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White Paper

Implementing an Evidence-Based, Time- and Cost-Efficient Assessment for Adolescents: CHAT®

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Economy Increases Demand for Tools to Enhance Efficiency

In today's difficult economic climate, behavioral health organizations are actively seeking ways to increase their organizational capacity. NIATx (formerly the Network for the Improvement of Addiction Treatment), a non-profit organization that helps substance abuse treatment centers improve efficiency and quality of care, is leading a campaign that focuses specifically on the challenge of building financial strength.¹ Among the strategies NIATx recommends for increasing financial stability are those designed to enhance client access to care and retention, such as reducing the waiting time between the request of service and the beginning of treatment.²

Organizations that serve adolescents have special challenges in this area. U.S. government data show that adolescents are under-served: for 2003-2004, an estimated 6% of youth aged 12 to 17 years (1.5 million) were classified as needing treatment for alcohol use, and 5% (1.4 million) were classified as needing treatment for illicit drug use. Yet, of those who needed treatment, only 7% received specialized alcohol treatment and 9% received specialized drug use treatment. Moreover, a majority of youth who met criteria for a substance use disorder did not perceive the need for treatment.³

These figures are even more troubling in light of the fact that youth delinquency and involvement with crime are linked to substance abuse. Notably, of the 150,000 adolescents who were admitted to treatment in 2005, most referrals came through the criminal justice system.⁴ Further, substance abuse often occurs in the context of other problems, including psychiatric co-morbidities (such as depression, anxiety, or conduct disorder), problems with family or peer relations,⁵ and/or a history of sexual abuse.⁶ This puts adolescents at greater risk for under-treatment, since the diverse organizations at which they present may not be equipped to provide comprehensive assessment or treatment of co-occurring disorders.

According to Dr. Albert Villapiano, Vice President of Clinical Development at Inflexxion, "These factors underscore the need for time- and cost-efficient assessment solutions for identifying adolescents with substance abuse issues, so that they can be directed to the appropriate services to get the treatment they need. A validated assessment that is designed for use with adolescents in a variety of settings, such as schools, juvenile justice facilities, or medical health clinics, could help guide treatment efforts to prevent further involvement with alcohol and drugs, with clear benefits for public health."

Continued Dr. Villapiano, "Such an instrument would have important benefits for health care organizations. A standardized assessment would facilitate streamlined measurement across systems, providers, and levels of care. This would in turn enhance systemic efficiency, and strengthen the continuity of care."

There are validated assessment instruments for adolescents currently available; however, many can be time- and labor-intensive to administer, which limits their practical value in diverse service settings. Two of the most widely used instruments, the Teen Addiction Severity Index (T-ASI) and the Global Assessment for Individual Needs (GAIN), require professional training to administer. In a service sector with a high rate of staff turnover, providing such training can represent a significant financial burden.

Benefits of the CHAT

To meet the need for a time- and cost-efficient adolescent assessment instrument, Inflexxion developed the Comprehensive Health Assessment for Teens, or CHAT, which has been found to be both valid and reliable in research funded by the National Institute on Drug Abuse (NIDA). The CHAT is modeled on the format of the Addiction Severity Index -Multimedia Version (ASI-MV) for adults, a client self-administered, multimedia version of the Addiction Severity Index (ASI) created by Dr. A. Thomas



McLellan. The adult ASI-MV instrument has been commercially available since 1999, and the web-enabled ASI-MV Connect program, which now includes the CHAT, is currently in use at more than 500 substance abuse clinics across the nation.

The ASI-MV Connect system has a number of features designed to help organizations streamline and simplify their assessment procedures. The assessment interview is self-administered on a computer and enhanced with audio and video, so minimal staff training is required. Using the program, organizations can reduce client waiting times and increase the number of assessments without necessarily adding staff. Once a client has completed the interview, the ASI-MV Connect system automatically calculates severity ratings and composite scores. Clinicians can immediately run a variety of clinical reports populated with data from the interview. In addition, organizations are able to access aggregate client data through the ASI-MV Connect Data Center, enabling the analysis of population needs and outcomes.

Organizations that use ASI-MV Connect have reported significant time- and cost-savings. For example, the Center for Drug-Free Living in Orlando, Florida, adopted the ASI-MV Connect system as part of a broader initiative to make the organizational process changes that NIATx recommends. As a result of these changes, the organization has been able to decrease the time required for documentation after an assessment from 60–90 minutes to 15 minutes, and to reduce the time between screening and assessment completion from 10 days to 3 days. It has also doubled the average number of assessments it can complete per day.⁷ The increase in efficiency can translate to significant cost savings: after adopting the ASI-MV Connect, the Northern Michigan Substance Abuse Services (NMSAS) reported saving \$45 per assessment, or \$225,000 per year.⁸

Like the adult ASI-MV Connect instrument, the CHAT is a client self-administered, web-enabled, multimedia assessment. It is integrated in the ASI-MV Connect system, and is designed to provide the same time- and cost-savings, while offering the unique clinical value of an instrument developed specifically for use in diverse service settings with clients ages 13-18.

