



UW PACC

Psychiatry and Addictions Case Conference

UW Medicine | Psychiatry and Behavioral Sciences

01/24/2019

WELCOME!

Today's Topic:

Treating ADHD in SUD patients

How do I treat patients with ADHD and SUDs
without making them addicted to stimulants?

Robert Sise, MD, MBA, MPH

PANELISTS:

MARK DUNCAN, MD, RICK RIES, MD, AND BARB MCCANN, PHD





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TREATING ADHD IN ADULTS WITH CO-OCCURRING SUDS

BOB SISE, MD, MBA, MPH

UNIVERSITY OF WASHINGTON
ADDICTION PSYCHIATRY FELLOWSHIP



GENERAL DISCLOSURES

The University of Washington School of Medicine also gratefully acknowledges receipt of educational grant support for this activity from the Washington State Legislature through the Safety-Net Hospital Assessment, working to expand access to psychiatric services throughout Washington State.

SPEAKER DISCLOSURES

✓ None

OBJECTIVES

1. REVIEW GENERAL CONSIDERATIONS IN DIAGNOSIS OF ADULT ADHD
2. EXPLORE MULTIMODAL TREATMENT FOR ADULT ADHD WITH CO-OCCURRING SUDS
3. DISCUSS RISKS/BENEFITS OF PHARMACOTHERAPY
4. EXPLORE HOW ADHD TREATMENT SHOULD BE COORDINATED WITH SUDS TREATMENT

CONTEXT...



- GB- 33 y/o M presents to your clinic.
 - BA education.
 - Recently hired for sales position with local tech company.
 - Alcohol use (≥ 4 drinks on weekdays with regular binge drinking on weekends)
 - Smokes cannabis several times weekly
 - Remote cocaine use.

CONTEXT CONTINUED



- Reports prior physician in CA diagnosed him with ADHD when he was 26 y/o and prescribed Adderall IR 20 mg BID- no records readily available.
- Has been purchasing diverted Adderall and notes remarkable benefit.
- Requests Rx for Adderall.

COMMON OR USUALLY MORE CHALLENGING?

→ If you treat SUDs, situation may be all too familiar:

Table 2. Associations of ADHD Symptoms With SUD (Adjusted for Sex, Age, and Education and Controlled for the Random Effect of Twins) Compared With Controls/Twins With No ADHD Symptoms.

Substance abuse	All twins, n (%)	ADHD, total		ADHD, hyperactive/ impulsive		ADHD, inattentive		ADHD, combined	
		OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Alcohol									
Alcohol abuse	543 / 17,940 (3.06)	1.88***	[1.44, 2.46]	1.61*	[1.03, 2.51]	1.68**	[1.15, 2.46]	3.17**	[1.89, 5.29]
Alcohol dependence	1,070 / 17,734 (6.03)	3.58***	[2.86, 4.49]	2.52***	[1.75, 3.63]	3.63***	[2.69, 4.91]	6.29***	[4.01, 9.87]
Drugs									
Stimulants	688 / 17,779 (3.87)	2.45***	[1.79, 3.35]	1.69	[0.99, 2.89]	2.32***	[1.51, 3.57]	5.17***	[2.72, 9.81]
Opiates	1,912 / 17,779 (10.75)	1.97***	[1.65, 2.36]	1.77***	[1.32, 2.37]	2.17***	[1.69, 2.78]	1.88**	[1.24, 2.87]
Cannabis	2,751 / 17,779 (15.47)	2.19***	[1.80, 2.68]	1.83***	[1.33, 2.52]	2.15***	[1.63, 2.83]	3.45***	[2.21, 5.41]
Illicit drug use	2,940 / 17,779 (16.54)	2.27***	[1.86, 2.76]	1.83***	[1.33, 2.51]	2.27***	[1.73, 2.98]	3.58***	[2.30, 5.57]
Poly-substance use	1,425 / 17,779 (8.02)	2.54***	[2.00, 3.23]	1.84**	[1.23, 2.74]	2.71***	[1.95, 3.76]	3.95***	[2.34, 6.68]
Poly-substance use including alcohol	1,704 / 18,027 (9.42)	2.78***	[2.21, 3.50]	2.03***	[1.39, 2.96]	2.81***	[2.06, 3.84]	4.98***	[3.04, 8.18]
Nicotine (smoke and/or “snus”)									
Regular nicotine use	3,115 / 18,167 (17.15)	1.33***	[1.12, 1.59]	1.23	[0.92, 1.63]	1.39**	[1.09, 1.77]	1.41	[0.94, 2.12]

Note. SUD = substance use disorder; OR = odds ratios, calculated from multilevel logistic regression adjusted for sex, age, and education and controlled for the random effect of twins; CI = confidence interval.

* $p < .05$. ** $p < .01$. *** $p \leq .001$.

*Kooij, J. J. S., et al. "Updated European Consensus Statement on diagnosis and treatment of adult ADHD." *European Psychiatry* 56 (2019): 14-34
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GENERAL CONSIDERATIONS IN ADHD TREATMENT FOR ADULTS

- Making/Confirming Diagnosis:
 - How to accomplish this in-house with limited time and resources?
 - How to leverage community resources?

GENERAL CONSIDERATIONS IN ADHD TREATMENT FOR ADULTS

- Screening: ASRS-v 1.1 has relatively high sensitivity in SUDs populations

Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist

Patient Name	Today's Date				
Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the box that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment.					
	Never	Rarely	Sometimes	Often	Very Often
1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?					
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?					
3. How often do you have problems remembering appointments or obligations?					
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?					
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?					
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?					
Part A					
7. How often do you make careless mistakes when you have to work on a boring or difficult project?					
8. How often do you have difficulty keeping your attention when you are doing boring or repetitive work?					
9. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?					
10. How often do you misplace or have difficulty finding things at home or at work?					
11. How often are you distracted by activity or noise around you?					
12. How often do you leave your seat in meetings or other situations in which you are expected to remain seated?					
13. How often do you feel restless or fidgety?					
14. How often do you have difficulty unwinding and relaxing when you have time to yourself?					
15. How often do you find yourself talking too much when you are in social situations?					
16. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?					
17. How often do you have difficulty waiting your turn in situations when turn taking is required?					
18. How often do you interrupt others when they are busy?					
Part B					

*Van de Glind, Geurt, et al. "Validity of the Adult ADHD Self-Report Scale (ASRS) as a screener for adult ADHD in treatment seeking substance use disorder patients." Drug and alcohol dependence 132.3 (2013): 587-596.

