

# Vermont Hub and Spoke

## The Wheel of Justice and Treatment

John Brooklyn, MD

Judge Brian Grearson

Judge Kevin Griffin

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No financial disclosures

Brian Grearson

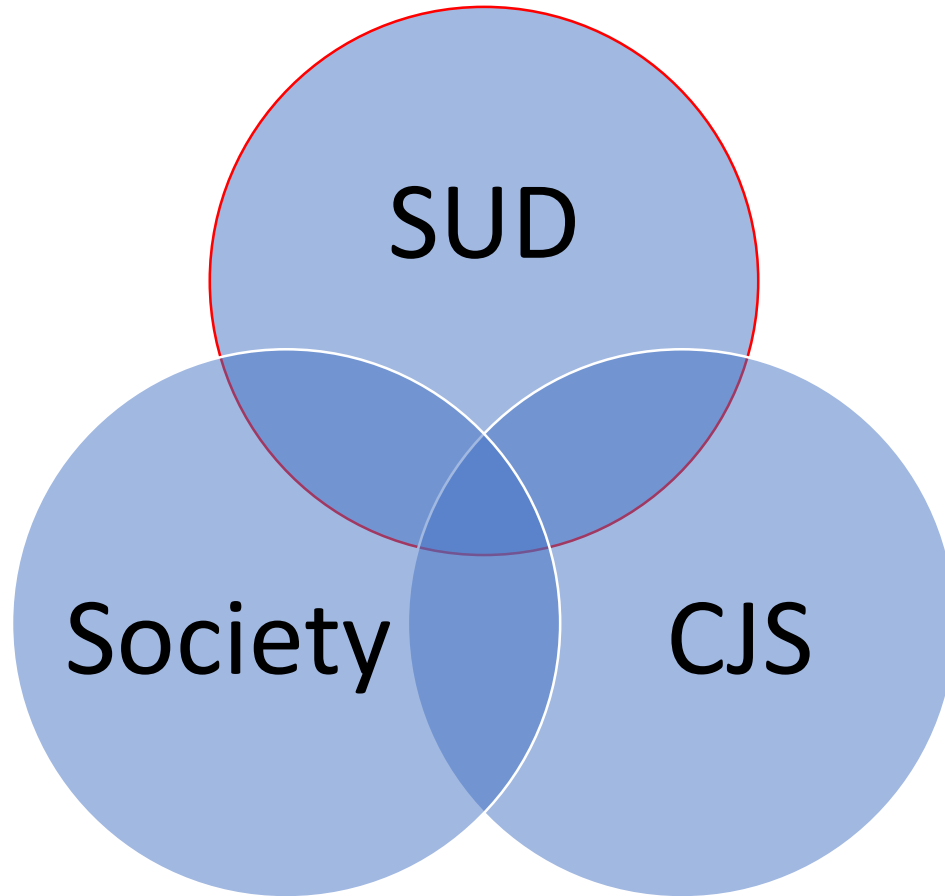
Chief Superior Judge  
Vermont Judiciary

Kevin Griffin

Superior Court Judge  
Vermont Judiciary



It's all related



# History of Opioid Use Treatment in Vermont

Methadone 2002

Buprenorphine (BPN) (OBOT) in 2003

# 7 Agreements

- OAT is cornerstone of TX for OUD
- Universal access
- PCP sites
- Resources
- MAT team
- Government buy in
- CJS



