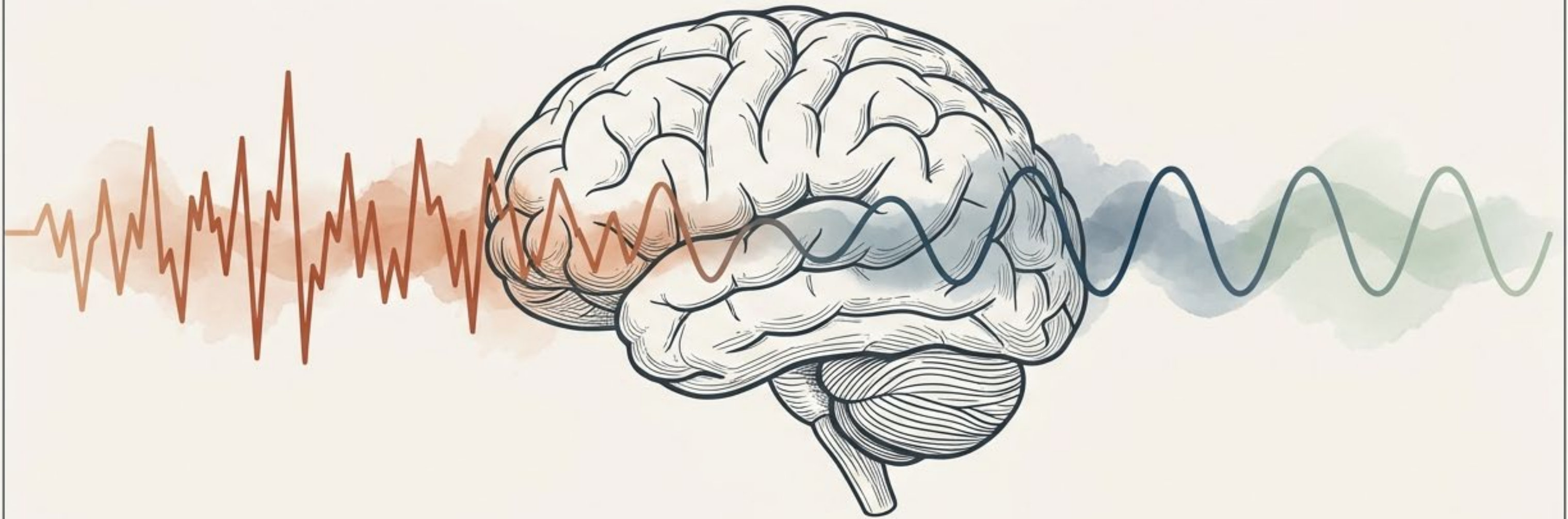


FROM WITHDRAWAL TO REGULATION

The Brain's Timeline for Early Recovery in Recovery Housing



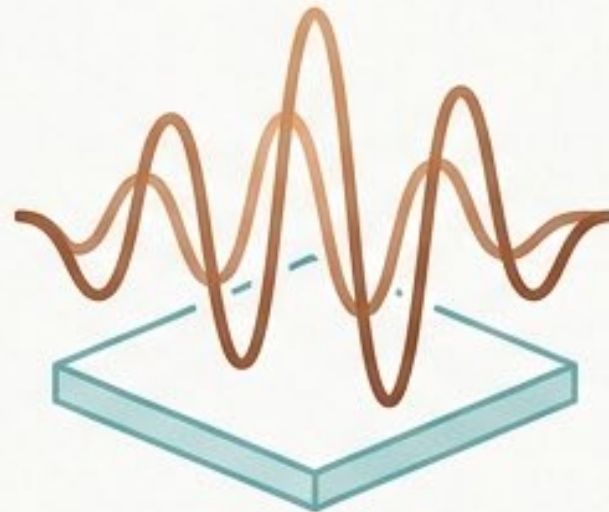
Amy Jeppesen L.C.S.W. MBA

LEARNING OBJECTIVES



UNDERSTAND

Brain Recovery



RECOGNIZE

Behaviors as
Neurobiological



IMPLEMENT

Regulation Tools
& Co-Regulation

The Geographic Constraints



45+ minutes to specialists; treatment hubs distant.



2/3 of mental health shortage areas are rural.



No public transit; vehicle unreliability.



Digital divide; unreliable telehealth.

