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Addiction, criminal responsibility and loss of self-determination: Bridging clinical evidence and criminal law

Icro Maremmani [1], Andrea Michelazzi [2], Michele Capano [3], and Lorenzo Somaini [4]

1. *G. De Lisio Institute of Behavioural Sciences, Pisa, Italy, EU*
2. *Psychiatrist, Former General Practitioner, Trieste, Italy, EU*
3. *Diritti alla Follia Italian Organisation, Salerno, Italy, EU*
4. *Department of Addictions, Biella, Italy, EU*

Summary

The relationship between addiction and criminal responsibility remains contested, partly because legal distinctions between voluntary substance use and mental incapacity may inadequately capture the clinical heterogeneity of addictive disorders. This interdisciplinary perspective examines the implications of addiction medicine for the assessment of behavioural self-determination, integrating clinical, psychiatric and legal considerations. It distinguishes substance use, physiological dependence and addiction, and considers changes in motivational regulation associated with the disorder. A three-phase conceptual model illustrates how impaired control over substance consumption may coexist with relatively preserved instrumental planning and purposeful drug-seeking. In more severe clinical presentations, dysregulation may also affect the organisation of substance-seeking behaviour and the integration of foreseeable consequences into decision-making. The model is presented as a conceptual framework rather than a validated staging instrument. These distinctions challenge the inference that apparently intentional conduct necessarily indicates unimpaired self-determination. Michelazzi's proposed concept of capacity for culpability provides a framework for examining whether addiction-related impairment affected an individual's capacity to incorporate normative considerations into decisions relevant to a specific offence. The discussion considers limitations of the Italian legal framework concerning chronic intoxication and criminal imputability, alongside recent provisions for therapeutic alternatives to imprisonment. It also distinguishes the objectives of clinical treatment from those of penal supervision, with particular reference to relapse and opioid agonist treatment. A clinically informed assessment should neither infer diminished responsibility from an addiction diagnosis alone nor exclude impairment solely because unlawful conduct appears purposeful. Assessment should instead address the individual's functional capacities at the time of the offence, with the final determination of criminal culpability remaining a judicial responsibility.

Key Words: Addiction; Criminal Responsibility; Self-Determination; Behavioural Dysregulation; Forensic Psychiatry

1. When Criminal Law Fails to Recognise Addiction

The relationship between addiction and criminal responsibility remains contested at the intersection of clinical psychiatry, neuroscience and criminal law. Advances in addiction medicine have clarified mechanisms involved in the transition from voluntary substance use to compulsive or poorly controlled drug-seeking. Nevertheless, legal interpretations of substance-related offences often rely on categories that predate contemporary clinical accounts of addiction. In particular, the distinction between voluntary and chronic intoxication may not adequately capture the course of a disorder characterised by evolving disturbances in behavioural control, motivation and decision-making **[7, 13]**.

Corresponding author: Maremmani, Icro, G. De Lisio Institute of Behavioural Sciences, Via di Pratale 3, 56100 Pisa, Italy, EU
E-mail: icromaremmani@gmail.com

Neuroscientific research indicates that addiction cannot be explained solely by repeated substance use or by the pharmacological effects of intoxication and withdrawal. The disorder involves persistent alterations in neural systems implicated in reward processing, motivation, stress responses, learning and executive function. These alterations may impair the capacity to regulate behaviour in accordance with anticipated consequences, even when the capacity to recognise those consequences remains relatively preserved [18]. However, an addiction diagnosis does not establish a generalised loss of voluntary control, and neurobiological abnormalities alone cannot determine whether an individual was capable of acting differently in a specific situation.

These distinctions are relevant to the assessment of criminal responsibility. Traditional legal approaches often emphasise the voluntary nature of initial substance use, thereby assuming continuity between the decision to begin using a substance and subsequent conduct in the context of an established addictive disorder. Clinically, however, the capacity for self-determination may vary over the course of addiction. The ability to anticipate consequences, inhibit actions and integrate competing motivations into decision-making may differ according to the progression and clinical manifestations of the disorder. Such variability warrants individualised assessment but does not, in itself, resolve the question of criminal responsibility: neuroscientific explanations cannot independently determine legal culpability [14].