# Hub and Spoke System

- Primary care
- Referral network
- GOAL: No loss of treatment

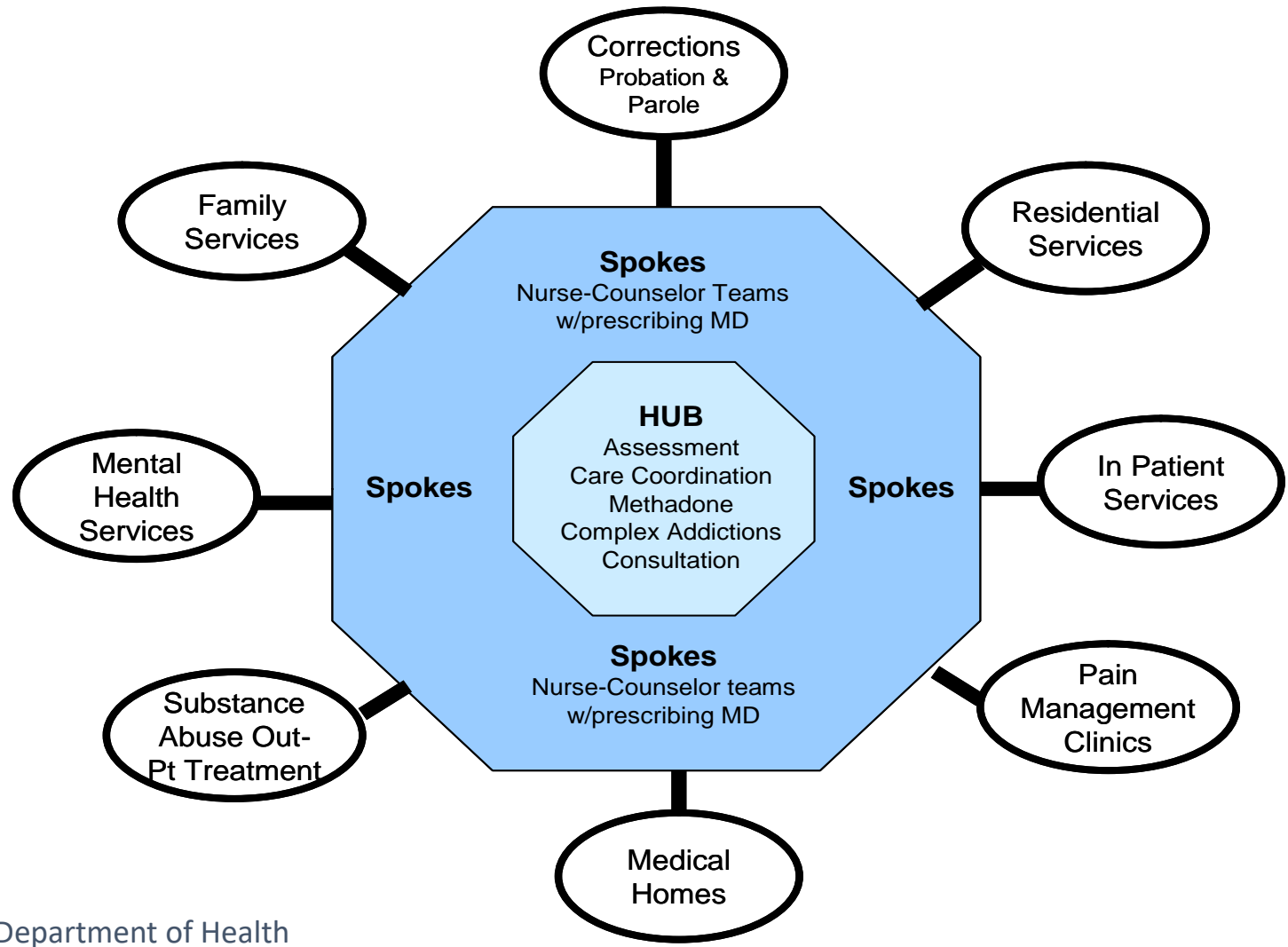
# OTP=HUB

- Methadone
- Buprenorphine
- Naltrexone

# OBOT=Spoke

- Buprenorphine-SL, IM, implants
- Naltrexone-pills, IM

# Integrated Health System for Addictions Treatment



# Vermont

Population 626,562

## 1. Northwestern Hub

**HowardCenter Chittenden Clinic**

Chittenden, Addison & Grand Isle

## 2. Farwestern Hub

**BAART Behavioral Health Services**

Franklin & Grand Isle

## 3. Northeastern Hub

**BAART Behavioral Health Services**

Essex, Orleans & Caledonia

## 4. Central Vermont Hub

**BAART/Central Vermont Addiction Medicine**

Washington, Lamoille & Orange

## 5. Southwestern Hub

**Rutland Regional Medical Center**

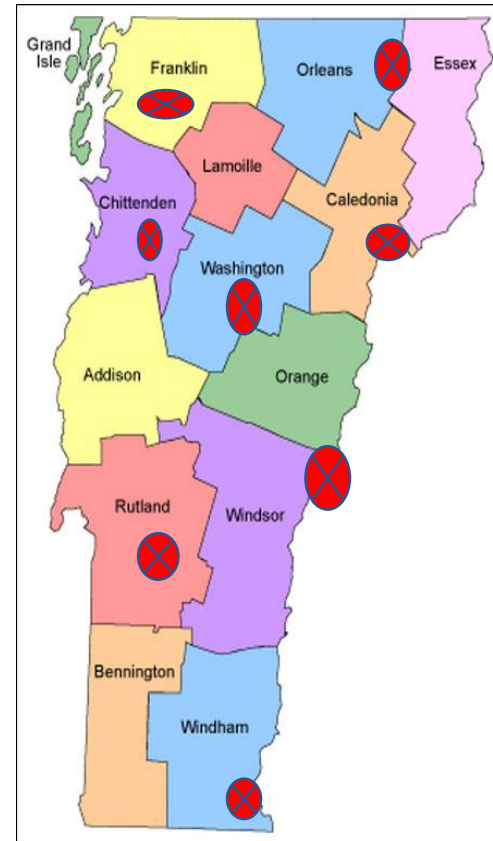
Rutland & Bennington

## 6. Southeastern Hub

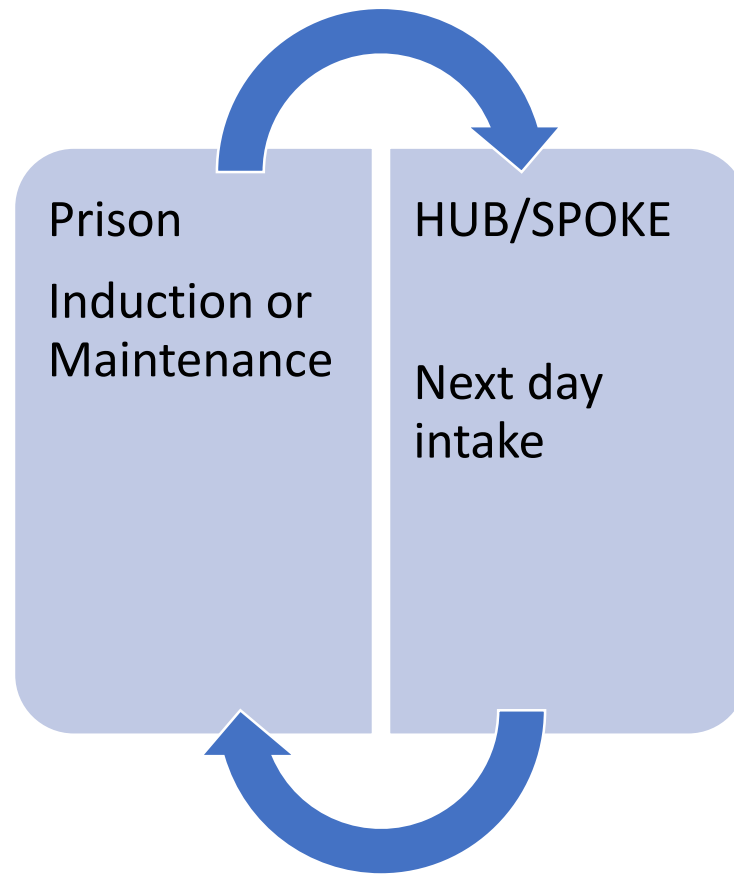
**Southeast Regional Comprehensive Addictions Treatment Center (Habit**