The Relational Assets



Local Clinic



Neighbors



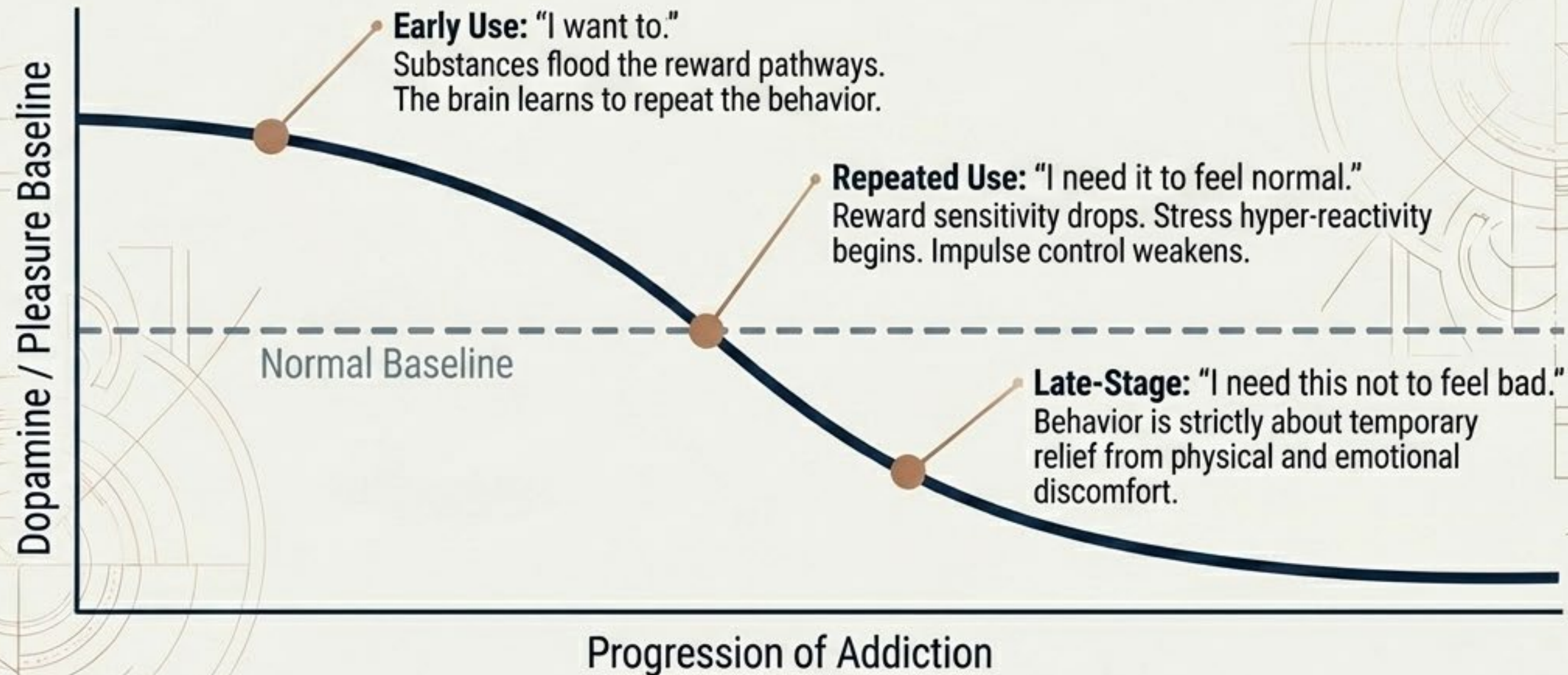
Community Leaders



Housing Unit

- **Consistency:** Same staff builds neural pathways of trust.
- **Tight Community:** Reduced anonymity provides positive peer pressure.
- **Slower Pace:** Less chaos equals a neurobiologically healing environment.
- **Deep Knowing:** Providers understand residents' full history and community context.

Addiction shifts motivation from seeking pleasure to escaping pain



Addiction usually starts with reward, but it is maintained by relief.

The Four Systems Rural Recovery Houses Need to Know

1. Reward System
(Basal Ganglia)

2. Stress System
(Extended Amygdala)

3. Executive Control
(Prefrontal Cortex)

4. Learning & Memory
(Cue Activation)



Understanding these four intersecting systems explains the invisible machinery driving behavior.

System 1: The Reward System is burned out

1. Reward System (Basal Ganglia)

Biological Reality: After repeated substance exposure, natural rewards (family, praise, stability) feel completely flat. The brain's motivation center is chemically exhausted.

3. Executive Control

Recovery Provider Implication:

The substance remains disproportionately compelling while the resident struggles to find motivation for the positive goals the court sets for them.



2. Stress System (Extended Amygdala)

4. Learning & Memory (Cue Activation)

System 2: The Stress System is hyper-reactive

1. Reward System
(Basal Ganglia)

2. Stress System
(Extended Amygdala)

Biological Reality: The brain becomes hypersensitive to stress, perceived threats, and physical discomfort. The body's alarm system cannot turn off.

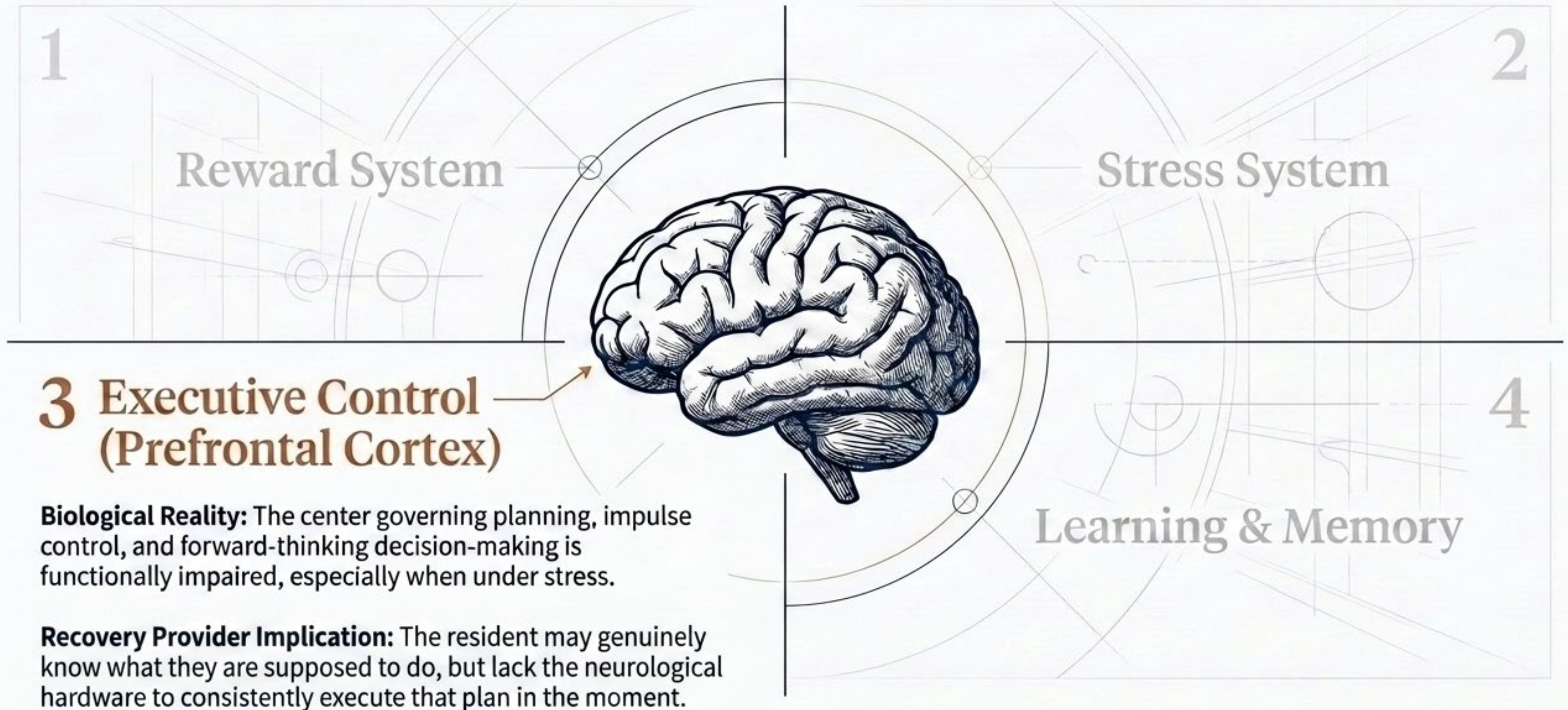
3. Executive Control
(Prefrontal Cortex)

