

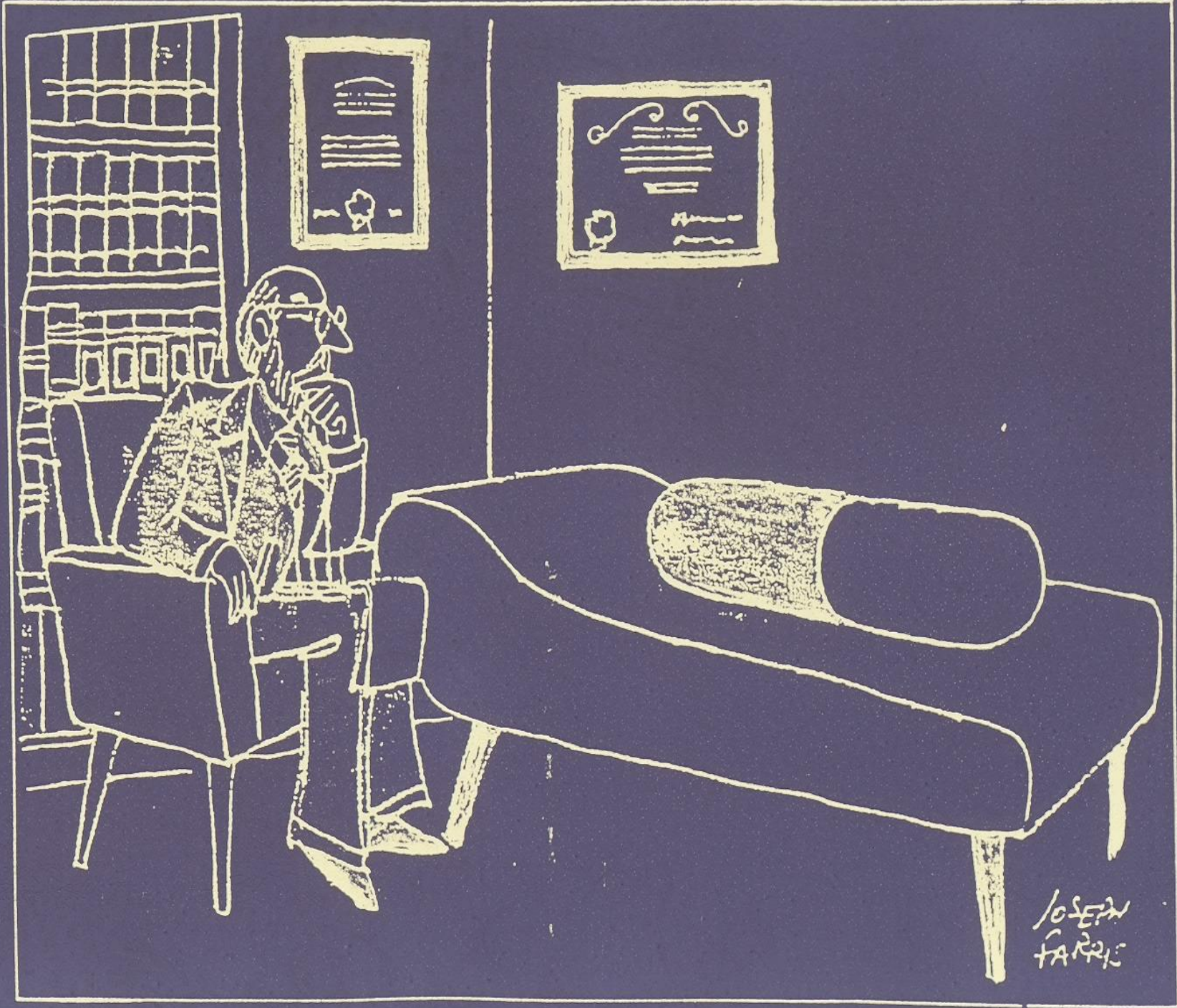
What's New in the Diagnosis and Treatment of Mental Illness

Leonard J. Rosen, M.D.

