

Models of Addiction

This section teaches the six foundational models of addiction in depth — where each came from, what it claims, how it has been criticized, and what it means for treatment — then looks at how the field’s thinking has evolved, how the models combine in real care, and several newer models researchers have added. A linked, annotated bibliography appears at the end so you can read further on anything that interests you.

This section will allow participants to:

- Describe why addiction is best understood through several models rather than one
- Outline what each of the six foundational models claims, where it came from, and what it misses
- Describe how the models translate into real treatment and relapse-prevention approaches
- Explain how newer, more specialized models refine the classic six

Five People, Five Answers

If you are new to this field, one of the first things you will notice is that almost nobody agrees on what addiction actually is. Ask a doctor, a counselor, a pastor, a researcher, and a person in long-term recovery, and you may walk away with five different answers. One calls it a disease. One calls it a choice. One calls it a symptom of old wounds. One points to the neighborhood and the people around the person. One calls it a crisis of meaning.

It is tempting to assume one of them must be right and the rest wrong. But a more useful way to look at it — and the way this section asks you to think — is that they are all standing in different spots around the same large, complicated thing, each describing the part they can see. That is really all a “model” is: **a vantage point**. Each one brings a piece of the picture into focus while leaving the rest a little blurry. Learning to walk around the problem and look through each lens, instead of betting everything on one, is one of the most useful habits a new counselor can build.

A quick word on why this matters in practice: the model a counselor (or a family, or a court) holds in their head quietly shapes how they treat a person. If you believe

addiction is a moral failing, you reach for accountability and consequences. If you believe it is a brain disease, you reach for medication and medical care. If you believe it is a response to pain, you reach for therapy. None of these is wrong, exactly — but each is incomplete on its own. The rest of this section walks through all six, one at a time.

The Six Foundational Models

Over the past century, the field has organized its thinking into six broad models of addiction (Rose, n.d.). Each one earned its place by getting something importantly right — and each one, taken alone, leaves something important out. Five of them look through a single lens; the sixth — the biopsychosocial model — is what you get when you hold the others together.

THE SIX MODELS AT A GLANCE

Model	Core idea	What it gets right	Its main limitation
Moral	Addiction is a failure of willpower and character	Personal responsibility matters in recovery	Ignores biology, trauma, and environment
Disease	A chronic, relapsing brain illness	Opened the door to medical care; reduces blame	Can imply a person is “powerless”
Psychological	A way of coping with emotions and thoughts	Targets triggers and thinking (CBT, MI)	Underweights the body and environment
Social	Shaped by peers, family, community, access	Makes environment part of treatment	Underweights individual biology
Biopsychosocial	Biology, psychology, and society interact	The most complete view	Harder to put into a single plan

Model	Core idea	What it gets right	Its main limitation
Spiritual	Rooted in disconnection from meaning	Meaning and connection aid recovery	May not resonate with everyone

The Moral Model

The moral model is the oldest, and the one most of us absorb without ever being taught it. It frames addiction as a failure of character — weak willpower, poor choices, personal irresponsibility — and treats the person as fully responsible both for having the problem and for solving it.

For most of human history this was the default view. Habitual drunkenness and drug use were seen as vices, and society responded with punishment and shame rather than help — a legacy you can still hear in the “war on drugs” and in everyday judgments about people who use substances.

The moral model is not just a relic, though. A serious version survives in modern philosophy, which still debates whether addiction truly removes a person’s control. One influential middle position argues that addiction is not well captured by the idea of “compulsion” at all, and proposes **responsibility without blame** — holding people accountable as agents “while avoiding stigma and blame, and instead maintaining care and compassion” (Pickard, 2017). That phrase is worth remembering; it captures what a good counselor actually does.

The model’s grain of truth is real: personal responsibility and choice genuinely matter in recovery, and treating people as capable agents (rather than helpless patients) can be empowering. But its blind spot is everything else — biology, trauma, environment — and its central “weakness of will” claim is hard to square with how addiction actually behaves, since people often keep using long after the drug has stopped being pleasurable. The human cost of the moral view is also well documented: framing addiction as a personal failing fuels stigma, and that stigma is “a common obstacle to help-seeking,” producing “reduced empowerment and poorer treatment outcomes” (El

Hayek et al., 2024). Importantly, the rise of the disease model did not erase this moral blaming — the two views still coexist in how society talks about addiction.

For the counselor — The moral model is the water we swim in, so the skill is to keep its one good idea (people are capable agents) while dropping its damage (blame and shame). “Responsibility without blame” is the everyday version of that balance.

The Disease Model

The disease model grew up as a direct correction to the moral view. It says addiction is a medical condition — a chronic, relapsing illness — rather than a flaw in someone’s character, and that the addicted person is not simply choosing badly.

Its modern roots are usually traced to E. M. Jellinek, whose 1960 book *The Disease Concept of Alcoholism* recast habitual heavy drinking as a disease with identifiable types and a progressive course, including a “loss of control” form he considered a true disease (Jellinek, 1960). The model’s contemporary form arrived decisively in 1997, when the director of the National Institute on Drug Abuse argued in *Science* that prolonged drug use changes the brain in fundamental and long-lasting ways, converting voluntary use into compulsive use — making addiction, in his words, a chronic, relapsing brain disease (Leshner, 1997). The most authoritative modern statement describes addiction as a three-stage cycle — binge/intoxication, withdrawal/negative affect, and preoccupation/anticipation (craving) — driven by changes in the brain’s dopamine reward system, its stress systems, and its prefrontal self-control circuits (Volkow et al., 2016).