4. Learning & Memory

Recovery Provider Implication: Ordinary life events—and routine house requirements—can trigger disproportionate, overwhelming stress responses that mimic defiance or aggression.



System 3: Executive Control is severely weakened



System 4: Memory systems hijack conscious thought

QUADRANT 1

Reward System

QUADRANT 2

Stress System

QUADRANT 3

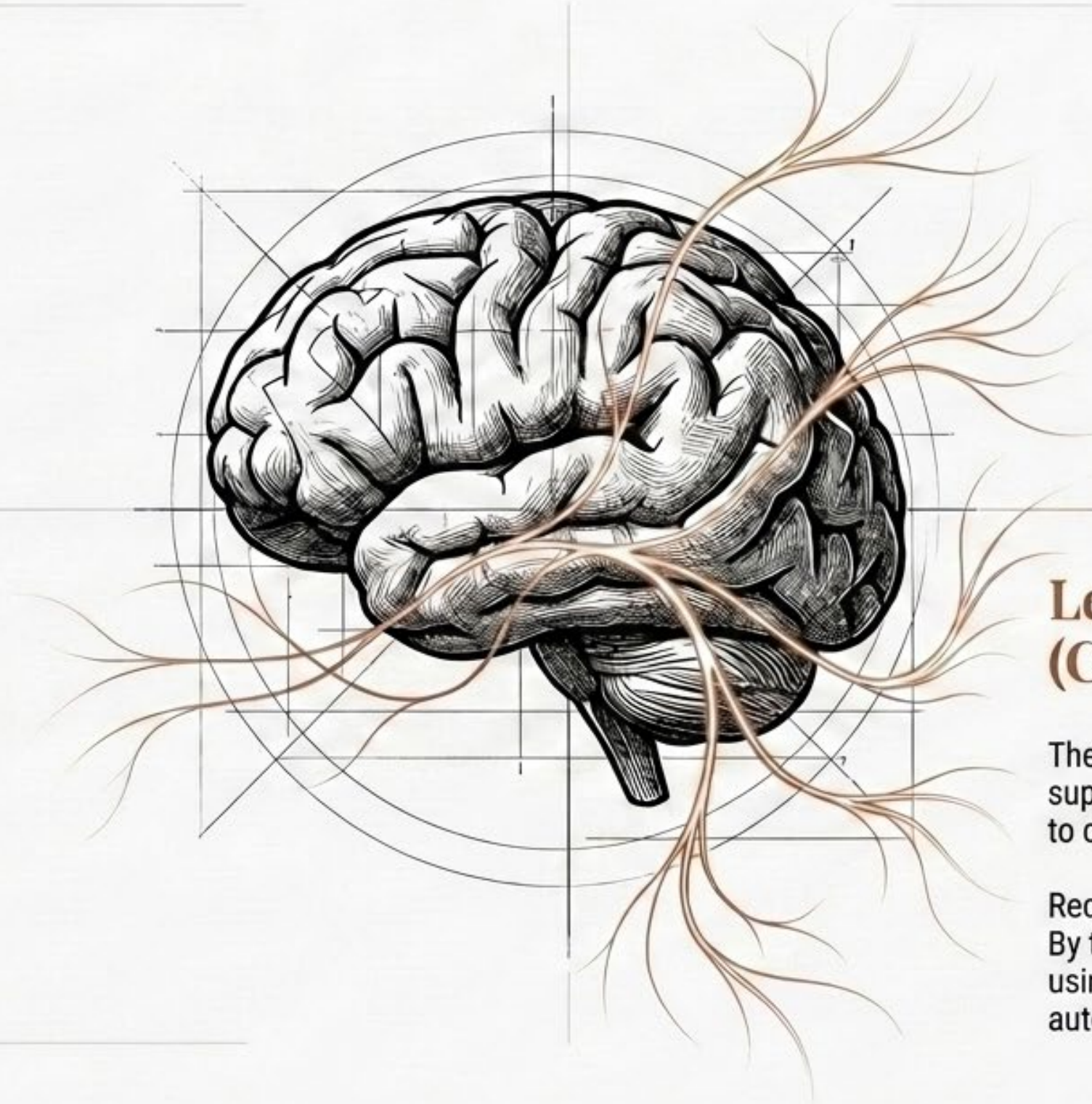
Executive Control

QUADRANT 4

**Learning & Memory
(Cue Activation)**

The resident may genuinely know what they are supposed to do, but lack the neurological hardware to consistently execute that plan in the moment.

Recovery Provider Implication
By the time the resident consciously thinks about using, the brain has already decided. It is an automatic reflex, not a reasoned choice.