GENERAL CONSIDERATIONS IN ADHD TREATMENT FOR ADULTS

- ASRS screened+, now what?
 - Considering how proper diagnosis often requires collateral and experienced psychiatrists find it challenging to achieve diagnostic clarity in one 60 min session....
 - Consider referring out: UW Learn Clinic-
 - 2 hours and \$500 for the eval:
<https://psych.uw.edu/psych.php?p=374>

GENERAL CONSIDERATIONS IN ADHD TREATMENT FOR ADULTS (GEN POP)

- Emphasis on multimodal treatment for adult ADHD:
 - Psychoeducation regarding ADHD and comorbid disorders
 - Pharmacotherapy for ADHD and comorbid disorders
 - Coaching and CBT for ADHD*

*Kooij, J. J. S., et al. "Updated European Consensus Statement on diagnosis and treatment of adult ADHD." *European Psychiatry* 56 (2019): 14-34.

SPECIFIC CONSIDERATIONS FOR ADHD TREATMENT FOR ADULTS W/ SUDS

- Emphasis on multimodal treatment for adult ADHD w/ SUDs:
 - Psychoeducation regarding ADHD and co-occurring substance use
 - Pharmacotherapy for ADHD and co-occurring substance use
 - CBT for ADHD and 12-step facilitation for substance use

TREATMENT: PSYCHOEDUCATION

- Regarding ADHD
 - Basic symptoms and impairments
 - Prevalence
 - Frequent comorbidities
 - Heritability
 - Type of brain dysfunction
 - Treatment Options*

* Kooij, J. J. S., et al.

TREATMENT: PSYCHOEDUCATION

- Regarding deleterious impact of substance use disorders on executive function.
 - There may exist at least one noteworthy exception: mild evidence in support of self-medication hypothesis for cannabis use in ADHD.

“Adults with ADHD may represent a subgroup of individuals who experience a reduction of symptoms and no cognitive impairments following (**moderate**) cannabinoid use.”

 - Equivocal statistical significance
 - A few adverse events: muscle spasms/cardiovascular*

*Cooper, Ruth E., et al. "Cannabinoids in attention-deficit/hyperactivity disorder: A randomised-controlled trial." *European Neuropsychopharmacology* 27.8 (2017): 795-808.

TREATMENT: PHARMACOTHERAPY

→ PERTINENT CONCERNS & FINDINGS

- Will ADHD pharmacotherapy make my patient's substance use disorder worse?
 - No immediate evidence of this per several studies including a systematic review examining several randomized, placebo-controlled trials of pharmacotherapy for ADHD in adult and adolescent SUD patients.

-Carpentier, Pieter-Jan, and Frances R. Levin. "Pharmacological treatment of ADHD in addicted patients: what does the literature tell us?." Harvard review of psychiatry 25.2 (2017): 50.

-Joseph Biederman M. D., Michael C. Monuteaux S. D., Thomas Spencer M. D., Timothy E. Wilens M. D., Heather A. Macpherson B. A., Stephen V. Faraone P. D. Stimulant Therapy and Risk for Subsequent Substance Use Disorders in Male Adults With ADHD: A Naturalistic Controlled 10-Year Follow-Up Study, American Journal of Psychiatry 2008: 165: 597-603. 12.

-Molina B. S. G., Hinshaw S. P., Eugene Arnold L., Swanson J. M., Pelham W. E., Hechtman L. et al. Adolescent Substance Use in the Multimodal Treatment Study of Attention-Deficit/Hyperactivity Disorder (ADHD) (MTA) as a Function of Childhood ADHD, Random Assignment to Childhood Treatments, and Subsequent Medication, Journal of the American Academy of Child & Adolescent Psychiatry 2013: 52: 250- 263. 13.

-Humphreys K. L., Eng T., Lee S. S. Stimulant Medication and Substance Use Outcomes: A Meta-analysis, JAMA Psychiatry 2013: 70: 740-749. 14.

TREATMENT: PHARMACOTHERAPY

→ PERTINENT CONCERNS & FINDINGS

- Recent evidence suggests treatment of ADHD with **stimulants at upper end of therapeutic window**:
 - Improves ADHD Symptoms
 - Improves SUDS Outcomes
- **Konstenius (2014)**— Assessed high doses of Concerta (up to 180 mg per day) for treatment of ADHD over 24 weeks among 54 amphetamine-addicted men, recruited during prison incarceration.
 - Medication was started 2 weeks prior to release and then continued in outpatient care.
 - High drop out rate
 - Active treatment improved ADHD symptomatology and retention in treatment.
 - The active-treatment group had a greater proportion of amphetamine-negative urines
- **Levin (2015)**—Sustained-release mixed amphetamine salts (60 vs. 80 mg/day) in a population of ADHD patients with cocaine addiction.
 - Treatment significantly reduced ADHD symptomatology and improved abstinence
 - Better abstinence in the highest-dosage group
- Emerging hypothesis: severe ADHD contributes to SUDs: treat ADHD→ better SUD outcomes
Evidence suggesting this:
 - Patient's whose ADHD symptoms respond to stimulant treatment saw the best response in so far as improved SUDs outcomes

TREATMENT: PHARMACOTHERAPY

→ PERTINENT CONCERNS & FINDINGS

- Non-stimulant options: Atomoxetine & Bupropion
- **Atomoxetine: (+)Study** Wilens (2008) Dosed up to 100 mg qday treating recently abstinent ADHD adults with alcohol use disorder:
 - Significant reduction ADHD symptoms, significant (26%) reduction in number of heavy drinking days but not but no effect on time to relapse to heavy drinking.
- **(-)Studies**
 - **Thurstone (2010)**—Dosed up to 100 mg qday treating adolescents with alcohol and cannabis failed to demonstrate a significant effect on ADHD symptomatology or substance use.
 - **McRae-Clark (2010)**—Dosed up to 100 mg qday treating cannabis use disorder pts. High dropout. Improvement on some but not all ADHD
- **Bupropion:** Levin (2006)- Bupropion SR 400 mg vs. methylphenidate (SR 20–40 mg twice daily) and placebo for treating ADHD among OUD pts on MMT. Bupropion failed to show a significant effect.

