Screening, Assessment and Clinical Decision Support for Adolescent Substance Use Disorder Treatment

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Disclosures and Acknowledgements

• As noted in the introduction, Dr. Dennis is the developer of the GAIN, director of the GAIN Coordinating Center and will be using GAIN data from several colleagues as part of this presentation.
• He currently receives funding from NIDA, NIAAA, and CSAT to support his research and GCC work and will use data from this as part of the presentation.
• We want to thank the programs using the GAIN and authors of other studies cited for sharing their data and slides.
• Any opinions about this data are ours and do not reflect official positions of the government, programs or other authors.
Presentation Overview

• Briefly review the initiation and course of SUD and the implications for adolescents
• Need for and gaps in evidence based screening and assessment
• Essential best practices for screening and assessment
• Practical applications
Over 90% of use and problems start between the ages of 12-20.

It takes decades before most recover or die.

People with drug dependence die an average of 22.5 years sooner than those without a diagnosis.

Severity Category
- Other drug or heavy alcohol use in the past year
- Substance Use Disorders (SUD) in the past year

Source: Dennis & Scott, 2007, Neumark et al., 2000
Substance Use Careers Last for Decades

Source: Dennis et al., 2005
Careers are ** Longer the Younger the Age of First Use**

- **60% longer**

**Groups:**
- Age of First Use
  - under 15*
  - 15-20*
  - 21+  
  * p<.05 (different from 21+)

**Cumulative Survival**

**Years from first use to 1+ years abstinence**

*Source: Dennis et al., 2005*
Careers are **Shorter** the Quicker People Access Treatment

![Graph showing cumulative survival](image)

**Groups:**
- Year to 1st Tx
- 20+
- 10-19*
- 0-9*

*57% shorter*

*Source: Dennis et al., 2005*
Mental Health and Substance Use Disorder Populations: Size and Overlap (in millions)

More MH than SUD

Comorbidity 15% of those with MH but 71% of those with SUD

Very Low Rates of Treatment Participation

Thus there is a need for more and better screening

<table>
<thead>
<tr>
<th></th>
<th>Mental Health</th>
<th>Substance</th>
<th>% MH</th>
<th>% SUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Co‐morbid</td>
<td>58</td>
<td>21</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Severe</td>
<td>15</td>
<td>7</td>
<td>71%</td>
<td>71%</td>
</tr>
<tr>
<td>Treatment</td>
<td>14</td>
<td>2</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>2</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Quality Chasm in Treatment (in millions)

Low rates of Treatment Compliance
Low rates of Identifying Comorbidity
Low rates of Cont. Care

Thus there is a need for more and better assessment

However, in Practice Programs often LACK:

Evidenced Based Screening and Assessment to Identify:
- Substance use disorders (e.g., abuse, dependence, withdrawal), readiness for change, relapse potential and recovery environment
- Common mental health disorders (e.g., conduct, attention deficit-hyperactivity, depression, anxiety, trauma, self-mutilation and suicidal thoughts)
- Crime and violence (e.g., inter-personal violence, drug related crime, property crime, violent crime)
- HIV risk behaviors (e.g. needle use, sexual risk, victimization)
- Child maltreatment (e.g. physical, sexual, emotional)
- Recovery environment and risk from social peers
- Long Term Relapse/Recovery Management

Adapted from IOM (2005)
Need for a Continuum of Measurement

**Screener: Identify Who Needs to be “Assessed” (5-10 min)**
- Focus on brevity, simplicity for administration & scoring
- Needs to be adequate for triage and referral
- GAIN Short Screener for SUD, MH & Crime
- ASSIST, AUDIT, CAGE, CRAFT, DAST, MAST for SUD
- SCL, HSCL, BSI, CANS for Mental Health
- LSI, MAYSI, YLS for Crime

**Quick Assessment: Targeted Referral (20-30 min)**
- Assessment of who needs a feedback, brief intervention or referral for more specialized assessment or treatment
- Needs to be adequate for brief intervention
- GAIN Quick
- ADI, ASI, SASSI, T-ASI, MINI

**Comprehensive: Assessment/Biopsychosocial (1-2 hours)**
- Used to identify common problems and how they are interrelated
- Needs to be adequate for diagnosis, treatment planning and placement of common problems
- GAIN Initial
- CASI, A-CASI, MATE

**Specialized Assessment (additional time per area)**
- Additional assessment by a specialist (e.g., psychiatrist, MD, nurse, spec ed) may be needed to rule out a diagnosis or develop a treatment plan
- CIDI, DISC, KSADS, PDI, SCAN
The More You Measure, the More You Typically Find…

SAMHSA/CSAT 2012 GAIN Summary Analytic Data Set (n=27,617)
Essential Best Practice Criteria

• The tool is developmentally appropriate for the target age group, addresses a broad range of age-appropriate behavioral health conditions, and uses informants proven to be accurate for the age and targeted condition.