The divergence between clinical understanding and legal interpretation is particularly apparent when substance use, dependence and addiction are treated as equivalent. Conflating these conditions may result either in the attribution of criminal responsibility without adequate examination of clinically relevant impairment or in the assumption that an addiction diagnosis necessarily entails diminished responsibility. Neither inference is clinically justified without assessment of the individual's functional capacities in relation to the specific conduct.

This perspective examines the clinical–legal divergence by conceptualising addiction as an evolving pathological process rather than a static diagnostic category. It focuses on changes in behavioural regulation and distinguishes awareness of an action's consequences from the functional capacity to incorporate that awareness into behavioural decisions. The Italian criminal justice system provides a case study of the difficulties arising when legal concepts of intoxication and responsibility are insufficiently aligned with contemporary addiction medicine. The aim is not to propose addiction as an automatic basis for diminished criminal responsibility, but to outline a clinically informed framework for assessing self-determination in relation to a specific offence.

2. Substance Use, Dependence and Addiction: Three Different Conditions

Distinguishing substance use, physical dependence and addiction is essential to interpreting substance-related behaviour clinically. Although often used interchangeably in medical, social and legal discourse, these terms describe distinct phenomena. Substance use denotes the consumption of a psychoactive substance, regardless of frequency, context or consequences. It may be experimental, occasional, habitual or medically prescribed and does not, in itself, establish a psychiatric disorder. Repeated or hazardous use likewise does not necessarily indicate addiction, which depends on individual vulnerability and the emergence of clinically significant disturbances in behavioural regulation [4, 17].

Physical dependence reflects neuroadaptations arising from repeated exposure to a psychoactive substance. Its principal clinical manifestations are tolerance and withdrawal, which do not invariably occur together. Physical dependence may develop during appropriate medical treatment, particularly with opioid analgesics, without compulsive drug-seeking or other defining features of addiction. Conversely, resolution of withdrawal following detoxification does not necessarily indicate remission of addiction. This distinction is particularly relevant to opioid agonist treatment: physiological dependence on prescribed medication may coexist with sustained control of addictive behaviour and substantial recovery of personal and social functioning. Equating physiological adaptation with addiction may therefore misclassify successful long-term pharmacological treatment as persistent pathological substance use [15, 17].

Addiction, by contrast, is characterised by persistent impairment in the regulation of substance use, increasing motivational priority assigned to drug-seeking, and continued consumption despite significant adverse consequences. These features reflect a pathological change in the individual's relationship with the substance and cannot be adequately explained by intoxication, tolerance or withdrawal alone. Contemporary diagnostic classifications incorporate these manifestations within substance use disorders, although this diagnostic category is not fully interchangeable with the clinical construct of addiction. A diagnosis of substance use disorder therefore does not imply a uniform degree of behavioural dysregulation or decision-making impairment across affected individuals [4, 17].

Addiction cannot be established or excluded solely by detecting a substance in biological samples. Toxicological findings may document recent exposure but cannot independently determine the presence, severity or functional consequences of the disorder. Negative findings likewise do not exclude persistent addiction, as vulnerability to relapse and

disturbances in motivational regulation may remain clinically relevant during abstinence. Assessment therefore requires a longitudinal clinical evaluation rather than isolated evidence of consumption or intoxication [17].

These distinctions inform the assessment of behaviours associated with substance acquisition and consumption. Illicit substance use, tolerance or withdrawal alone does not establish impaired self-determination; similarly, the absence of current use does not necessarily indicate resolution of the underlying disorder. The relevant clinical question is whether, and to what extent, addiction has impaired the individual's capacity to regulate substance-related behaviour in response to competing motivations and foreseeable consequences. This functional approach provides a basis for examining changes in behavioural control over the course of addiction without presuming that such changes necessarily diminish criminal responsibility.

3. The Progressive Loss of Behavioural Control

The progression of addiction involves more than changes in the quantity or frequency of substance use. Of greater clinical relevance are changes in the relationship between motivation, behavioural organisation and the regulation of drug-seeking. Individual trajectories are heterogeneous and need not follow a fixed sequence. With this qualification, three broad phases are proposed to illustrate possible changes in the functional organisation of substance-related behaviour over time.