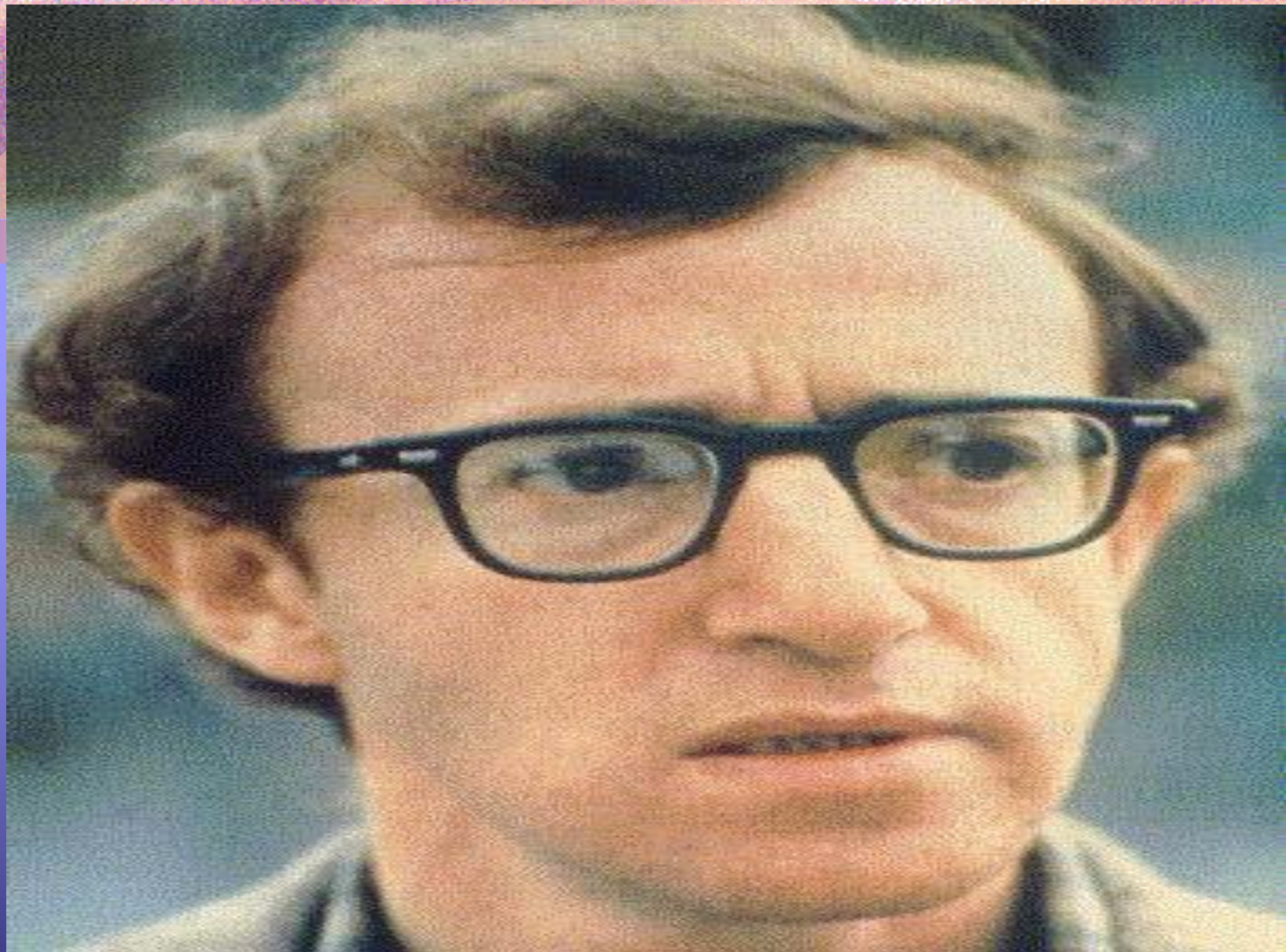
September 24, 2015

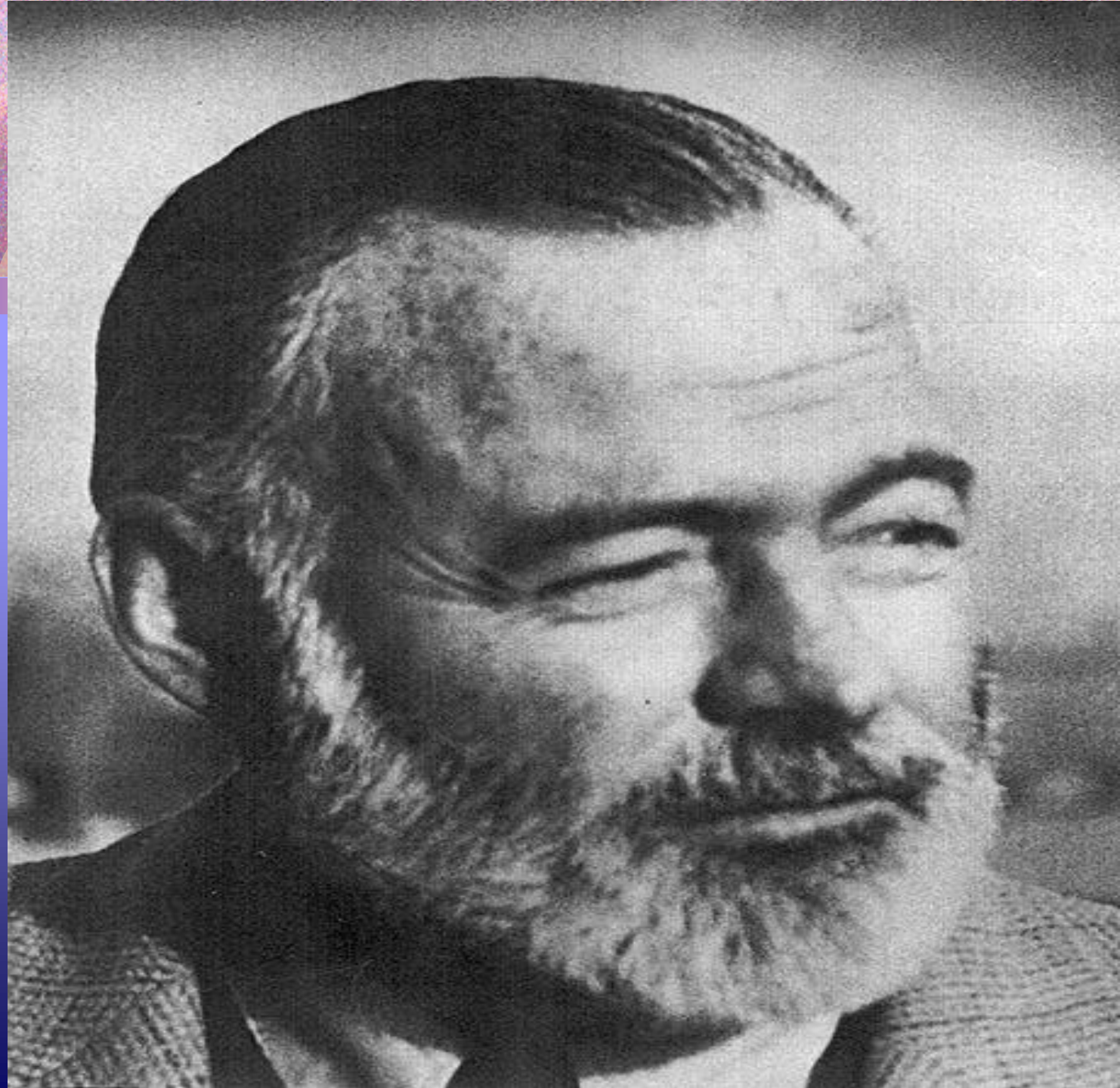
PLEASE PASS THE PROZAC.



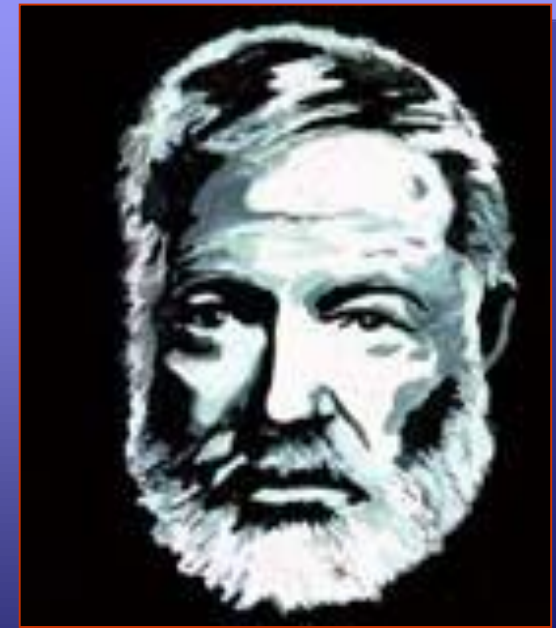
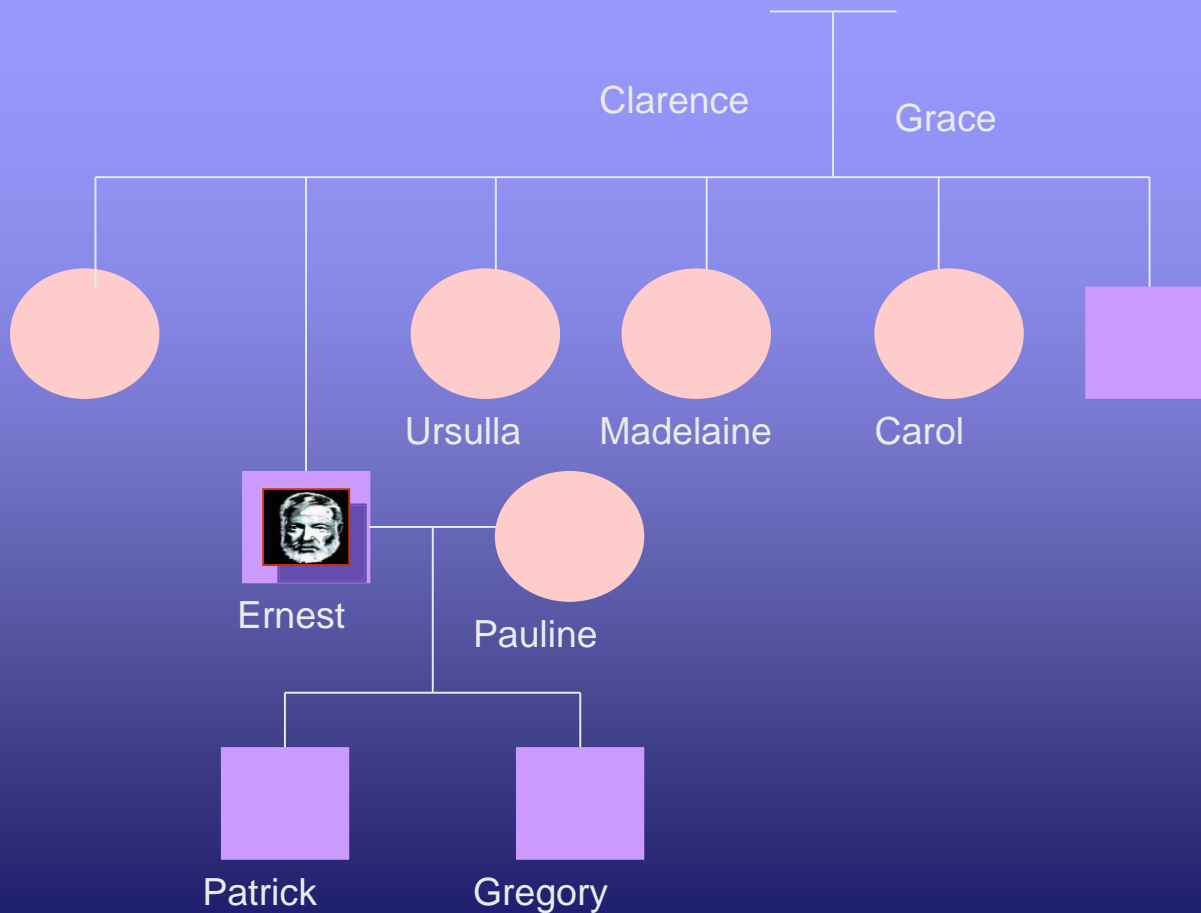


JOSEPH
FARRE





Ernest Hemingway Genogram



Prevalence of Psychiatric Disorders

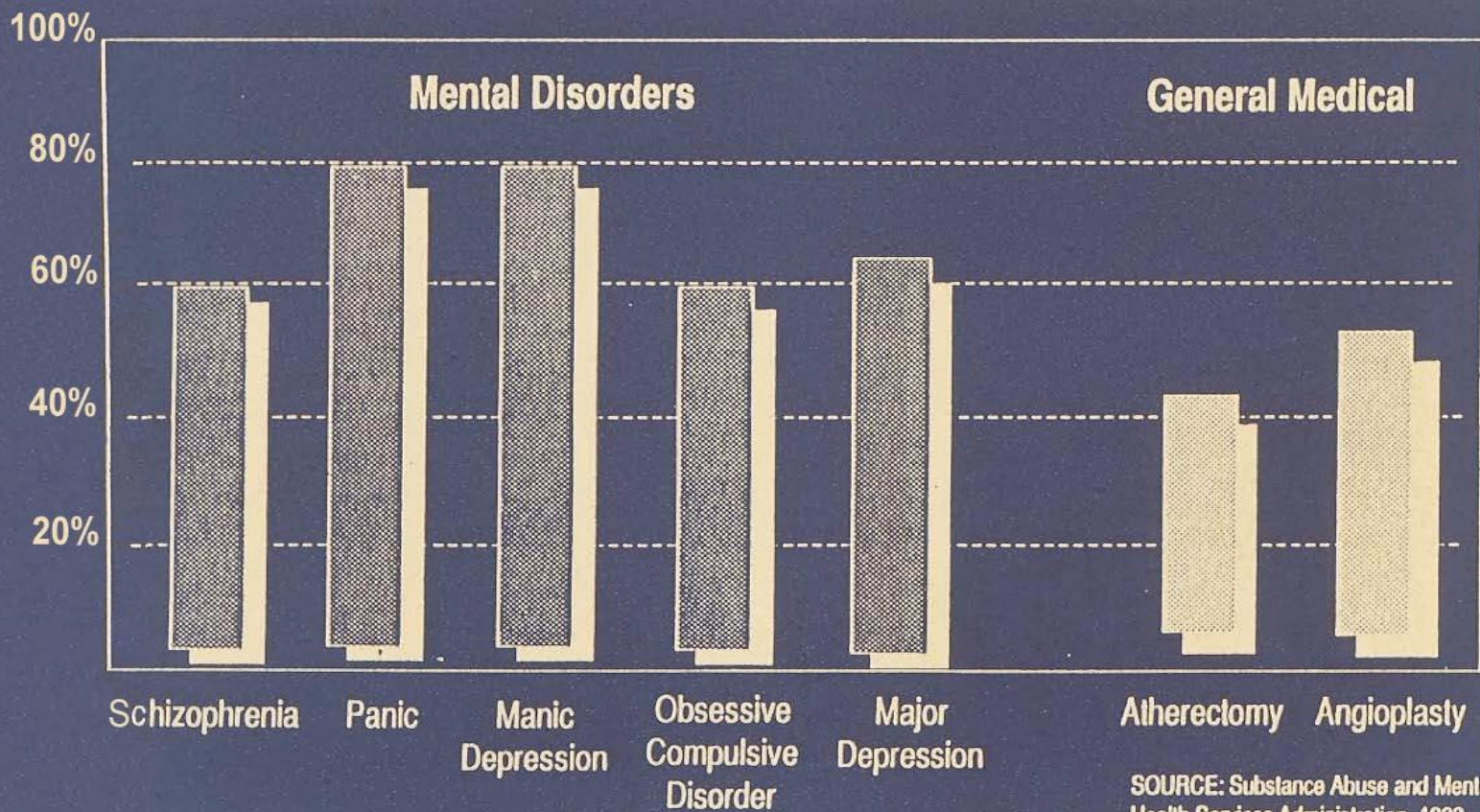
- Major Depression
 - 10% ♂
 - 20% ♀
- Anxiety Disorders
 - 20 – 25%
- Schizophrenia
 - 1%
- Bipolar Disorder
 - 2 – 4%
- ADHD
 - 4%
- Autism Spectrum Disorder
 - 1 in 88 families
- Dementia-- millions
- Substance Use Disorders-- millions

