obtained and weighs prominently in the determination of level-of-care recommendations. The six evaluation parameters are risk of harm; functional status; medical, addictive, and psychiatric comorbidity; recovery environment; treatment and recovery history; and engagement.

The "risk of harm" parameter considers the degree to which a person is at risk of harming himself or others. This risk may be due to suicidal or homicidal ideation or due to impaired judgment or impulse control resulting from intoxication or otherwise altered mental states.

The "functional status" parameter measures a person's level of functioning on the basis of several indicators. The criteria include ability to interact with others, to maintain hygiene and activities of daily living, to fulfill role responsibilities, and to maintain vegetative functions.

The "medical, addictive, and psychiatric comorbidity" parameter considers potential complications to the course of the presenting or most prominent problem as a result of the coexistence of additional disorders. The criteria specify the degree to which the presence of additional disorders prolongs the course, increases the severity of, or impedes the ability to recover from the presenting condition. Withdrawal syndromes are considered as comorbid medical illness in this system.

The "recovery environment" parameter contains two subscales: level

of stress and level of support. Criteria for ratings on the stress subscale include interpersonal conflicts or harassment, life transitions, interpersonal or material losses, environmental threats, and perceived pressures to perform. On the support subscale, criteria delineate the degree to which support is available from family, friends, and professional sources and the likelihood that these sources of support will be able to participate in treatment.

The "treatment and recovery history" scale considers past experience and response to treatment and the durability of any recovery achieved. Criteria for this rating include the intensity of treatment experienced, the degree of success, and the extent and duration of recovery periods.

Finally, the "engagement" parameter measures a person's capacity for change as well as his or her recovery status. Criteria on this scale include the ability to recognize one's difficulties, the desire to change, the ability to accept responsibility for maintaining health, and the ability to engage with potential sources of aid.

An assessment may be used for initial placement recommendations or for determination of continuing care needs, which eliminates the need for separate admission, continuing stay, and discharge criteria. The system is based on a dynamic understanding of health and the course of illness, so the assessment is repeated as frequently as clinically indicated. In general, ratings are repeated most frequently in times of greatest acuity and instability.

The LOCUS defines six levels of care. Each level of the service continuum is defined by four variables: care environment, clinical services, support services, and crisis resolution and prevention services. In the LOCUS system, levels of care are best conceived of as levels of resource intensity. Each level describes a flexible array of services. In some cases, elements of these arrays of services may span more than one level of care. Although there is some overlap between adjacent levels of care in terms of services offered, service use, on average, becomes progressively more intensive—and

expensive—as one moves from the lower to the higher levels of care. The defined levels of care are level 1, recovery maintenance and health management; level 2, low-intensity community-based services; level 3, high-intensity community-based services; level 4, medically monitored nonresidential services; level 5, medically monitored residential services; and level 6, medically managed residential services.

Basic services for prevention and health management are also defined and are available to persons at all levels of care and to members of the community—for example, emergency assessment and crisis management services. Simple placement methodology is also provided that translates the ratings in each dimension and the composite score into a level-of-care recommendation.

The CALOCUS follows the general format of the LOCUS but is modified to incorporate principles of child and adolescent development, a family and youth empowerment focus, and an emphasis on community-based systems of care according to the principles of the Child and Adolescent Service System Program (12). As such, in dimension III of the CALOCUS, comorbidity includes developmental disability along with medical, psychiatric, and substance use issues. Dimension V is altered to resiliency and treatment history, using the developmental construct of resilience—a child's innate emotional strength and ability to adapt—to assist decision making when children lack previous treatment exposure or engagement in a recovery process. Dimension VI is acceptance and engagement and has two subscales—one for the child or adolescent and one for the primary caretaker—recognizing that both these parties have significant roles in determining treatment participation.

The levels of care in the CALOCUS are defined along a continuum of care intensity achieved through a wraparound approach embedded in an interagency community-based system of care, or through traditional child mental health services if needed. The levels of care are level 1, recovery maintenance and health

management; level 2, outpatient services; level 3, intensive outpatient services; level 4, intensive integrated service without 24-hour psychiatric monitoring; level 5, nonsecure 24-hour services with psychiatric monitoring; and level 6, secure 24-hour services with psychiatric management.

Beyond assisting in service intensity placement decisions, these instruments can be used by systems to identify service gaps or to aid in planning programs projecting resource needs. The instruments can guide individual treatment and recovery planning and help to ensure the use of least restrictive service alternatives—for example, *Olmstead* compliance. They are useful to programs attempting to integrate mental health and substance use perspectives and recovery principles. Although they have not been validated as outcome instruments, they may be useful in that regard as well. In addition, the instruments can be used to integrate care and resource management, reducing administrative oversight and expense. Short of this latter point, the instruments can be useful in managing the interface between providers and managed care entities by providing clear justification for level-of-care decisions or requests.

More detailed information about the LOCUS and the CALOCUS may be obtained by visiting the Web site of the American Association of Community Psychiatrists ([comm.psych.pitt.edu](http://comm.psych.pitt.edu)) or by sending an e-mail to [sowers@connecttime.net](mailto:sowers@connecttime.net) (for information about LOCUS) or [kkroeger@aacap.org](mailto:kkroeger@aacap.org) (for information about CALOCUS). ♦

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