Developmentally Appropriate

The CHAT has a developmental approach that is suited to the varying needs of youth. It is an assessment of a client's strengths as well as problem areas, offering clinicians a comprehensive portrait for guiding treatment. Through a 45–60 minute interview, the CHAT provides scores for a client in six areas: Alcohol Use; Drug Use; Tobacco Use; Psychological Health; Family Relationships; and Peer Relationships. In addition, the CHAT provides clinicians with important information about a client's self-reported level of worry and motivation in each of these domains, as well as information about more specific topics, such as physical health, romantic relationships, school work, and legal issues. This includes information on a client's risks and resiliency factors, to help clinicians tailor treatment to focus on areas where a client may be most likely to succeed.

In measuring multiple dimensions of functioning, the CHAT reflects the approach of the original ASI and the adult ASI-MV Connect interview, as well as the growing understanding of the importance of addressing functional problems in the lives of those with substance use problems.

Engaging for Adolescents

The multimedia presentation of the CHAT interview is designed to be engaging to adolescent clients, and to facilitate self-report. Navigating an easy-to-use interface, and following audio and video cues, clients self-administer a private, non-judgmental interview that may increase the honesty and accuracy of their answers. Clients are introduced to each section of the interview by welcoming peer guides. In addition, they are able to create their own path through the interview, choosing the order of the domains.

Scientifically Developed and Validated

Inflexion has conducted extensive research to develop and validate the CHAT. In Phase II of the NIDA-funded study, *Multimedia ASI for Adolescents* (SBIR Grant #5R44D A014139-04), the Inflexion research team: (1) completed a preliminary clinical field trial (i.e., Validation Study) to finalize the assessment script; (2) produced the CHAT program based on a scripted flowchart developed in Phase I; (3) conducted usability testing of the CHAT program to ensure functionality, and (4) conducted a clinical field trial (i.e., Cross-Validation Study) to finalize a scoring system and examine internal consistency, test-retest reliability, concurrent validity, and convergent/discriminant validity of the CHAT.

These studies confirmed that the CHAT is a valid and reliable instrument. It demonstrated good-to-excellent content and construct validity and solid stability over time for the six problem severity dimensions.

In addition, the majority of user feedback from adolescents was very positive (e.g., fast and easy to use; liked the look and feel). Further, consistent with previous findings,⁹ adolescent users in the CHAT study reported that they believed that their peers would be more comfortable and honest with a computer-based assessment than they would be in a face-to-face interview.

These findings are also consistent with Inflexion's research on the adult ASI-MV Connect instrument, which found that adults tend to self-disclose more when they self-administer the ASI-MV Connect interview on the computer than they do in a face-to-face ASI interview with a clinician.¹⁰

Clinical Impressions of the CHAT: Spectrum Youth and Family Services, Burlington, VT

In June 2009, Inflexion launched the CHAT as part of version 7.0 of the ASI-MV Connect system. Among the organizations that have implemented the CHAT is Spectrum Youth and Family Services in Burlington, Vermont, which participated in the NIDA-funded field study of the instrument.

Spectrum is a private, non-profit organization that offers shelter and community to at-risk and homeless youth ages 14-21. In January 2009, Spectrum was nationally recognized as the Agency of the Year by the National Network for Youth. The organization has also won numerous awards recognizing the achievements of its staff, and two government audits in 2007 resulted in full approval of Spectrum's programming, and high praise for its services. In particular, the Vermont Agency of Human Services Alcohol and Drug Abuse Programs cited Spectrum's "stellar" provision of services and "thorough and comprehensive" planning, from "referral to assessment to treatment to discharge."¹¹

Spectrum continually seeks to increase the quality of its services, and as part of these efforts, the organization conducted a thorough analysis of its intake procedures to determine whether it could make changes to enhance access to treatment and increase client retention.

"We followed the process-change principles outlined by NIATx, conducting a 'walkthrough' to determine how long it was taking our clients to go from the first request of service to the initial treatment session," explained Andrea Meier, MS, LADC, LCMHC, Counseling Supervisor at Spectrum. "We concluded that we could make the intake process more efficient. Clients were waiting too long before beginning treatment, and at the same time, our clinicians were overextended."

Spectrum provides assessments for all youth as part of the initial phase of treatment, to assist with planning for meeting each individual's unique needs. To streamline and simplify the intake process, Spectrum chose to replace the Global Assessment for Individual Needs (GAIN), which the organization had been using for seven years, with the CHAT. Spectrum has also adopted the adult ASI-MV instrument for use with clients ages 18-21.



According to Ms. Meier, who is a Certified Local Trainer of the GAIN, there are a number of features that make the CHAT especially suitable and beneficial for use at Spectrum.

Evidence-Based, Standardized Assessment

Like the GAIN, the CHAT is an evidence-based, standardized assessment instrument. "We're committed to implementing evidence-based practices in our services, from screening to assessment to treatment," explained Ms. Meier. "The CHAT is an evidence-based, validated instrument, so it meets our criteria. In addition, it has been approved for use by the state through the Vermont Department of Health's Division of Alcohol and Drug Abuse Programs."

