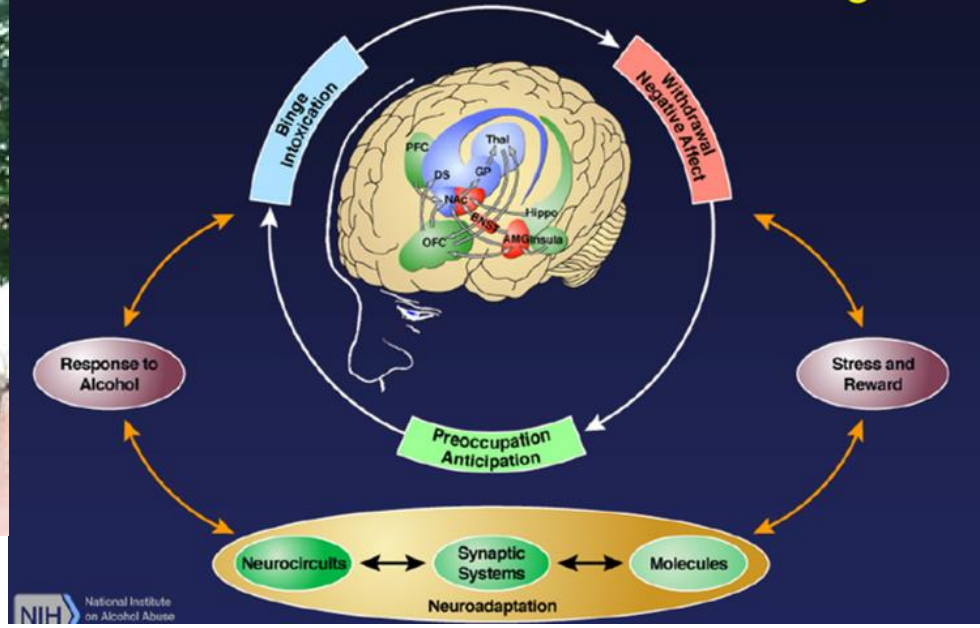

Expanding Access to and Capacity for Medication Assisted Treatment for Opioid Use Disorder

Rachel Solotaroff, MD, MCR

Chief Medical Officer, Central City Concern

North Coast Opioid Summit

April 28, 2016

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Goals

- Review epidemiology of opioid misuse and availability of opioid agonist treatment in Oregon
- Describe a biological framework for understanding substance use disorders
- Describe the evidence supporting medication assisted treatment for opioid use disorder and chronic pain
- Discuss barriers, questions and action steps to expanding access to MAT in the North Coast

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Disclosures

- I have no financial interests to disclose
- I believe that this is a complex problem with multiple pathways to success

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OPIOID USE DISORDER BASICS

Epidemiology

Neurobiology

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A Patient to Keep Us Company

- Arthur M – came to Old Town Clinic in May 2011
- History of alcohol dependence resulting in:
  - Chronic Pancreatitis
  - Insulin-dependent Diabetes
  - Chronic Pain on Chronic Opioid Therapy
- Ongoing history of major depression, recurrent, moderate
- Had worked as networks systems analyst, now unable to work
- Lived with parents in affluent suburb of Portland

Arthur's Background

Social, Developmental and Family History:

- Raised by his mother and father until his parents' divorce when he was 5 years old
- Mother remarried, and Arthur reports having a difficult relationship with his stepfather who was "angry and volatile." Denies physical abuse, but endorses emotional abuse and alienation
- He joined the Navy at age 18, was discharged after 2.5 years
- He thinks his biologic father had a "drinking problem," but did not see him after his parents' divorce

Behavioral Health History:

- Reports experiencing symptoms of anxiety since childhood and depression since adolescence
- Began drinking alcohol and using cannabis at age 13, started using cocaine shortly there after
- First treatment episode was at age 18 after being arrested for breaking and entering

Our First Clinic Visit

- Reported long struggle with alcoholism; had a year of sobriety then relapsed 3 months ago
- Admitted to hospital with flare of his chronic pancreatitis
- When I met him, had been sober for one week, had re-engaged with sponsor and daily AA meetings
- Denied ever being in substance abuse tx before, denied any aberrant behavior with opioids
- Had to leave prior PCP due to change in insurance
- Interested in staying sober, getting diabetes under control, "doing whatever you need me to do"
- He also needed a refill on his chronic opioids

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Opioid Misuse Grows in Oregon

2008: Oregon is **5th** highest state for nonmedical use of prescription painkillers

6.6% of persons ≥12 years

8.2% of persons 12-17 years

17.9% of persons 18-25 years – highest in any US state

2013: Oregon is **THE** highest state for nonmedical use of prescription pain relievers:

- 6.4% of all persons ≥12 years
- 7.4% of persons 12-17 years
- 15% of persons 18-25 years

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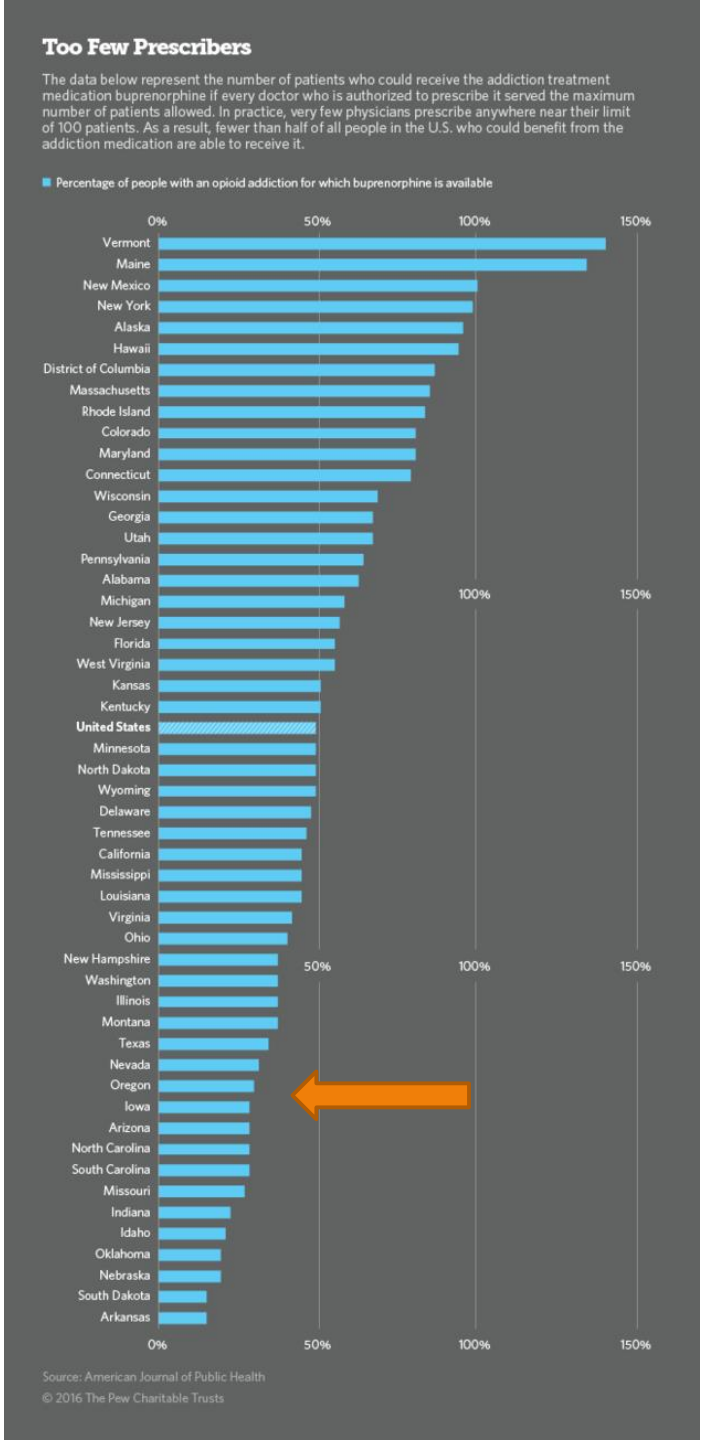
SAMHSA- 2008, 2013 National Survey on Drug Use and Health, state level data