Myths about Mental Illness

- Mental Illness cannot be defined
- Mental Illness is purely psychological
 - Mental Illness is not treatable
- Health insurance coverage for mental illness will bankrupt insurance companies

The effectiveness of short-term treatment for mental disorders.

(Based on the abatement of symptoms.)



SOURCE: Substance Abuse and Mental Health Services Administration, 1993

Neurotransmitters (Chemical Messengers)

- Serotonin
- Norepinephrine
- Dopamine
- GABA
- Glutamate
- Acetylcholine

Psychotropic Medications

Antipsychotics (Neuroleptics)

- Haldol (haloperidol)
- Risperdal (risperdone)
- Zyprexa (olanzapine)
- Geodon (ziprasidone)
- Abilify (aripiprazole)
- Clozaril (clozapine)
- Seroquel (quetiapine)
- Long acting injectables

Anti-anxiety Agents

- Barbiturates
- Benzodiazepines
 - Librium (chlordiazepoxide)
 - Valium (diazepam)
 - Xanax (alprazolam)
 - Ativan (lorazepam)
 - Klonopin (clonazepam)

Anti-depressant Agents

- Tricyclics
 - Elavil (amitriptyline)
 - Tofranil (imipramine)
- Serotonin Agents
 - Prozac (fluoxetine)
 - Zoloft (sertraline)
 - Lexapro (escitalopram)
 - Viibryd (vilazodone)
 - Fetzima (levomilnacipran)
 - Brintellix (vortioxetine)

Atypical Agents

- Wellbutrin (bupropion)
- Effexor (venlafaxine)
- Cymbalta (duloxetine)

Psychotropic Medications (con't)

Mood Stabilizers

- Lithium carbonate
- Depakote (valproate)
- Tegretol (carbamazepine)
- Lamictal (lamotrigine)

Stimulants

- Ritalin (methylphenidate)
- Adderall (amphetamine)

Memory Enhancing Agents

- Aricept (donepezil)
- Exelon (rivastigmine)
- Razadyne (galantamine)
- Namenda (memantine)

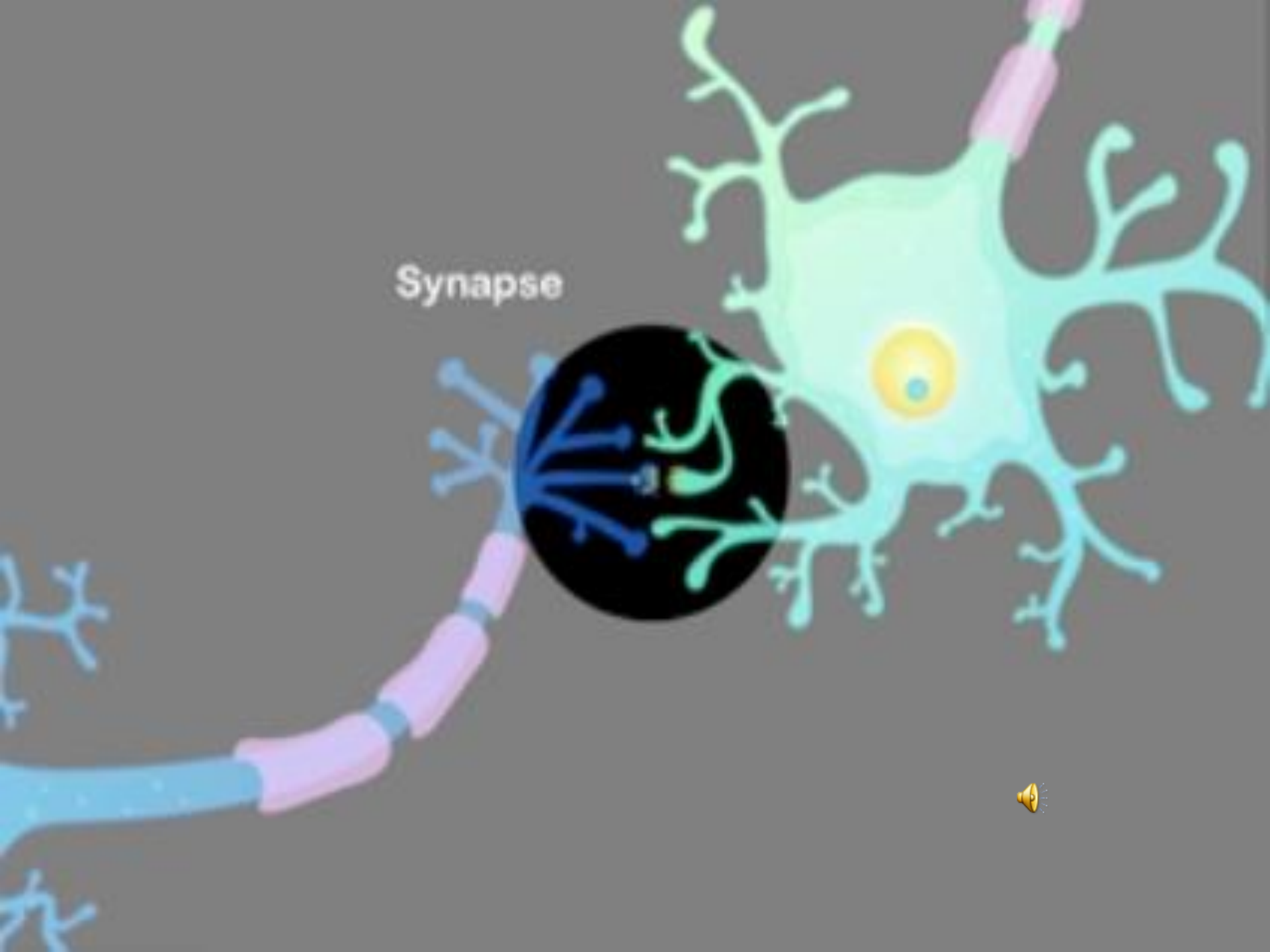
Alcohol / Drug Cessation Agents

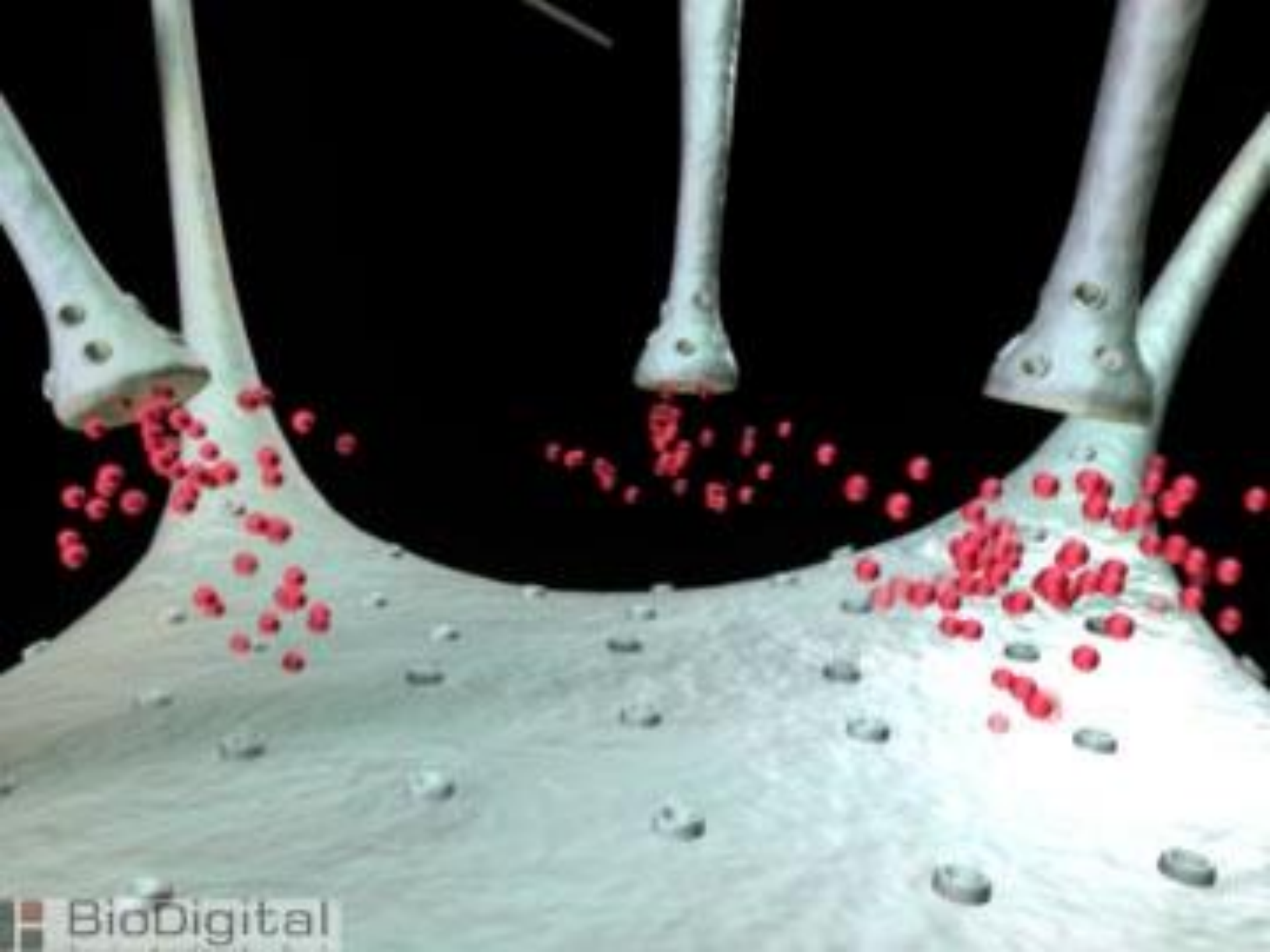
- Antabuse (disulfiram)
- Campral (acamprosate)
- Revia (naltrexone)
- Vivitrol (naltrexone long acting)
- Methadone
- Buprenorphine
- Suboxone
- Chantix (varenicline)