This reframing did enormous good. It opened the door to medical treatment, and it was meant to replace shame with compassion by recasting addiction as an illness rather than a vice. Its biggest practical payoff is **medication**: because the model locates addiction in brain systems, it supports treating it like other chronic diseases and underwrites medication-assisted treatment — methadone and buprenorphine for opioid use disorder, naltrexone and acamprosate for alcohol (Volkow et al., 2016).

The disease model is also genuinely debated. The neuroscientist Marc Lewis argues that the brain changes seen in addiction reflect normal, if intense, learning and development

rather than pathology — and that the disease label can itself become an obstacle to healing (Lewis, 2017). The other risk is subtler: pushed too far, “it’s a disease” can sound like “you are powerless,” which is only part of the story.

For the counselor — The disease model is why we can say to a client, without irony, “this is not a character flaw, and there is medicine that helps.” Use it for exactly that — to reduce shame and open the door to medical care — while remembering it is a lens, not the whole truth.

The Psychological Model

The psychological model turns the focus inward, to the mind. It sees addiction as bound up with emotions, thoughts, and mental health — a way of coping with pain, reinforced by the beliefs and thought patterns a person carries.

Its most influential idea is the **self-medication hypothesis**, introduced by psychiatrist Edward Khantzian: people do not choose substances at random, but gravitate to the drug whose effect best relieves “the dominant painful feelings with which they struggle” (Khantzian, 1985). Alongside the emotional story sits a cognitive one: people hold distorted beliefs and expectancies about what a substance will do for them, and these thoughts help maintain use even as the consequences mount. From this angle, substance use is not senseless — it is an attempt to cope or to feel better, however costly that attempt becomes.

This model is the engine behind talk-based treatment, and the evidence is solid. Cognitive-behavioral therapy (CBT) — which targets triggers, distorted thinking, and coping skills — outperforms no or minimal treatment and is among the most studied approaches in the field (Magill et al., 2019). Dialectical behavior therapy, a relative of CBT built for people who struggle with intense emotions, applies the same logic to emotional regulation. And motivational interviewing (MI), a collaborative style for resolving ambivalence, shows a modest but real benefit for substance use (Schwenker et al., 2023).

The model’s limit is that it can underweight the body and the environment, and its signature idea is debated: emotional pain and distorted thinking clearly contribute to addiction, but they are one thread, not the whole rope.

For the counselor — The psychological model gives you the questions that open people up: What does using do for you? What were you feeling right before? It reframes substance use as an attempt to cope — which is both more accurate and more workable than treating it as senseless.

The Social Model

The social model widens the lens to everything around the person. It holds that addiction is shaped by social and environmental forces — peers, family, social norms, the availability of substances, and socioeconomic conditions — rather than by individual characteristics alone.

Its theoretical root is Albert Bandura's social learning theory, which holds that behavior is learned through observation, modeling, and reinforcement — the basis for the well-supported finding that people who watch family and peers use are more likely to use themselves (Bandura, 1977). A large review of social determinants found that negative peer influence, neighborhood instability, trauma, and criminal-justice involvement raise risk, while parental support, education, employment, and positive social support protect against it (Lin et al., 2024).

The social model's treatment payoff is to treat a person's surroundings as part of the plan. Its clearest expression is peer-run **recovery housing** — sober, self-governed homes rooted in the idea that the basis of authority is lived recovery experience, not formal credentials (Mericle et al., 2023). The most studied example, the Oxford House model, produced markedly better two-year outcomes than usual aftercare in a randomized trial — roughly 31% reporting substance use versus 65%, alongside higher employment and lower incarceration (Jason et al., 2006).

Its limit is the mirror image of the moral model's: by emphasizing environment, it can underweight individual biology. And in practice, social-model programs are unevenly implemented and have been pushed to the margins by funding and professionalization pressures that favor clinical care (Mericle et al., 2023).

For the counselor — The social model turns “willpower” into something concrete and changeable: who and what surrounds your client. Helping someone build sober relationships, stable housing, and a new routine is treatment, not an afterthought.

The Biopsychosocial Model

The biopsychosocial model is the field’s attempt to put the pieces together. Rather than choosing among biology, psychology, and social life, it holds that all three interact to produce addiction, and that a good plan has to address all three at once.

It began outside addiction entirely. In 1977 the physician George Engel argued that medicine’s purely biological model “leaves no room within its framework for the social, psychological, and behavioral dimensions of illness,” and proposed the biopsychosocial model as “a blueprint for research, a framework for teaching, and a design for action” (Engel, 1977). Applied to addiction, it holds that “biological, genetic, personality, psychological, cognitive, social, cultural, and environmental factors interact to produce the substance use disorder, and multiple factors must be addressed in prevention and treatment programs” (Skewes & Gonzalez, 2013). It is the most complete of the six models, and the reason this course studies it in its own content area.

The model is not without critics. Its most famous charge is that it is too vague — that it has “devolved into mere eclecticism” (Ghaemi, 2009), often summed up as giving clinicians permission to do everything but guidance to do nothing. For a working counselor, the practical answer to that critique is to use the model as a checklist rather than an excuse: its value is that it forces you to ask about the body, the mind, and the world for every client, and to build a plan that touches more than one.

For the counselor — When a case feels stuck, the biopsychosocial model is the checklist: Have we addressed the biology (medication, health)? The psychology (thinking, trauma, mood)? The social world (housing, relationships, work)? Most stalled cases are missing one of the three.

