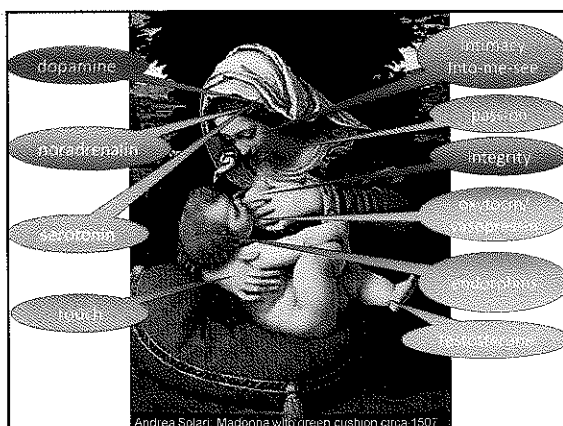
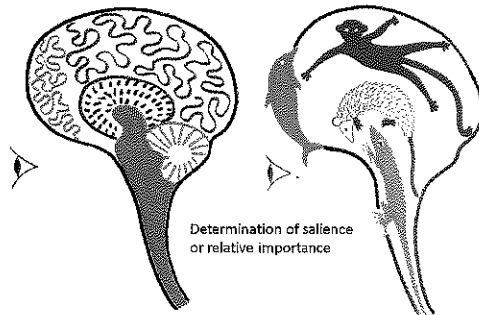


- I want a new drug
- One that won't make me sick
- One that won't make me crash my car
- Or make me feel three feet thick
- I want a new drug
- One that won't hurt my head
- One that won't make my mouth too dry
- Or make my eyes too red
- One that won't make me nervous
- Wondering what to do
- One that makes me feel like I feel when I'm with you
- When I'm alone with you

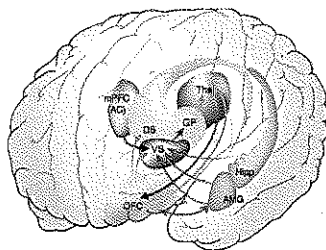
— Huey Lewis and the News



The Triune (Quadrune) Brain

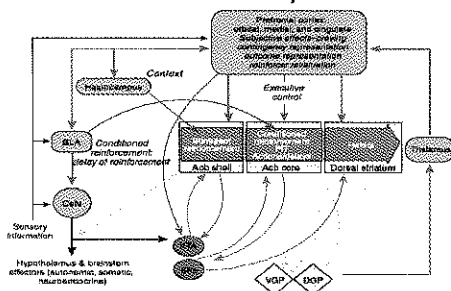


Representation of Limbic Circuitry: Key Connections in Human Brain



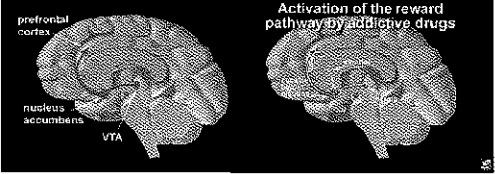
BJ Everitt & TW Robbins, NATURE NEUROSCIENCE 8:1481-1489 (2005)

Limbic cortical-ventral striatopallidal circuitry




BJ Everitt & TW Robbins, NATURE NEUROSCIENCE 8:1481-1489 (2005)