Hypnotics

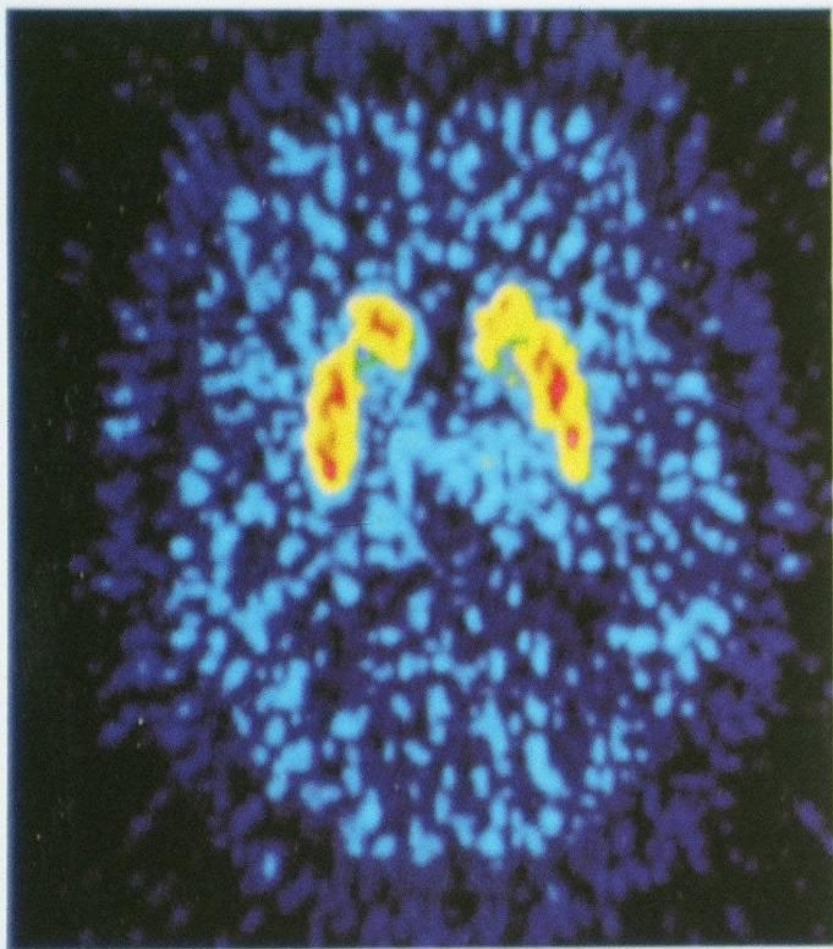
- Ambien (zolpidam)
- Lunesta (eszopiclone)

Synapse

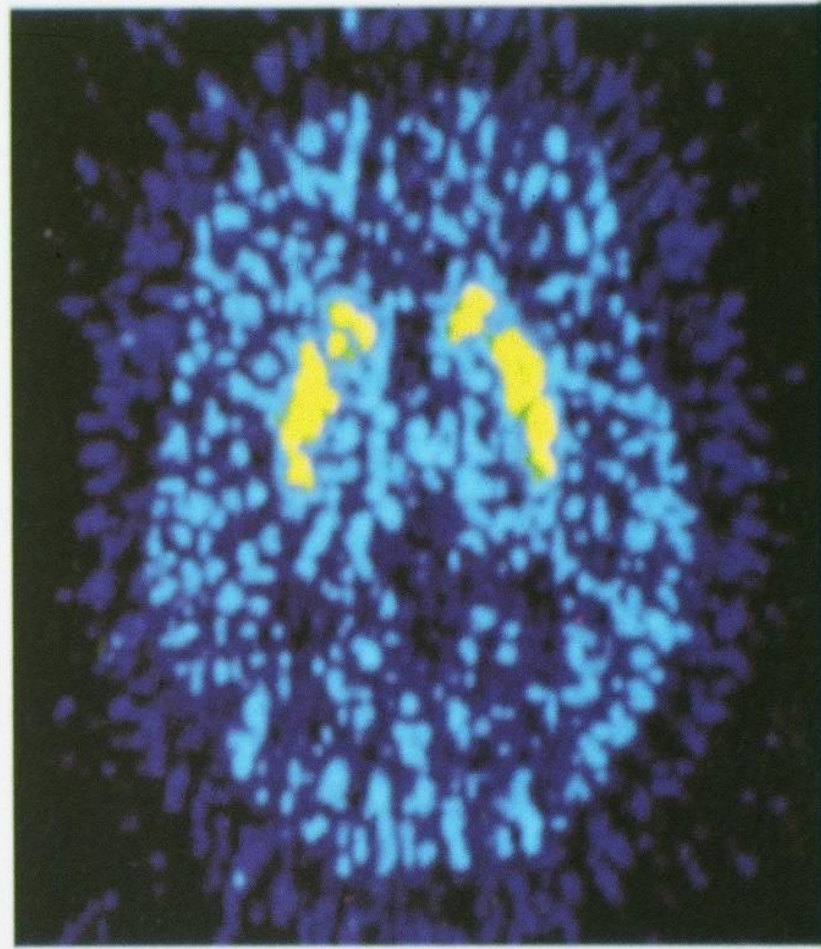




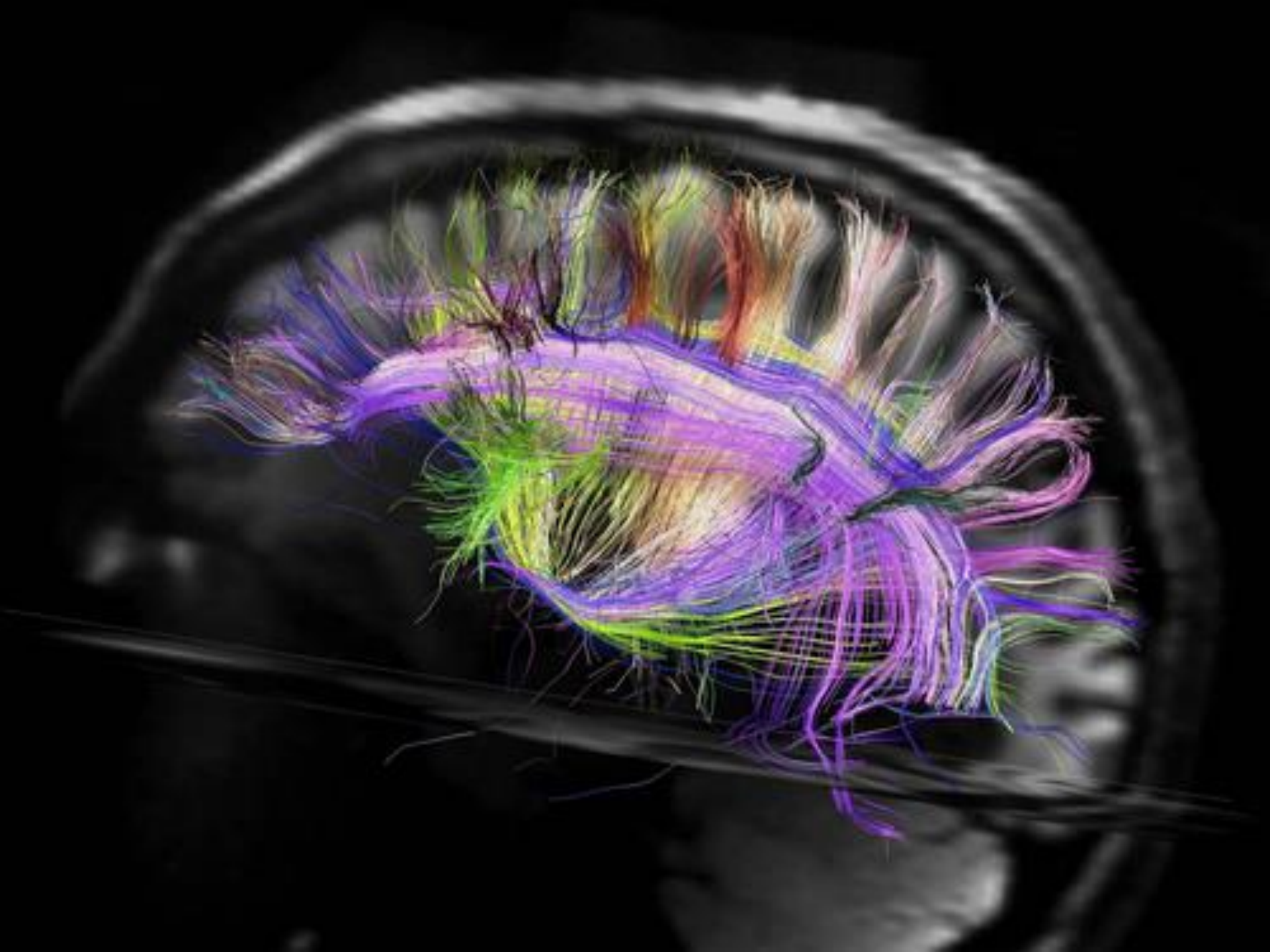
About 50% dopamine D₂ receptor occupancy in the striatum of the basal ganglia.!