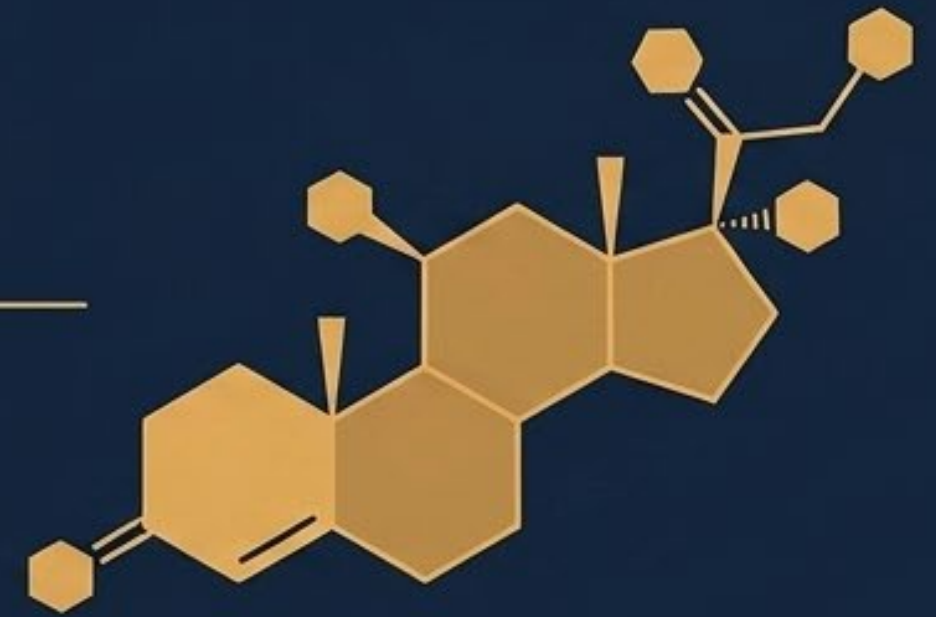
The Chemical Messengers



Dopamine

The Motivation & Reward Signal

Shifts from pleasure to survival during active addiction.



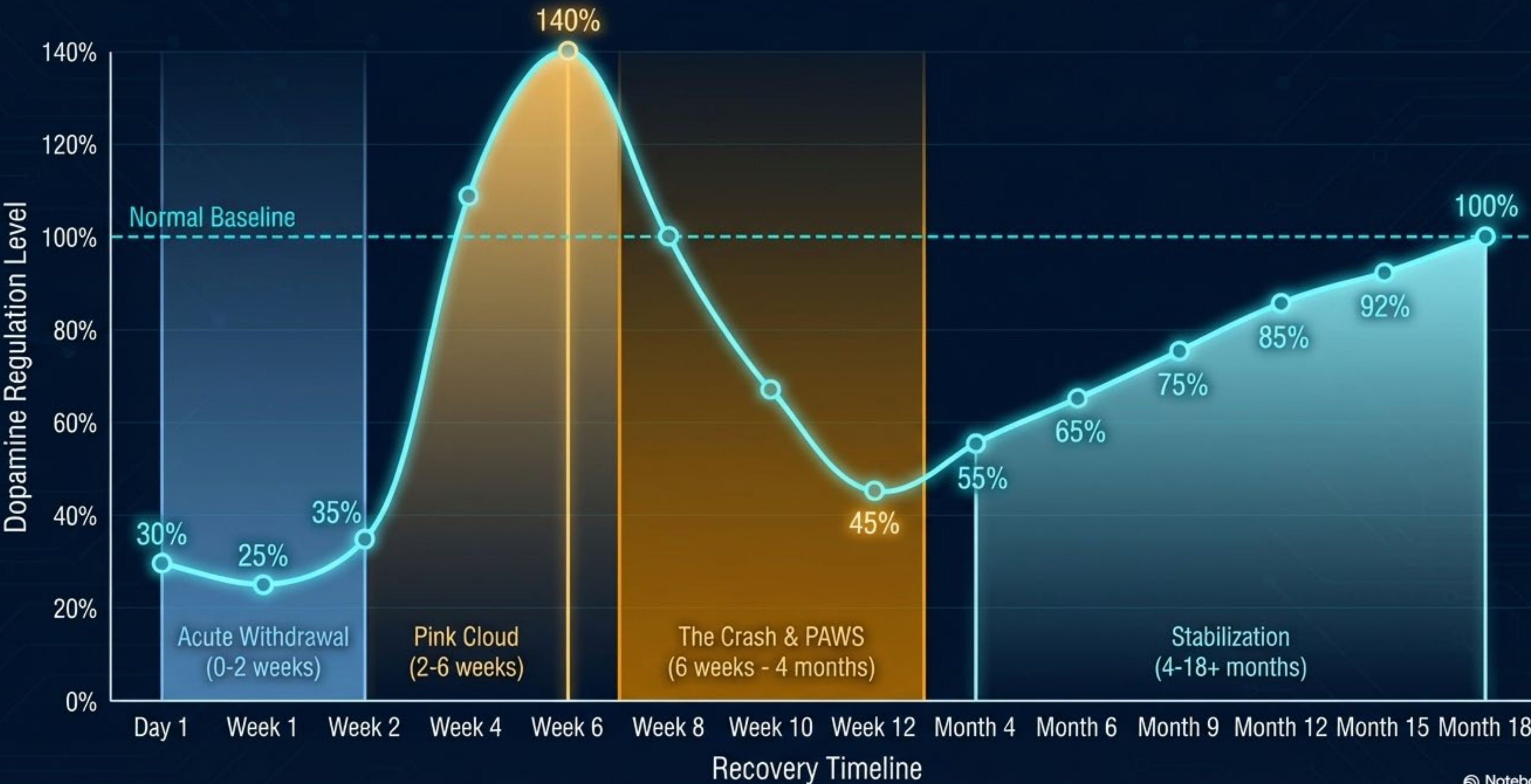
Cortisol

The Stress & Survival Alarm

Floods the system; creates hyper-reactivity to everyday triggers.

Substance use creates a shortcut to the reward system, exhausting the brain's natural supply and dampening receptors to survive the flood.

From Withdrawal to Regulation: The 18-Month Brain Recovery Timeline



Phase 1: Acute Withdrawal (0–2 Weeks)

The Biology



- Dopamine depleted ~30%.
- Nervous system shock — recalibrating after chronic chemical exposure.
- High cortisol — stress system highly activated.
- Prefrontal cortex — completely offline.

The Behavior



- Cognitive fog and poor short-term memory.
- Profound insomnia and physical illness.
- Emotional volatility (rapid shifts between panic and shutdown).
- Missed or late appointments.