Percentage of people with an opioid use disorder for which buprenorphine is available:

Where's Oregon?



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More about Arthur…

- After meeting Arthur, I refer him to our combined addictions/chronic pain program and a full pain and functional evaluation
- In subsequent 2 months, Arthur relapses repeatedly on alcohol and is hospitalized multiple times for pancreatitis
- Hospital reports mention Arthur asking specifically for IV hydromorphone, and misleading staff about opioid doses
- He is also noted to have crushed oral oxycodone while in the ED and mixed it with water – unclear what his plans were for this concoction
- Is found manipulating IV to create an abscess to extend stay in hospital

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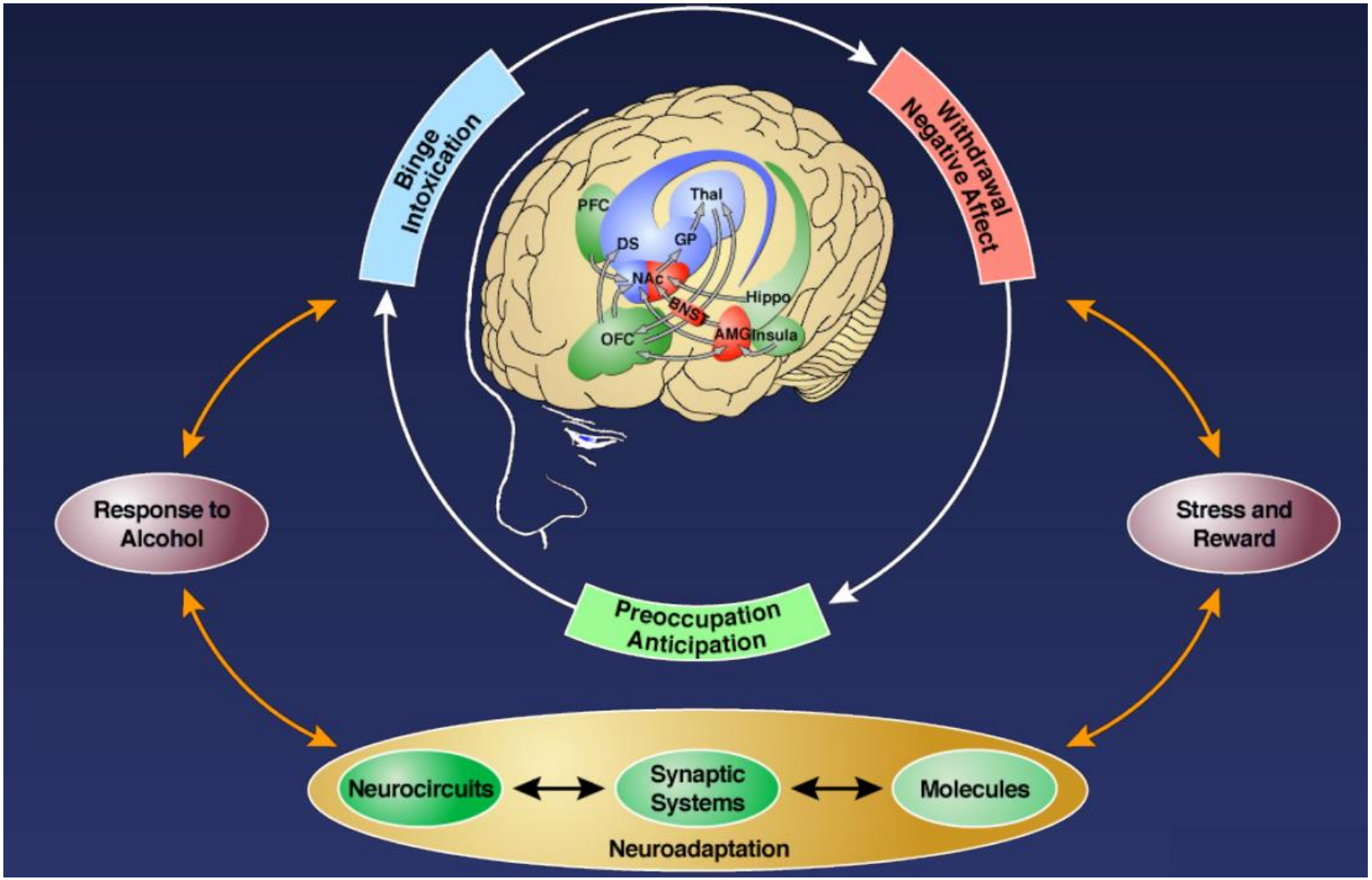
Review of the Neural Circuits of Addiction



