**Integrated care models for the treatment of co-occurring substance use and psychiatric disorders in youth: Building and testing the ASSIST model at the Co-occurring Disorder (CODA) clinic at Johns Hopkins**

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**Introduction**

Historically, substance use disorders (SUDs) and psychiatric disorders in youth have been treated separately and multiple barriers existed to integrating care. Now, a growing body of research suggests that integrated treatment of substance use and psychiatric disorders can lead to better treatment outcomes.

The concept of systems of care has evolved in an attempt to better understand the factors that facilitate system development and how these factors interact with each other to make a well-functioning system of care.

**Objectives**

To describe the Adolescent Substance use and Substance-related Interventions Systemic Treatments (ASSIST) model used in the (CODA) clinic at Johns Hopkins.

**The CODA clinic at Johns Hopkins**

CODA Clinic at Johns Hopkins is a subspecialty outpatient clinic embedded in a community psychiatry setting. We use an integrated approach, performing diagnostic evaluations and providing concurrent treatment of substance use and psychiatric disorders in a single location by a multidisciplinary treatment team and clinical workforce trained to provide evidence-based interventions for both substance use and psychiatric conditions.

We utilize an ecological systems-based framework predicated on the belief that co-occurring disorders emerge, shift during treatment, and remain in the context of multiple internal and environmental factors.

- Age range: 13-25 years old
- Patients have a primary psychiatric disorder and meet DSM-5 criteria for at least one substance use disorder.
- Multidisciplinary treatment team includes an addiction trained board-certified child and adolescent psychiatrist, CAP fellow, and licensed and trained Master’s-level clinicians.
- Standard treatment course: 16-20 week treatment episodes.

**The ASSIST model:** combining integrated care, a systems-focused framework, and evidence-based interventions

The Adolescent Substance use and Substance-related Interventions Systemic Treatments (ASSIST) model combines (1) an integrated care model; (2) a system-focused framework; and (3) evidence-based behavioral and pharmacologic interventions toward the treatment of adolescent and young adult co-occurring substance use and psychiatric disorders.

**Integrated care models**

Integrated care models for co-occurring disorders – models that address substance use and psychiatric disorders concurrently by the same treatment team (i.e., “one-stop shopping” care) may be associated with better treatment outcomes.

In the CODA clinic we use an integrated care model (see Fig. 1) based, in part, on Vernoit's hub-and-spoke model.1

**Evidenced-based Interventions for Substance Use and Psychiatric Disorders**

Figure 1. Integrated Care model used in CODA clinic at Johns Hopkins. CODA clinic represents hub with spokes connecting to medical provider and ancillary services. Blue circle represents care provided to youth at CODA's clinic. Red circle represents the care provided within the hub model. Orange circle represents care provided in a spoke model system. White circle represents care provided by government or other agencies outside of Johns Hopkins medical system.

**Figure 2. Evidence-based behavioral1 and pharmacological interventions for SUDs, and co-occurring disorder2**

<table>
<thead>
<tr>
<th>Intervention Target</th>
<th>Behavioral Interventions for Substance Use Disorders</th>
<th>Behavioral Interventions for Co-occurring Psychiatric Disorders</th>
</tr>
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<tbody>
<tr>
<td>Substance Use</td>
<td>Motivational Interviewing, Medication Management, Treatment (MHT)</td>
<td>Cognitive Behavioral Therapy (CBT), Behavioral Change Strategies (BCS), Motivational Interviewing (MI)</td>
</tr>
<tr>
<td>Mental Health</td>
<td>Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)</td>
<td>Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)</td>
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<tr>
<td>Physical Health</td>
<td>Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)</td>
<td>Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)</td>
</tr>
</tbody>
</table>

**Environmental factors**

- Motivational Interviewing: Motivational Interviewing, Treatment (MHT), Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)
- Cognitive Behavioral Therapy (CBT)
- Behavioral Change Strategies (BCS)
- Motivational Interviewing (MI)
- Substance Use: Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)
- Mental Health: Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)
- Physical Health: Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)

**Pharmacological interventions**

- Motivational Interviewing: Motivational Interviewing, Treatment (MHT), Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)
- Cognitive Behavioral Therapy (CBT)
- Behavioral Change Strategies (BCS)
- Motivational Interviewing (MI)
- Substance Use: Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)
- Mental Health: Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)
- Physical Health: Cognitive Behavioral Therapy (CBT), Medication Management, Treatment (MHT)

**Eco-systemic framework**

An eco-systemic-focused framework1 can provide an internal and environmental context for how substance use and psychiatric symptoms and disorders emerge, interrelate, and change over time. Furthermore, it can aid in risk stratification and provide a treatment planning “roadmap” giving focus to what interventions and ancillary services should be administered and where, when, and how to best administer those interventions. In the CODA clinic we characterize and track how family, extended family, peer groups, school/vocation, justice system, and community-level risk and protective factors relate to the client/patient’s substance use and psychiatric symptoms.

**Conclusions**

A growing body of research indicates that integrated care models for co-occurring substance use and psychiatric disorders may be associated with better treatment outcomes. Furthermore, interventions that examine and strategically target risk and protective factors in the different ecosystems may shift the risk-resilience balance and improve outcomes. The ASSIST model used in the Johns Hopkins CODA clinic combines these approaches into a single integrated systems-based care model and, with that as a treatment backstop, provides evidence-based interventions for SU and psychiatric disorders. Future research is needed to determine which combination of interventions/treatment and implementation approaches are most effective and cost-effective in the treatment of co-occurring disorders in youth.

**References**