**OPCO & Brattleboro Retreat)**

Windsor and Windham



# Prison to Practice



# ACT 176

- Current policies
- 5 scenarios

HUB



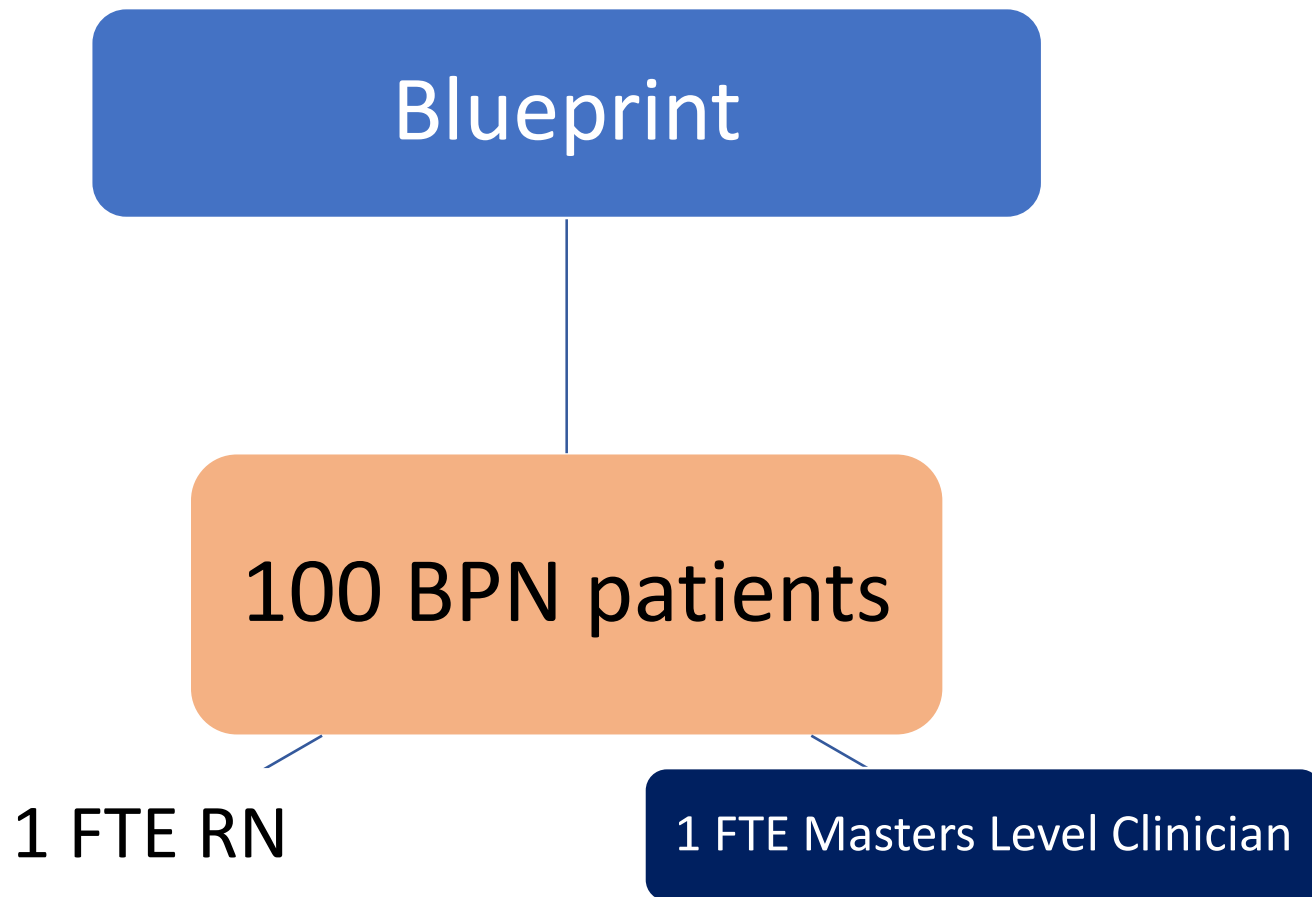
Prison



Spoke



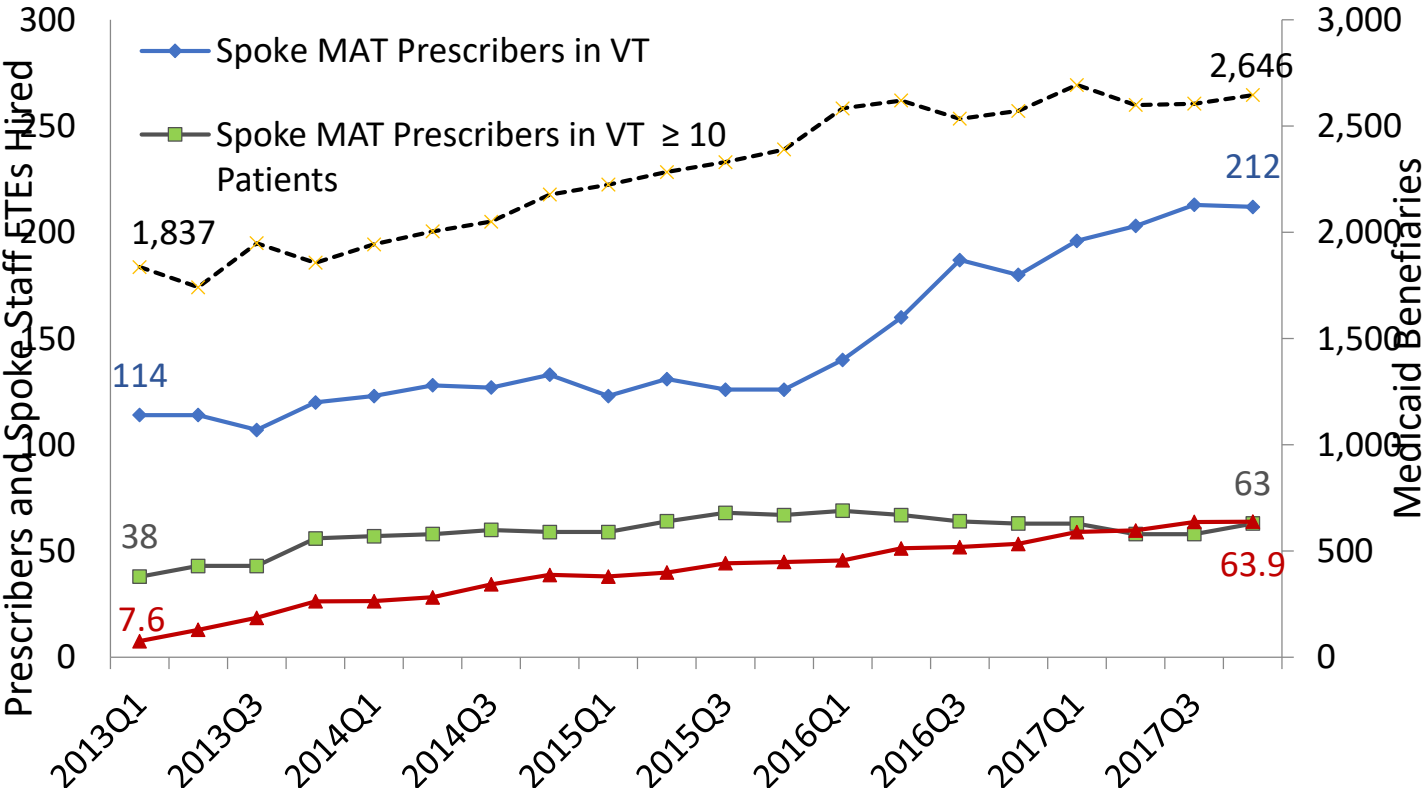
# MAT Team



**GOVERNOR PHIL SCOTT, STATE AND LOCAL  
OFFICIALS ANNOUNCE VERMONT CAN  
PROVIDE OPIATE ADDICTION TREATMENT  
AND CARE UPON REQUEST**