Koob, CSAM Addiction Medicine Review Course, 2014

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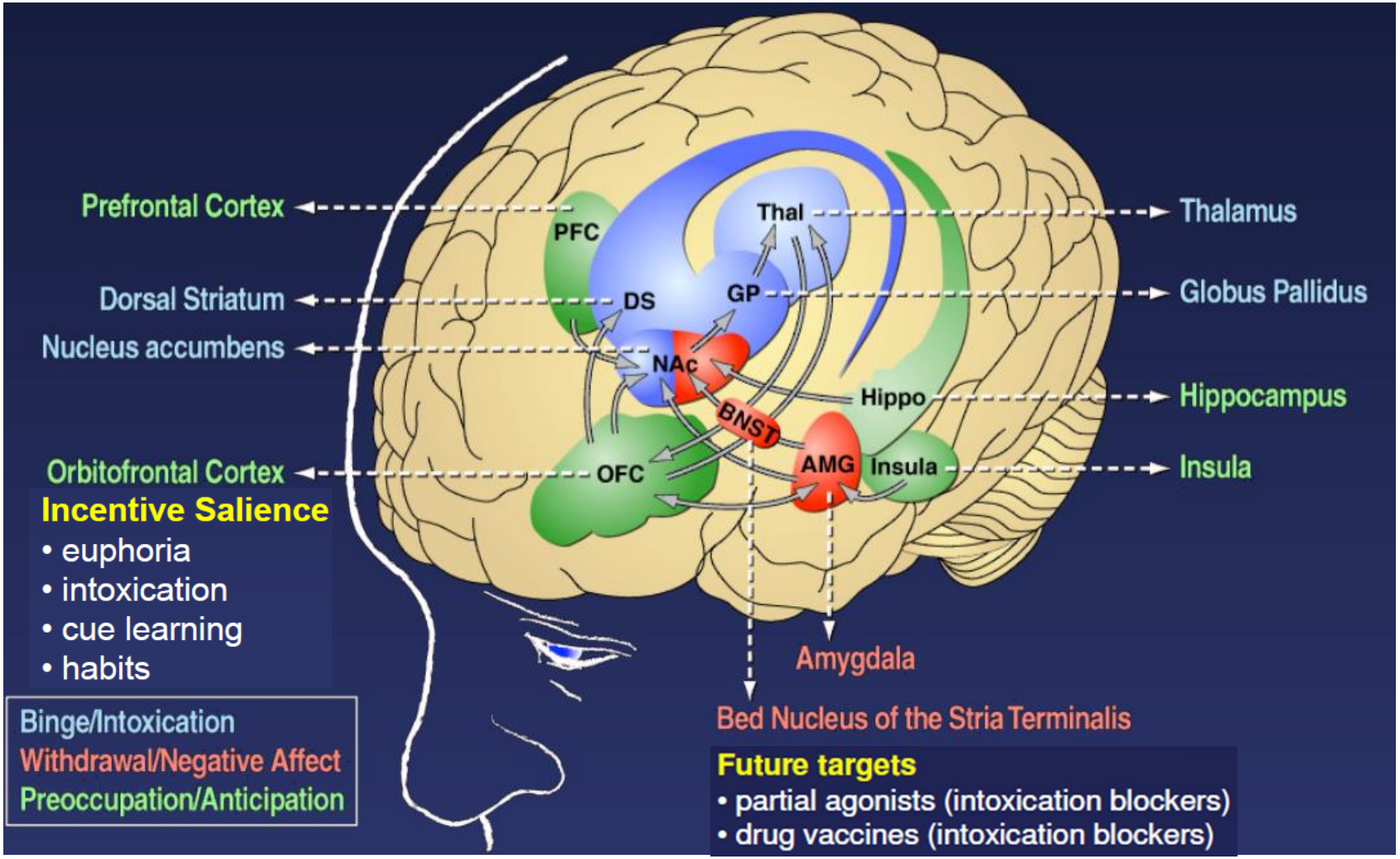
Neural Circuits of the Binge/Intoxication Stage



Koob GF, Volkow ND. Neuropsychopharmacol REV, 2010, 35:217-238

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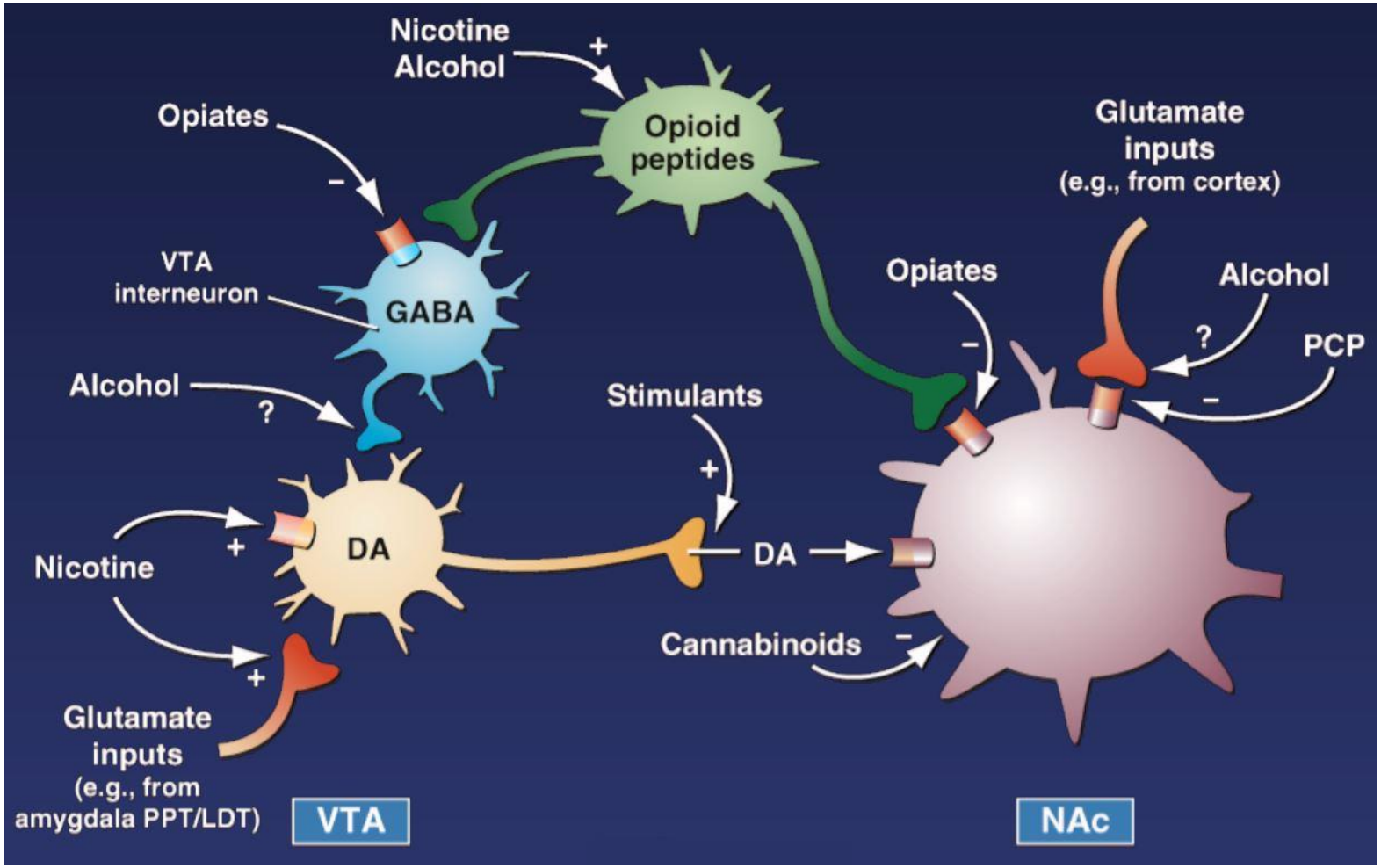
Converging Acute Actions of Drugs of Abuse on the Ventral Tegmental Area and Nucleus Accumbens



Nestler EJ Nat Neurosci, 2005, 8:1445-1449.

