



# Prevention & Addiction Science

## Journey from Recovery to Prevention

Tasking prevention practices  
in recovery and recovery  
lessons in prevention.

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Who would have thought that a couple of desperate alcoholics meeting in Akron, Ohio in 1935 would end up revolutionising addiction treatment? While Bill W. and DR Bob were just trying to stay sober one day at a time, they accidentally stumbled upon what modern science would take decades to validate - that peer support and community connection can rewire our brains better than any prescription. Fast forward almost 90 years, and neuroscientists are finally catching up to what these recovery pioneers knew in their gut: human connection is one powerful drug.



The really interesting plot twist in this story is how we've moved from picking up the pieces after addiction to preventing it in the first place. And here's the kicker - it turns out the best prevention doesn't come from people in white coats handing out pamphlets. Just one set of research data, from The Well Communities' shows that when you combine people who've been there, done that, got the rock-bottom t-shirt with solid science and community support, magic happens. Their results don't just nudge the needle - they blow traditional approaches out of the water. It's like discovering that the best way to prevent a forest fire isn't sophisticated sprinkler systems, but rather teaching trees to look out for each other. Sometimes the simplest solutions are hiding in plain sight.

Whilst these previously mentioned protective factors are crucial, what is often overlooked largely through ignorance or even a recent decades emerging phobia, is what these resources are anchored to. The need for and development of sustainable Identity, Intimacy (non-sexual) and Impact are good scaffolding, but it is a sustainable meaning behind these that makes it hold up and for long. It is this anthropological consideration of the 'First Order' issues that imperatively inform the sustainability of these vital components of hope driver and a meaningful life – [Remembering that hope is not merely the positive expectation for good, but the reasonable grounds for it.](#) It is those *reasonable grounds* that are key to foundational reconstruction.



More on this seminal and indispensable component for not only recovery, but resiliency, later.



# A Historical Evolution of Addiction Science: From Treatment to Prevention

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# The Birth of Peer-Based Recovery

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The foundation of modern addiction recovery traces back to a pivotal meeting in Akron, Ohio in 1935, when Bill Wilson and DR Bob Smith established what would become Alcoholics Anonymous. This marked the beginning of a revolutionary peer-based approach, though at the time it faced significant scepticism from the medical establishment. The program's early success relied heavily on empirical evidence rather than scientific validation - what worked for those seeking freedom from life-threatening addiction became the blueprint for recovery.

# Scientific Validation of Peer Support

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Recent research has validated these early empirical findings. The 2020 Cochrane review by Kelly and colleagues represents the most rigorous scientific evaluation of AA to date, analysing 27 studies involving 10,536 participants. This landmark study demonstrated that AA and similar programs:

- Increased complete abstinence rates 20-60% more than clinical interventions
- Achieved better outcomes at 24 and 36 months compared to alternative treatments
- Maintained effectiveness across diverse populations and settings
- Significantly reduced healthcare costs, in some cases by over \$10,000 per patient

# The Shift Toward Prevention

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While Alcoholics Anonymous and similar programs initially focused on treatment, their success highlighted the importance of prevention through community support. As far back as the 1990's sociologists Bainbridge and Stark in their arguably seminal textbook, *['Religion, Deviance and Social Control'](#)* identified four core essentials for developing and maintaining best-practice behavioural health and well-being, including delaying or denying uptake with substance use.

- I. Excellent supportive and protective family environment – love with caring behavioural and informed boundaries, modelled and demonstrated.
  
- II. Education – Not simply cognitive domain data collection, but the affective domain as well – the 'why'. Also, the education experience is positive, safe and learning environments consistent and encouraging.
  
- III. Community Group involvement. When it comes to young people, classically speaking, sporting clubs are an excellent place to build resilience with connection, comradery, shared focus and an all-of-person engagement. However, one downside of such settings is the performance factor. One's ability to participate, one's involvement, becomes more performance based as one gets older. However, what the researchers did find though, was that involvements in communities of faith not only ticked the sporting club positive boxes, but also removed the potential diminishing factor of skill set performance. Sustainable values, meaningful non-performance-based relationships and a shared cause, with credible meaning were incredibly effective at building resilience.
  
- IV. Yet, it was the final and most significant protective factor that surprised the researchers. A sustainable meaning understood and practiced, could even overcome poorer family and education environments in building resilience and the subsequent capacity to resist peer-pressure and anti-social contagions. It is not so much that they could easily say no to such behaviours, but that they had a far better yes for better practices that enabled them to make better decisions.