TREATMENT: PHARMACOTHERAPY

→ PERTINENT CONCERNS & FINDINGS

- Is my patient at risk for abusing prescription stimulants?
 - Yes as having a SUD is a risk-factor for this.
- **Westover 2018 Study:** US national cohort of adult incident stimulant medication users in the Veterans Affairs healthcare system, measured from fiscal years 2001 to 2012,
 - 78,829 incident users of stimulant medications, 1.3% (n=1064) were diagnosed with an amphetamine use disorder (AUD) at follow-up.
 - comorbid substance use disorders were common and were risk factors for development of AUD.

Table 2 Hazard ratios associated with risk of development of amphetamine use disorder among stimulant medication users obtained via Cox regression with stepwise selection ($P < 0.10$ for entry; $P < 0.05$ to stay).

Covariates	Hazard ratio	95% CI	Wald χ^2	P-value
Alcohol SUD			38.1450	< 0.0001
No	Reference			
Yes	1.675	(1.422–1.973)		
Opioid SUD			68.7638	< 0.0001
No	Reference			
Yes	2.826	(2.211–3.612)		
Cannabis SUD			11.5243	0.0007
No	Reference			
Yes	1.539	(1.200–1.975)		
Sedative/hypnotic SUD			4.0536	0.0441
No	Reference			
Yes	1.580	(1.012–2.465)		
Combination of drug dependence, excluding opioids			55.3981	< 0.0001
No	Reference			
Yes	2.620	(2.033–3.376)		

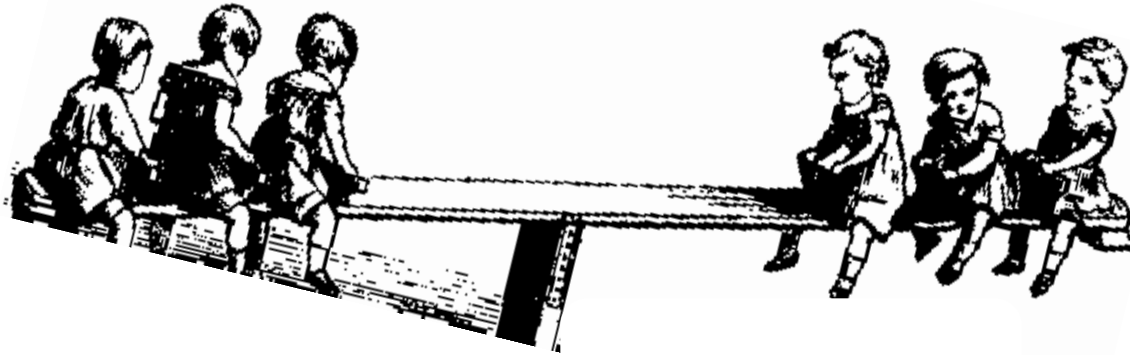
TREATMENT: PHARMACOTHERAPY

- What level of abstinence should we require before/during treatment?
 - “In principle, medication is not started when substance use is insufficiently under control. The commitment to abstinence can be used to monitor commitment to therapy.”
 - Routine urine screens may not only help ensure stimulant adherence/deter diversion but can be used to: “objectively demonstrate their commitment to achieving abstinence.”*

**Carpentier et al.*

TREATMENT: PHARMACOTHERAPY

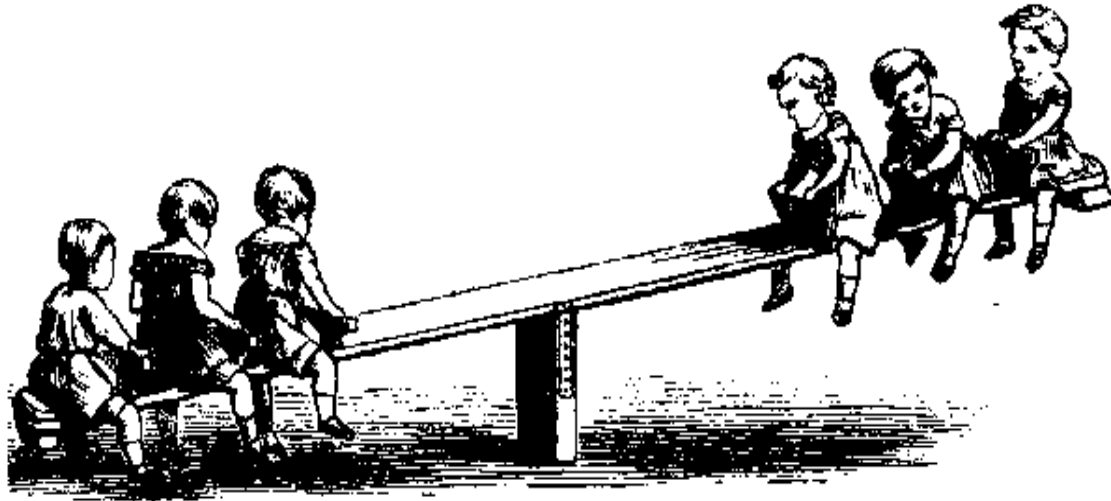
- Key Considerations?



Do Benefits outweigh Risks?

TREATMENT: PHARMACOTHERAPY

- Key Considerations?