The Spiritual Model

The spiritual model speaks to meaning. It frames addiction as rooted in disconnection — from purpose, from others, from something larger than oneself — and sees recovery as partly a matter of rebuilding that connection.

This is the oldest organized form of addiction help in America. Alcoholic-led mutual-aid fellowships stretch back to the 1800s and run directly into Alcoholics Anonymous, founded in 1935, whose Twelve Steps frame recovery as a program of spiritual growth. A careful review of the scholarship on spirituality and addiction found wide variation in how “spirituality” is defined, but identified “relatedness” and “transcendence” as its most common themes — which is the scholarly basis for the disconnection framing (Cook, 2004).

The model’s treatment expressions have surprisingly strong evidence. A landmark review found that manualized AA / Twelve-Step Facilitation matched or beat other treatments such as CBT for keeping people continuously abstinent over the long run, while lowering health-care costs (Kelly et al., 2020). Mindfulness — a more secular descendant of contemplative practice — held up well in a controlled trial of mindfulness-based relapse prevention (Bowen et al., 2014).

Its limits are honest ones. “Spirituality” is hard to define and measure, the evidence base leans heavily on Twelve-Step frameworks, and the model “may not resonate with everyone” — a real concern for secular or differently-believing clients (Cook, 2004).

For the counselor — The spiritual model is not about prescribing a religion; it is about taking seriously a client’s need for meaning, belonging, and hope. For many people, connection — to a group, a purpose, a higher power — is the thing that makes recovery hold.

How Thinking About the Models Has Evolved

The model you will run into most often is the disease model, and even this widely held view is still being actively debated. In its modern form it holds that drugs and alcohol gradually rewire the brain until seeking the substance stops feeling like a choice and starts feeling like a compulsion (Volkow et al., 2016). But some respected researchers

argue the brain changes are better understood as the normal result of intense, repeated learning — the same machinery that builds any deep habit (Lewis, 2017) — and an entire book has been devoted to weighing the evidence on both sides (Heather et al., 2022). There is even a surprising twist: framing addiction purely as a brain disease has not reliably reduced stigma the way everyone hoped, and in some studies it made people view those who use drugs as more dangerous or less likely to recover (Snoek & Matthews, 2017).

The takeaway is not that the disease model is wrong. It is that **no single model tells the whole story** — which is exactly why we teach all six, and why the field keeps moving toward integration.

Why the Models Fit Together

Because each model looks at a different layer — the body, the mind, the environment, the spirit — they are less like rival teams and more like puzzle pieces. The biopsychosocial model is the field’s main attempt to fit those pieces into one picture, and most current research keeps pushing in that direction: away from single-cause explanations and toward seeing addiction as many things happening at once.

Sometimes the models do pull against each other. The medical world and the peer-recovery world, for instance, have not always agreed about what “real” treatment looks like or who is qualified to provide it, and peer-led recovery was for a long time treated as second-class next to clinical care (Mericle et al., 2023). Yet when researchers actually compare the two, they tend to find similar results, with the peer-driven approach often reaching them at lower daily cost.

Key term — Recovery capital: the sum of the resources a person can draw on to get and stay well — supportive relationships, stable housing, employment, health, and a sense of meaning. Building recovery capital is a goal shared across the social, psychological, and spiritual models.

In the real world, the models cooperate: the same person might lean on a medication from the disease model, the coping skills of the psychological model, the friendships of

the social model, and the sense of purpose the spiritual model emphasizes — all in the same week.

What Each Model Means in the Room

For a new counselor, the most practical gift of the models is that each one suggests a different way to help — and the approaches stack rather than compete. The table below is a quick recap of the treatment threads detailed above; the moral and biopsychosocial models are left off it because the moral model has no evidence-based treatment of its own and the biopsychosocial model simply combines the rest.

Model	What it points toward	Evidence in brief
Disease	Medication (e.g., methadone, buprenorphine)	Cut overdose-death risk by about a third to a half in overdose survivors (Larochelle et al., 2018)
Psychological	Talk therapy (CBT, DBT, MI)	Well-supported for CBT; modest, lower-certainty evidence for MI (Magill et al., 2019; Schwenker et al., 2023)
Social	Changing the environment (recovery housing)	Residents did far better over two years than those on their own (Jason et al., 2006)
Spiritual	Meaning and connection (AA, mindfulness)	Can match or beat other treatments long-term (Kelly et al., 2020; Bowen et al., 2014)

The thread running through that table is worth saying plainly: the approaches **stack**. Medication keeps an opioid-use-disorder client alive, but the medicine only helps while they stay connected to care — which is where the counseling relationship, the peer support, and the sense of purpose all come back in.

The Long View

It helps new counselors — and the people they serve — to know one hopeful fact up front: **recovery is the rule, not the exception.** A nationwide survey estimated that more than **22 million American adults** have resolved a serious problem with alcohol or drugs, and **nearly half** got there without any formal treatment or group at all (Kelly et al., 2017). People find their own roads.

The disease model adds a useful piece of perspective here. It reminds us that, like high blood pressure or asthma, substance use disorders tend to come and go, with relapse happening in something like **40 to 60 percent** of cases (National Institute on Drug Abuse, 2020).

For the counselor — A relapse is not proof that someone failed or that treatment was useless. It is a signal — a sign to adjust the plan and keep going, the same way a doctor would adjust medication for any long-term condition.