Opioid Mu Receptor Distribution

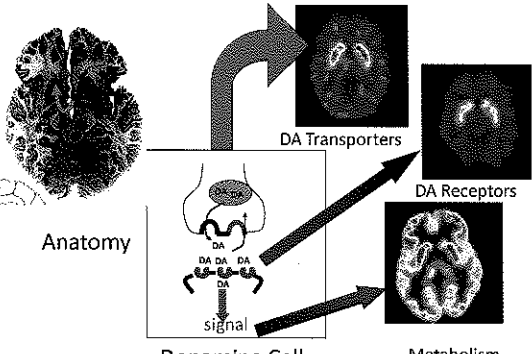


Binding areas are diverse
Reward pathway with euphoric effects

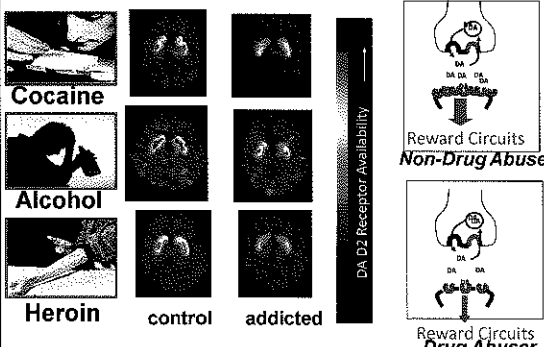


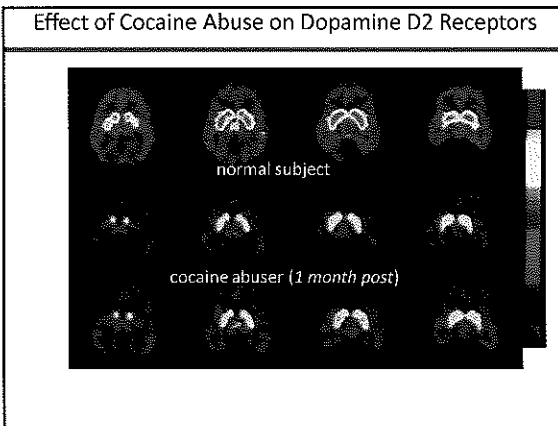
Dr. David D. Volkow
NIDA Director

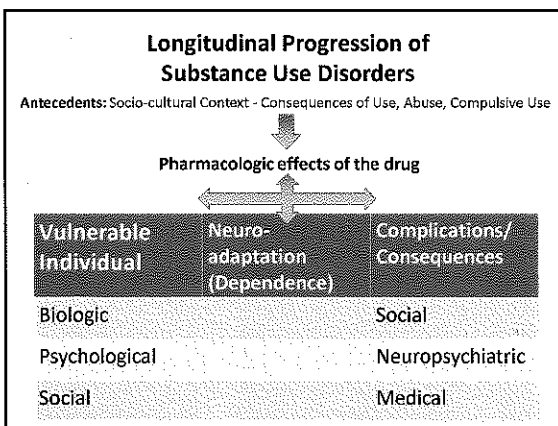
Brain Dopamine System

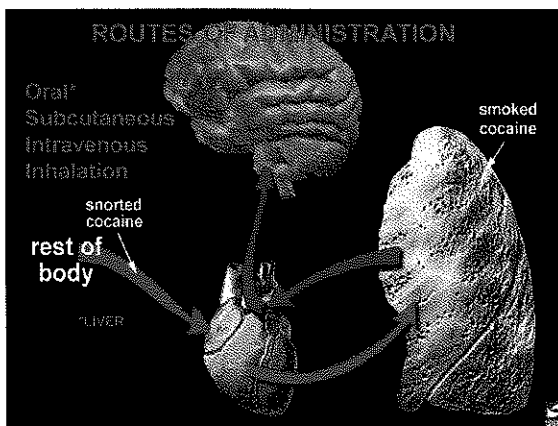


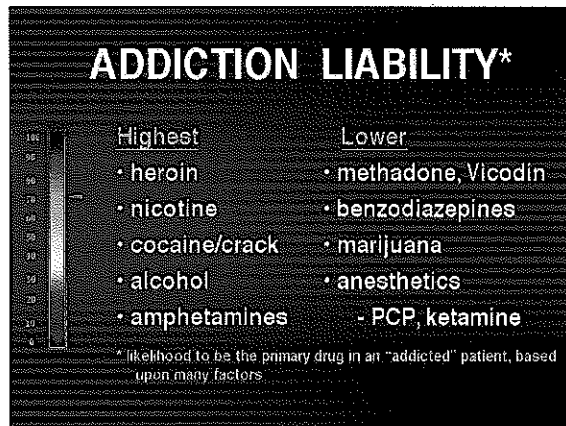
Dopamine D2 Receptors are Lower in Addiction