14 September 2017

# Spoke Growth



MAT per capita 2018

2.6%

of 18-64 yr olds

# MAT in jails

Act 176

initiation of MAT/BPN

# MAT in Prisons

**47%**

of inmates currently on MAT

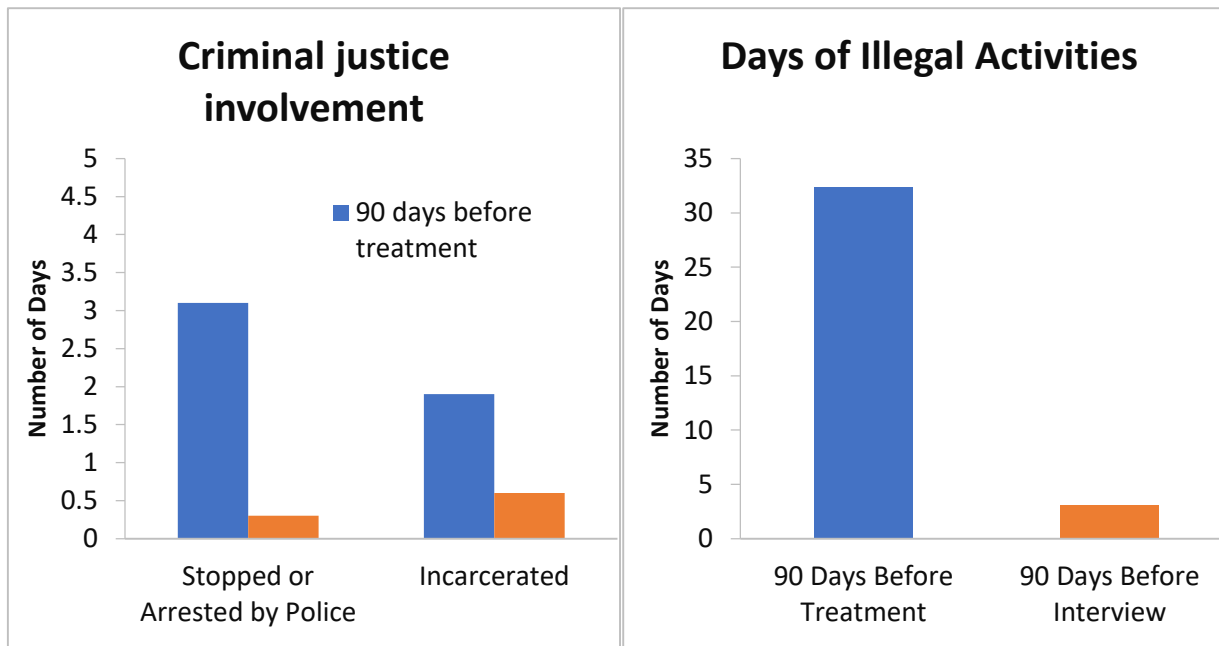
-15 NTX

-628 BPN

-64 MTD

November 2019

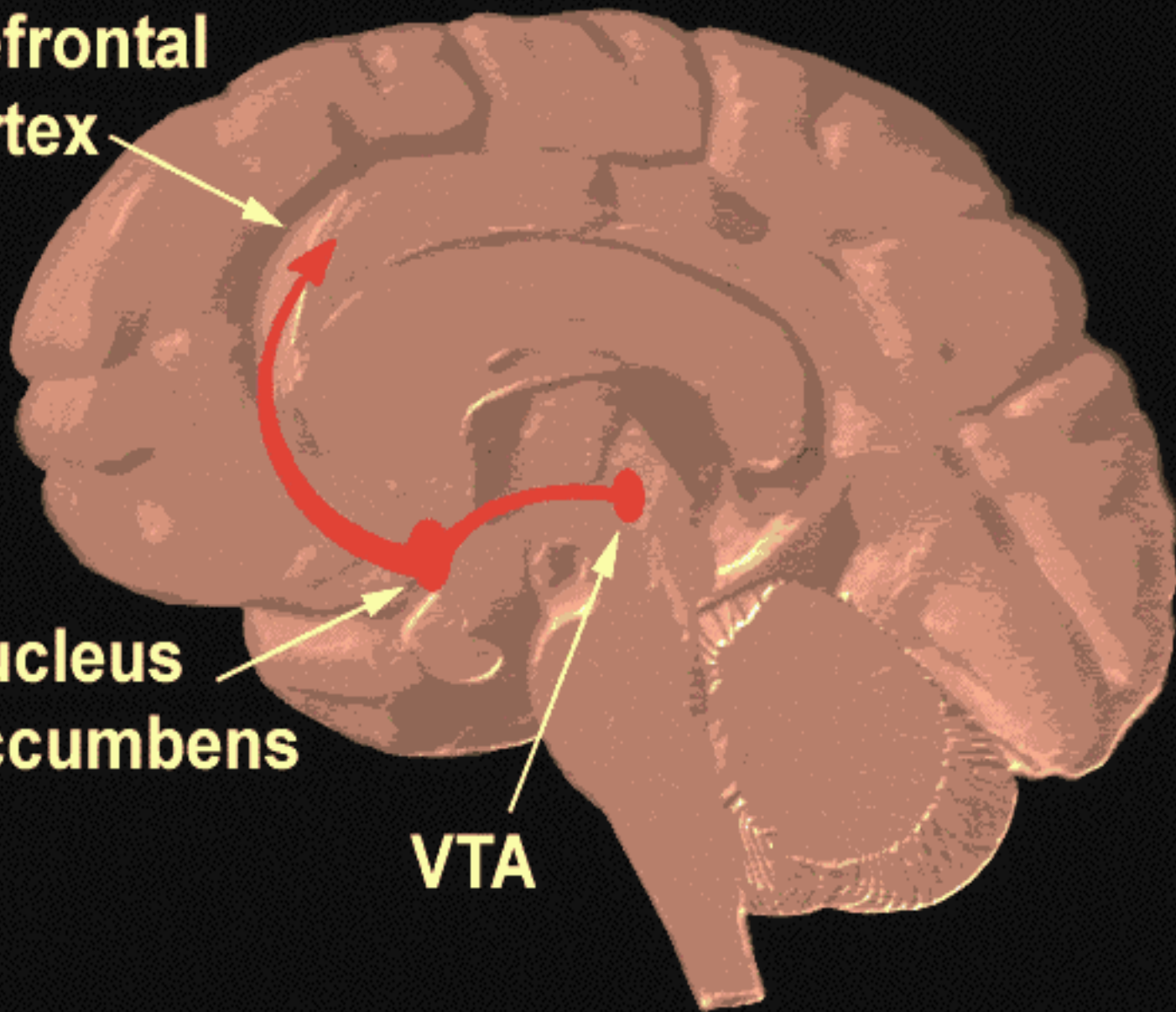
# The H&S Evaluation: Criminal Justice Measures