Staying Well

Because relapse is common, a lot of the counselor's work is helping people stay well after the hardest part is over. The foundational map for this comes from the psychologist Alan Marlatt, who showed that relapse is rarely a single dramatic moment — it is usually a slow chain of events that builds over time (Larimer et al., 1999). His cognitive-behavioral model gives counselors a working vocabulary, and a few of its pieces are worth knowing by name:

- **High-risk situations.** Certain moments reliably precede relapse. Negative emotional states and interpersonal conflict together trigger more than half of all relapse episodes, and social pressure accounts for more than 20 percent (Larimer et al., 1999). Helping a client see their own high-risk moments before they arrive is half the battle.
- **Coping skills and self-efficacy.** Whether a high-risk moment leads to a lapse depends largely on whether the person has a coping response ready — and on their confidence that they can use it. Each time a person gets through a craving without using, that confidence grows.

- **The abstinence violation effect.** This is the trap where a single slip — one drink, one use — gets interpreted as total failure (“I’ve blown it, so I may as well keep going”), turning a lapse into a full relapse. Teaching the difference between a lapse (a single slip) and a relapse (a return to the old pattern) is one of the most valuable things a counselor can do.

Key term — Lapse vs. relapse: A lapse is a single slip. A relapse is a return to the old pattern. The space between them is where a counselor does some of their most valuable work — helping a person treat a slip as a stumble, not a verdict.

Newer Maps of the Same Territory

The six foundational models are the bedrock, but addiction science has kept drawing new maps. Most of these newer models do not replace the classics so much as zoom in on one part of them — and a couple sharpen a classic directly. None of them need to be memorized in detail, but each carries a useful idea for the counseling room.

SPECIALIZED MODELS OF ADDICTION

Neurobiological Model

Ungar-Sargon J. Neurobiology of Addiction. Addict Res. 2024; 8(1): 1-7

A neurobiological model of addiction is described as an addiction that develops through recurring stages and progressive changes in brain function. It identifies three major stages: binge/intoxication, withdrawal/negative effect, and preoccupation/anticipation (craving). Each stage involves distinct neurobiological circuits and produces characteristic behavioral and clinical effects.

During binge and intoxication, addictive substances sharply increase dopamine release in brain reward regions. Repeated drug use causes environmental cues associated with the drug to become powerful triggers through conditioning and learning. Eventually, dopamine responses shift toward these cues, helping explain craving and drug-seeking behavior.

With chronic exposure, the brain adapts to the substance. This produces tolerance, meaning progressively greater amounts may be needed to achieve similar effects. If drug use stops abruptly, the adapted brain cannot immediately maintain normal functioning, producing withdrawal, which can include emotional distress, cognitive changes, and—depending on the substance—significant physical symptoms.

During withdrawal and negative affect, ordinary rewards may become less motivating because the brain's reward and motivational systems become increasingly focused on the drug and drug-related cues. This contributes to continued use as a way of escaping negative emotional states.

The model also emphasizes relapse as a persistent risk. Even after prolonged abstinence, environmental stress, low mood, or stress-related craving can reactivate disrupted reward and inhibitory-control systems. Reduced prefrontal control can make it difficult to balance the desire to use with the intention to abstain.

Importantly, there are limitations and criticisms of the neurobiological/brain-disease model. Brain abnormalities overlap between people with addiction and control groups, and current imaging techniques and understanding of brain function have important

limitations. The complexity and variability of substance-use disorders also make simple biological explanations inadequate.

Incentive-Sensitization Model of Addiction

Robinson, T. E., & Berridge, K. C. (2000). The psychology and neurobiology of addiction: An incentive-sensitization view. *Addiction*, 95(8s2), 91–117.

The Incentive-Sensitization Theory of Addiction states that repeated drug use permanently alters brain reward circuits, hypersensitizing the mesolimbic dopamine system to the drug and its related cues. This neuroadaptation creates a psychological dissociation between "wanting" (the compulsive motivation to consume a substance) and "liking" (the actual pleasure derived from it). As the disease progresses, tolerance often blunts the pleasurable effects ("liking"), while sensitization causes the motivational craving ("wanting") to become stronger and easily triggered by environmental cues. This persistent neurological sensitivity explains why individuals experience intense, compulsive cravings and a high vulnerability to relapse, even after years of successful drug abstinence.

Learning and Behavioral Model of Addiction

Heinz, A., Beck, A., Meyer-Lindenberg, A., Sterzer, P., & Kiefer, F. (2019). *Addiction as Learned Behavior Patterns*. *Journal of Clinical Medicine*, 8(8), 1086. doi.org

The learning and behavioral model of addiction views substance use as an acquired habit that is developed and maintained through environmental conditioning and reinforcement patterns [PMC6723628]. According to this framework, individuals initially engage in the behavior for positive reinforcement (the pleasurable high) or negative reinforcement (the relief from stress or withdrawal). Over time, neutral cues like specific people, places, or emotions become linked to the substance through classical conditioning, transforming them into powerful triggers that provoke automatic cravings. Rather than viewing addiction strictly as an irreversible disease, this model emphasizes that these destructive habits are learned behaviors that can be systematically unlearned using targeted behavioral therapies and new coping mechanisms.

Cognitive Model of Addiction

Tiffany, S. T. (1990). *A cognitive model of drug urges and drug-use behavior: Role of automatic and nonautomatic processes*. *Psychological Review*, 97(2), 147–168.