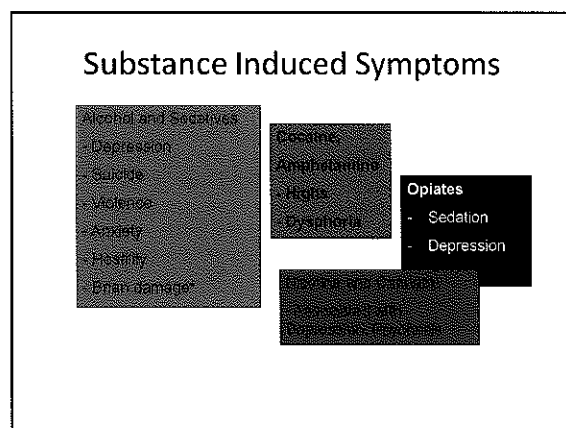


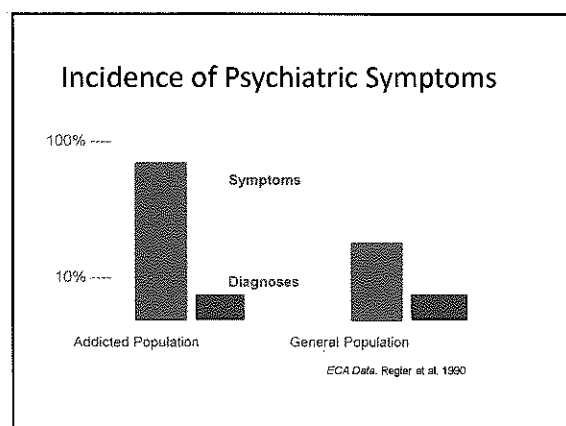










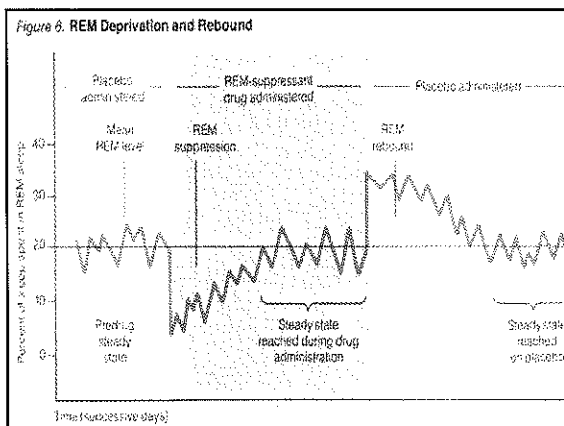


Comorbidity Specific Disorders and Substance Use Disorders			
DIAGNOSIS	Lifetime Prevalence Rates		
	ANY	ALCOHOL	DRUGS
SCHIZOPHRENIA	47 %	33.7	27.5
ANTISOCIAL	83.6		
ANXIETY DIS.	23.7	17.9	11.9
Phobias	22.9	17.3	11.2
Panic	35.8	28.7	16.7
OCD	32.8	24	18.4
MOOD DISORDERS	32		
Major Depression	27.2	16.6	18
Bipolar I Disorder	60.7	46.2	40.7

ECA Data, Regier et al. 1990

Neuroadaptation

- Tolerance
 - need for increased amounts of the substance to achieve intoxication or desired effect
 - markedly diminished effect with continued use of the same amount of the substance
- Withdrawal
 - characteristic withdrawal syndrome
 - substance taken to relieve or avoid withdrawal