On one following dimension alone, these insights have led to a fundamental shift in addiction science, with prevention moving from an afterthought to a central focus. The molecular neurobiology research detailed by Blum et al. demonstrates how peer support and community engagement can actually alter brain chemistry, suggesting that these approaches could prevent addiction development by:



- Promoting natural dopamine release through positive social connections
- Increasing D2 receptor proliferation through sustained community engagement
- Reducing stress-related neurotransmitter activity through fellowship and support





# The Role of Lived Experience and Earned Resilience



Recent evidence emphasises the crucial role of lived experience in prevention. An example again comes from the Well Communities' approach, which utilises Behavioural Health Companions and Recovery Coaches with personal addiction experience. This peer-based model shows remarkable outcomes, with 73% of retained participants engaging in active volunteering and 39% securing stable employment. These results prove particularly significant given their success with highly vulnerable populations, including individuals with histories of offending, substance misuse, social exclusion, and dual diagnosis. This peer-based model has proven especially effective because:



- Peers can engage vulnerable populations more effectively than traditional healthcare providers
- Lived experience creates authentic relationships that support long-term recovery
- Recovery coaches serve as visible proof that change is possible
- [Properly tasked in an evidence-based education pedagogy this 'knowledge placeholder' can be an incredibly effective prevention education investor](#)
- Peer support reduces stigma and increases program engagement

The evidence suggests that prevention through peer support and community engagement isn't just more humane - it's more effective and cost-efficient than traditional treatment-focused approaches.

This model, adapted slightly, can be tasked in a prevention education arena enabling these recovery alumni to add their lived experience and earned resilience to an evidence-based demand reduction education program of resilience building. This evidence-based approach has been researched and published by Deakin University and Dalgarno Institute in the ***Improving the integration of prevention and treatment programs to reduce substance related harm and promote mental health.***



# Key Components of Effective Prevention

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# Recovery Capital as Prevention Framework

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The concept of recovery capital, first introduced by Granfield and Cloud in 2001, has evolved into a comprehensive framework for understanding both recovery and prevention. Research has demonstrated that these resources can be cultivated proactively to prevent substance use disorders before they develop.

Three critical forms of recovery capital that serve as protective factors has been identified:

**1. Personal recovery capital:**

Internal coping and resilience skills

**2. Social recovery capital:**

Supportive networks and relationships

**3. Community recovery capital:**

Access to resources like housing, education, and employment opportunities

Personal recovery capital encompasses the internal qualities that protect against addiction development. This includes emotional resilience, coping mechanisms, and problem-solving abilities. According to studies from The Well Communities, individuals who develop strong personal recovery capital show significantly lower rates of substance use initiation. Their data indicates that 87% of participants reported improved mental health and emotional wellbeing through structured development of these internal resources.



Social recovery capital manifests through supportive relationships and networks. The Well's research demonstrates that individuals with strong social connections show remarkable resistance to substance use disorders. Their housing project data reveals that residents who actively engaged in fellowship activities were three times more likely to maintain long-term sobriety, with 69% of program completers remaining substance-free.

Community recovery capital involves access to concrete resources and opportunities. The Well's data shows that communities with strong recovery capital experience 71% lower rates of substance use problems among vulnerable populations. Their prison partnership program exemplifies this, showing improvement in community connection scores from baseline measures of 4.5-5.0 to 8.5-9.0 after three months of active community engagement.



# Innovation in Prevention Approaches

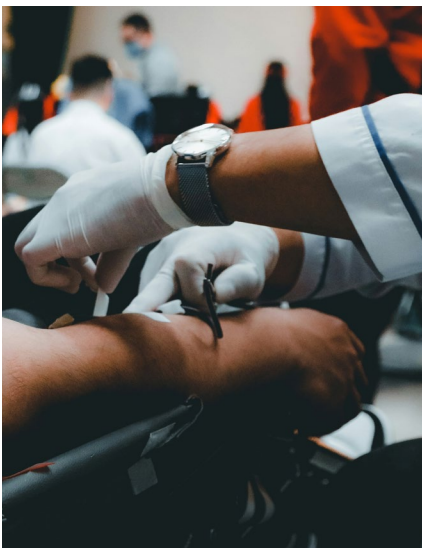
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# Hospital-Based Prevention Programs

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The Well Communities' hospital liaison program has revolutionised early intervention approaches through their innovative dual diagnosis team. Their comprehensive data demonstrates several key achievements:

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  - Supported over 200 patients with co-occurring disorders: Through direct engagement with patients experiencing both substance use and mental health challenges, the program created personalised health, and wellbeing plans co-produced with each individual. This approach led to sustained recovery engagement among traditionally hard-to-reach populations.
- Reduced emergency department presentations: By implementing proactive intervention strategies and building trust through peer support, the program significantly decreased repeated hospital visits. Recovery coaches worked directly with nominated wards to identify and support "familiar faces" who frequently utilised emergency services.
- Decreased hospital admissions: The program's focus on comprehensive support networks reduced the need for acute care interventions. Staff and recovery coaches built ongoing relationships with patients, providing continuous support that prevented crisis situations requiring hospitalisation.