The cognitive model of addiction explains addictive behaviors as a learned pattern driven by dysfunctional thoughts, automatic mental processes, and impaired self-control. According to this framework, individuals develop rigid core beliefs about themselves and

hold positive expectations about a substance or behavior, viewing it as a necessary tool to cope with stress or emotional pain. Over time, exposure to environmental triggers activates automatic thoughts and intense cravings that override conscious self-regulation. Treatment under this model, primarily through Cognitive Behavioral Therapy, focuses on identifying these cognitive distortions, modifying harmful beliefs, and building practical coping strategies to break the cycle of habituated behavior.

Choice Model of Addiction

Kalmowitz, E. (2024). Model melee: understanding models of addiction. *Hospital Practice*, 52(1–2), 1–4.

The choice model of addiction states that substance use and addictive behaviors remain goal-directed choices driven by the relative value of immediate rewards versus non-drug alternatives. It rejects the idea that addiction is a pure, uncontrollable brain disease or compulsion, emphasizing that people retain personal agency and can quit when external or internal incentives shift.

Public Health Model of Addiction

Mathias, H., Gehring, N.D., Hammond, R.M. et al. Defining a public health approach to substance use: insights from a systematic scoping review and conceptual framework development approach. *BMC Public Health* 25, 4365 (2025).

The public health model of addiction views substance use disorders as chronic, treatable medical conditions rather than moral failings or criminal issues. Utilizing an epidemiological framework, it analyzes how an agent (the addictive substance), a host (the individual's genetics and psychology), and the environment (social, cultural, and economic factors) interact to cause addiction. Instead of focusing solely on punishing or treating individuals after harm has occurred, this population-based approach prioritizes proactive community prevention, evidence-based medical treatment, and harm reduction strategies—such as naloxone distribution and sterile syringe exchanges—to minimize the negative health and social impacts of substance use across society.

Sociocultural/Environmental Model of Addiction

Ramos, J. P., Vieira, M., de Carvalho, C. M., Gonçalves, F., Barbosa, P., Aguiar, A., & Pinto, M. (2026). Socioenvironmental Factors in Recovery of People with Substance Use Disorders: A Comprehensive Scoping Review. *Contemporary Drug Problems*, 53(3), 537-566.

The **sociocultural and environmental model of addiction** asserts that substance use disorders are primarily driven by external forces like cultural norms, systemic

socioeconomic pressures, and immediate social circles rather than just genetic or moral failings. This framework highlights how factors such as poverty, peer pressure, family dynamics, and community trauma act as critical catalysts that trigger and maintain addictive behaviors. Consequently, effective prevention and recovery must extend beyond treating the individual biologically, focusing instead on transforming social networks, reducing systemic stressors, and strengthening community-level support structures.

Developmental and Life Course Model of Addiction

Merrin, G.J., Bailey, J.A., Kelly, A.B. et al. Continuity and Change in Substance Use Patterns During the Transition from Adolescence to Young Adulthood: Examining Changes in Social Roles. *Int J Ment Health Addiction* 23, 4155–4177 (2025)

The developmental and life course model of addiction views substance use not as a static state, but as a dynamic process shaped by a lifelong interplay of biological, psychological, and environmental influences. It tracks long-term behavioral trajectories that are set in motion by early-life risk factors—such as genetic predispositions, childhood trauma, and early onset of substance use—and shaped by short-term transitions like changing schools or entering the workforce. Crucially, the model emphasizes that these pathways are not predetermined; significant life events, such as stable employment, marriage, or therapeutic intervention, can serve as turning points that build social capital, disrupt chronic drug patterns, and steer individuals toward long-term recovery.

Habit/Compulsion Model of Addiction

Su H, Ye T, Cao S and Hu C (2024) Understanding the shift to compulsion in addiction: insights from personality traits, social factors, and neurobiology. *Front. Psychol.* 15:1416222.

The habit/compulsion model of addiction describes how voluntary substance use transitions into an automatic, uncontrollable drive that persists despite severe negative consequences. Initially, individuals engage in substance use as a goal-directed, rewarding choice driven by impulse or pleasure. Over time, repeated consumption shifts neurological control from the goal-directed prefrontal cortex to the habit-forming dorsal striatum, turning the behavior into an automatic routine. In the final compulsive stage, executive functioning and behavioral inhibition break down, rendering the individual insensitive to adverse outcomes. While this model is influential, contemporary researchers debate its accuracy, with some arguing that addiction remains a goal-directed choice heavily skewed by negative emotional states rather than a purely mechanical habit.

Integrative/Systems Model of Addiction

Shumway, S. T., T. G. Kimball, S. D. Bradshaw, S. Cho, and K.-T. Chang. 2026. "The Systemic Model of the Brain Disease of Addiction: A Holistic and Comprehensive Theoretical Perspective." *Journal of Family Theory & Review* 18, no. 1: 158–169.

The integrative/systems model of addiction views substance use and compulsive behaviors not as isolated diseases, but as the byproduct of a complex, interconnected web of biological vulnerabilities, psychological dynamics, and social systems. Biologically, it acknowledges how genetics and altered neurochemistry drive intense cravings.

Systemically, it incorporates models like Internal Family Systems (IFS), which view addictive behaviors as extreme "firefighter" responses trying to soothe and protect deep-seated emotional wounds, alongside broader family and environmental systems that reinforce these behavioral loops. Ultimately, this holistic framework shifts treatment away from merely stopping the behavior, focusing instead on integrated care that concurrently heals underlying trauma, repairs relational attachments, and restores balance to the individual's entire life system.