Benefits

outweigh

Risks

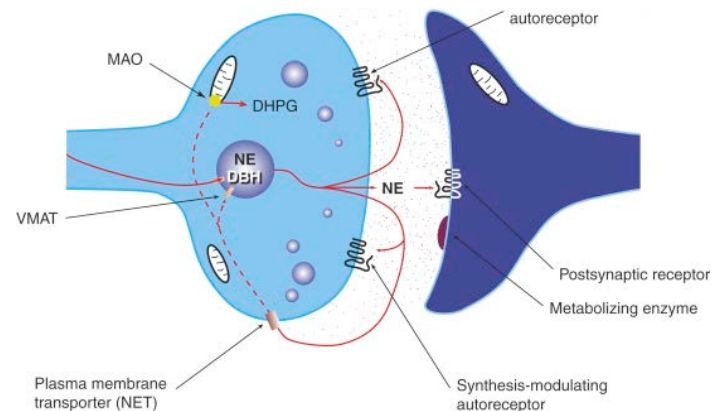
Potential Improved performance across domains
(job, family etc.)

Potential Improved SUDs outcomes

Rx Stimulant Abuse
Diversion (See appendix)

TREATMENT: PHARMACOTHERAPY

- Which medication?
 - Given demonstrated efficacy for ADHD treatment, first-line treatment:



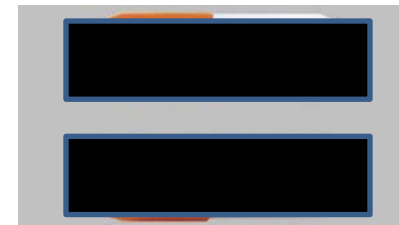
- Increase levels of catecholamines (primarily dopamine and norepinephrine) at synapses
- Favor long-acting preparations to improve adherence and minimize risk of abuse and diversion, including:
 - Lisdexamfetamine (Vyvanse)
 - Methylphenidate ER (Concerta)*

**Carpentier et al.*

TREATMENT: PHARMACOTHERAPY



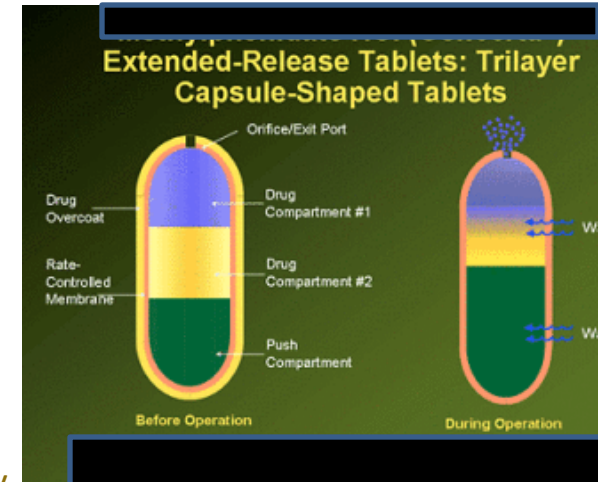
10 • 20 • 30 • 40 • 50 • 60 • 70 mg capsules
10 • 20 • 30 • 40 • 50 • 60 mg chewable tablets



- **Prodrug** that is metabolized in the blood by RBCs' hydrolytic activity to l-lysine and **dextroamphetamine**.
 - Sympathomimetic amine: causes presynaptic release of catecholamines and (some) inhibition of catecholamine reuptake.
- **Duration of action: 8 to 14 hours** Absorption: Rapid
- Metabolism: does **not** undergo **CYP** mediated metabolism
- **Half-life elimination:** Lisdexamfetamine: <1 hour; **Dextroamphetamine: 10 to 13 hours**
- Time to peak: T_{max} : Lisdexamfetamine: ~1 hour; **Dextroamphetamine: ~4 hours**
- **Abuse potential? Appears low-** As per "IHateOpiophobes" on www.bluelight.org:
 - "its dextro-amphetamine that's been fused to l-lysine, so the body has to separate the two molecules before it becomes active, essentially it's an extended release dextro-amphetamine that cannot be easily converted to instant release (unless as ToxicFerret stated you could just put it into acidic liquid to release the amphetamine)"

TREATMENT: PHARMACOTHERAPY

- Osmotic controlled release formulation (OROS) of **methylphenidate**.
 - a norepinephrine–dopamine reuptake inhibitor
- OROS tablet: immediate-release overcoat
 - Provides initial dose of methylphenidate within 1 hr
 - remaining released at controlled rate over 5-9 hrs
 - Water from GI tract enters the core, the osmotic components expand and methylphenidate is released
- **Abuse potential- perhaps -As per “thuggin-highlifeyo” on www.bluelight.org:**
 - “concerta is time release an ppl say its hard to chew because of that but if u put it on ur molars an grind it breaks almost instantly it dose take some pressure but not as hard as ppl say(:"



TREATMENT: PHARMACOTHERAPY

- When to consider alternative medication
 - If patient demonstrates significant risk of abusing medication (i.e. past history of abusing Rx'ed meds or h/o diversion).
 - Patient has a pre-existing psychiatric/medical condition (i.e. cardiac or otherwise) that could be worsened by prescription stimulants
- Principle alternatives to stimulants:
 - Atomoxetine (Strattera)
 - Bupropion (Wellbutrin)*

**Carpentier et al.*

TREATMENT: PHARMACOTHERAPY

- Which medication and for how long?
 - While obviously lower efficacy in SUDs patient (vs. that in general pop)
 - still worthwhile to utilize standard ADHD medications whenever possible*
 - Medications should be tried for a sufficiently long time at adequate doses (likely high-end of therapeutic range):
 - ≥ 4 weeks for stimulants
 - ≥ 6 weeks for other ADHD medications (including atomoxetine and bupropion)**

*Perez de los Cobos J, Sinol N, Perez V, Trujols J. Pharmacological and clinical dilemmas of prescribing in co-morbid adult attention-deficit/hyperactivity disorder and addiction. Br J Clin Pharmacol. 2014; 77:337–56.