The Autonomic Nervous System: Stuck in Sympathetic (Fight-or-Flight) Overdrive.



FIGHT (Aggression as Fear)

- **Observable:** Arguing, boundary testing, verbal aggression, defensive posturing.
- **Brain State:** "I need to fight to survive this danger."
(Learned via past trauma).



FLIGHT (Withdrawal as Terror)

- **Observable:** Isolation, skipping meals, avoiding staff, lying about wellbeing.
- **Brain State:** "I need to escape. Running is my best survival option."



FREEZE (Shutdown as Survival)

- **Observable:** Numbness, vacant stare, inability to make decisions, lacking motivation.
- **Brain State:** "Fighting and running failed. I must shut down to survive."

These are not character flaws or choices. They are automatic sympathetic nervous system responses triggered by perceived threat.

The Provider as Environmental Architect

External Scaffolding:
Your structure acts as their surrogate prefrontal cortex.

amygdala

Predictability:
Consistent routines quiet the **amygdala**.

threat system

Curiosity Over Interrogation:
Asking 'Help me understand?' deactivates the threat system.



Co-Regulation in Practice (During Acute Dysregulation)



WHAT NOT TO DO (Amplifying the Threat)

- Do not raise your voice (mirrors dysregulation).
- Do not leave them alone (isolation registers as an evolutionary threat).
- Do not try to logic them out of emotions (their Prefrontal Cortex is currently offline).
- Do not use shame.



WHAT TO DO (Transmitting Safety)

- Regulate yourself first (take a deep breath before engaging).
- Sit near them and model slow breathing.
- Validate the physical reality: Your nervous system is on high alert. This will pass.
- Offer concrete, simple support: Can I sit with you?
- Stay present without trying to fix it.

Phase 2: The “Pink Cloud” Trap (2–8 Weeks)

The Biology



- The brain temporarily overcompensates.
- Dopamine spikes ~140% above baseline.
- Executive control and stress regulation remain completely fragile.

140% Peak

The Behavior



- Intense optimism and sudden overconfidence (“I’m cured”).
- Risk minimization and underestimating triggers.
- Overpromising on goals and commitments.
- Impatience with treatment demands.

Pink Cloud Trap

Week 2

Week 8

The Power of Co-Regulation: You Are the Medicine

The Biological Reality

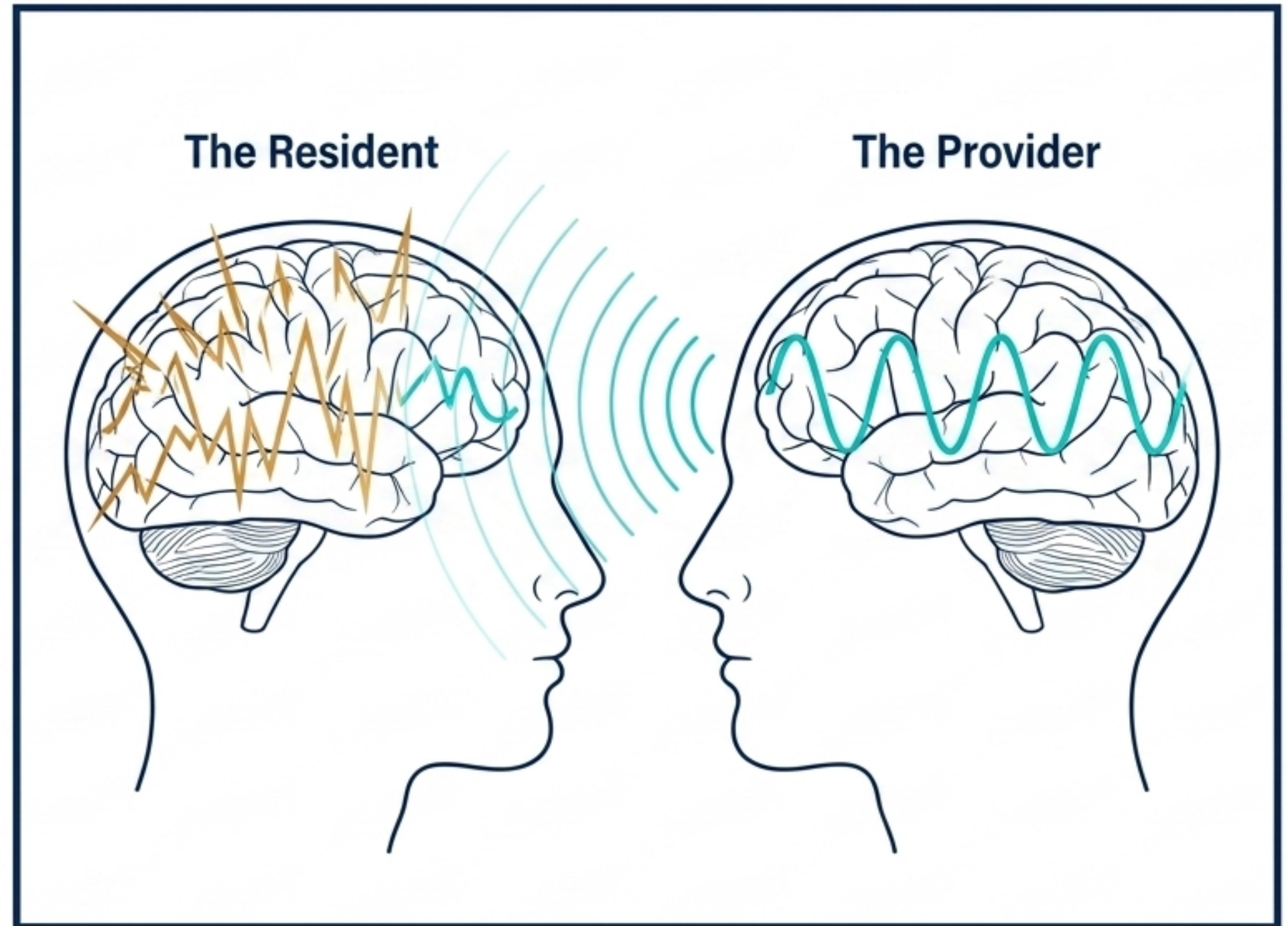
A dysregulated nervous system cannot regulate itself alone. It requires an external, regulated nervous system to act as a temporary Prefrontal Cortex.