Key Takeaways

- **No single model explains addiction.** Each is a vantage point that captures part of the picture; the skill is using several together.
- **The model you hold shapes how you treat people** — toward blame, medication, therapy, environment, or meaning. Knowing all six keeps you flexible.
- **The biopsychosocial model ties the others together** — biology, psychology, and social life interact, and good care addresses all three.
- **Each model implies a treatment**, and those treatments stack rather than compete: medication, therapy, environment, and meaning all have a role.
- **Recovery is common** — more than 22 million Americans have resolved a substance problem — and **relapse is a signal, not a failure.**
- **Newer models refine the classics** by zooming in on craving, learning, cognition, choice, environment, development, habit, and systems.

Bibliography & Further Reading

Every source below is linked and briefly annotated so you — or a learner new to the field — can follow up on anything that sparks your interest and begin to see how to source information from credible places. Sources are grouped as the foundational/classic works, contemporary research, and the current debate over how to model addiction.

Overview source for this section

Rose, S. (n.d.). What are the models of addiction? Steve Rose, PhD.
<https://steverosephd.com/what-are-the-models-of-addiction/>
— The six-model framework around which this section is organized.

Foundational & classic sources

Bandura, A. (1977). Social learning theory. Prentice-Hall.
— The theoretical root of social/observational accounts of behavior, including how people learn substance use by watching others.

Chambers, R. A., Taylor, J. R., & Potenza, M. N. (2003). Developmental neurocircuitry of motivation in adolescence: A critical period of addiction vulnerability. *American Journal of Psychiatry*, 160(6), 1041–1052. <https://doi.org/10.1176/appi.ajp.160.6.1041>
— Establishes adolescence as a developmental window of heightened vulnerability to addiction.

Cook, C. C. H. (2004). Addiction and spirituality. *Addiction*, 99(5), 539–551. <https://doi.org/10.1111/j.1360-0443.2004.00715.x>
— A review that frames addiction as a disorder of “relatedness” and “transcendence” — the scholarly basis for the disconnection view.

Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science*, 196(4286), 129–136. <https://doi.org/10.1126/science.847460>
— The paper that introduced the biopsychosocial model and argued medicine must look beyond biology alone.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245–258. [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)
— The landmark ACE study; four or more adverse childhood experiences carry a 4- to 12-fold increase in risk for alcohol and drug problems.

Higgins, S. T., Budney, A. J., Bickel, W. K., Foerg, F. E., Donham, R., & Badger, G. J. (1994). Incentives improve outcome in outpatient behavioral treatment of cocaine dependence. *Archives of General Psychiatry*, 51(7), 568–576. <https://doi.org/10.1001/archpsyc.1994.03950070060011>
— A foundational contingency-management trial: rewarding verified abstinence roughly doubled treatment retention.

Jason, L. A., Olson, B. D., Ferrari, J. R., & Lo Sasso, A. T. (2006). Communal housing settings enhance substance abuse recovery. *American Journal of Public Health*, 96(10), 1727–1729. <https://doi.org/10.2105/AJPH.2005.070839>
— Randomized evidence that peer-run recovery housing (Oxford House) improves long-term substance-use, employment, and recovery outcomes.

Jellinek, E. M. (1960). *The disease concept of alcoholism*. Hillhouse Press.

— The seminal text that recast habitual heavy drinking as a medical disease rather than a moral failing.

Khantzian, E. J. (1985). The self-medication hypothesis of addictive disorders: Focus on heroin and cocaine dependence. *American Journal of Psychiatry*, 142(11), 1259–1264.

<https://doi.org/10.1176/ajp.142.11.1259>

— Introduced the self-medication hypothesis: people gravitate to the drug that best relieves their dominant emotional pain.

Larimer, M. E., Palmer, R. S., & Marlatt, G. A. (1999). Relapse prevention: An overview of Marlatt's cognitive-behavioral model. *Alcohol Research & Health*, 23(2), 151–160.

<https://pmc.ncbi.nlm.nih.gov/articles/PMC6760427/>

— The classic overview of Marlatt's relapse-prevention model: high-risk situations, coping, self-efficacy, and the abstinence-violation effect.

Leshner, A. I. (1997). Addiction is a brain disease, and it matters. *Science*, 278(5335), 45–47. <https://doi.org/10.1126/science.278.5335.45>

— The landmark article that launched the modern brain-disease framing of addiction.

Robinson, T. E., & Berridge, K. C. (1993). The neural basis of drug craving: An incentive-sensitization theory of addiction. *Brain Research Reviews*, 18(3), 247–291.

[https://doi.org/10.1016/0165-0173\(93\)90013-P](https://doi.org/10.1016/0165-0173(93)90013-P)

— Introduces incentive-sensitization: repeated use sensitizes the brain's "wanting" system, explaining cue-driven craving that outlasts pleasure.

Wiers, R. W., & Stacy, A. W. (2006). Implicit cognition and addiction. *Current Directions in Psychological Science*, 15(6), 292–296. <https://doi.org/10.1111/j.1467-8721.2006.00455.x>

— Shows that automatic, cue-driven cognitive processes — not just conscious beliefs — drive substance use.

Contemporary research (2010–2026)

Bickel, W. K., Johnson, M. W., Koffarnus, M. N., MacKillop, J., & Murphy, J. G. (2014). The behavioral economics of substance use disorders: Reinforcement pathologies and their repair. *Annual Review of Clinical Psychology*, 10, 641–677.