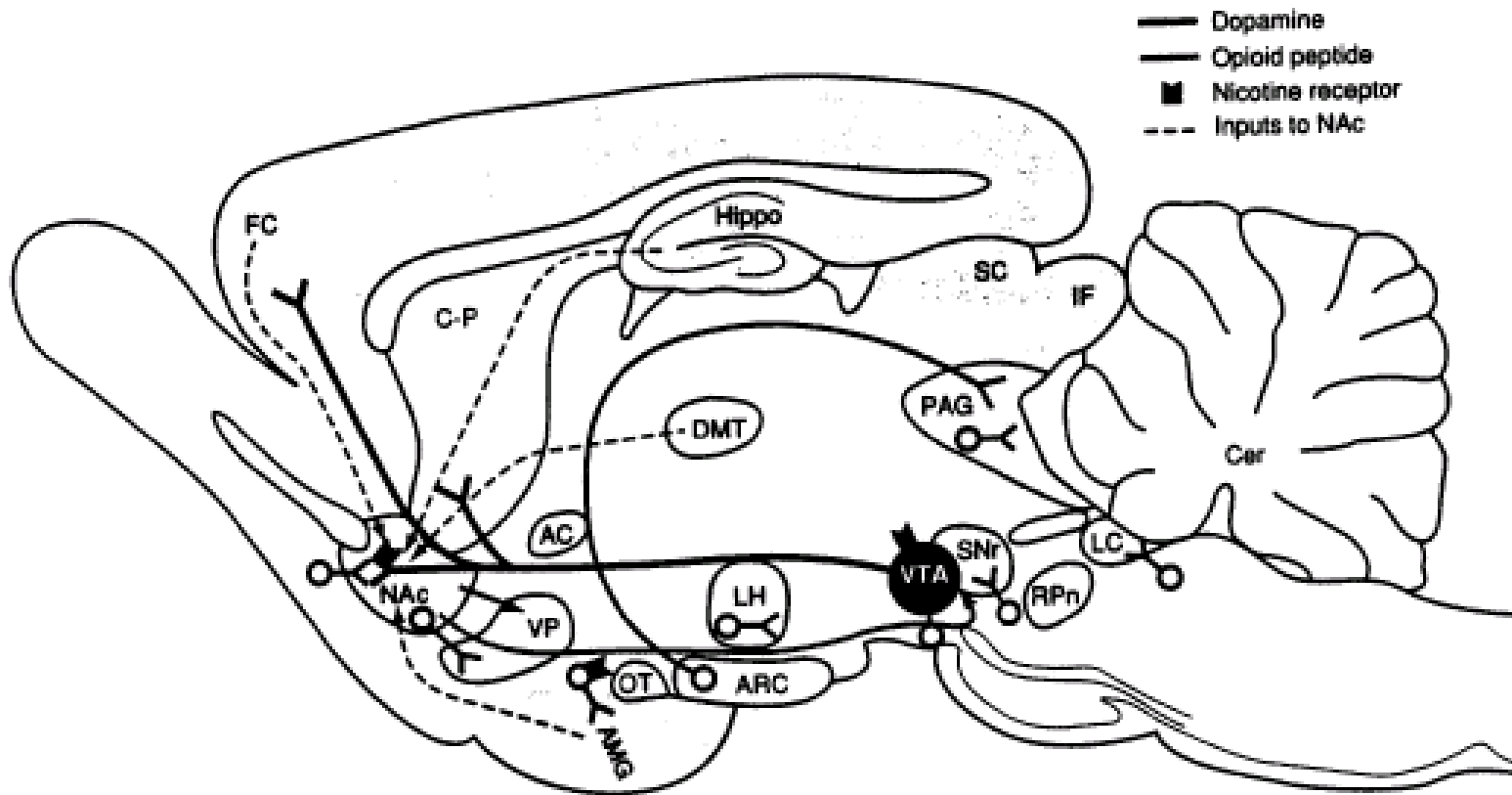
**prefrontal  
cortex**

**nucleus  
accumbens**

**VTA**





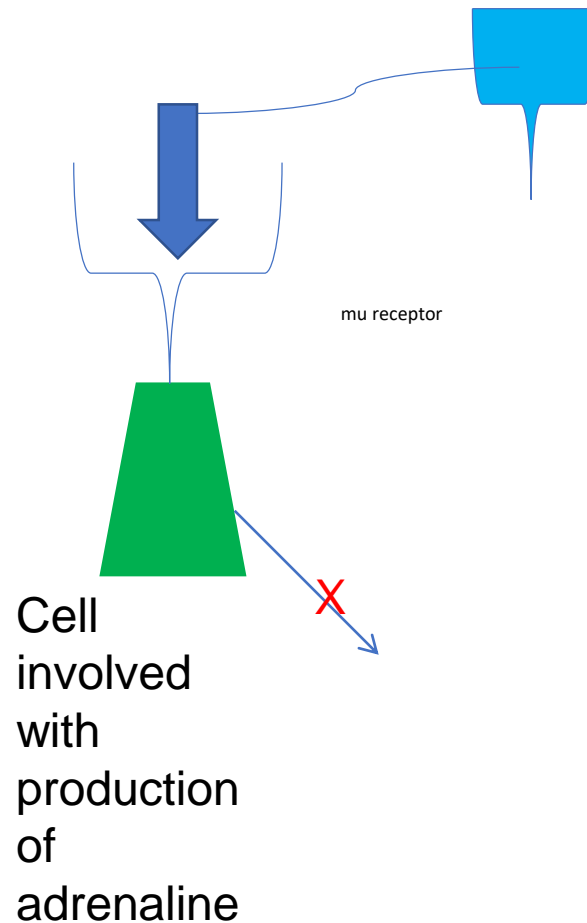


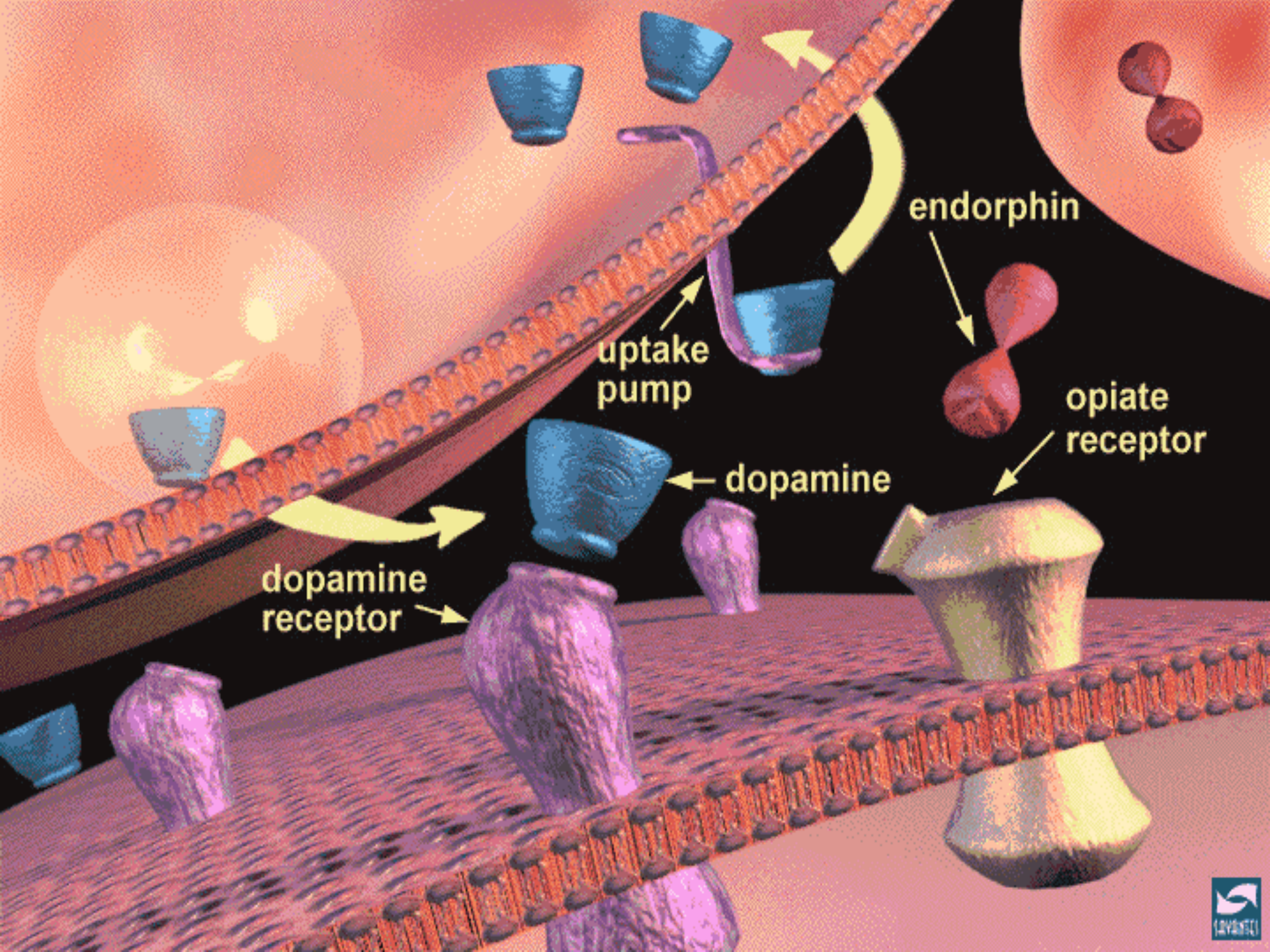
- Dopamine pathways in the Ventral Tegmentum(VT) to the Nucleus Accumbens(NA) and Medial Frontal Cortex(MFC) are activated during rewarding behaviors. Mu receptors in the VT,NA,MFC,and Locus Coeruleus(LC). Chronic opiates cause LC inhibition and stopping them causes excitation in the LC and withdrawal symptoms. Opiates also reduce glucose metabolism globally in the brain. GABA receptors are scattered throughout this area and are involved with reward for ethanol, BZD, and opiates.