** Prince, JB., Wilens, TE., Spencer, TJ., Biederman, J. Pharmacotherapy of ADHD in adults. In: Barkley, RA., editor. Attention-deficit hyperactivity disorder: a handbook for diagnosis and treatment. 3. New York: Guilford; 2006. p. 704-36.

TREATMENT: COACHING (SUPPORTIVE PSYCHOTHERAPY)

- Key targets include:
 - acceptance of the disorder
 - learning to deal with time management
 - learning to limit activities to “one goal at a time”
 - organizing home, administration, finances
 - dealing with relationship and work difficulties
 - learning to initiate and complete tasks
 - understanding emotional responses associated with ADHD*

* Kooij, J. J. S., et al.

TREATMENT: CBT

- Similar targets:

Chapter 1 Information About Adult ADHD 1

Chapter 2 Overview of This Treatment Program for ADHD
in Adulthood 9

Chapter 3 Informational Session with Spouse, Partner, or Family
Member (if applicable) 17

Module 1 Organizing and Planning

Chapter 4 The Foundation: Organizing and Planning Skills 23

Chapter 5 Organization of Multiple Tasks 31

Chapter 6 Problem Solving and Managing
Overwhelming Tasks 39

Chapter 7 Organizational Systems 45

Module 2 Reducing Distractibility

Chapter 8 Gauging Your Attention Span and
Distractibility Delay 53

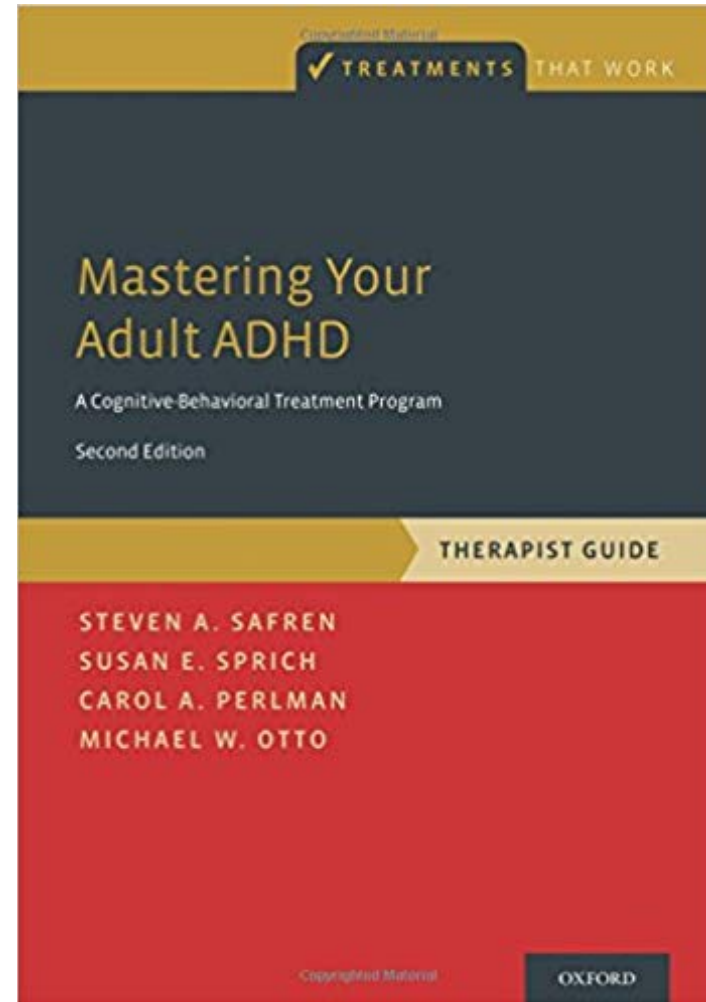
Chapter 9 Modifying Your Environment 61

Module 3 Adaptive Thinking

Chapter 10 Introducing a Cognitive Model of ADHD 69

Chapter 11 Adaptive Thinking 83

Chapter 12 Rehearsal and Review of Adaptive Thinking Skills 93



OBJECTIVES

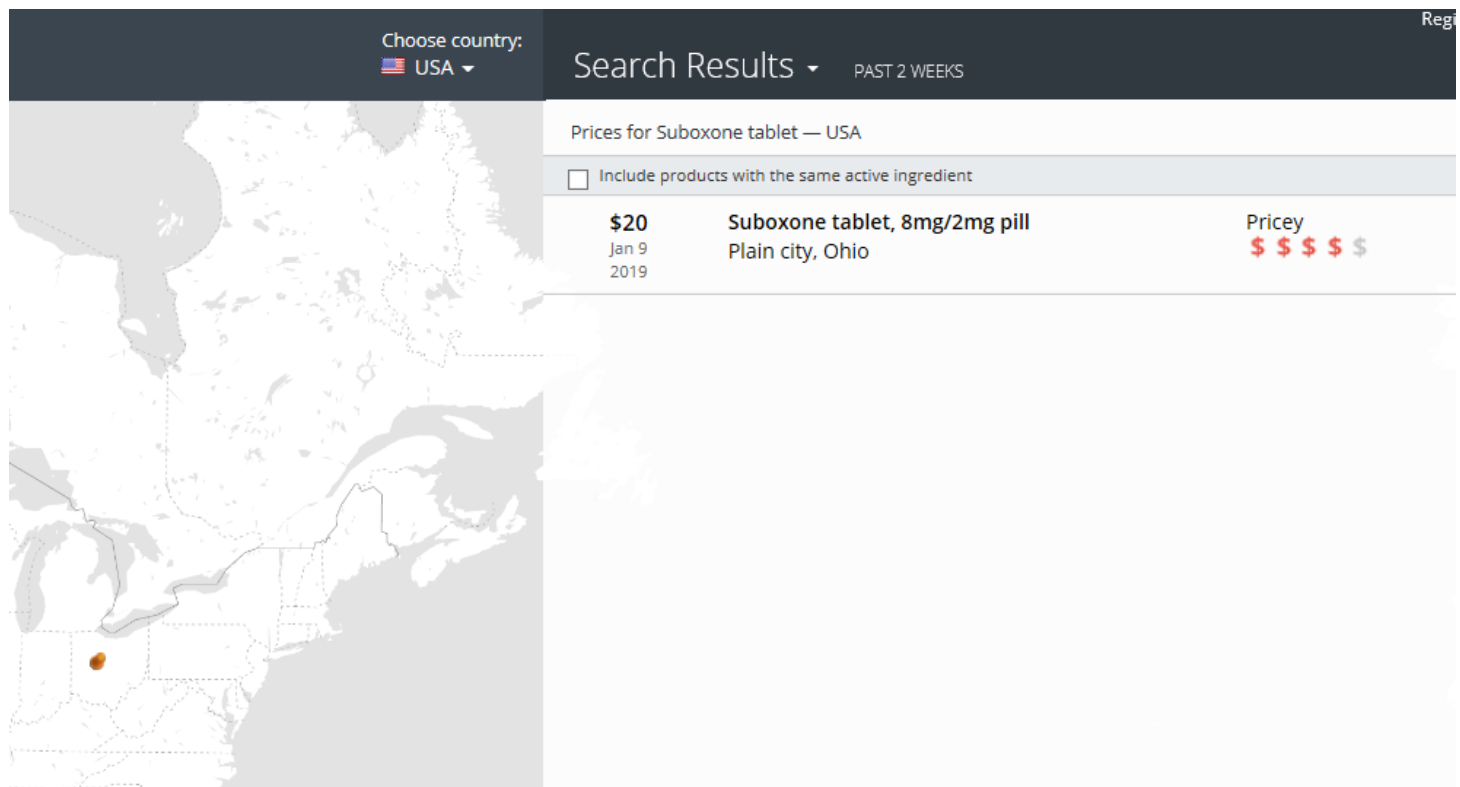
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2. EXPLORE MULTIMODAL TREATMENT FOR ADULT ADHD WITH CO-OCCURRING SUDS
3. DISCUSS RISKS/BENEFITS OF PHARMACOTHERAPY
4. EXPLORE HOW ADHD TREATMENT SHOULD BE COORDINATED WITH SUDS TREATMENT