• The tool was psychometrically evaluated on the target age group for which the tool was intended.

• The tool is psychometrically sound (has acceptable validity, reliability, sensitivity, and specificity), as indicated by a manual or detailed journal article providing relevant data.

• The language and cultural groups on which psychometric results have been tested are specified.
Essential Best Practice Criteria (continued)

- The tool is feasible in one or more of the specified child-serving settings, as indicated by personnel working within the setting.
- The tool is accompanied by detailed administration guidelines to ensure that it is used appropriately.
- The tool is accompanied by scoring and interpretation guidelines that describe the scoring procedures. Ideally, guidelines for the clinical decisions are included.
- If the tool identifies high-risk conditions, it provides an indication of whether a follow-up assessment is needed on an urgent basis.
Criteria for Evaluating Screening and Assessment Tools

- **Reliability** - getting the same answers regardless of who does the screening
- **Validity** – getting true answers true
- **Sensitivity** – the percent of “cases” are correctly identified
- **Specificity** – the percent of “non-cases” are correctly ruled out
- **Efficiency** – using the least amount of time to get equivalent information
- **Severity** – ability to triage cases that need higher levels of service and/or to measure change
Meaningful Use – The Electronic Health Record Criteria

- **Reuse Data** in multiple forms/context (e.g., screening, assessment, billing, diagnosis, treatment planning) and across systems (e.g., assessment module, electronic health records, state reporting systems) to reduce time & costs

- **Clinical Decision Support (CDS)** systems that use evidenced based assessment to guide clinical decision making and make it more patient center, reliable, valid, and efficient

- **Program Planning and Evaluation** systems that use evidenced based assessment to monitor and evaluate to improve effectiveness and equity
Evidence-Based Screening
This guide was created to promote the early identification of children and adolescents with mental health and substance use problems as well as to provide guidance, tools, and resources for early identification—including a compendium of the most developmentally, culturally, and environmentally appropriate screening instruments.

A Modern Approach to Screening

- Remove people with no problem with least number of questions (typically 1-2 items)
- Screen those at risk (based on above or source of referral) to identify who needs nothing, brief intervention, further assessment or immediate treatment
- Multidimensional screening with triage to refer to the appropriate services
- Transfer data across system of care
- On-going monitoring with screeners
## Screening Measures Meeting Criteria

<table>
<thead>
<tr>
<th>Screener Name</th>
<th>MH</th>
<th>SA</th>
<th>HR</th>
<th>CV</th>
<th>Min</th>
</tr>
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<tbody>
<tr>
<td>Ages &amp; Stages Questionnaires: Social-Emotional (ASQ-SE)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
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<tr>
<td>Brief Infant-Toddler Social and Emotional Assessment (BITSEA)</td>
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<td>DISC Predictive Scales (DPS)</td>
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<td>X</td>
<td>X</td>
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<td>Global Appraisal of Individual Needs–Short Screener (GAIN-SS)</td>
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<td>X</td>
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<tr>
<td>Massachusetts Youth Screening Inventory, 2nd Edition (MAYSI-2)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>15</td>
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<tr>
<td>Pediatric Symptom Checklist (PSC-35)</td>
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<tr>
<td>Strengths and Difficulties Questionnaire (SDQ)</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>10</td>
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<tr>
<td>Adolescent Drinking Index (ADI)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>5</td>
</tr>
<tr>
<td>Adolescent Alcohol and Drug Involvement Scale (AADIS)</td>
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<td></td>
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<tr>
<td>Assessment of Substance Misuse in Adolescence (ASMA)</td>
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<td>5</td>
</tr>
<tr>
<td>Rutgers Alcohol Problem Index (RAPI)</td>
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<tr>
<td>CRAFFT</td>
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<td></td>
<td>5</td>
</tr>
<tr>
<td>Personal Experience Screening Questionnaire (PESQ)</td>
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<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

MAYS is the most widely used in juvenile justice but is rarely used in behavioral health, schools or other settings.