# Receptor modeling

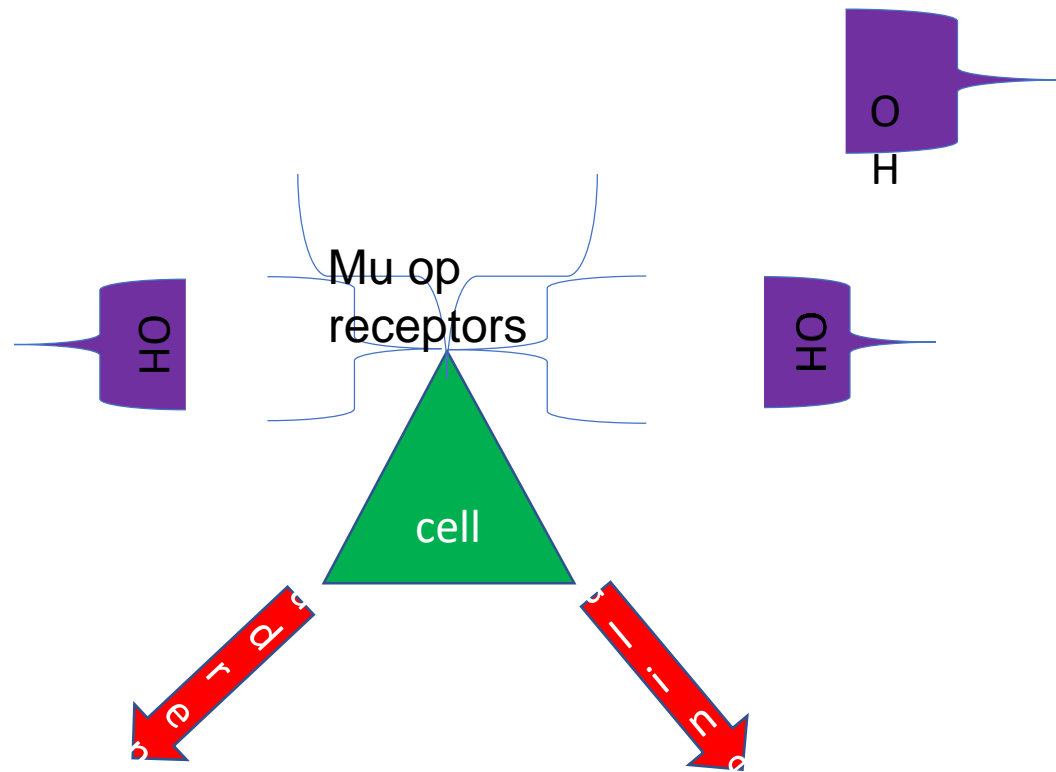
Endogenous ligand

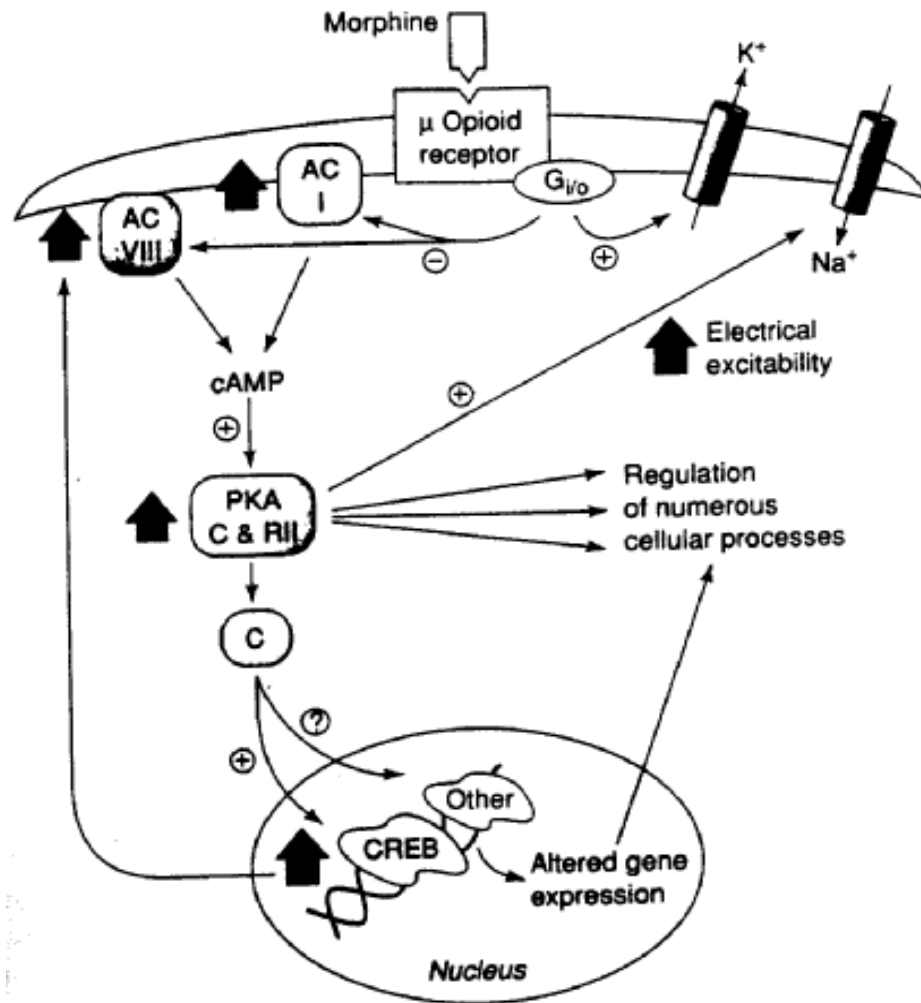
Beta Endorphin





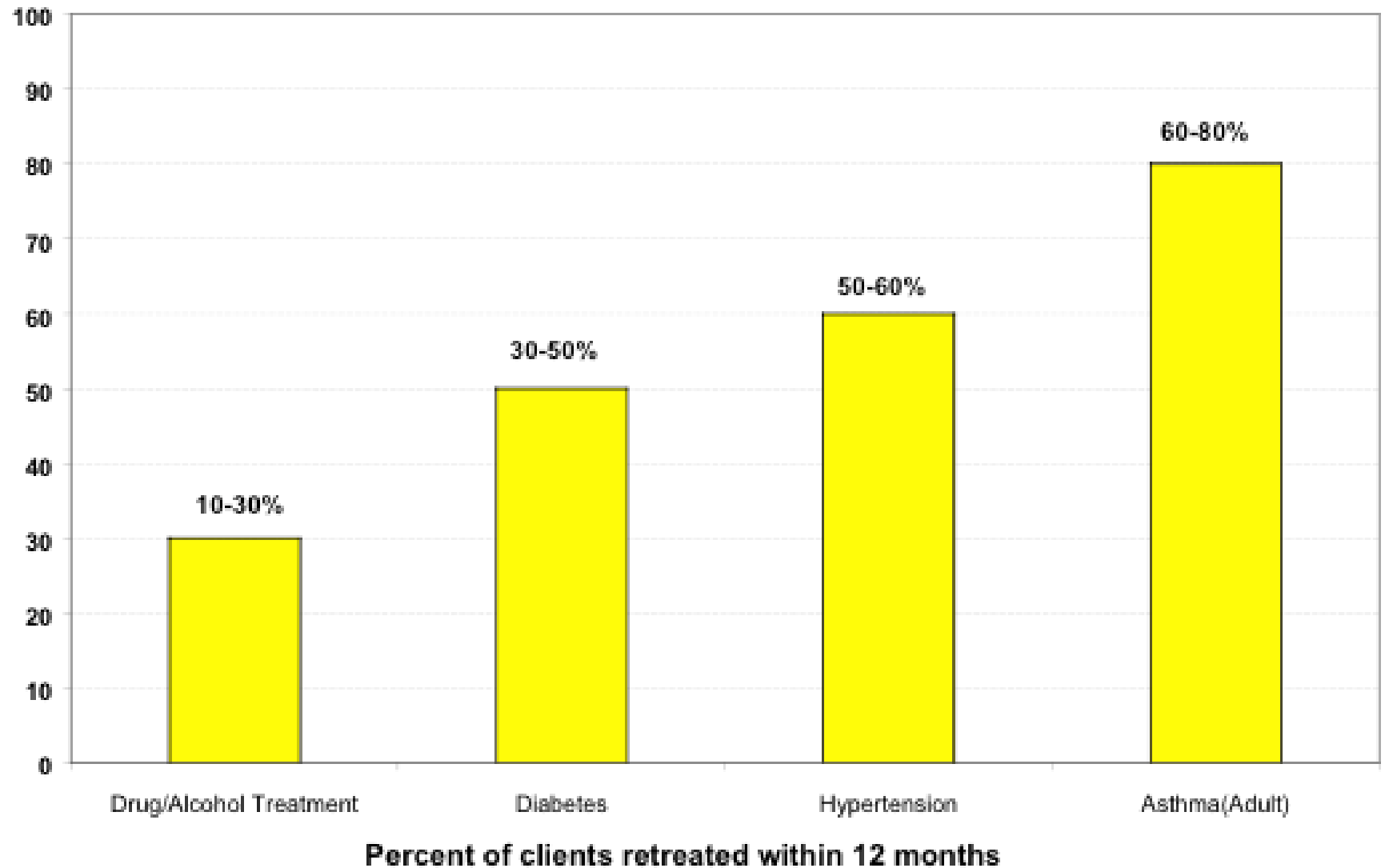
# Heroin receptor modeling





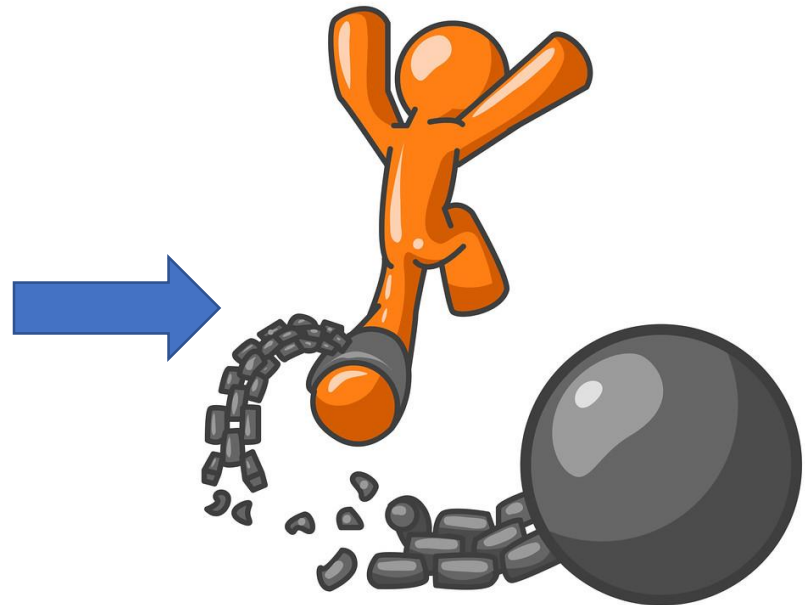
**Figure 16-5.** Opiate actions in the locus ceruleus. Opiates inhibit neurons of the locus ceruleus (LC) by increasing the conductance of an inwardly rectifying  $K^+$  channel through the coupling with subtypes of  $G_{Vo}$ , and by decreasing a  $Na^+$ -dependent inward current through coupling with  $G_{Vo}$  and the consequent inhibition of adenylyl cyclase. Reduced levels of cAMP decrease protein kinase A (PKA) activity and the phosphorylation of the responsible channel or pump. Inhibition of the cAMP pathway also decreases the phosphorylation of numerous other proteins and thereby affects many additional processes in the neuron; for example, it reduces the phosphorylation state of CREB, which may initiate some of the longer-term changes in LC function. Upward bold arrows summarize the effects of prolonged exposure to morphine in the LC. Such long-term exposure increases levels of types I and VIII adenylyl cyclase, PKA catalytic (C) and regulatory type II (RII) subunits, and several phosphoproteins, including CREB. These changes contribute to the altered phenotype of the drug-addicted state. For example, the intrinsic excitability of LC neurons is increased by enhanced activity of the cAMP pathway and  $Na^+$ -dependent inward current, which contribute to the tolerance, dependence, and withdrawal