TAKEAWAYS

1. REVIEW GENERAL CONSIDERATIONS IN DIAGNOSIS OF ADULT ADHD
 - Leverage ASRS, Community Resources
2. EXPLORE MULTIMODAL TREATMENT FOR ADULT ADHD
 - Psychoeducation – Pharmacotherapy- Psychotherapy
3. DISCUSS RISKS/BENEFITS OF PHARMACOTHERAPY
 - Treat with long-acting stimulants unless contraindicated
4. EXPLORE HOW ADHD TREATMENT SHOULD BE COORDINATED WITH SUDS TREATMENT
 - Ideally simultaneousness/complimentary

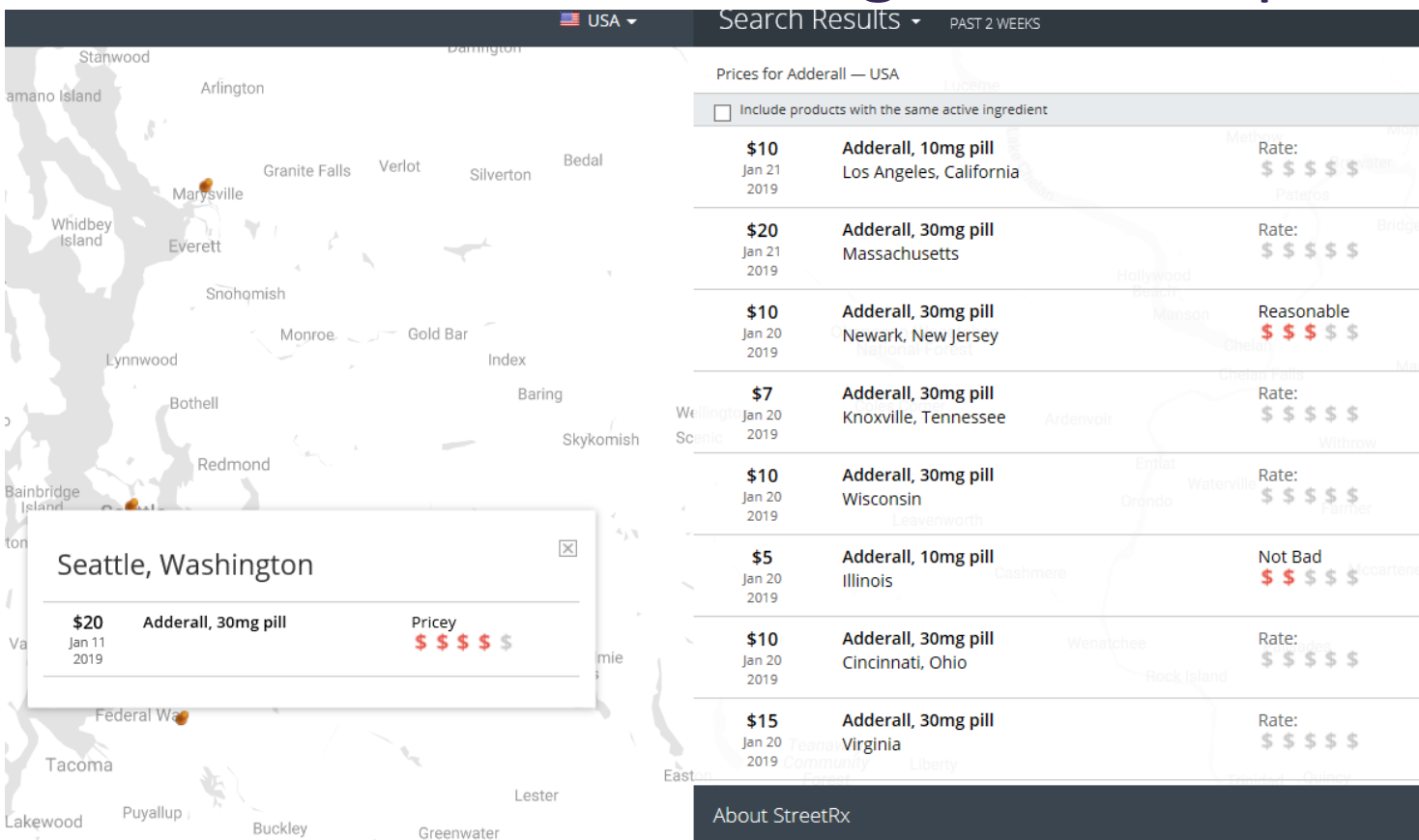
APPENDIX ON DIVERSION: ST RX

Index= Suboxone (bup 8mg/nlx 2mg sublingual tab)?