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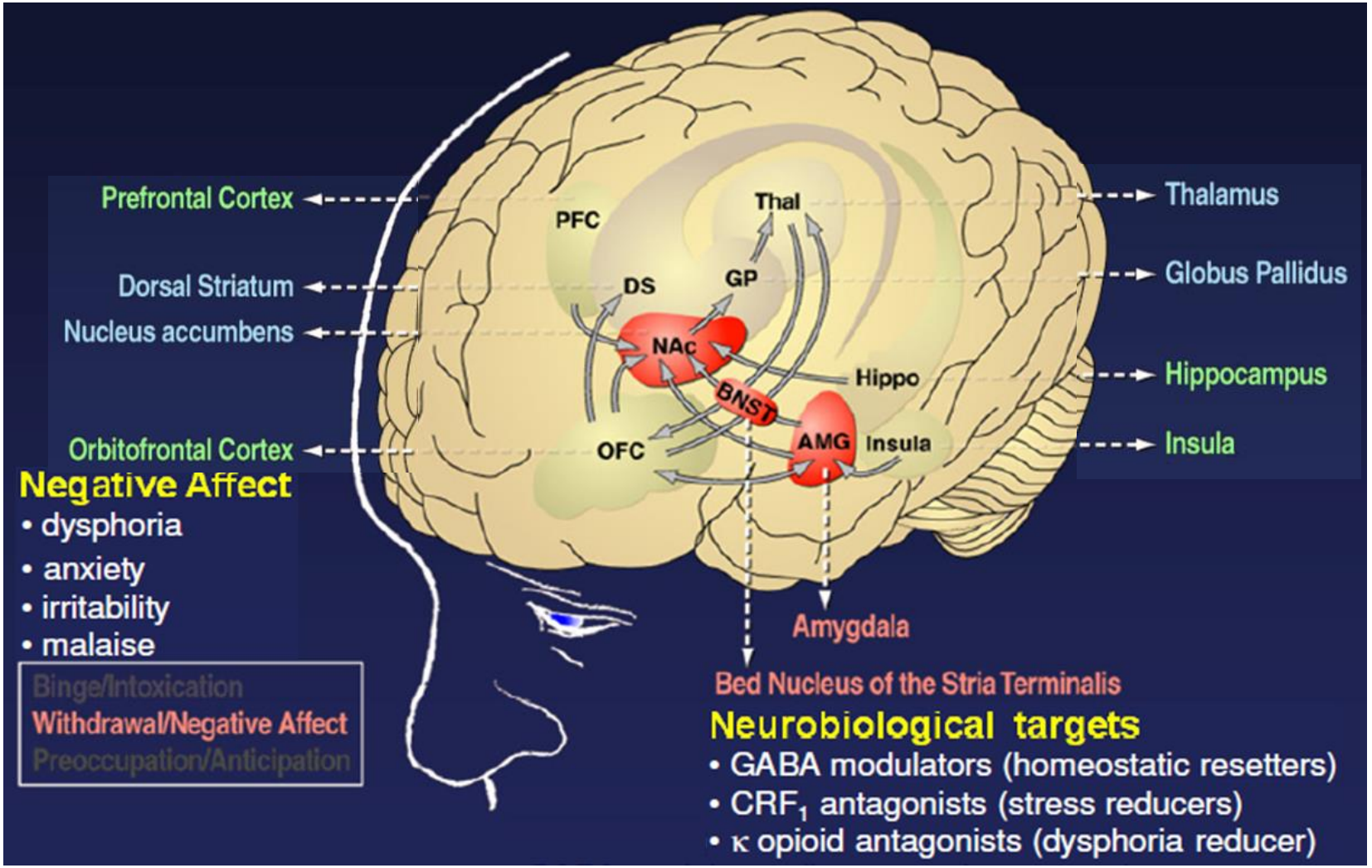
Neural Circuits of the Withdrawal/Negative Affect Stage



Koob, CSAM Addiction Medicine Review Course, 2014

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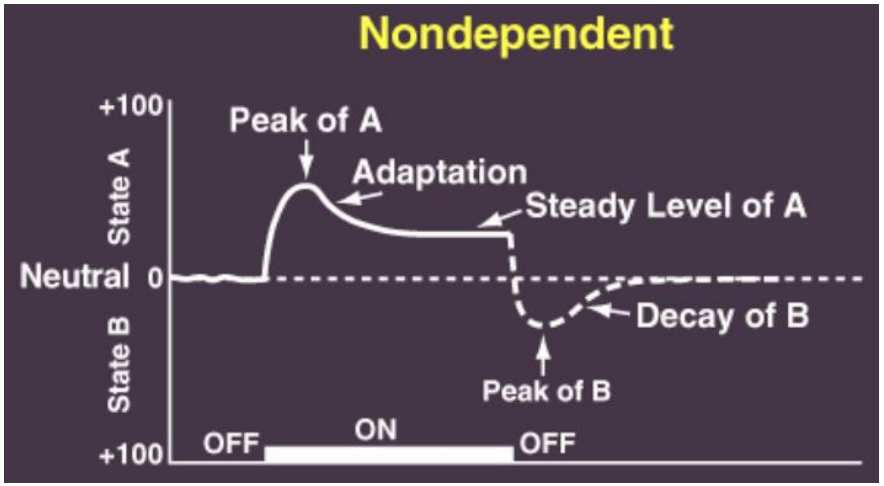
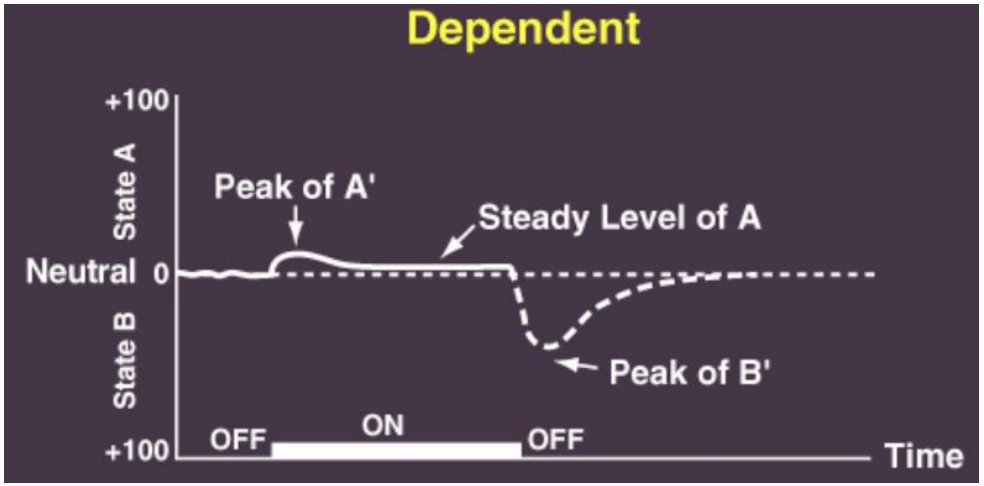
Conceptual Model of Alcohol/Drug Dependence





From Solomon RL, American Psychologist, 1980, 35: 691-712

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Reward Transmitters Implicated in the Motivational Effects of Drugs of Abuse