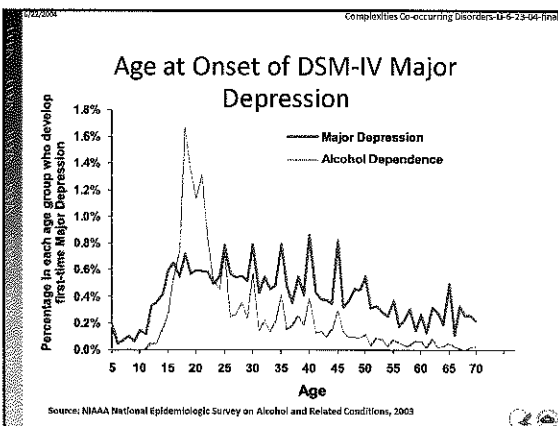


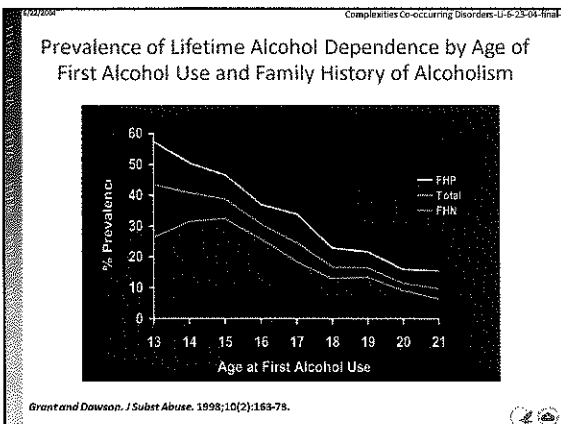
Assessment Tools

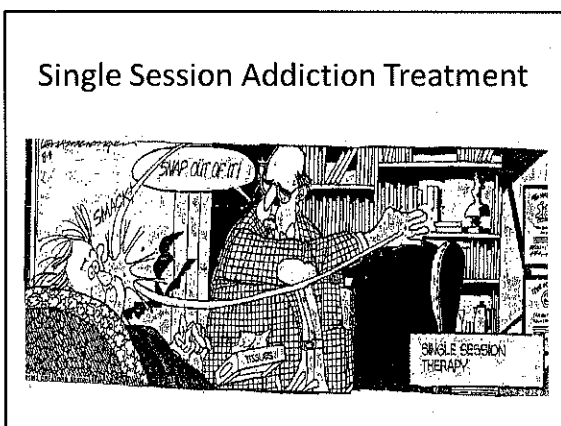
- Alcohol levels and drug tests
 - BAL, UDS, breath-lyser, saliva
- Tests for excessive alcohol use - liver function tests, blood counts
- Physical examination
- Collateral report
- Self-report
- Motivational Interviewing

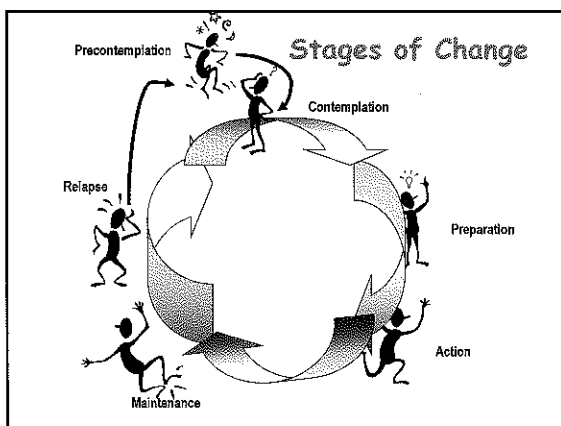
C.A.G.E. Questions

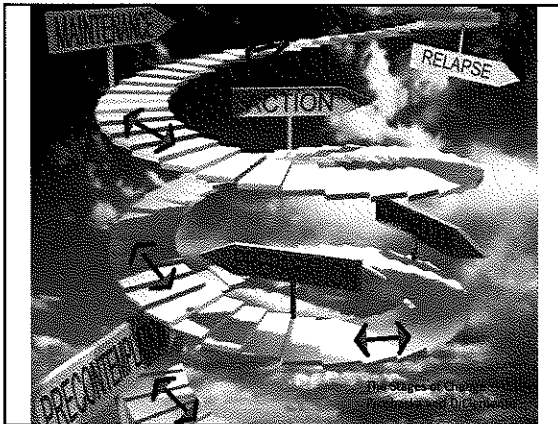
- Have you ever felt that you ought to **CUT DOWN** on your drinking/drug use?
- Have people **ANNOYED** you by criticizing your drinking/drug use?
- Have you ever felt **GUILTY** about your drinking/drug use?
- Do you ever drink/drug first thing in the morning (**EYE OPENER**)?











Biologic Treatment

- Disulfiram – (Antabuse)
- Acamprosate (Campral)
- Naltrexone – (Revia or Vivitrol)
- Topiramate (Topamax)
- Oxcarbazepine (Trileptal)
- Methadone, Buprenorphine/Naloxone (Suboxone) – palliative care

Medications Used in Treatment

- **Withdrawal Support**
 - benzodiazepines, phenobarb, buprenorphine, methadone, nicotine replacement, clonidine
 - Comfort medication
- **Negative Conditioning**
 - Disulfiram
- **Blocking craving**
 - Naltrexone, Topiramate, Acamprosate
- **Maintenance to reduce crime, HCV & HIV**
 - Methadone, buprenorphine
- **Mood Stabilizing AEDs**
 - Carbamazepine, Topiramate, Oxcarbazepine, Depakote
- **Antidepressants?**