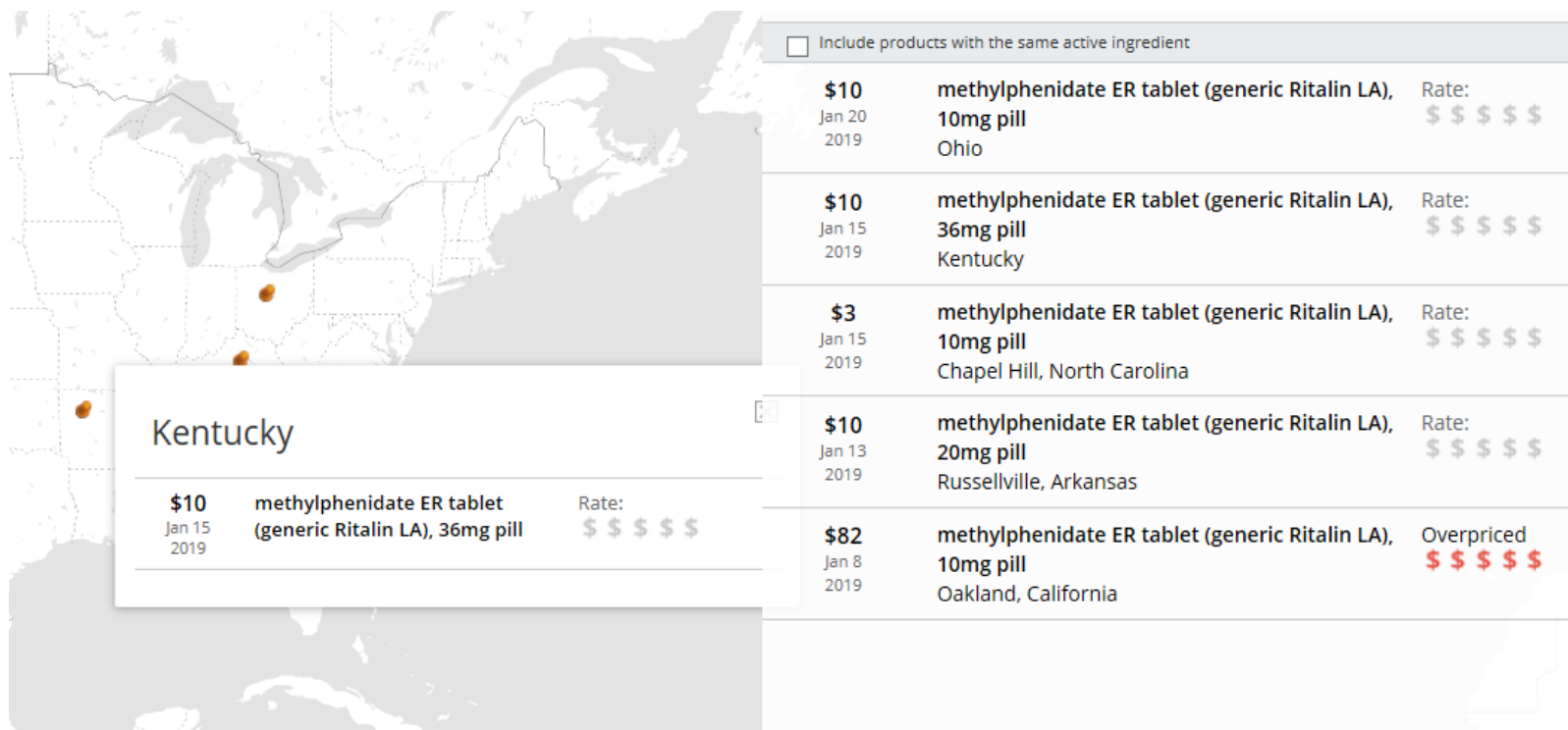
APPENDIX ON DIVERSION: ST RX

Street Value of Adderall 30 mg looks comparable



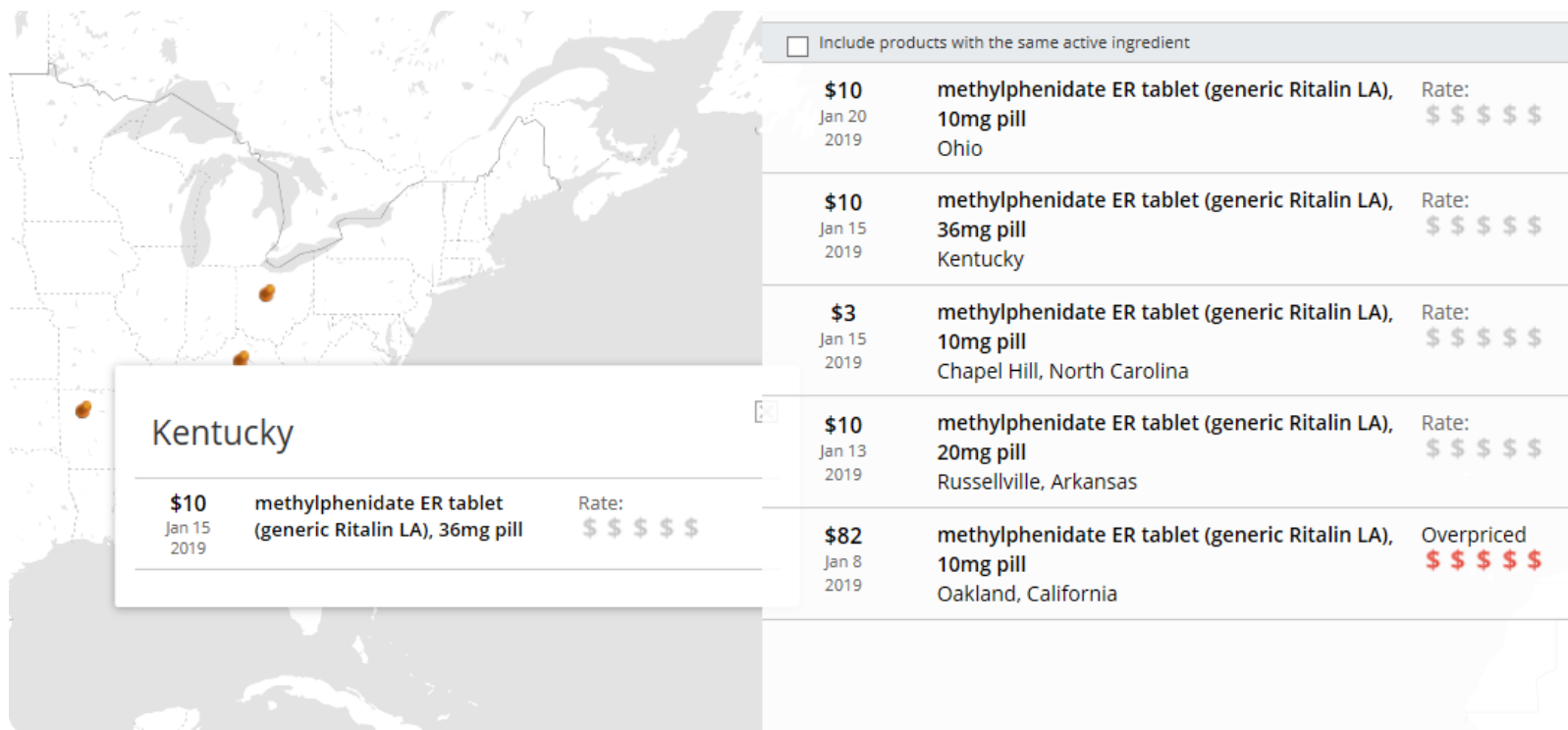
APPENDIX ON DIVERSION: ST RX

Whereas generic methylphenidate ER 36 mg= \$10