Positive Hedonic Effects	Negative Hedonic Effects of Withdrawal
↑ Dopamine	↓ Dopamine – "dysphoria"
↑ Opioid Peptides	↓ Opioid Peptides – pain
↑ Serotonin	↓ Serotonin – "dysphoria"
↑ GABA	↓ GABA – anxiety, panic attacks

Koob, CSAM Addiction Medicine Review Course, 2012

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Anti-Reward Transmitters Implicated in the Motivation Effects of Drugs of Abuse

Positive Hedonic Effects
↑ Dynorphin – "dysphoria"
↑ Corticotropin-Releasing Factor (CRF) – stress
↑ Norepinephrine – stress
These are ACTIVATED in amygdale and ventral striatum during withdrawal

Koob, CSAM Addiction Medicine Review Course, 2012

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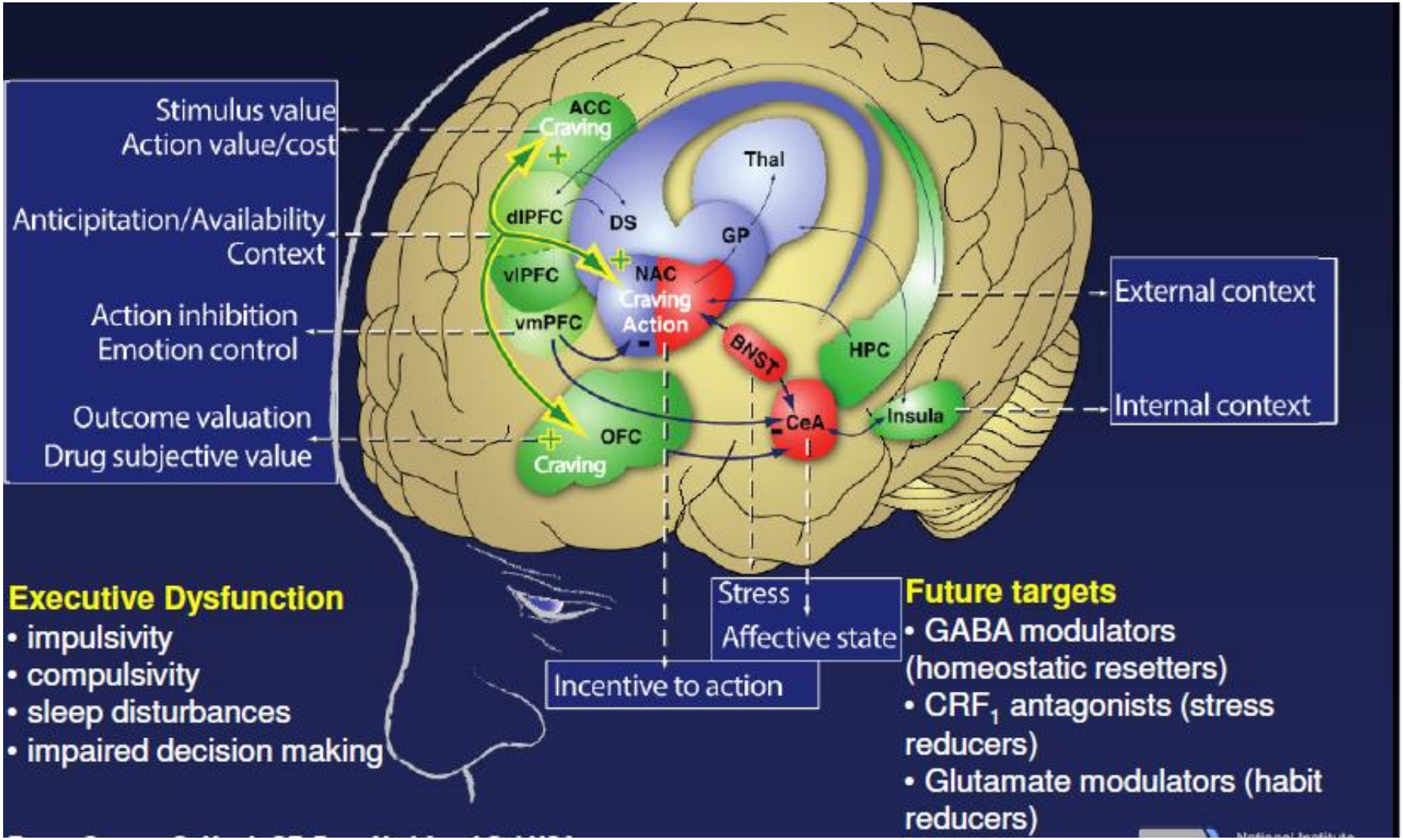
Neural Circuits of the Preoccupation/ Anticipation Stage



Koob GF. Proc Natl Acad Sci USA, 2013, 110:4165-4166

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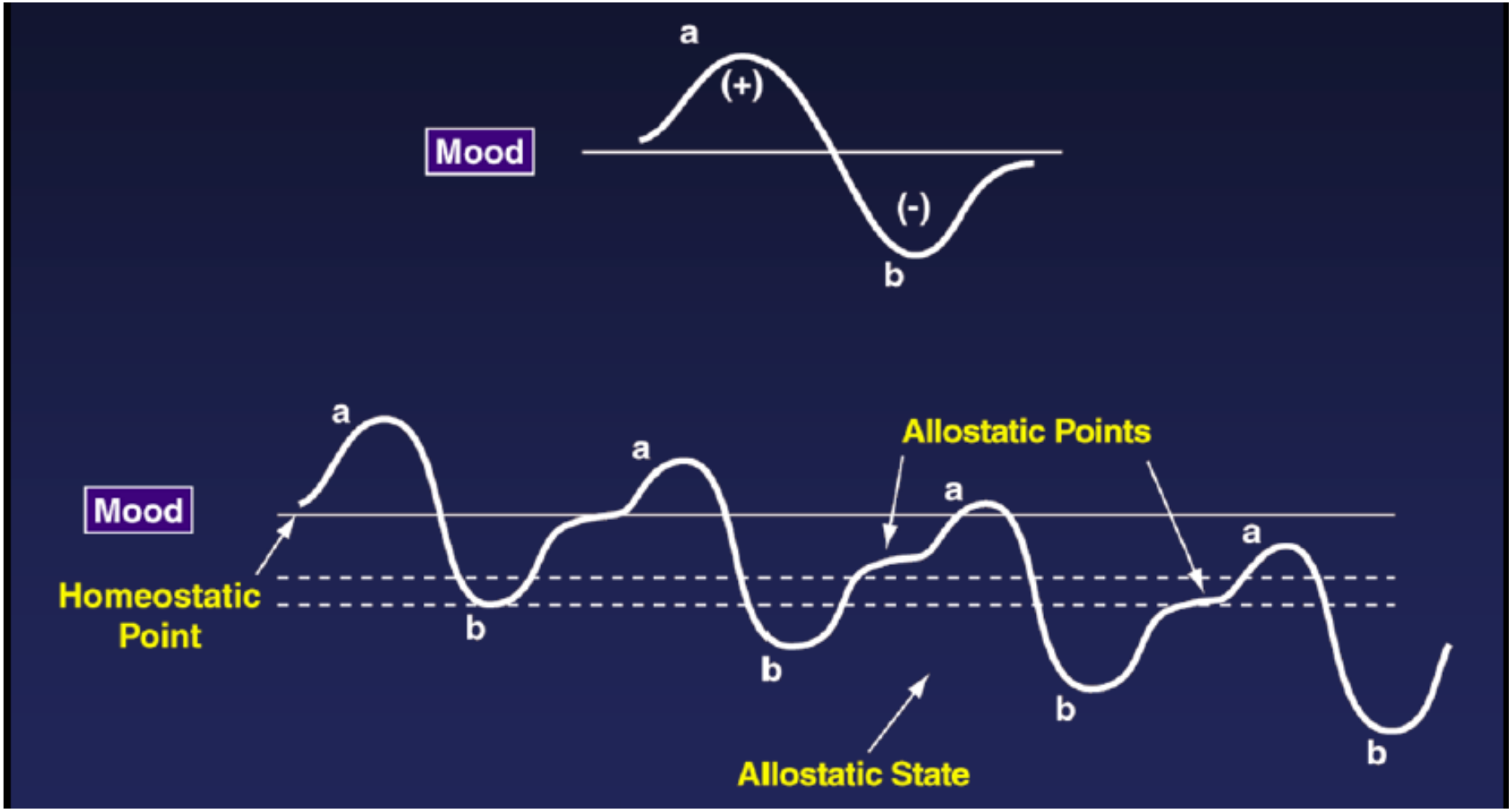
Allostatic Change in Emotional State Associated with Transition to Drug Addiction