GAIN-SS covers the same areas, takes 1/3 of the time and has need used across settings and ages, and has been mandated in over a dozen state systems.

The MAYSI and the GAIN-SS cover all 4 areas.
Understanding the Trade Off Between Sensitivity and Specificity

Using a lower cut point improves sensitivity, but leads to low specificity (lots of false cases).

We want to seek balance (At 3 or more symptoms we get 99% prevalence, 91% sensitivity, & 89% specificity).

Using a high cut point improves specificity but decreases sensitivity (lots of missed cases).

Source: Dennis et al 2006
Severity in the Community Based on Just 5 SUD Symptoms: Adolescents (ages 12 to 17)

Number of Past Year Symptoms

- <= 6% High (3 to 5 Symptoms)
- <= 9% Moderate (1 to 2 Symptoms)
- <= 86% Low (0 Symptoms)

Source: 2012 NSDUH analysis in Dennis, ML, Estrada, B, & Funk, R (2017). Using the Global Appraisal of Individual Needs Short Screener (GAIN-SS) Substance Disorder Screener (SDScr) in Screening Brief Intervention and Referral to Treatment (SBIRT) in General and for Adolescents, Young Adults, Adults and Older Adults Normal, IL: Chestnut Health Systems. Available from https://chestnut.box.com/v/workingpapers
Evidence-Based Assessment
Goals of an Evidenced Based Assessment and Integrated Summary

• Provide a report that is sharable and usable by professionals in multiple service sectors
• Identification of systems the patient is already involved in or treatment they are already receiving
• Inclusion of requirements for treatment planning or placement by other systems of care (e.g., probation, DCF, etc.) or funders
• Inclusion of collateral information to substantiate patient self-report
Goals of an Evidenced Based Assessment and Integrated Summary (continued)

• Identification of possible barriers to treatment and plans to address them
• Early identification and response to co-occurring disorders
• Inclusion of the patient in the treatment planning and placement process
• Providing a comprehensive description of the environmental context in which the client lives
• Identification of strengths, supports, personal resources and interpersonal resources
Critical Role of Assessment

• Diagnosis and Identification of Problem areas
• Triangulation on issues that the patient may not understand or be aware of
• Referral to specific evidenced based practices, or services
  – Particularly those where receipt is associated with better outcome
• Ability to weigh barriers and strengths when comparing treatment placement options
  – Particularly those associated with initiation and completion of targeted service
Hallmarks of Good Assessment

• Helps patient recall and gives “voice” to their concerns and preferences
• Drives the treatment plan
• Provides synthesis and prioritization of what to work on
• Administered and interpreted with culturally sensitivity
Identifying and Prioritizing Problems

- **Recency** - Has the problem ever occurred and if so, how recently?
- **Breadth** – What is the range of clinical symptoms? Does it meet diagnostic criteria? Is there an atypical pattern that still warrant attention (e.g. suicidal thoughts without depression; withdrawal without SUD)
- **Prevalence** – On how many days have problems been present recently? To what extent are problems causing function impairment
Practical Applications Using the Global Appraisal of Individual Need
The Global Appraisal of Individual Needs (GAIN)

- Is a family of instruments ranging from screening to quick assessment to full biopsychosocial and monitoring tools
- Is designed to integrate clinical and research assessment
- Is a cloud-based application that supports clinical decision making at the individual client level and evaluation and planning at the program level
- Is designed to support secondary analyses and comparisons across individuals and programs
Key Issues Addressed with the GAIN Instruments

1. **Need to support best practices** from the field (discussed previously)
2. **Lack of infrastructure** that is needed to support implementation and fidelity.
3. **High-turnover workforce with varied education** related to diagnosis, placement, treatment planning, and referral to other services.
4. **Heterogeneous needs and severity** characterized by multiple problems, chronic relapse, and multiple episodes of care over several years.
5. **Missing, bad, or misrepresented data** that needs to be minimized and incorporated into interpretations.
6. **Lack of access to or use of data at the program level** to guide immediate clinical decisions, billing, and program planning.
1. Support Best Practices

- Psychometrics available for 103 long (alpha over .9) and short (alpha over .7) scales (reliability and validity)
- Measurement models have been used to create shorter versions of scales that capture most of the information and predictive power (Efficient)
- Alternative shorter versions created to map onto continuum of what is need (workflow)
- Norms by gender, race and age
- Share and reuses data, supports existing workflow, speeds report writing (Efficient)