- Shortened length of stays: When hospitalisation was necessary, the established support network facilitated faster recovery and transition back to the community. The program's integration with hospital staff created seamless care pathways that improved patient outcomes.
- Improved engagement with community support services: Through assertive linkage to mutual aid meetings and community resources, the program created sustainable recovery pathways. The "triangle of trust" approach - connecting clients, the Well community, and the wider community - proved particularly effective.



# Criminal Justice Integration

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Prevention programs in correctional settings show promising results:

- 71% of participants with criminal histories did not reoffend within 12 months
- 75% of "persistent and prolific offenders" maintained abstinence for over 12 months
- Outcome Star measurements showed improvements from baseline scores of 4.5-5.0 to 8.5-9.0 after three months in community

The success of these innovative approaches relies heavily on the integration of peer support and community engagement. The Pre-abstinence group shows particularly promising results, with 17-20% of participants completely detoxifying and 20% reducing their dosage by half.





# The Science Behind Prevention

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# Neurobiological Foundations

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## Key Findings:

- Positive social connections trigger dopamine pathway activation, mimicking natural reward systems
- Recovery engagement creates new neural pathways that support sustained behaviour change
- Community support reduces stress biomarkers, particularly cortisol levels
- Emotional regulation improves through consistent social bonding and support
- Brain reward circuitry shows measurable changes with sustained recovery activities



Research by Blum and colleagues has demonstrated that addiction recovery programs work by activating specific neural mechanisms. Their studies show that positive social connections in recovery settings trigger dopamine release in the mesocorticolimbic system, providing a natural "high" that can replace artificial stimulation from substances. This natural reward system activation helps prevent relapse and supports long-term recovery.

The development of new neural pathways through consistent engagement in recovery activities represents a form of neuroplasticity. Data from The Well Communities shows that participants who maintain regular involvement in recovery activities for at least 6 months demonstrate significant improvements in decision-making and impulse control, indicating the formation of new neural circuits supporting recovery.





# Epigenetic Factors

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## Key Findings:

- Environmental interventions directly influence addiction-related gene expression
- Stress reduction modifies epigenetic markers related to substance use vulnerability
- Early prevention efforts can alter genetic predisposition to addiction
- Social support influences genetic expression patterns
- Sustained recovery activities create positive epigenetic changes



Research has revealed that environmental factors can significantly influence how genes associated with addiction are expressed. Studies show that positive social environments and stress reduction through prevention programs can modify histone deacetylase (HDAC) activity, affecting gene expression patterns related to addiction vulnerability.



Simon-O'Brien's research demonstrated that HDAC inhibitors significantly decreased excessive alcohol intake in dependent rats, suggesting similar mechanisms may operate in human prevention programs. Additionally, Kenny's group found evidence that DNA methylation plays a central role in synaptic plasticity related to addiction, highlighting the importance of early intervention.



# Future Directions and Implementation Challenges

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# Research Priorities



Long-term effectiveness studies show significant promise, with The Well Communities' data demonstrating strong initial outcomes - 79% abstinence at three months progressing to 48% sustained sobriety. However, data beyond five years remains limited, creating an urgent need for extended longitudinal research.



Population-specific interventions demonstrate superior results. Programs tailored to specific populations achieve engagement rates nearly twice those of standardised approaches. The Native Collective Research Effort to Enhance Wellness Initiative exemplifies this success through culturally informed prevention approaches.



Digital technology integration shows early promise. The Well's pilot telehealth prevention services match in-person engagement rates of 96-98%, though questions about long-term effectiveness remain. Research must determine optimal integration with traditional services.

Community engagement methodology needs standardisation. While programs with high community involvement show 73% better outcomes, measurement tools remain underdeveloped. The Well's experience suggests successful community capacity building typically requires 2-3 years of consistent investment.

# + Implementation Challenges

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Sustainable funding represents a primary barrier despite proven cost-effectiveness.

The Well Communities' data shows prevention programs generate:

- Healthcare savings of \$10,000 per participant over two years
- Reduced incarceration costs of \$35,000 per person annually
- Decreased emergency service utilisation
- Lower outpatient treatment costs
- Reduced crisis service needs



Workforce development requires balancing professional expertise with lived experience. The Well's intensive staff development programs achieve 85% peer worker retention through specialised training programs.

Systems integration remains complex but crucial. Hospital liaison programs demonstrate that integrated services achieve:

- Reduced emergency presentations
- Shorter inpatient stays
- Improved preventive care engagement
- Better outcomes across healthcare and criminal justice systems
- Enhanced community resource utilisation





**Building  
Resilience  
through  
Science, Positive  
Psychology and  
Community**

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The evidence is crystal clear: prevention works best when we combine lived experience, earned resilience, sustainable meaning and spirituality with scientific understanding. When we treat people like people, whole units, including the psyche, rather than problems to be solved. Various therapeutic communities and 12 Step Programs experience proves this – But building this at scale will take a paradigm shift many demographics may balk at, despite the evidence-based realities of these factors.