Definition of 12-step groups

- Peer-directed, self-governing groups
- Abstinence based (for drugs and alcohol)
- Spiritually oriented
- Provide a 12-step "program"
- Provide fellowship
- Many but not all use "Anonymous" in name

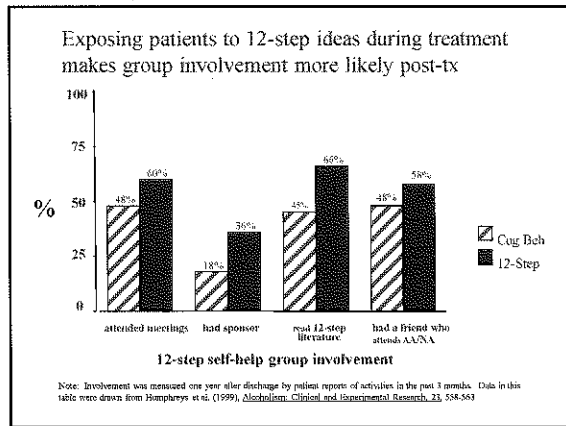
Common Alcoholics Anonymous Beliefs

- ➔ Alcoholism is a disease with mental, physical, and spiritual components
- ➔ Alcoholics are characterologically different than non-alcoholics, and no one is "somewhat" alcoholic
- ➔ Alcoholism is rooted in the moral character of the alcoholic, in particular "self-centeredness"
- ➔ Alone, one cannot control alcoholism, but one's Higher Power can - the power of "we."

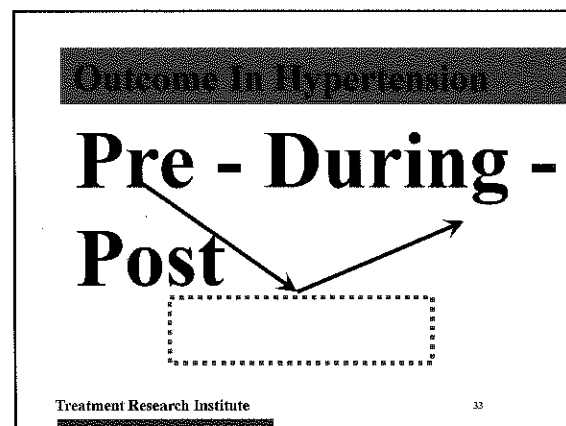
Stop and read *Alcoholics Anonymous* Chapter V

Recovery/Healing/Redemption Gratitude as Attitude

Alcoholics Anonymous Step	Short-form	Healing	A Christmas Carol Charles Dickens
0	detoxification	Fear/crisis	Marley's ghost
1-3	Trust God	Genuine humility	Ghost #1 past
4-9	Clean house	Diagnosis & Treatment	Ghost #2 present Ghost #3 future
10-12	Help others	Improved health	Tiny Tim

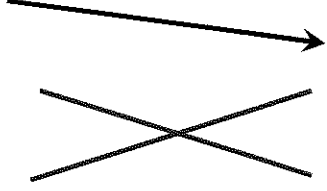


- ### Conclusions
- 12-step group participation reduces drug and alcohol use.
 - 12-step group involvement reduces surplus health care utilization.
 - The benefits of 12-step groups are mediated both by psychological and social changes.
 - Applying these findings in treatment settings should improve outcomes and reduce costs.



Outcome In Addiction

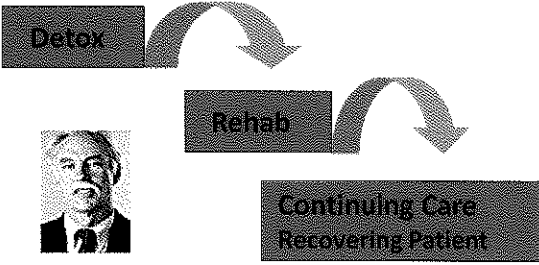
Pre - Post



Treatment Research Institute

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A Continuing Care Model



Detox

Rehab

Continuing Care
Recovering Patient



A. Thomas McLellan, PhD - former Deputy Director of National Drug Control Policy

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