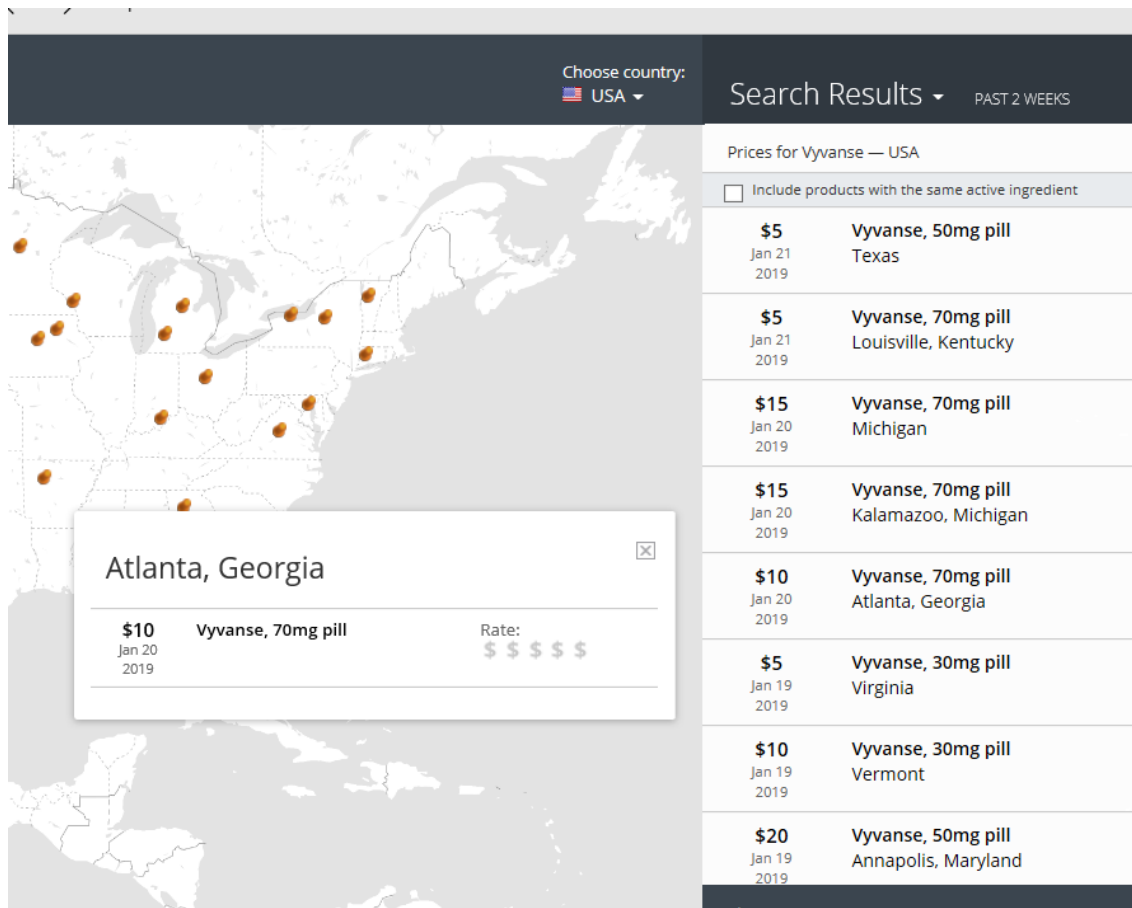
APPENDIX ON DIVERSION: ST RX

Whereas generic methylphenidate ER 36 mg= \$10



APPENDIX ON DIVERSION: ST RX

Similary, Vyvanse 70 mg: \$10



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