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From Koob GF and Le Moal M, *Neuropsychopharmacology*, 2001, 24:97-129

Medication Assisted Treatment for Opioid Use Disorder

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Medication Efficacy For Opioid Dependence

	Treatment Program Retention	Opioid Misuse	Criminal Activity
Methadone	↑ (n=3)[a]	↓ (n=6)[a]	No Effect (n=3)[a]
Buprenorphine	↑ (n=4)[b]	↓ (n=2)[b]	No data
PO NTX	No effect (n=2)[c]	↓ (n=4)[c]	↓ (n=2)[c]
XR NTX	↑ (n=2)[d]	↓ (n=2)[d]	No data

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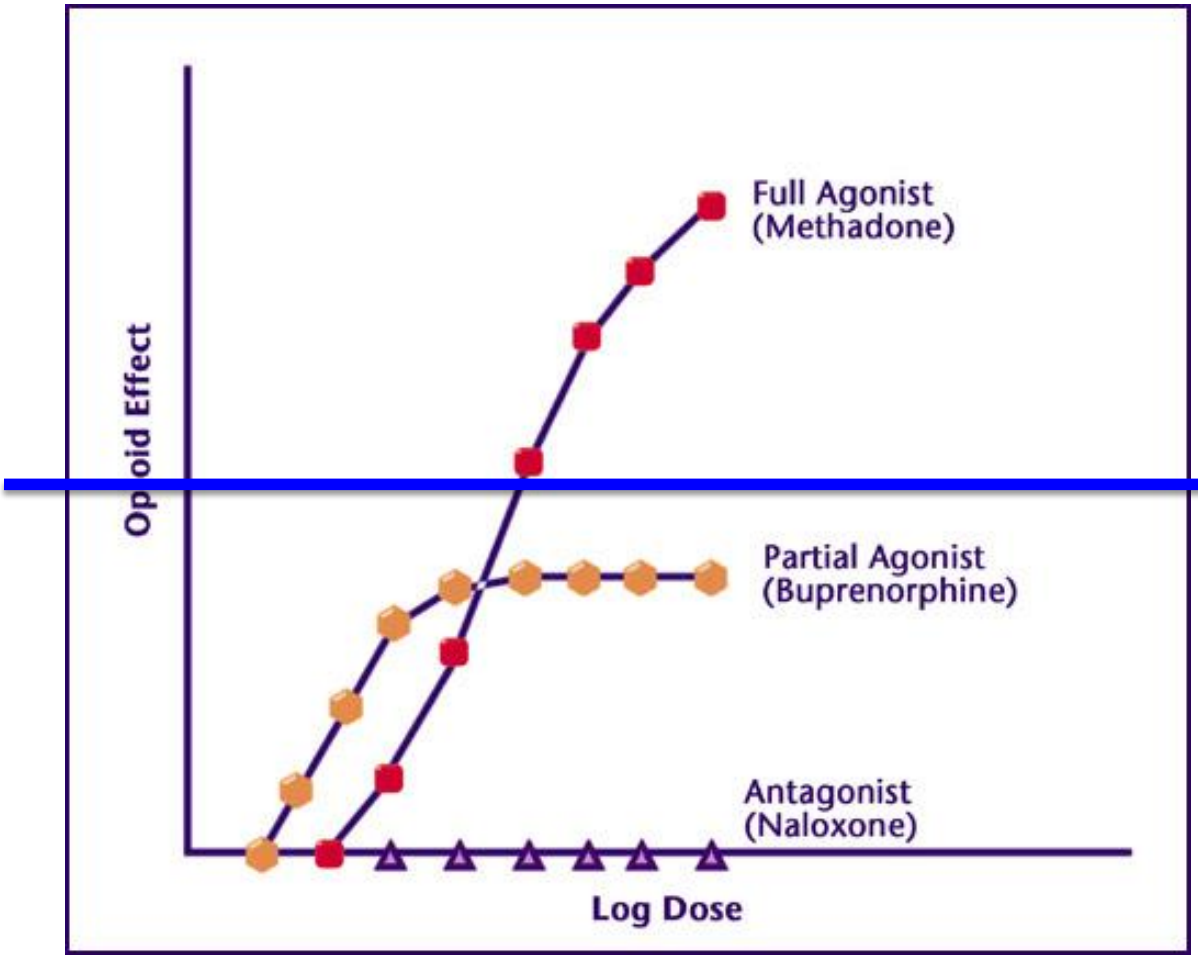
[a]Mattick RP, et al. Cochrane Database Syst Rev 2011;
[b]Mattick RP, et al. Cochrane Database Syst Rev 2014;
[c]Minozzi S, et al. Cochrane Database Syst Rev 2011;
[d]Krupitsky E et al. Lancet. 2011, Comer SD et al. Arch Gen Psychiatry 2006