Before

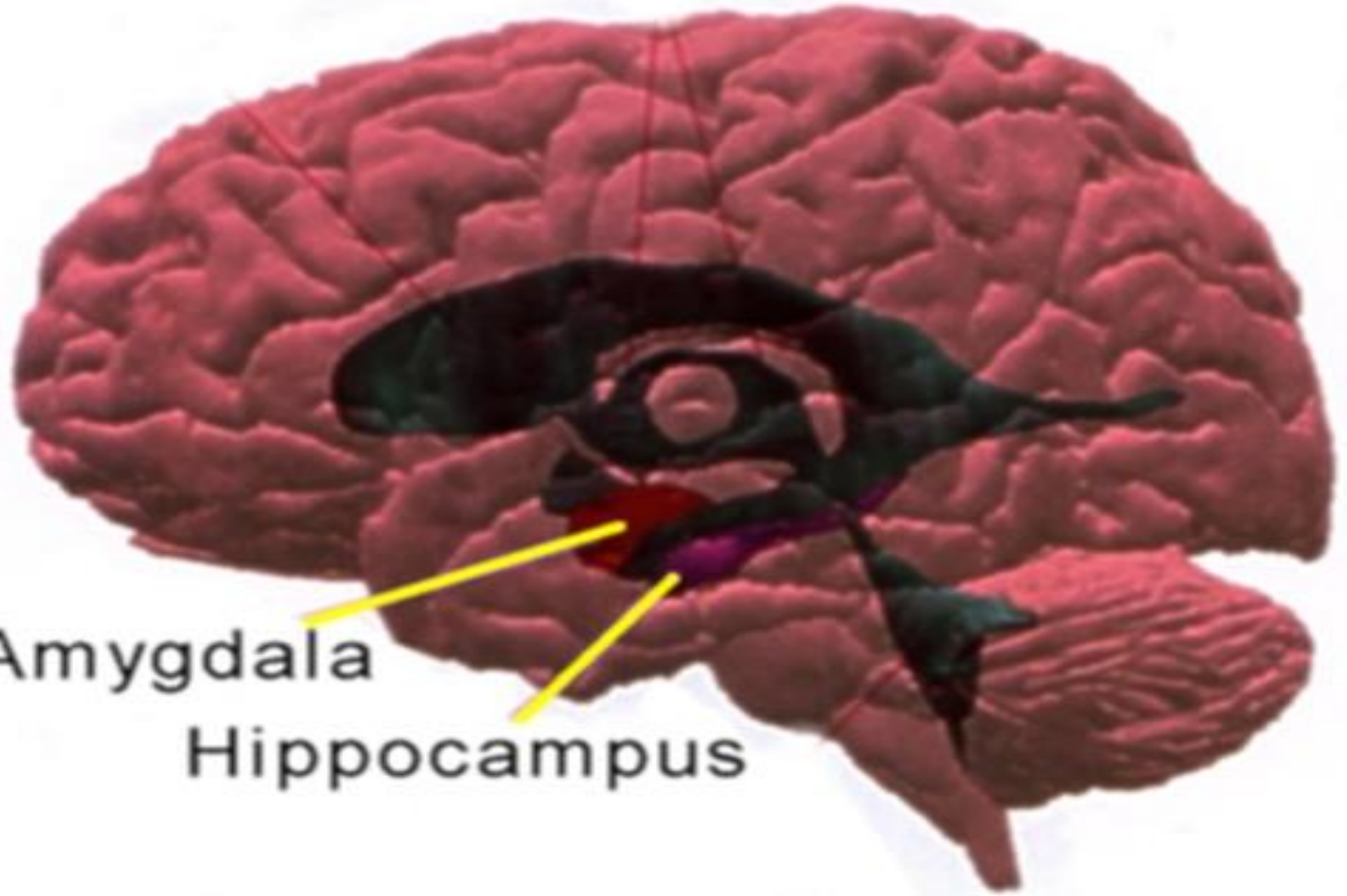


After



Plasticity

- The brain is composed of 20 billion neurons
- The brain reacts to stress by shrinking
- The brain has stem cells which can grow into new neurons



Amygdala

Hippocampus

HPA Axis

Stress → CRH (Corticotropin Releasing Factor)



ACTH



Cortisol



Hypothalamus



```
graph TD; A[Hypothalamus] --> B[CRF]; B --> C[Pituitary]; C --> D[ACTH]; D --> E[Adrenals]; E --> F[Cortisol];
```

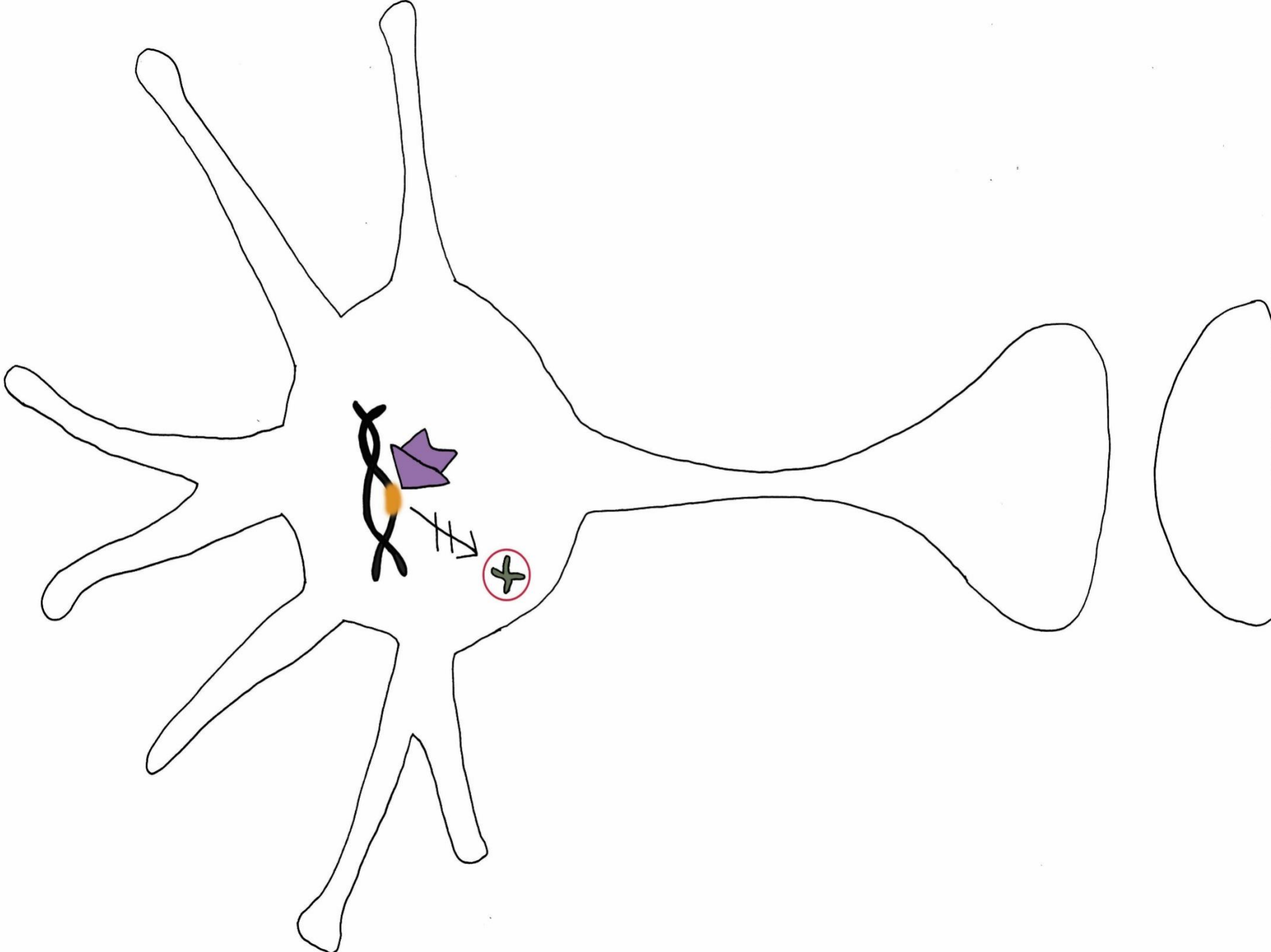
CRF

Pituitary

ACTH


Adrenals

Cortisol



Neurosteroids

- DHEA (dehydroepiandrosterone)
- Allopregnanolone

- 
- BDNF (Brain Derived Neurotrophic Factor)
 - Stimulates growth of brain stem cells
 - Cortisol decreases levels of BDNF
 - All antidepressants including SSRI's, SNRI's, tricyclics, MAOI's, Lithium and ECT increase levels of BDNF