exhibited by these neurons. Up-regulation of type VIII adenylyl cyclase is mediated by CREB, whereas up-regulation of type I adenylyl cyclase of the PKA subunits appears to occur through CREB-independent mechanisms. (Adapted with permission from Nestler EJ, Aghajanian EK. 1997. *Science* 278:58.)

## Relapse Outcomes in Selected Medical Disorders



# Treatment Court

- Diversion from incarceration



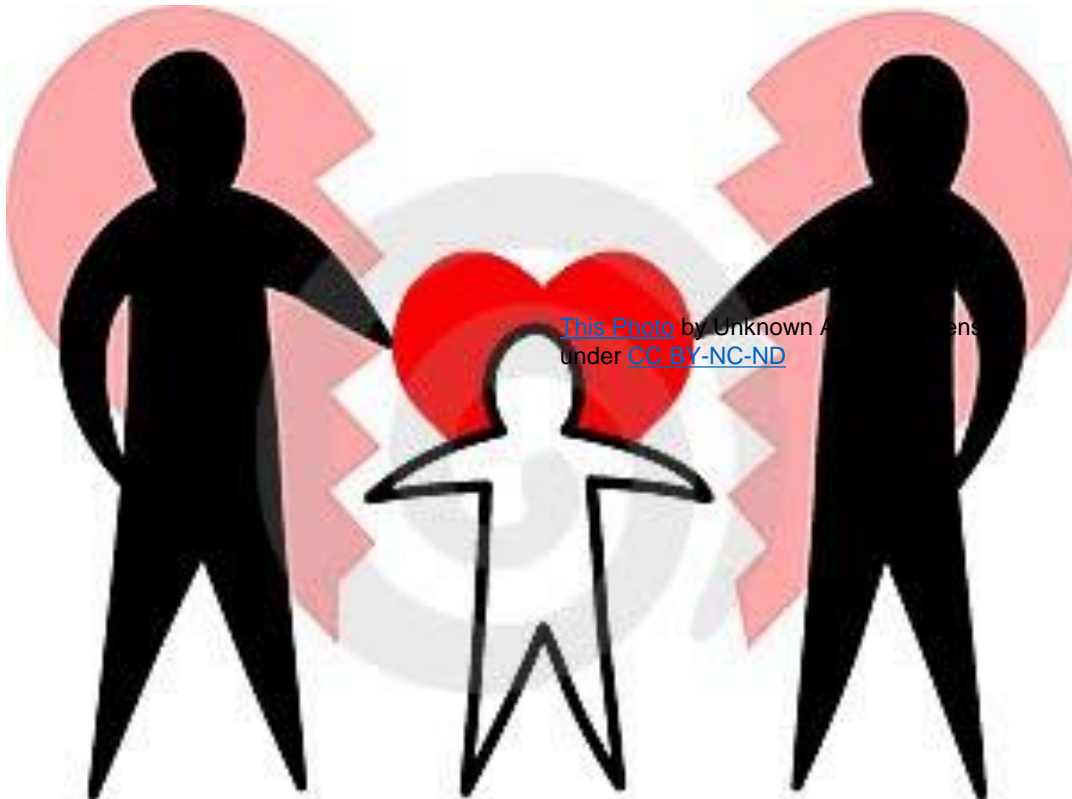
# Treatment Court

- Case management
- IOP
- Trauma group
- THC
- Integration



# Case Study

## Demographics



# Case Study



ADVERSE CHILDHOOD  
EVENTS



EARLY DRUG USE

Case  
study

Late teens/ early  
20's

CJS

Severe  
anxiety/trauma

# Case Study



TREATMENT  
HISTORY



2014-PREGNANT  
WITH 2<sup>RD</sup> CHILD



1ST CHILD ADOPTED  
BY STEP MOTHER

# Case Study

- MAT Feb-Oct 2014
- SBTX 24 mg

# Case Study

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Returned to  
treatment 2016  
x 5 months

Using 70 bags  
of heroin

MTD 70 mg

# Case Study-2017

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April -Resumed treatment



October -Treatment Court

# Case Study

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**1 Oct. 2017**

Phase 1 Oct 2017 to

May 2018

**May 2018**



# Case Study

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# Case Study

- Phases 3, 4 and 5 completed within phase time periods (8/23/18 to 5/30/19)

# Successes

- Graduated Treatment Court : 5/30/19
- Well-being
- Employment



# Contact info

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