<https://doi.org/10.1146/annurev-clinpsy-032813-153724>

— The behavioral-economics account of addiction as overvaluing the substance and steeply discounting the future.

Bowen, S., Witkiewitz, K., Clifasefi, S. L., Grow, J., Chawla, N., Hsu, S. H., ... Larimer, M. E. (2014). Relative efficacy of mindfulness-based relapse prevention, standard relapse prevention, and treatment as usual for substance use disorders: A randomized clinical trial. *JAMA Psychiatry*, 71(5), 547–556.

<https://doi.org/10.1001/jamapsychiatry.2013.4546>

— Randomized trial finding mindfulness-based relapse prevention added benefit over standard relapse prevention at one-year follow-up.

El Hayek, S., Foad, W., de Filippis, R., Ghosh, A., Koukach, N., Mahgoub Mohammed Khier, A., ... Shalbafan, M. (2024). Stigma toward substance use disorders: A multinational perspective and call for action. *Frontiers in Psychiatry*, 15, 1295818.

<https://doi.org/10.3389/fpsy.2024.1295818>

— Documents how the moral-failure view of addiction drives stigma, which obstructs help-seeking and worsens outcomes.

Everitt, B. J., & Robbins, T. W. (2016). Drug addiction: Updating actions to habits to compulsions ten years on. *Annual Review of Psychology*, 67, 23–50.

<https://doi.org/10.1146/annurev-psych-122414-033457>

— The neuroscience model of addiction as a progression from goal-directed action to habit to compulsion.

Heather, N., Field, M., Moss, A. C., & Satel, S. (Eds.). (2022). *Evaluating the brain disease model of addiction*. Routledge. <https://doi.org/10.4324/9781003032762>

— An edited volume gathering scholars for and against the brain-disease model.

Kelly, J. F., Bergman, B., Hoepfner, B. B., Vilsaint, C., & White, W. L. (2017). Prevalence and pathways of recovery from drug and alcohol problems in the United States population: Implications for practice, research, and policy. *Drug and Alcohol Dependence*, 181, 162–169. <https://doi.org/10.1016/j.drugalcdep.2017.09.028>

— First nationally representative survey of U.S. recovery: more than 22 million adults have resolved a substance problem, nearly half without formal treatment.

Kelly, J. F., Humphreys, K., & Ferri, M. (2020). Alcoholics Anonymous and other 12-step programs for alcohol use disorder. *Cochrane Database of Systematic Reviews*, 3, CD012880. <https://doi.org/10.1002/14651858.CD012880.pub2>

— Cochrane review finding manualized AA / Twelve-Step Facilitation matches or beats other treatments for long-term abstinence, often at lower cost.

Larochelle, M. R., Bernson, D., Land, T., Stopka, T. J., Wang, N., Xuan, Z., ... Walley, A. Y. (2018). Medication for opioid use disorder after nonfatal opioid overdose and association with mortality: A cohort study. *Annals of Internal Medicine*, 169(3), 137–145. <https://doi.org/10.7326/M17-3107>

— Cohort study showing methadone and buprenorphine substantially reduce mortality after a nonfatal opioid overdose.

Lin, C., Cousins, S. J., Zhu, Y., Clingan, S. E., Mooney, L. J., Kan, E., ... Hser, Y. (2024). A scoping review of social determinants of health's impact on substance use disorders over the life course. *Journal of Substance Use and Addiction Treatment*, 166, 209484. <https://doi.org/10.1016/j.josat.2024.209484>

— Maps the social determinants — housing, employment, peers, trauma, justice involvement — that shape substance use across the life course.

Magill, M., Ray, L., Kiluk, B., Hoadley, A., Bernstein, M., Tonigan, J. S., & Carroll, K. (2019). A meta-analysis of cognitive-behavioral therapy for alcohol or other drug use disorders: Treatment efficacy by contrast condition. *Journal of Consulting and Clinical Psychology*, 87(12), 1093–1105. <https://doi.org/10.1037/ccp0000447>

— Meta-analysis confirming CBT outperforms no or minimal treatment, with smaller differences versus other active therapies.

Mericle, A. A., Howell, J., Borkman, T., Subbaraman, M. S., Sanders, B. F., & Polcin, D. L. (2023). Social model recovery and recovery housing. *Addiction Research & Theory*, 31(5), 370–377. <https://doi.org/10.1080/16066359.2023.2179996>

— Traces social-model recovery to its mutual-aid roots and reviews its evidence, costs, and uneven implementation.

National Institute on Drug Abuse. (2020). *Treatment and recovery (Drugs, brains, and behavior: The science of addiction)*. U.S. Department of Health and Human Services, National Institutes of Health. <https://nida.nih.gov/publications/drugs-brains-behavior->

science-addiction/treatment-recovery

— Federal overview framing addiction as a chronic, manageable condition with 40–60% relapse rates comparable to other chronic illnesses.

Pickard, H. (2017). Responsibility without blame for addiction. *Neuroethics*, 10(1), 169–180. <https://doi.org/10.1007/s12152-016-9295-2>

— Proposes holding people with addiction accountable as agents while avoiding stigma and blame — “responsibility without blame.”

Schwenker, R., Dietrich, C. E., Hirpa, S., Nothacker, M., Smedslund, G., Frese, T., & Unverzagt, S. (2023). Motivational interviewing for substance use reduction. *Cochrane Database of Systematic Reviews*, 12, CD008063.