Neuroprotection vs. Neurotoxicity

- Neuroprotection

- DHEA
- Allopregnanolone
- BDNF

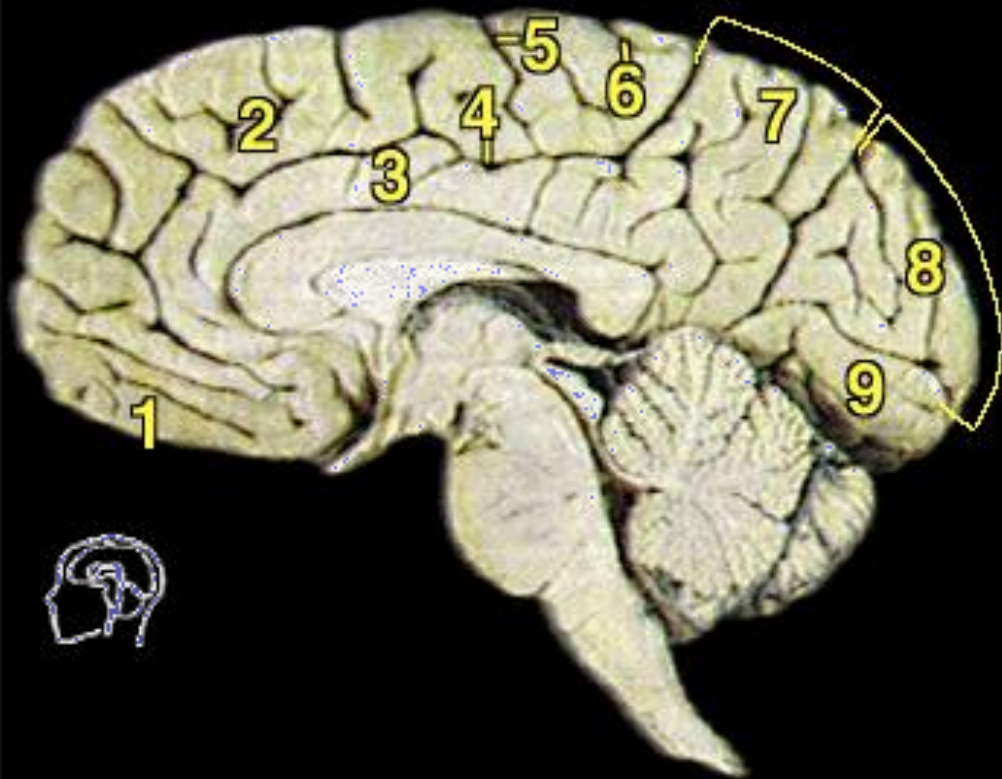
- Neurotoxicity

- Cortisol

Cytokines

- Tissue Necrosis Factor (TNF)
 - Interferon 2
 - Interleukin 1
 - Interleukin 2

Dorsal Anterior Cingulate Gyrus

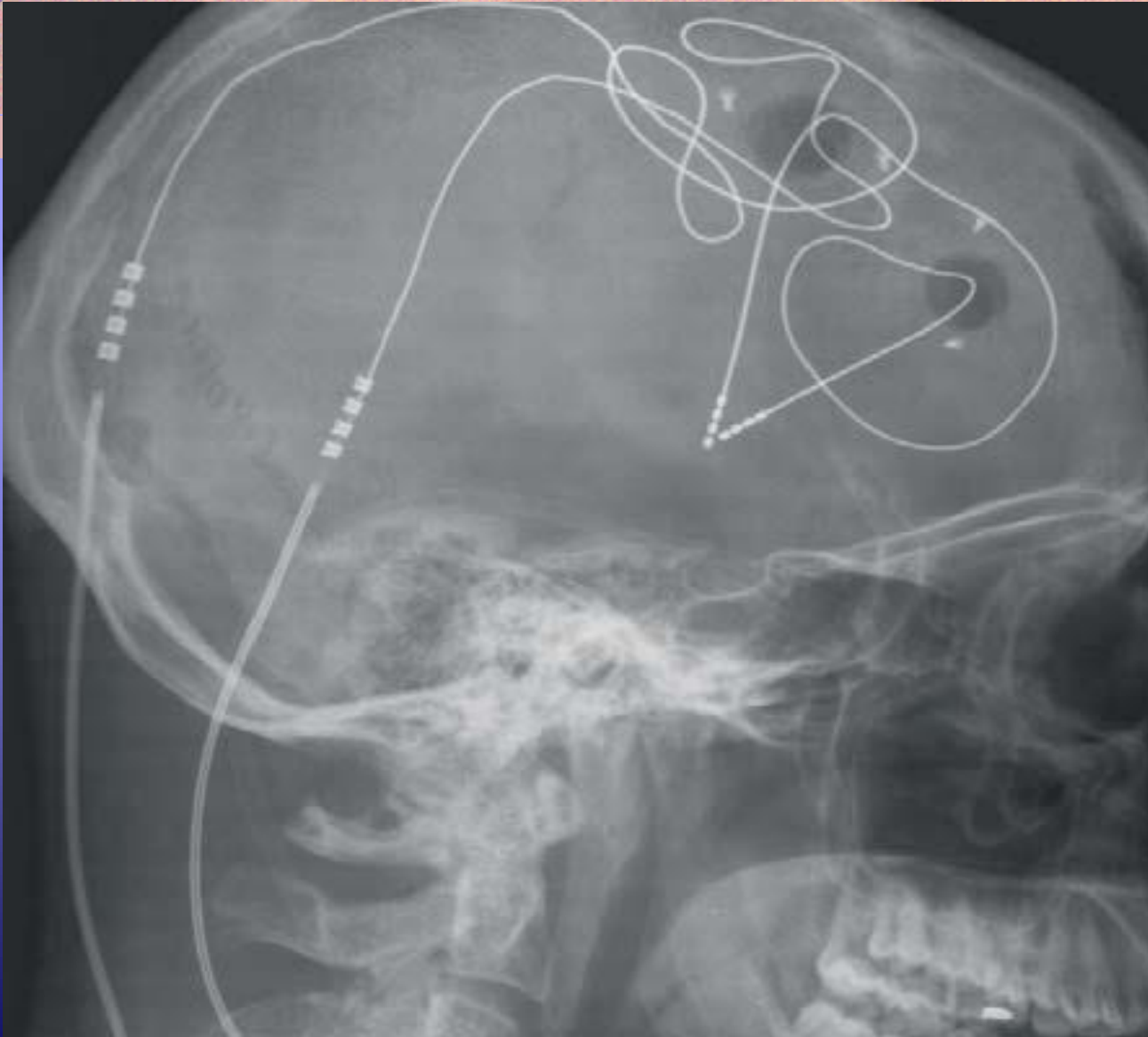


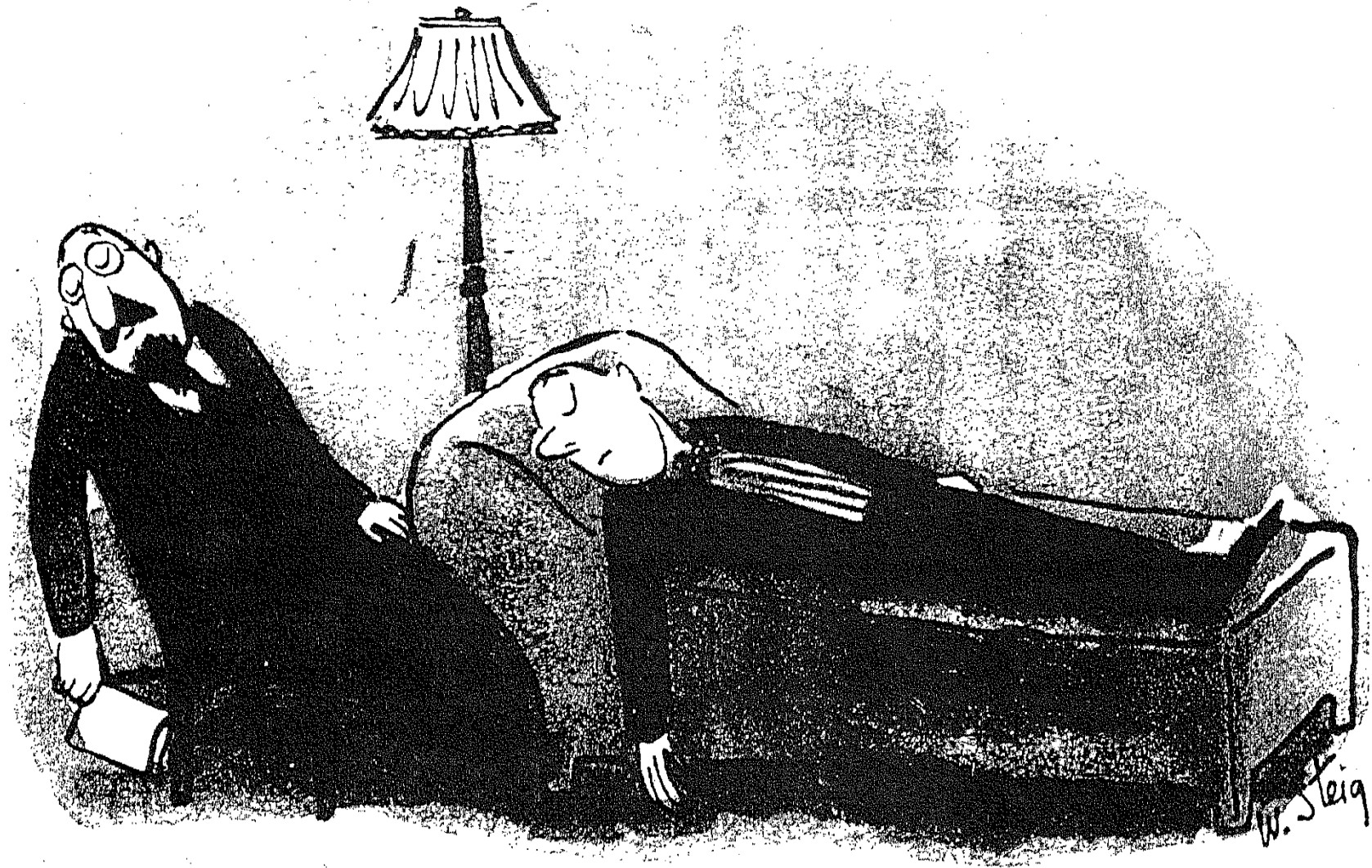
1. Gyrus rectus
2. Superior frontal gyrus
3. Cingulate gyrus
4. Cingulate sulcus
5. Paracentral sulcus
6. Central sulcus
7. Precuneus
8. Cuneus
9. Lingual gyrus