- Over 764,437 screeners/assessments completed by 15,177 staff in 1,200 agencies across all 73 states/provinces of the U.S./CN and 10 other countries.
- Comprehensive workforce development infrastructure...
- Identifies high risk conditions (suicide, trauma, etc.).
- Triage clients to determine next steps.
- Based on clinical standards (e.g., DSM/ICD, ASAM, Medicaid, JC, CARF)
- Over 438 publications and working papers and data to support local evaluations or further research

Outcome: Instruments and applications that support best practices
2. Lack of Infrastructure

- Standardized training and quality assurance on administration, clinical interpretation, data management, client follow-up
- Customized training addresses unique implementation issues
- Ongoing technical assistance from staff with experience in hundreds of implementations in various settings (agency, state, region)
- Ongoing technical assistance in administration, clinical interpretation, software, data management, and evaluation
- Cloud-based software applications support assessment, report generation/editing and integration with information systems to reduce redundancy
- Clinical reports immediately available to support existing clinical decision-making workflow
- Development of customized instruments and reports
- Collaboration with IT vendors
- Translations of instruments and reports

**Outcome:** Sustainable implementation with fidelity
3. High-Turnover Workforce with Varied Education

- Formal training and certification protocols on administration, clinical interpretation, data management.
- Train-the-trainer model that builds local trainer workforce (including training materials and TA)
- Ongoing data quality assurance to remedy administration problems
- Online training to support local trainers and college courses
- Standardized approach to asking questions across domains
- Questions spelled out and simple question format
- Lay wording mapped onto expert standards for given area
- Built in-definitions, transition statements, prompts, and checks for inconsistent and missing information
- Range checks and skip logic built into electronic applications

**Outcome:** Improved reliability, efficiency and sustainability
4. Heterogeneous Needs and Severity

- Focuses on multiple life areas and domains
- Focus on most common problems
- Participant self-report of characteristics, problems, needs, personal strengths, and resources
- Behavior recency, breadth, and frequency
- Lifetime service utilization recency and frequency
- Dimensional measures of change with interpretative cut points to facilitate decision-making
- Items and cut points mapped to DSM for diagnosis, ASAM for placement, and multiple standards and evidence-based practices for treatment planning
- Computer-generated scoring and reports to guide decisions
- Treatment planning recommendations and links to evidence-based practice
- Basic and advanced clinical interpretation training and certification

**Outcome:** Comprehensive assessment supports clinical decision making
5. Missing, Bad, or Misrepresented Data

- Cognitive impairment check
- Timeframe anchoring, definitions, transitions, and question order to reduce confusion and increase valid responses
- Validity checks on missing, bad, inconsistent, and unlikely responses
- Methods to document clinical judgement and other sources of information to supplement self-report

- Training on optimizing clinical rapport and therapeutic alliance
- Training answering questions, resolving vague or inconsistent responses, following assessment protocol and accurate documentation
- Quality assurance monitoring for ongoing site, staff or item problems
- Data management syntax for cleaning and scoring data

**Outcome:** Improved reliability and validity
6. Lack of Access to or Use of Data at the Program Level

- Data can be exported for secondary analysis
- Data can be transferred to other electronic health record (EHR) to support billing, progress reports, treatment planning, and ongoing monitoring
- Data can be pooled with other sites to facilitate comparison and evaluation
- Ongoing technical assistance to program administrators, evaluators and researchers using data
- Formal training and certification on using aggregate data for program evaluation and program planning
- Data routinely pooled to support national comparisons across programs and secondary analysis
- Over three dozen scientists working with data to link to evidence-based practice

**Outcome:** Improved program planning and outcomes
GAIN Short Screener (GAIN-SS)

- **Designed** for use in general populations or where there is less control to identify who has a disorder warranting further assessment or behavioral intervention, measuring change in the same, and comparing programs
- **Administration Time**: 5 minutes
- **Mode**: Self or staff administered
- **Scales (screeners)**: Four screeners used to generate symptom counts for the past month to measure change, past year to identify current disorders and lifetime to serve as covariates/validity checks
  - Internalizing Disorders (somatic, depression, suicide, anxiety, trauma)
  - Externalizing Disorders (ADHD, CD)
  - Substance Disorders (abuse, dependence)
  - Crime/Violence Disorders, and
  - Total Disorder Screener
- **Reports**: Full Report, Summary Report and Aggregate Report
- **Language**: Available in English and Spanish
- **Follow-up**: The GAIN SS can be used as its own follow-up.