How it Works

Your steady tone of voice, slow breathing, and relaxed body language literally transmit safety signals to their hyperactive amygdala via the vagus nerve.

The Synthesis

You are not just managing behavior; your physical, regulated presence is neurobiologically active treatment. You are rewiring their threat response in real-time.



Phase 3: The Crash & PAWS (Months 1-6)

The Biology of Protracted Withdrawal

- Dopamine drops ~45% (below baseline).
- The stress system becomes entirely dominant.
- Highest risk window for relapse.

Anhedonia: The biological inability to feel pleasure from normally enjoyable activities. The participant is exhausted, devoid of dopamine, and flooded with fear that “recovery doesn’t work.”

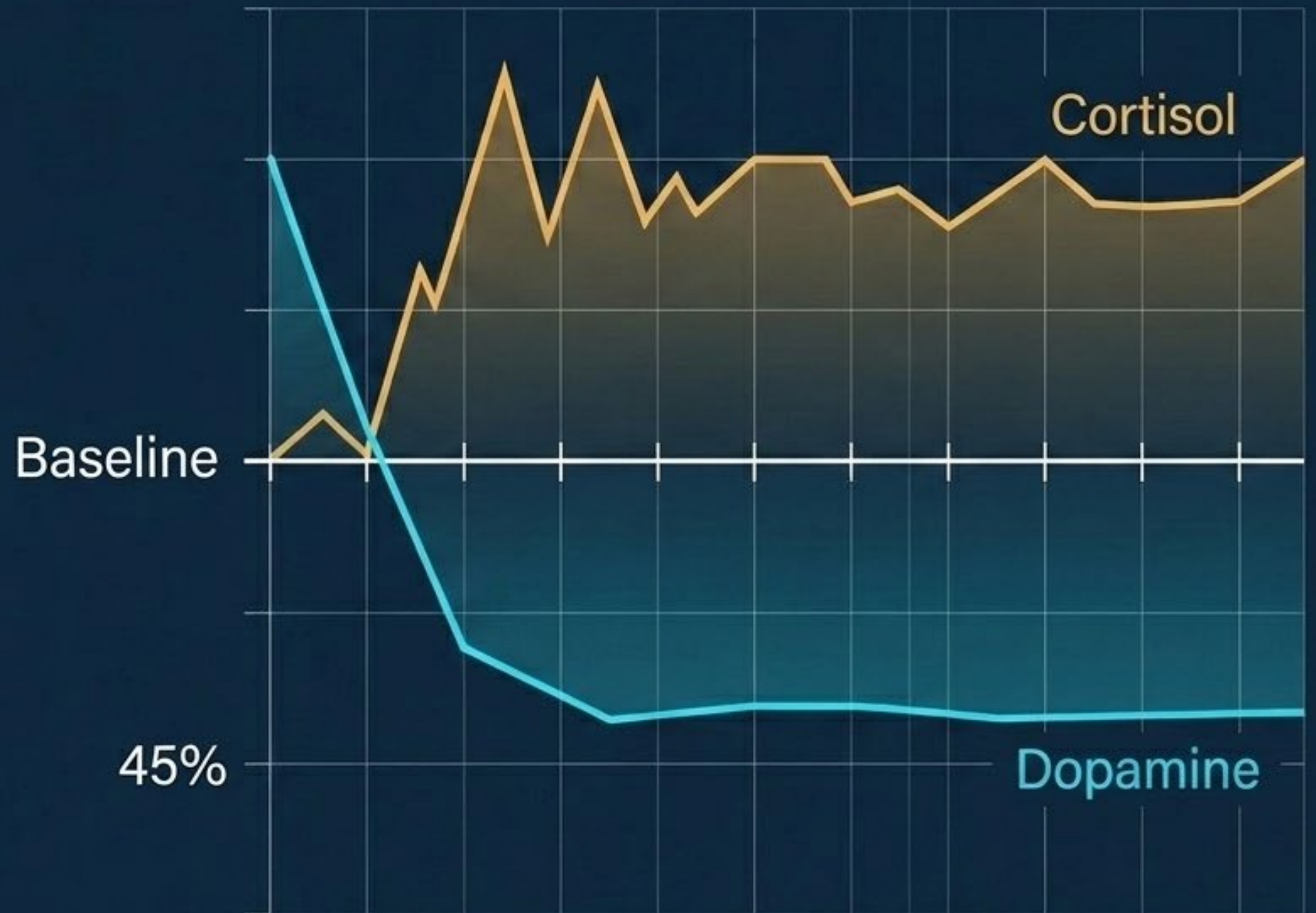


Dopamine Depletion & Cortisol Spikes

Dopamine crashes significantly below baseline

Stress system remains highly elevated

Strategy: Normalize discomfort and increase structure

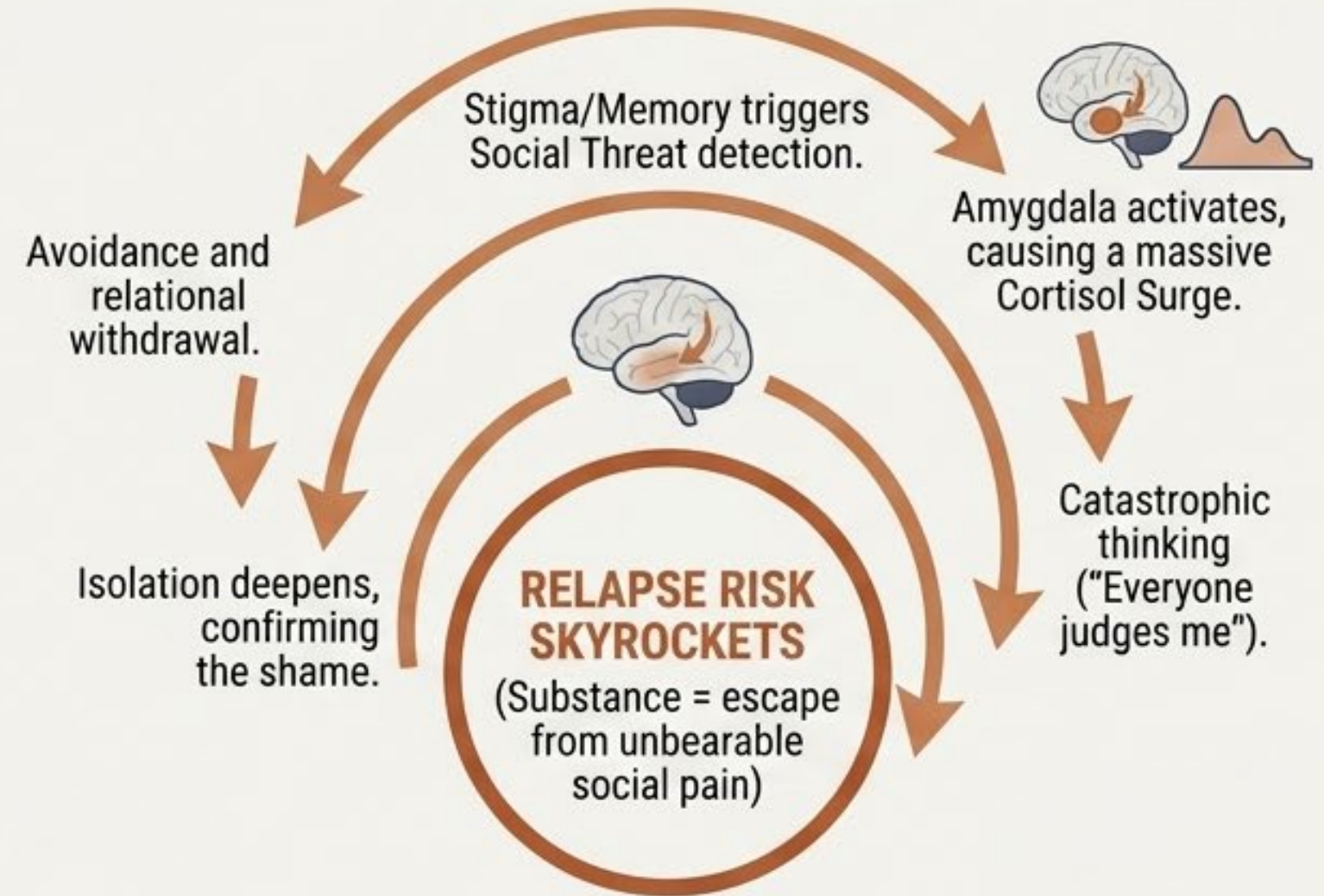