Buprenorphine: A partial agonist of the μ-opioid receptor



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Buprenorphine vs Methadone

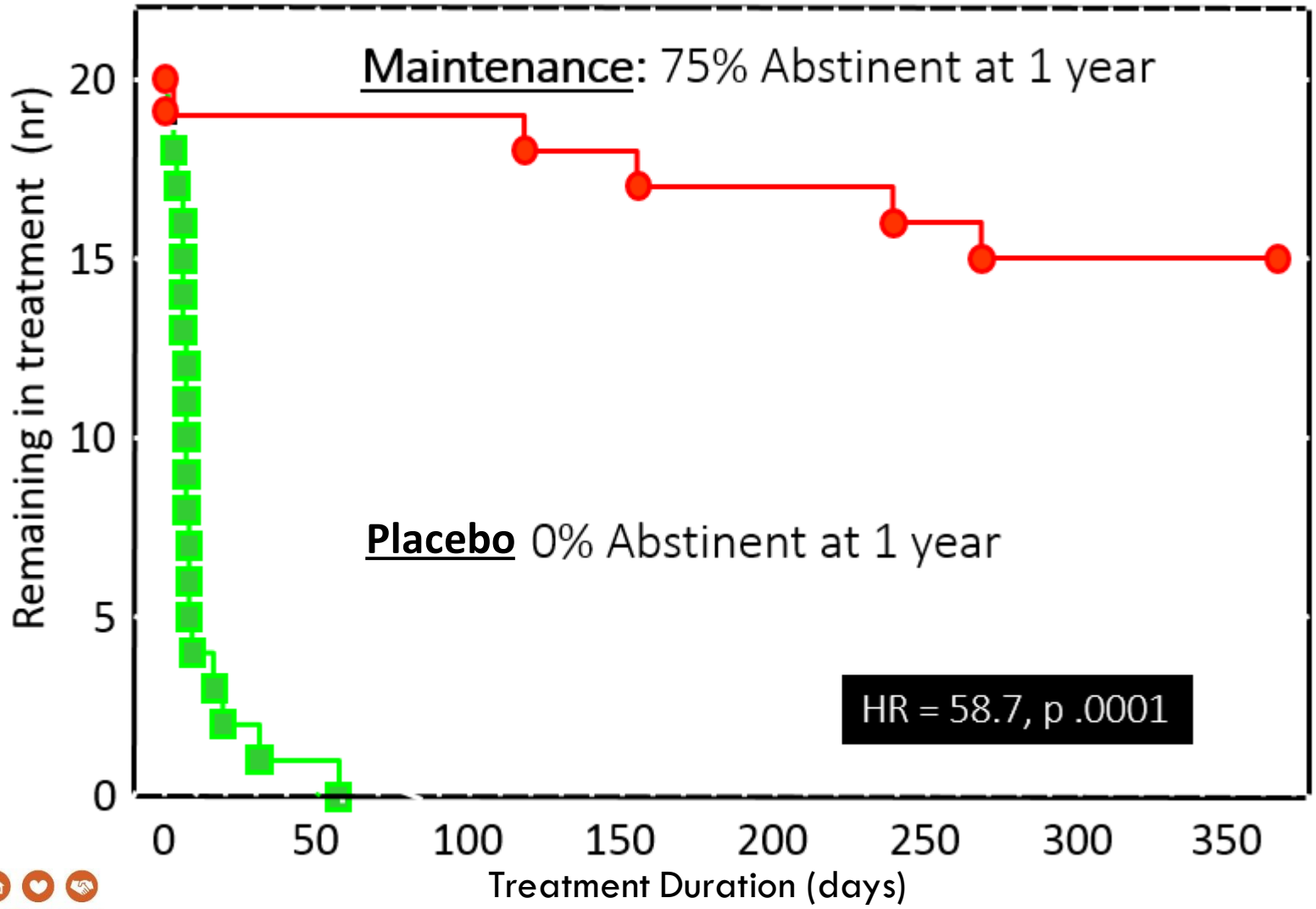
- Low dose Buprenorphine (2-6mg) was less effective than methadone in retaining people in treatment.

- Medium dose Buprenorphine (7-15 mg/day) was no different from methadone (≥40 mg/day) in retaining people in treatment or in suppression of illicit opioid use.

- Similarly, there was no difference between high dose Buprenorphine (≥ 16 mg) and high-dose methadone (≥ 85 mg) in retention or suppression of self-reported heroin use

Mattick RP, Breen C, Kimber J, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. Cochrane Database of Systematic Reviews 2014, Issue 2.

Buprenorphine vs. Counseling Only



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Johan Kakko, Kerstin Dybrandt Svanborg, Mary Jeanne Kreek, Markus Heilig. 1-year retention and social function after buprenorphine-assisted relapse prevention treatment for heroin dependence in Sweden: a randomised, placebo-controlled trial. *Lancet*. Volume 361, Issue 9358, 2003, 662–668

Buprenorphine for Pain/Opioid Use Disorder

- VA Co-Occurring Disorders Clinic in primary care clinic at VA
- Referrals from PCP, pain management, hospital, substance abuse treatment
- Ninety-three patients (65%) continued to be maintained on the medication
- Seven completed treatment and were no longer taking any opioid (5%)
- Pain scores showed a modest, but statistically significant improvement on BUP/NLX

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Pade PA[1], Cardon KE, Hoffman RM, Geppert CM. Prescription opioid abuse, chronic pain, and primary care: a Co-occurring Disorders Clinic in the chronic disease model J Subst Abuse Treat. 2012 Dec;43(4):446-50.

What Happened to Arthur?

- When he returned to me as an outpatient, I explained to Arthur that, given ongoing EtOH and opioid abuse, it was no longer safe for me to prescribe him chronic opioid therapy
- Arthur was referred to a methadone clinic for opiate addiction.
- He was not accepted to methadone maintenance
- We attempted inpatient treatment, but he was too medically complicated and was requesting ongoing opioid therapy
- Due to family illness and tragedy, he eventually lost his housing with his parents and became homeless
- His hospitalizations continued unabated, and I did not see him for many months
- Various outreach teams were unable to connect with him

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What Happened to Arthur?

- After months of homelessness and repeated hospitalizations seeking opiates, Arthur was admitted for an inpatient psychiatric hospitalization for suicidal ideation
- Upon discharge, in March 2013, he:
  - Was referred to and enrolled in a specialty behavioral health clinic
  - Obtained housing through a community grant
  - Was induced on buprenorphine at our primary care clinic
- He has not been in the hospital since
- He is participates in the NAMI walk every spring with our organization

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Discussion/Action Planning

- What concerns or questions do you have about buprenorphine?
- What are barriers to MAT in your community? In your practice?
- What patients might you envision starting on buprenorphine? What patients do you think would not be good candidates?
- What other resources would you need to increase buprenorphine in your practice?

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Thank you!!