Each year, providers with grant funding from the state of Vermont are required to choose from a menu of standardized, validated assessment tools, and the selection is then written into the provider's grant contract for funding. If a provider wants to use a new tool, it must be presented for approval to the Chief of Treatment and the Treatment Unit of the Division of Alcohol and Drug Abuse Programs. With the approval of the CHAT, providers that serve adolescents may now select from among the CHAT, the GAIN, the Teen Addiction Severity Index (T-ASI), and the Juvenile Automated Substance Abuse Evaluation (JASAE) supplemented with either the Practical Adolescent Dual Diagnostic Interview (PADDI) or the Vermont Structured Diagnostic Interview (VSDI).

Notably, according to Michael McAdoo, Chief of Children & Family Services in Vermont's Division of Alcohol and Drug Abuse Programs, "both the CHAT and the GAIN are comprehensive enough to cover co-occurring and substance-abuse issues, so that providers who use one of these tools do not need to use another tool."

Consumer-Oriented, Saves Time and Resources

Adopting the CHAT has allowed Spectrum to reduce client waiting time from request of service to treatment, save time and resources, and deliver services that are more "consumer-oriented," according to Ms. Meier.

"Before implementing the CHAT, a client might have two-to-three steps to complete before beginning treatment; now, the intake and assessment process is one step," said Ms. Meier. "Self-administration is new to us as an agency, and it has made our intake process much faster."

In addition to the time Spectrum has saved through self administration of the interview, the organization has saved clinician time in the treatment planning process. "The writing process for assessments is a lot quicker. Our clinicians are able to generate reports immediately and review useful clinical information, such as information to help guide treatment planning according to the ASAM (American Society of Addiction Medicine) criteria. They can easily edit these reports to document their clinical impressions," reported Ms. Meier.

In addition, the interactive, multimedia presentation of the interview has drawn positive responses from Spectrum's adolescent clients. "We appreciate that the presentation of the CHAT is youth-oriented, and we've had great feedback from our clients," said Ms. Meier. "Because the format is engaging and youth-friendly, it keeps clients interested through the 45 minutes of the interview."

Compares Favorably to the GAIN

According to Ms. Meier, the CHAT has important practical advantages when compared to the GAIN. Key among these: the CHAT saves time in both training and use of the assessment.



"Training clinicians to administer the GAIN is incredibly labor-intensive, as it's a 100-page assessment," explained Ms. Meier. "We've found that with the CHAT, the assessment is comprehensive, but the training has been minimal. And both the CHAT and the ASI-MV Connect system are very user-friendly, so we don't spend a lot of time troubleshooting."

Ms. Meier believes that using the CHAT may ultimately have other benefits for Spectrum, as well. "By becoming more consumer-oriented, we can better meet the needs of our clients, which may lead to increased retention and referrals," she said.

Organizations Can Increase Efficiency While Improving the Quality of Care for Adolescents

The findings from Inflexion's research on the CHAT, and the clinical impressions reported above, suggest that the CHAT can be useful in enabling organizations to increase their efficiency and improve the quality of care for their adolescent clients.

The CHAT assessment meets the criteria for a good multi-scale assessment that can be used to inform treatment planning in that it includes items about the complexity of alcohol and other drug behaviors, psychosocial risk factors, family and peer contexts, strengths and social supports, and a description of normative data for scale scores.¹²

It has been shown to be valid and reliable across two samples and using two different computer-based delivery methods, demonstrating that it has strong potential as a flexible, easy-to-use assessment solution for use in diverse service settings.

It is also designed to be consistent with guidelines developed by the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) and the Commission on Accreditation of Rehabilitative Facilities (CARF).

In addition, the use of a computer-delivered, multimedia format aligns well with adolescent culture, and the acceptance data from the field studies indicate that the CHAT format may strengthen adolescent clients' motivation to be more honest in their self-reports.

Finally, the CHAT and the ASI-MV Connect system enable organizations such as Spectrum to simplify, streamline, and expedite their assessment procedures, which can yield significant time- and cost-savings.

"We are very encouraged by the initial response we have received from the field, and we look forward to continued feedback about the CHAT to guide our future enhancements and development," said Dr. Villapiano.

To enable organizations to become familiar with the CHAT and determine whether it suits their needs, use of the CHAT is free of charge through the end of 2009. Any organization that registers for the ASI-MV Connect system can use the CHAT, and Inflexion offers a free 30-day trial of the program. For more information, visit the ASI-MV Connect website at www.asi-mvconnect.com.

About Inflexion, Inc.

Founded in 1989, Inflexion leverages technology to improve public health. We create clinically validated tools and programs for critical areas of health care, including prevention and wellness education, addiction and pain treatment, and pharmaceutical risk management. These innovative solutions help reduce health-related risks, enhance clinical outcomes, and positively impact the quality of care.

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