THE NEUROBIOLOGY OF ADDICTION: GUILT VS. SHAME AND THE CORTISOL SPIRAL

Guilt vs. Shame

Guilt	"I did a bad thing" (Behavior-focused).	Motivates repair. Prefrontal cortex active.	
Shame	"I AM bad" (Identity-focused).	Motivates hiding. Prefrontal cortex suppressed; Amygdala and Insula highly active.	

The Shame-Cortisol Spiral



Provider Intervention: Shaming tactics activate the exact brain state that triggers relapse.
Safety and connection interrupt this loop.

The Regulation Tool-Kit: Cost Nothing, Change Everything

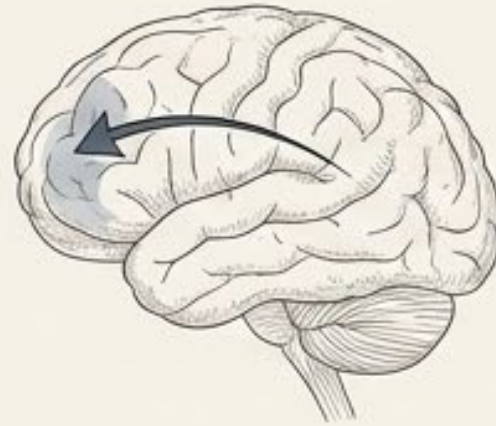
Simple physiological interventions that deactivate the amygdala and engage the prefrontal cortex.

1. The 5-4-3-2-1 Technique

For: Anxiety/Dissociation.

How: Engages Prefrontal Cortex.

Steps: 5 things to see, 4 to physically feel, 3 to hear, 2 to smell, 1 to taste.

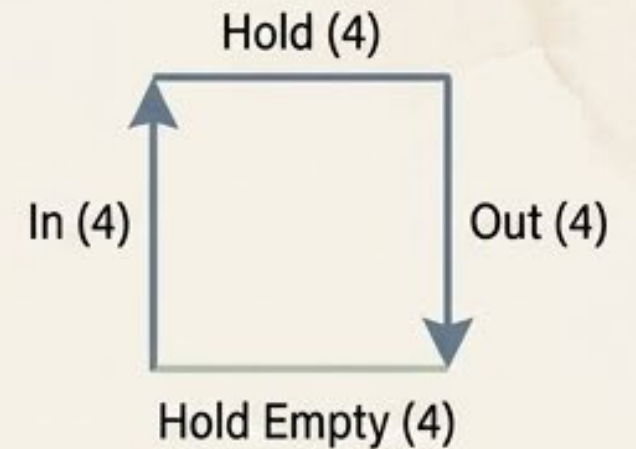


2. Box Breathing

For: Cravings/Stress.

How: Regulates vagus nerve & activates parasympathetic system.

Pattern: In (4), Hold (4), Out (4), Hold Empty (4).