<https://doi.org/10.1002/14651858.CD008063.pub3>

— Cochrane review of motivational interviewing; finds a modest, lower-certainty benefit versus no intervention.

Skewes, M. C., & Gonzalez, V. M. (2013). The biopsychosocial model of addiction. In P. M. Miller (Ed.), *Principles of Addiction* (Vol. 1, pp. 61–70). Academic Press.

<https://doi.org/10.1016/B978-0-12-398336-7.00006-1>

— The chapter-length statement of how biological, psychological, and social factors interact to produce addiction.

Volkow, N. D., Koob, G. F., & McLellan, A. T. (2016). Neurobiologic advances from the brain disease model of addiction. *New England Journal of Medicine*, 374(4), 363–371.

<https://doi.org/10.1056/NEJMr1511480>

— The modern statement of the brain-disease model and its three-stage cycle of intoxication, withdrawal, and anticipation.

Critiques & debates on how to model addiction

Ghaemi, S. N. (2009). The rise and fall of the biopsychosocial model. *British Journal of Psychiatry*, 195(1), 3–4. <https://doi.org/10.1192/bjp.bp.109.063859>

— The canonical critique that the biopsychosocial model became “eclecticism,” giving clinicians permission to do everything but guidance to do nothing.

Lewis, M. (2017). Addiction and the brain: Development, not disease. *Neuroethics*, 10(1), 7–18. <https://doi.org/10.1007/s12152-016-9293-4>

— Argues the brain changes in addiction reflect normal learning and development rather than disease.

Snoek, A., & Matthews, S. (2017). Introduction: Testing and refining Marc Lewis's critique of the brain disease model of addiction. *Neuroethics*, 10(1), 1–6.

<https://doi.org/10.1007/s12152-017-9310-2>

— Examines how the brain-disease framing affects stigma, and why it has not reduced it as much as hoped.

QUIZ

Questions:

1. What is the primary focus of the self-medication hypothesis in addiction?
 - A. People choose substances randomly
 - B. People gravitate to drugs that relieve painful feelings
 - C. Addiction is solely a moral failing
 - D. Addiction is purely biological
2. Which model of addiction emphasizes the importance of personal responsibility and choice in recovery?
 - A. The Moral Model
 - B. The Disease Model
 - C. The Psychological Model
 - D. The Biopsychosocial Model
3. What is a significant limitation of the disease model of addiction?
 - A. It ignores the role of social factors
 - B. It does not support medication-assisted treatment
 - C. It implies a person is powerless
 - D. It focuses solely on personal responsibility
4. What does the biopsychosocial model of addiction integrate?
 - A. Only biological factor
 - B. Only psychological factors
 - C. Only social factors
 - D. Biology, psychology and social factors
5. What is a common consequence of framing addiction as a personal failing?
 - A. Increased empowerment
 - B. Improved treatment outcomes
 - C. Fueling stigma
 - D. Enhanced understanding of addiction
6. What is the primary focus of the biopsychosocial model in addiction treatment?
 - A. To address only psychological factors

- B. To integrate biological, psychological and social factors
- C. To focus solely on medication
- D. To emphasize spiritual beliefs

7. According to the document, what is a significant outcome of peer-run recovery housing compared to usual aftercare?

- A. Higher rates of substance use
- B. Lower employment rates
- C. Better two-year outcomes
- D. Increased incarceration rates

8. What does the social model of addiction suggest about the influence of peers?

- A. Peers have no impact on substance use
- B. Peer influence is a significant factor
- C. Peer support is irrelevant
- D. Peer behavior is only learned through genetics

9. What is a common critique of the biopsychosocial model mentioned in the document?

- A. It is too vague and eclectic
- B. It lacks a clear definition
- C. It is too specific and narrow
- D. It focuses only on social factors

10. What is the relationship between the disease model and stigma according to the document?

- A. The disease model reduces stigma effectively
- B. The disease model has no impact on stigma
- C. The disease model can increase stigma in some cases
- D. The disease model eliminates all stigma

11. What percentage of relapse episodes are triggered by negative emotional states and interpersonal conflict?

- A. 20%
- B. 40%
- C. 50%
- D. More than 50%

12. According to the document, what is the primary focus of the cognitive model in addiction treatment?
- A. Expectations about substances
 - B. Physical withdrawal symptoms
 - C. Social influences
 - D. Genetic predisposition
13. What does the abstinence violation effect refer to in the context of addiction recovery?
- A. A complete recovery from addiction
 - B. A single slip interpreted as total failure
 - C. The process of relapse prevention
 - D. The initial phase of treatment
14. Which model emphasizes the importance of societal factors in addiction risk?
- A. Cognitive model
 - B. Sociocultural/Environmental Model
 - C. Incentive-Sensitization model
 - D. Developmental / Life-Course model
15. What is a key component of the learning/behavioral model in addiction treatment?
- A. Coping skills training
 - B. Family therapy
 - C. Contingency management
 - D. Medication management
16. What is the focus of treatment in the choice model of addiction?
- A. Personal agency and quitting when incentives shift
 - B. Biological treatment of addiction
 - C. Cognitive distortions and modifying harmful beliefs
 - D. Community-level support structures
17. What does the developmental and life course model of addiction emphasize?
- A. Static state of substance use
 - B. Immediate rewards over long-term consequences
 - C. Purely genetic factors in addiction
 - D. Dynamic process shaped by lifelong influences