Somatic Therapies

- ECT
- Trans cranial Magnetic Stimulation (TMS)
- Vagus Nerve Stimulation (VNS)
- Light Therapies

Deep Brain Stimulation (DBS)





Psychotherapies

- Psychoanalysis
- Systematic Desensitization
- Dialectical-Behavior Therapy
- Interpersonal Therapy
- Trauma Informed Care
- Motivational Enhancement Therapy

Cultural Shifts

- Evidence Based Practice
- Person Centered Care
 - Recovery Model
 - Peer Support
- Co-Morbidity (Dual Diagnosis)

Symptomatic Recovery:

Getting the illness under control, reducing symptoms, managing the illness, so it does not get in the way of reaching personal life goals:

- Control symptoms with effective treatment: decrease the intensity, frequency, severity of symptoms.
- Reduce the risk of relapse.
- Manage persistent symptoms through recovery lifestyle habits.



Functional Recovery:

Being able to “make it: in the world:

- Identify the knowledge, skills, and supports needed to achieve preferred roles in life.
- Gain and sustain the necessary knowledge, skills and supports through training and rehabilitation.
- Compensate for symptoms and impairments, build on strengths, and optimize skills and abilities.



Role Recovery:

Achieving role fulfillment
and reintegration:

- Choose and achieve personal life goals and meaningful roles.
- Patienthood Personhood





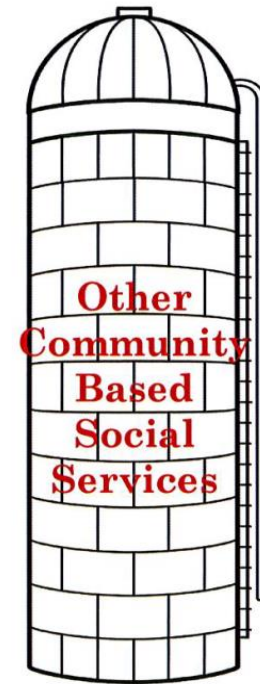
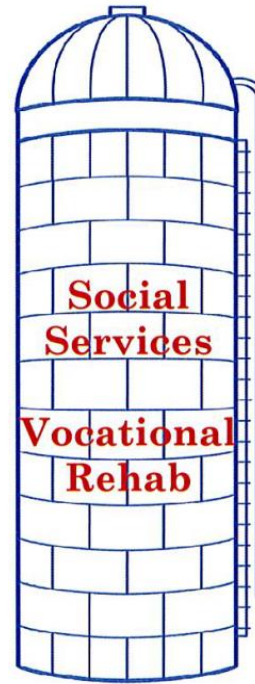
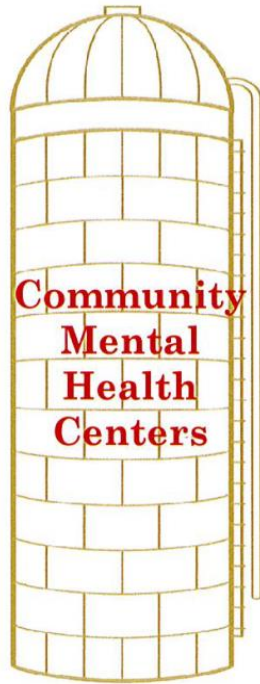
JOHN F. KENNEDY

Health Care Economics

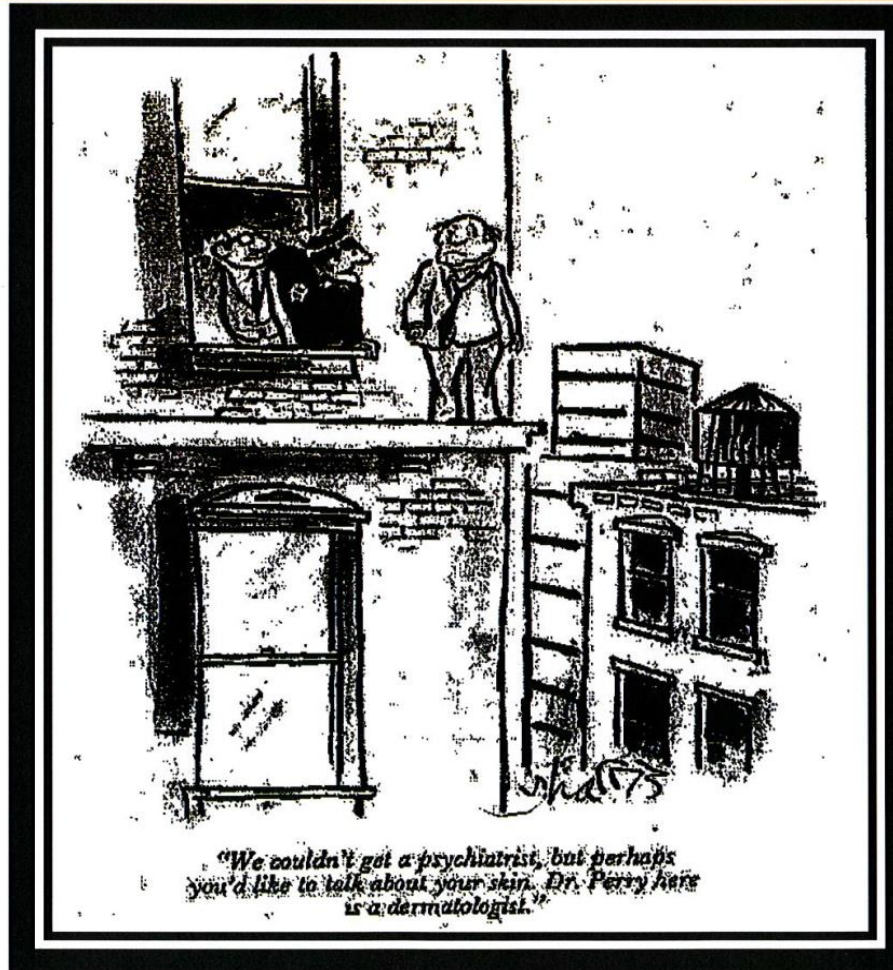
- Community Mental Health Act (1963)
- Mental Health Parity and Addiction Equity Act (2008)
- Affordable Care Act (2010)
 - Individual Mandate
 - Healthcare Insurance Exchanges
 - Medicaid Expansion
 - Integration

SERVICES ARE POORLY COORDINATED.

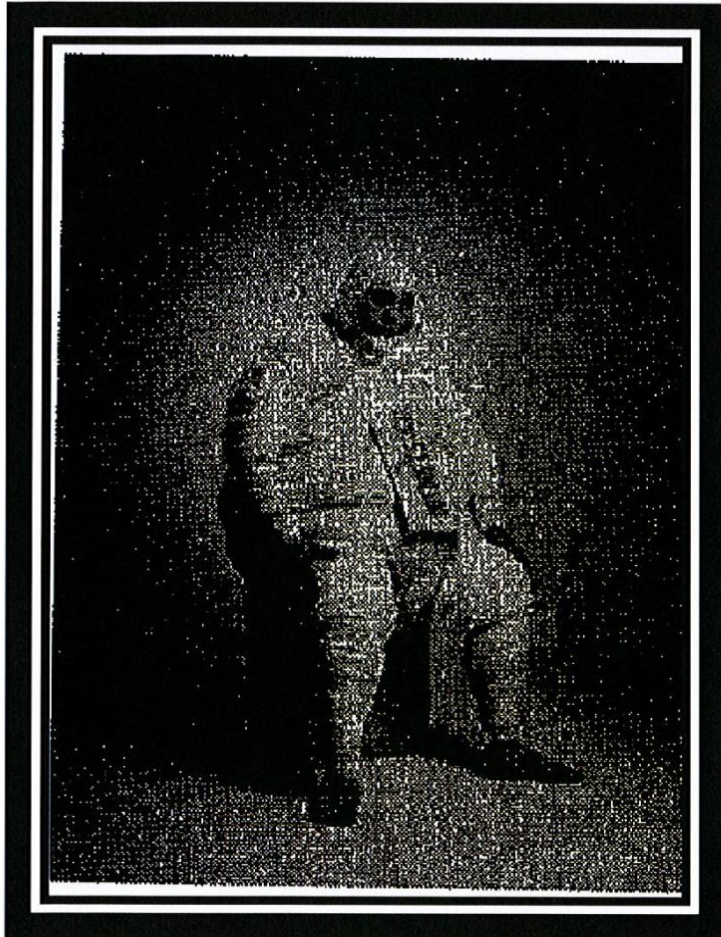
“Don’t you guys talk to each other?”