**New!**
- 3 items added to measure recency of treatment to better support placement and program evaluation
- Added calculations and statements in reports to describe risk of recidivism
GAIN Short Screener (GAIN-SS)

5. Do you have other **significant** psychological, behavioral, or personal problems that you want treatment for or help with? (Please describe)  
   Yes  
   No  

6. What is your gender? (If other, please describe below)  
   1 - Male  
   2 - Female  
   99 - Other  

6a. Which races, ethnicities, nationalities or tribes best describe you? (Any others?) (Please record and select all that apply)  

Please select at least one race.

<table>
<thead>
<tr>
<th>Mentioned</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alaskan Native (Please record tribe in 6a1)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2. Asian</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3. African American Black</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4. Caucasian White</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5. Hispanic, Latino or Chicano</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>a. Puerto Rican</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>b. Mexican</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>c. Cuban</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>d. Dominican</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>e. Other Central American</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>f. Other South American</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>g. Other (Please record tribe in 6a1)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6. Native American (Please record tribe in 6a1)</td>
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<td>0</td>
</tr>
<tr>
<td>7. Native Hawaiian</td>
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<td>0</td>
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<tr>
<td>8. Pacific Islander</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>99. Some other group (Please record tribe in 6a1)</td>
<td>1</td>
<td>0</td>
</tr>
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</table>

7. How old are you today?  
7a. How many minutes did it take you to complete this survey?  

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<table>
<thead>
<tr>
<th>Staff Use Only</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Staff ID:</th>
<th>Staff name:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Client ID:</th>
<th>Comment:</th>
</tr>
</thead>
</table>

11. Mode:  
   1 - Administered by staff  
   2 - Administered by other  
   3 - Self-administered  

13. Referral:  
   MH _ SA _ ANG _ Other  
14. Referral code:  

15. Referral comments:  

---

<table>
<thead>
<tr>
<th>Screener Items</th>
<th>Past month (4)</th>
<th>Past 90 days (4,3)</th>
<th>Past year (4,3,2)</th>
<th>Ever (4,3,2,1)</th>
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<tbody>
<tr>
<td>IDScr</td>
<td>1a – 1f</td>
<td></td>
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<tr>
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<td>2a – 2g</td>
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<tr>
<td>GVSr</td>
<td>4a – 4e</td>
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<tr>
<td>LTDScr</td>
<td>1a – 4e</td>
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</tbody>
</table>

GAIN-SS copyright © Chestnut Health Systems. For more information on this instrument, please visit [http://www.gains.org](http://www.gains.org) or contact the GAIN Project Coordination Team at (800) 451-7900 or GAINInfo@chestnut.org

d. drove a vehicle while under the influence of alcohol or illegal drugs?  
e. purposely damaged or destroyed property that did not belong to you?  
f. were involved in the criminal justice system, such as jail or prison, detention, probation, parole, house arrest or electronic monitoring?
### GAIN Short Screener (GAIN-SS) Full Report

#### Summary
During the past year Marcos was in the moderate severity range on internalizing disorders; the moderate severity range on externalizing disorders; the high severity range for substance use disorders; and the high severity range on the crime/violence sub-screeners. Given Marcos’s self-reported information, the following is recommended:
- referral for evaluation by a mental health service provider
- referral for evaluation by a substance abuse service provider
- referral for anger management or legal services

#### Profile
The table shows Marcos’s scores for each of the four sub-screeners and for the total score. Note that each timeframe is calculated separately. The past month, past 90 days, past year, and lifetime symptom counts are determined by adding the number of 4s for past month problems, the number of 4s and 3s for past 90 day problems, the number of 4s, 3s and 2s for past year problems, and the number of 1s, 2s, 3s and 4s for problems that have occurred anytime over the life span.