Because in the end, the most powerful prevention tool isn't a policy or even a program - it's people helping people, backed by science and anchored to sustainable supra-cultural factors and meaning that finally proves what those two alcoholics in Akron knew all along: connection on every level is the best medicine we've got.

To underscore that, we want to share a little-known encounter and record of the early days of what (in part we have been investigating here), and what is known collectively as a 12 Step Program, was that of Roland Hazzard, with his then therapist and psychiatry legend DR Carl Jung.

After completing the prescribed therapeutic journey of Jung, Hazzard was making no progress with his alcoholism. Jung's treatment sessions weren't working. Hazzard records the following response from Jung to him...

*"You're hopeless...The only people who have recovered from the state of mind you are in – alcoholism, are those who have had a vital spiritual experience... these people have an entire psychic re-arrangement."*





Years later, Bill sent a letter of appreciation to Dr. Jung thanking him for his contribution to A.A.'s solution for alcoholism through his work (in part) with Rowland Hazzard. On [January 23, 1961, Dr Jung responded with a letter to Bill Wilson](#) and in it he confirmed that the Alcoholics Anonymous program aimed at spiritual development and a spiritual awakening, as treatment for alcoholism, was the correct direction.



Dear Mr. Wilson,

Your letter has been very welcome indeed.

*I had no news from Rowland H. anymore and often wondered what has been his fate. Our conversation which he has adequately reported to you had an aspect of which he did not know. The reason that I could not tell him everything was that in those days I had to be exceedingly careful of what I said. I had found out that I was misunderstood in every possible way. Thus, I was very careful when I talked to Rowland H. But what I really thought about was the result of many experiences with men of his kind.*

*His craving for alcohol was the equivalent, on a low level, of the spiritual thirst of our being for wholeness, expressed in medieval language: the union with God. \**

*How could one formulate such an insight in a language that is not misunderstood in our days?*

*The only right and legitimate way to such an experience is that it happens to you in reality and it can only happen to you when you walk on a path which leads you to higher understanding. You might be led to that goal by an act of grace or through personal and honest contact with friends, or through a higher education of the mind beyond the confines of mere rationalism. I see from your letter that Rowland H. has chosen the second way, which was, under the circumstances, obviously the best one.*

*I am strongly convinced that the evil principle prevailing in this world leads the unrecognized spiritual need into perdition, if it is not counteracted either by real religious insight or by the protective wall of human community. An ordinary man, not protected by an action from above and isolated in society, cannot resist the power of evil, which is called very aptly the Devil. But the use of such words arouses so many mistakes that one can only keep aloof from them as much as possible.*


*These are the reasons why I could not give a full and sufficient explanation to Rowland H., but I am risking it with you because I conclude from your very decent and honest letter that you have acquired a point of view above the misleading platitudes one usually hears about alcoholism.*

*You see, "alcohol" in Latin is "spiritus" and you use the same word for the highest religious experience as well as for the most depraving poison. The helpful formula therefore is: spiritus contra spiritum.*

Thanking you again for your kind letter

I remain Yours sincerely C. G. Jung





It becomes easy to overlook anthropological imperatives when you remain locked in a limited sociological echo chamber that deals more with the what, how, who, when and where, but rarely considers the why. To reiterate again, scaffolding is vital for an unstable structure but is at best a 'damage management' tool – attempting to reduce harm, as it were. However, if one is to look to removing harm (become, whole, complete, strong and stable) it is the foundations that must be tended to that will enable sustainable strength and immovability. [It is not just belief systems and values, but the seminal informing elements on which they are founded that will enable sustainability.](#)

The Dalgarno Institute 2024





# Endnotes

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- [Reducing alcohol and other drug-related harm by integrating recovery practices into adolescent prevention programs.](#)
- [Improving community engagement in addiction science | National Institute on Drug Abuse \(NIDA\)](#)
- [The Molecular Neurobiology of Twelve Steps Program & Fellowship: Connecting the Dots for Recovery - PMC](#)
- [Revisiting 12-Step Approaches: An Evidence-Based Perspective | IntechOpen](#)
- [12Step.org | Scientific Findings about Addiction](#)
- [12 Step Videos | A.A. Comprehensive Study](#)
- [Does Science Show What 12 Steps Know?](#)
- [Building Recovery Capital through Community Engagement: A Hub and Spoke Model for Peer-based Recovery Support Services in England: Alcoholism Treatment Quarterly: Vol 39 , No 1 - Get Access](#)



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