2/3 OF PCP'S REPORT POOR ACCESS TO MENTAL HEALTH CARE FOR THEIR PATIENTS

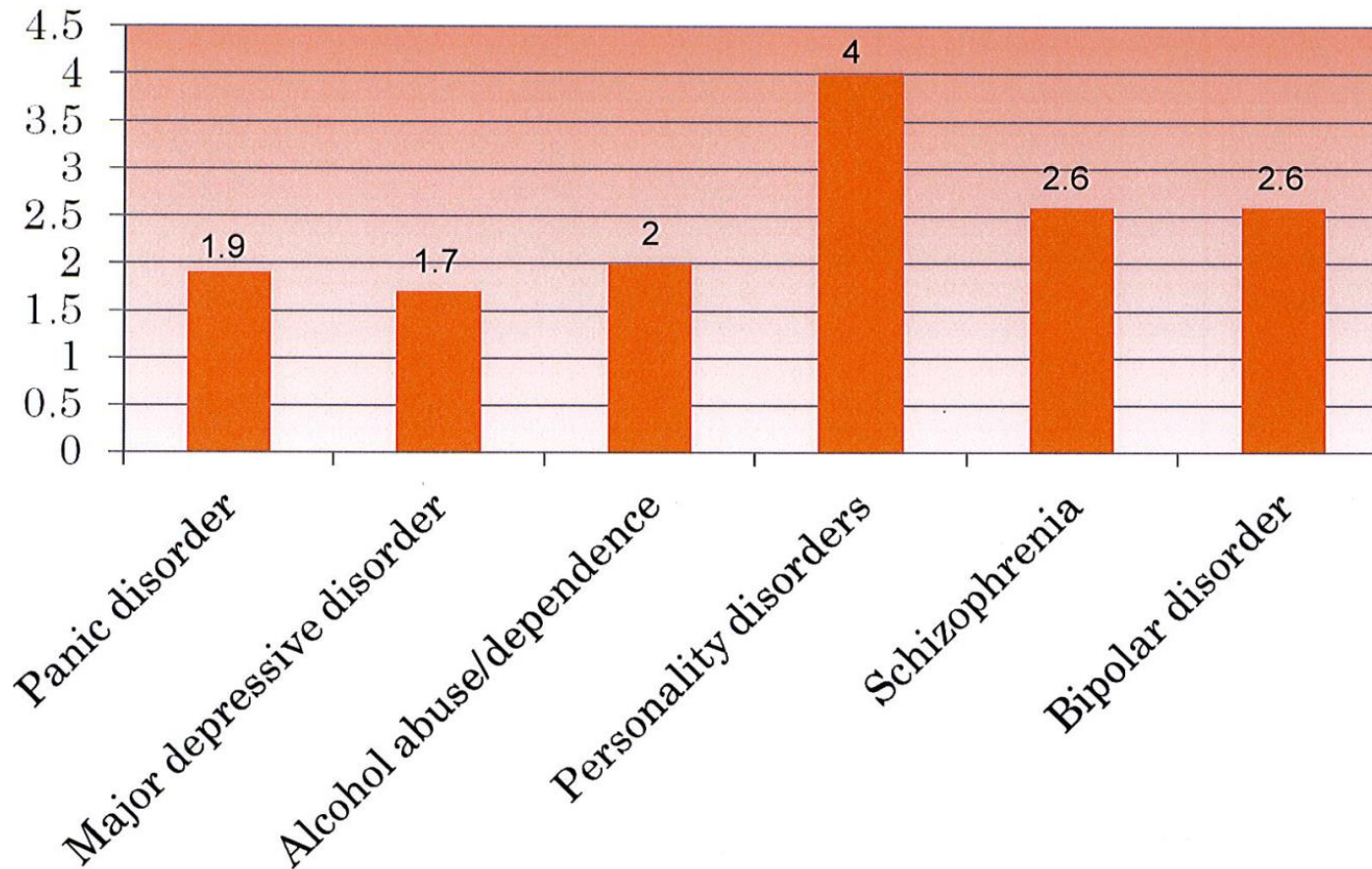


WHY PRIMARY CARE SERVICE TO MENTAL HEALTH POPULATIONS?



- High rates of physical illness in mentally ill
- Premature mortality
- Low quality of medical care to patients with mental illness
- High expense of physically ill with mental illness
- Access problems

MORTALITY BURDEN OF MENTAL DISORDERS



Mental Disorders and Medical Comorbidity by Druss BG and Reisinger Walker E (<http://www.rwif.org/pr/product.jsp?id=71883>)
Original data from Adapted from Eaton et al., 2008 (literature review)

INCREASED MORTALITY

- It is well established that persons with mental illness experience excess mortality compared with the general population.
 - Compared to the general population, persons with major mental illness typically lose more than **25 years** of normal life span (Lutterman, 2003).
 - In Finland difference in life expectancy of was **25 years** less than that of compared with a person in the general population (32.5 years vs. 57.5 years, respectively) (Tiihonen, 2009).
 - Persons with mental disorder die on average of **8.2 years** earlier than the rest of the population (Druss, 2011).
- While suicide and injury account for about 30-40% of excess mortality, *60% of premature deaths in persons with schizophrenia are due to medical conditions such as cardiovascular, pulmonary and infectious diseases* (Parks, 2006).

NON-TREATMENT OF MEDICAL COMORBIDITY: CATIE DATA

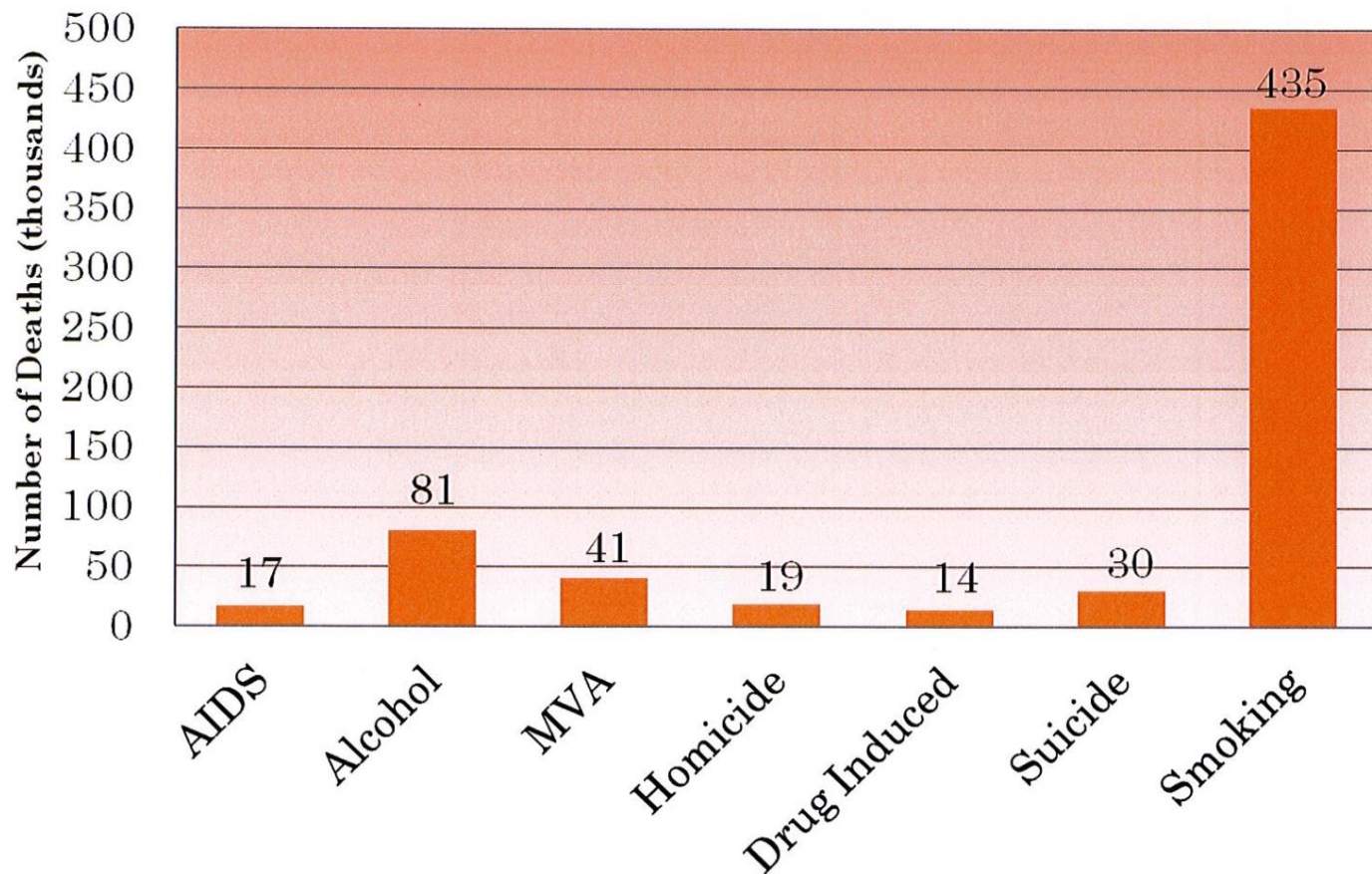
Rates of non-treatment

30.2 % for
diabetes

62.4% for
hypertension

88.0% for
dyslipidemia

COMPARATIVE CAUSES OF ANNUAL DEATHS IN THE U.S.



Source: CDC, 2004

THESE INNOVATIONS ARE LEADING TO...

- An inversion of the Resource Allocation Triangle so that...
 - **Prevention Activities** will be funded and widely deployed
 - **Primary Care** will become a desirable occupation
 - Resulting in **Decreased Demand** in the **Specialty and Acute Care** Systems