<table>
<thead>
<tr>
<th>Screener</th>
<th>Item/Scoring</th>
<th>Past month (4)</th>
<th>Past 90 days (4)</th>
<th>Past year (4, 3, 2)</th>
<th>Ever (4, 3, 2, 1)</th>
</tr>
</thead>
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<tr>
<td>Internalizing Disorder Screener (IDScre)</td>
<td>1a-1f</td>
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<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Externalizing Disorder Screener (EDScre)</td>
<td>2a-2g</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Substance Disorder Screener (SDScre)</td>
<td>3a-3e</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Crime/Violence Disorder Screener (CVScre)</td>
<td>4a-4e</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Total Disorder Screener (TDScre)</td>
<td>1a-4e</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>21</td>
</tr>
</tbody>
</table>

#### Recidivism Problems
Marcos has a very high risk for recidivism because he scored in the high range on both the Crime and Violence Screener and the Substance Disorder Screener. Approximately 57% of clients in this category recidivate within 6 months (approximately 43% of clients do not recidivate within 6 months).

#### Service Utilization
The recency of services or interventions received by Marcos include the following:
- placing him in the moderate severity range.
- He reported having the following significant problem two or more times 4 to 12 months ago:
  - lied or coned to get things he wanted or to avoid having to do something
  - had a hard time waiting for his turn
  - was a bully or threatened other people
  - started physical fights with other people
  - tried to win back his gambling losses by going back another day

This suggests that Marcos may have a possible externalizing disorder diagnosis and is likely to benefit from a treatment plan and intervention in the near future.

Marcos was treated 4 to 12 months ago for a mental, emotional, behavioral or psychological problem by a mental health specialist or in an emergency room, hospital or outpatient mental health facility, or with prescribed medication.

Marcos received treatment, counseling, medication, case management or aftercare for his use of alcohol or any other drug more than a year ago.

Marcos was involved in the criminal justice system, such as jail or prison, detention, probation, parole, house arrest or electronic monitoring more than a year ago.

#### Disclaimer
The GAIN-Short Screener is designed to serve as a screener in general populations to quickly and accurately identify individuals whom the full 1.5 to 2-hour GAIN-Initial would identify as having 1 or more behavioral health disorders (e.g., internalizing or externalizing psychiatric disorders, substance use disorders, or crime/violence problems), which would suggest the need for referral to some part of the behavioral health treatment system. It also rules out those who would not be identified as having behavioral health disorders. The information contained in this report is meant to supplement (not replace) the evaluation of a trained professional. It is recommended that this information be reviewed by a psychiatrist, psychologist, counselor or other health specialist prior to taking any action in response to this information.

High probability of a diagnosis that is in early remission may be the only need for formal assessment or intervention (either directly or through referral). This may include substance abuse, dependent or substance use disorder treatment and, in more extreme cases, the need for detoxification and maintenance services. If confirmed by a clinician, typical treatments often include a combination of counseling (e.g., Cognitive Behavioral Therapy (CBT), Motivational Interviewing (MI), Case Management (CM), Community Reinforcement, Functional Family Therapy) and medications for the management of withdrawal, maintenance, and crave suppression.

On the Crime and Violence Screener, Marcos endorsed 3 out of 5 past year symptoms, placing him in the high severity range.

He reported having the following significant problem 2 to 3 months ago:
- purposefully damaged or destroyed property that did not belong to him

He reported having the following significant problems 4 to 12 months ago:
- took something from a store without paying for it
- drove a vehicle while under the influence of alcohol or illegal drugs
GAIN-Q3

- **Designed** for use in targeted populations for more detailed screening, for screening in correctional settings or controlled environment, to support brief intervention, or for referral to further assessment or behavioral intervention, and for follow-up
- **Mode**: Generally staff-administered on computer (can be done on paper or self-administered with proctor)
- **Scales (screeners)**: School, Work, Physical Health, Sources of Stress, Risk Behaviors and Infectious Diseases, Mental Health, Substance Use, Crime and Violence.
- **Life Impact Measures**: Problem Prevalence, Quarterly Costs to Society, Life Satisfaction, Quality of Life
- **Response Set**: Recency, breadth, and prevalence (behavior and utilization)
- **Reports**: Individual Clinical Profile, Personalized Feedback Report, Q3 Recommendation Referral Summary, Validity Report

**New!**
- Added calculations and statements in reports to describe risk of recidivism
### Summary Recommendations

Frida's care will need to be coordinated with school. Frida has been treated for mental health problems or with pre-existing mental health status at school or with provider. In addition to Problems, Interventions and Recommendations are listed.