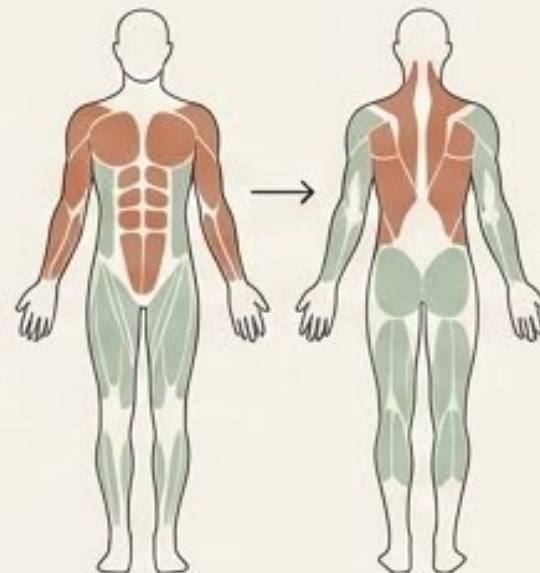


3. Progressive Muscle Relaxation

For: Body tension/Sleep.

How: Releasing tension sends "safe" signal to brain.

Process: Tense muscle group 5 seconds, release, move through body.



4. The HALT Check

For: Sudden dysregulation.

How: Identifies physiological

Check: Hungry? Angry? Lonely? Tired? (Blood sugar and sleep deprivation mimic cravings).



Phase 4: Early Stabilization (Months 6-18+)

Building Recovery Capital

The Biology:

The brain transitions from surviving to re-regulating.

The Behavior:

Improved frustration tolerance, consistent attendance, stronger problem-solving, genuine honesty.

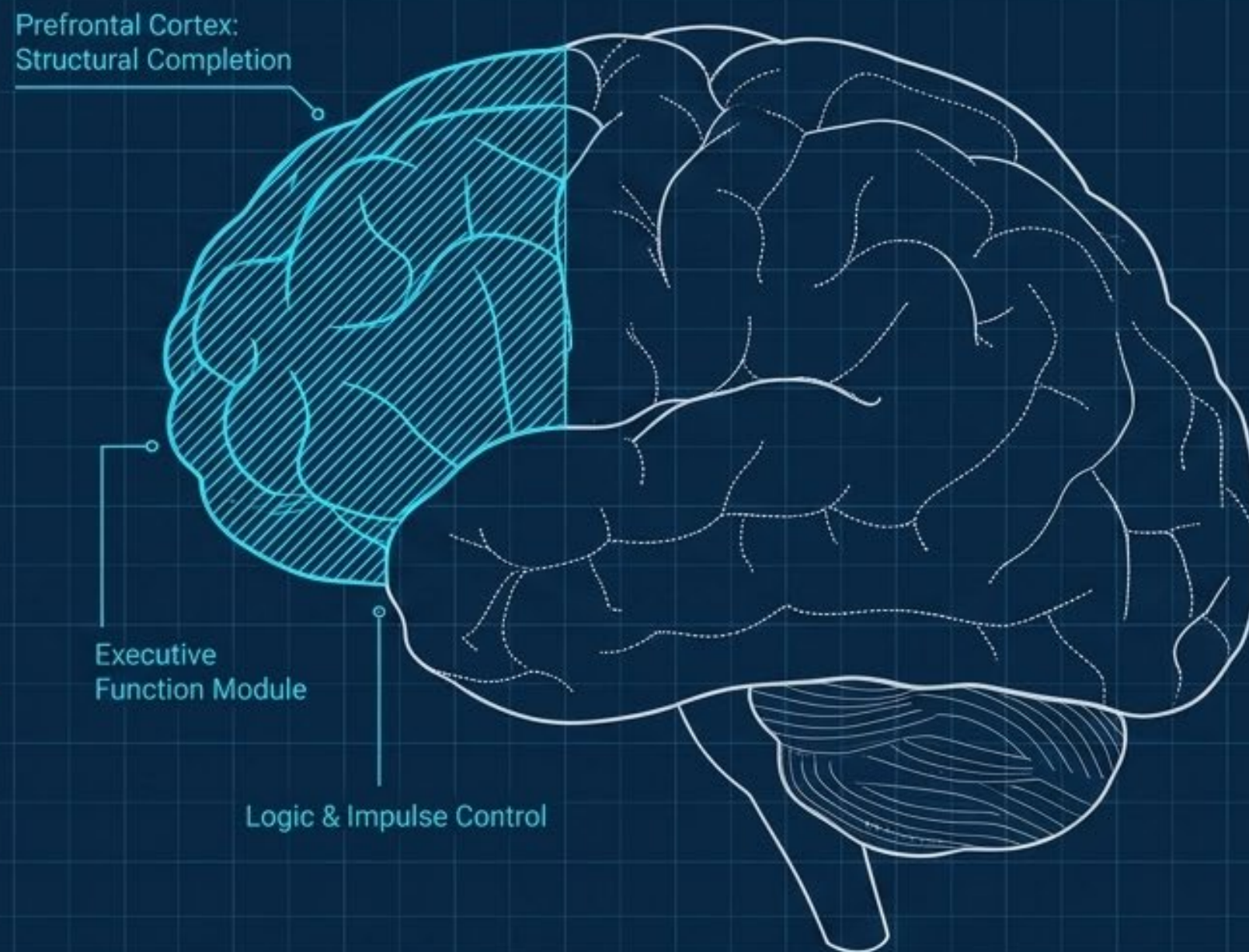
Tactical Response:

Begin stepping down autonomy. Shift focus from external compliance to internal identity. Focus on long-term stability: employment, parenting, purpose.



The Prefrontal Cortex Comes Online

- **Executive function** heals last (12-18+ months)
- Shift from structure to **scaffolding**
- Strategy: **Capability building** and transition planning





You Are the Difference

The neurobiology is complex, but your job is simple: Create safety. Build relationships. Stay consistent.

What You Now Understand (The Science)

- Recovery is neurobiology, not character failure.
- Behaviors (irritability, sleep loss) are predictable outputs of a healing brain.
- Shame + cortisol = relapse.
- Nervous systems take 6-18 months to recalibrate.

What You Do (The Practice)

- Create predictable structures (same times, clear expectations).
- Stay regulated to co-regulate.
- Teach grounding tools (5-4-3-2-1, HALT).
- Understand behaviors as nervous system responses, not intentional defiance.

Recovery housing works. Research shows residents in recovery housing have better outcomes.
You are saving lives. The world needs you.