- Rachel Solotaroff, MD, MCR
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  971-271-6084

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Additional Slides

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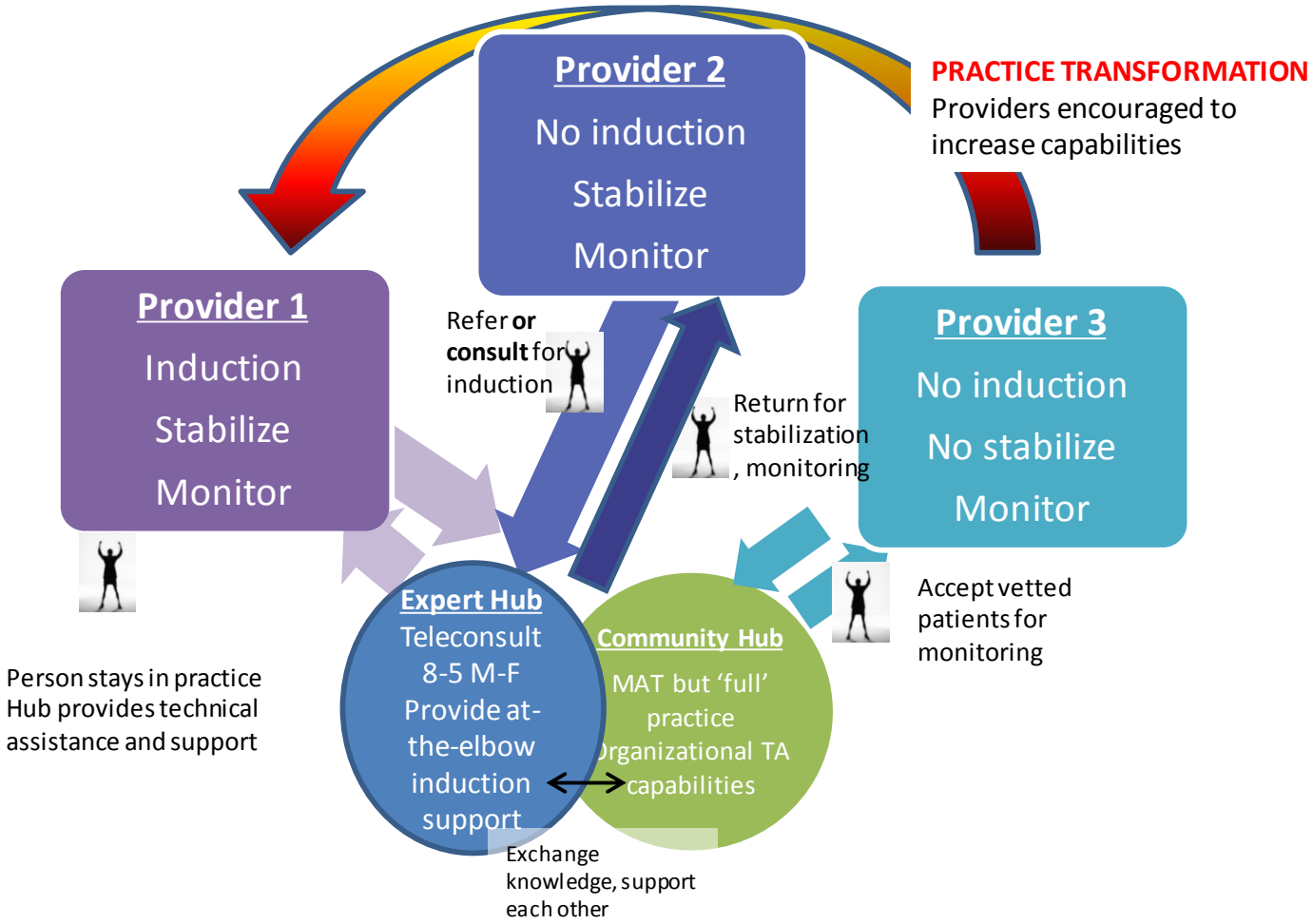
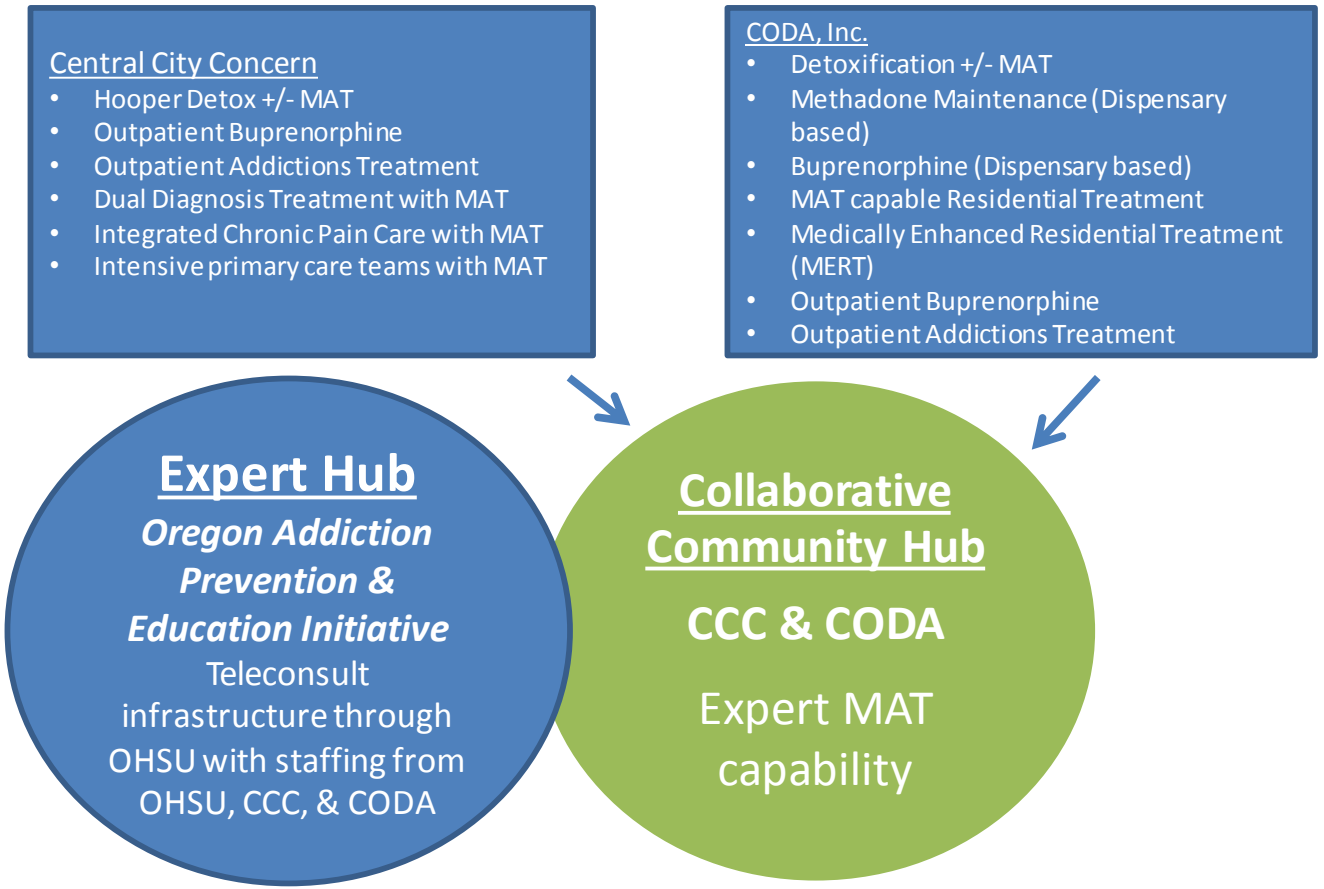
Enhanced Hub & Spoke Model: Local Community + Expert Hub



Enhanced Hub & Spoke Model: Local Community + Expert Hub



Treating Opioid Use Disorder in Primary Care

and chronic pain