<table>
<thead>
<tr>
<th>Section</th>
<th>Summary of Status</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP. School</td>
<td>Frida reported having severe school problems within the past 90 days, but is not currently enrolled in services or interventions to address these problems.</td>
<td>More intensive services to identify Frida with school problems.</td>
</tr>
<tr>
<td>WP. Work</td>
<td>Frida reported no current or lifetime history of work problems and no history of having received services or interventions related to work problems.</td>
<td>Monitor for change in Frida's work problems.</td>
</tr>
<tr>
<td>PH. Physical Health</td>
<td>Frida reported having a history (more than 90 days ago) of health or medical problems, and is not currently receiving medical services or interventions.</td>
<td>Monitor for change in Frida's physical health problems. Discuss strategies to prevent future recurrences of health or medical problems.</td>
</tr>
<tr>
<td>SS. Sources of Stress</td>
<td>Frida reported having moderate stress problems within the past 90 days, but is not currently enrolled in services or interventions to help deal with or alleviate current stress level.</td>
<td>Referral for brief intervention or low invasive services to help Frida with stress-related problems.</td>
</tr>
<tr>
<td>RB. Risk Behaviors</td>
<td>Frida reported having moderate problems with engaging in risk behaviors for infectious diseases within the past 90 days, but is not currently enrolled in services or interventions to address these problems.</td>
<td>Referral for brief intervention or low invasive services to help Frida with risk behaviors.</td>
</tr>
<tr>
<td>MH. Mental Health</td>
<td>Frida reported having severe mental, emotional, behavioral or psychological problems within the past 90 days, but is not currently enrolled in mental health services or interventions.</td>
<td>Referral for more intensive services to help Frida with mental, emotional, behavioral or psychological problems.</td>
</tr>
<tr>
<td>SU. Substance Use</td>
<td>Frida reported having moderate substance use problems within the past 90 days, but is not currently enrolled in services or interventions to address these problems.</td>
<td>Referral for brief intervention or low invasive services to help Frida with substance use problems.</td>
</tr>
</tbody>
</table>
Cost of Health Care Utilization in 2016 Dollars

Source: 2012 SAMHSA/CSAT GAIN Follow-up Data Set (n=13,989 adolescents) & McCollister et al 2017
GAIN-Initial (GAIN-I)

- **Designed:** to provide a standardized biopsychosocial for people presenting to substance abuse treatment using DSM-IV/5 for diagnostic impressions and ASAM for placement and needing to meet common requirements (CARF, JCAHO, insurance, TEDS, Medicaid) for assessment, diagnosis, placement, treatment planning, accreditation, performance/outcome monitoring, economic analysis, and program planning

- **Domains:** Background, Substance use, Physical health, Risk behaviors and disease prevention, Mental health, Environment and living situation, Legal, Vocational

- **Reports:** Individual Clinical Profile, Personalized Feedback Report, Q3 Recommendation Referral Summary, Validity Report

- **Response Set:** Breadth (past-year sx counts for behavior and lifetime for utilization), recency (48 hours, 3-7 days, 1-4 weeks, 2-3 months, 4-12 months, 1+ years, never), and prevalence (past 90 days); patient and staff ratings
GAIN-I (continued)

• **Scales**: The GAIN-I has 9 sections (access to care, substance use, physical health, risk and protective behaviors, mental health, recovery environment, legal, vocational, and staff ratings) that include over 100 scales, summative indices, and over 3,000 created variables to support clinical decision-making and evaluation.

• **Interpretation**:
  – Items can be used individually or to create specific diagnostic or treatment planning statements
  – Items can be summed into scales or indices for each behavior problem or type of service utilization
  – All scales, indices, and selected individual items have interpretative cut points to facilitate clinical interpretation and decision making
Recommendation and Referral Summary (sample)

Diagnosis and treatment history

Problem severity and treatment planning recommendations by ASAM Dimension

DSM-5/ICD-10 Diagnosis

<table>
<thead>
<tr>
<th>Staff Comments</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Prompt: Enter additional comments or specify if none.</em></td>
<td></td>
</tr>
<tr>
<td>Current Treatment</td>
<td>None reported</td>
</tr>
<tr>
<td>Current Medications</td>
<td>None reported</td>
</tr>
<tr>
<td>Current Allergies</td>
<td>None reported</td>
</tr>
</tbody>
</table>

**Diagnosis**

*Prompt: Condition*

F10.20
F12.20
F17.200
F90.0

**Dimension B3 - Emotional, Behavioral, or Cognitive Conditions and Complications**

*Prompt: Enter collateral information obtained about problems in relevant areas.*

**Emotional Conditions:**
Carlos scored in the no/minimal range of the Internal Mental Distress Scale. Carlos self-reported symptoms indicating the possible existence of a stress disorder. He reported last feeling significantly disturbed by any kind of nerve, mental, or psychological problems 1 to 3 months ago and on 7 out of the past 90 days. He described experiencing the following significant problems over the past 12 months: feeling easily annoyed, irritated, or having trouble controlling a temper; getting into a lot of arguments and feeling the urge to shout, throw things, beat, injure or harm someone. Carlos did not report having homicidal thoughts for someone else or suicidal thoughts toward himself.

**B3 Recommendations:**

*Prompt: Review, delete, or edit according to specific needs and clinical indications.*

Based on Carlos’s specific requests for assistance, staff recommends the following:

**Target Date**

Carlos reported severe emotional, behavioral, or cognitive problems within the past 90 days, but is not currently receiving services for those problems. Based on the information provided, staff’s recommendations are:

**Recommendation**

5/30/2016 Discussing current emotional, behavioral, or cognitive problems with Carlos to review the need for mental health services, barriers to accessing them, and any accommodations needed to participate in treatment.

5/30/2016 Specific skill-building related to emotional, behavioral or cognitive conditions required to participate in treatment: [LIST OUT].
Biomedical Dimension
Common Treatment Planning Needs

Risky sexual behavior 78%
Tobacco cessation 59%
Accommodate medical condition* 33%
Compliance with PH meds 29%
Meds for physical health problems 17%
ER/hospitalization history 17%
Current Tx for medical problem 11%
Tetanus shot** 8%

*n = 9,308  ** n = 9,354

Source: 2012 SAMHSA/CSAT GAIN Follow-up Data Set (n=13,989 adolescents)
Cost of Crime in 2016 Dollars

11% of the clients generated 92% of the cost of crime dollars.

Source: 2012 SAMHSA/CSAT GAIN Follow-up Data Set (n=13,989 adolescents) & McCollister et al 2017
Not the Same Groups

Under a third are low cost on both

Two thirds have moderate or high costs, 4% high on both

Source: SAMHSA Summary Analytic Data Set (n=19,469) and Dennis et al 2017
Health Risk Analytics

Cost of Past Health Care Utilization

Severity (symptom, diagnosis or problem count)

Cost of Future Health Care Utilization
Mental Health Problem at Intake (need) vs. Mental Health Treatment by 3 Months

*Current Need on ASAM dimension B3 criteria (past 90 days)
**‘Services’ is self-report of any days of mental health treatment at 3 months
SAMHSA 2011 GAIN SA Data Set subset to has 3m Follow up (n=20,433)
Unmet Need for Mental Health Treatment by 3 Months

Higher for African Americans & Hispanics

Significantly higher for males

* p<.05

SAMHSA 2011 GAIN SA Data Set subset to has 3m Follow up (n=14,358)
Unmet Need for Mental Health Treatment by 3 Months

* p<.05

SAMHSA 2011 GAIN SA Data Set subset to has 3m Follow up (n=14,358)
Electronic Health Record Integration

- GAIN ABS can electronically send information to an EHR system.
- We use a protocol that allows computer systems written in different languages, using different databases, or even running on different hardware platforms to be able to exchange information through a common agreed upon exchange across the internet.
- Benefits of record integration
  - Avoid duplicate data entry (single sign on)
  - The individual clinical reports can be pulled into your EHR as PDFs
  - Data elements and report statements (diagnosis, recommendations, etc.) can be pulled into your EHR
Security Issues

**GAIN Assessment Building System (ABS)** is CHS’ cloud-based application for clinical decision support. It supports computer-assisted interviewing, data entry, electronic records transfer, report editing, real-time management reports and EHR integration.

- GAIN ABS is hosted on CHS servers with protections against a security breach including firewalls, data encryption (https, SSL), data replication (storage on multiple servers), and at least daily backups (which are encrypted).
- Updated to maintain compliance with commonly required state and federal standards (e.g., HIPAA, HITECH, 42 CFR, 28 CFR).
- Servers and software are updated regularly to conform to the latest security standards and software patches.
- GAINABS limit user access by establishing user-level, role based passwords.
- GAIN ABS also maintains an audit log of every time a record was accessed to track how a record was edited and by who.
Discussion

For more information please contact me at:
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Copies of this presentation are on the conference website