In the initial phase, often termed the honeymoon phase, substance use is primarily motivated by anticipated reward. Behaviour generally remains goal-directed, with relatively preserved capacities to plan consumption, delay gratification and respond to competing priorities. Social circumstances, expectations and immediate reinforcement may influence the decision to use, but substance-related motivations have not yet become dominant within the individual's behavioural repertoire. Repeated use during this phase does not necessarily entail the persistent impairment of behavioural regulation characteristic of established addiction.

The second phase is characterised by increasing motivational priority assigned to substance use and reduced control over consumption. Drug-seeking may become more persistent and less responsive to adverse consequences, while learned associations and habitual behavioural sequences exert greater influence on behaviour. Experimental and clinical research describes a shift from predominantly goal-directed actions towards habitual and compulsive responding, associated with changes in corticostriatal mechanisms and executive control [2]. Impaired regulation of consumption, however, does not necessarily imply equivalent impairment across all aspects of behavioural organisation.

Individuals with substantial addiction-related impairment may retain the capacity for complex planning, delayed action and purposeful adaptation in obtaining substances. Their conduct may demonstrate preserved instrumental capacities despite increasing difficulty regulating the overall pattern of consumption. The ability to organise drug-seeking therefore does not, by itself, establish an equivalent capacity to discontinue or refrain from substance use (**Figure 1**). This distinction



Figure 1. Contrasting patterns of behavioural organisation in opioid addiction: preserved instrumental planning versus impaired self-determination.

Table 1. Clinical progression of addiction and its potential implications for behavioural self-determination

Clinical phase	Behavioural characteristics	Potential relevance to criminal responsibility
Initial phase (honeymoon)	Predominantly reward-driven consumption; generally preserved planning and behavioural flexibility; drug use does not yet dominate competing motivations.	Substance use alone provides no basis for inferring impaired self-determination.
Progressive addiction	Increasing motivational priority of drug-seeking; reduced control over consumption; instrumental planning may remain substantially preserved.	Impaired control over substance use does not necessarily imply equivalent impairment of the capacity to organise unlawful conduct.
Advanced behavioural dysregulation	Dominance of pathological motivation; reduced integration of foreseeable consequences; possible deterioration of instrumental planning and behavioural adaptation.	Substantial impairment may warrant individual forensic assessment, but neither diagnosis nor behavioural disorganisation establishes diminished responsibility automatically.

Note. The three-phase model is a conceptual clinical framework, not a validated staging instrument or a method for determining criminal responsibility

separates the organisation of actions directed towards obtaining a substance from the regulation of the motivation to pursue it.

A clinical illustration traditionally emphasised within the Pisa School of Addiction Medicine contrasts patterns of behaviour motivated by the prevention or relief of opioid withdrawal. One individual may undertake a planned unlawful act to obtain resources for opioids, displaying anticipation and organised, goal-directed behaviour. Another may act in a markedly disorganised manner despite readily foreseeable detection and arrest. In the latter presentation, the immediate pressure associated with withdrawal may interfere with the integration of foreseeable consequences into behavioural decisions. Both individuals may experience intense pathological motivation to obtain opioids, yet differ substantially in their capacity to organise the actions directed towards that objective. These illustrative examples establish neither criminal irresponsibility nor an inability to exercise voluntary control; behavioural disorganisation alone is insufficient to support either conclusion. They instead demonstrate why apparent intentionality and the functional integrity of self-determination should be assessed as distinct constructs.

A third, more severe presentation may occur when the motivational dominance of drug-seeking is accompanied by more extensive behavioural dysregulation. The urgency of obtaining or consuming a substance may interfere with the organisation of actions directed towards that goal. Behaviour may become immediate, repetitive and poorly coordinated, with reduced responsiveness to previous failures and foreseeable adverse consequences. Instrumental effectiveness may therefore decline even as the substance acquires greater motivational significance. This possibility is consistent with evidence implicating prefrontal dysfunction in disturbances of inhibitory control, salience attribution and the integration of competing behavioural priorities [3].

Increasing involvement of negative reinforcement may contribute to these changes. As addiction progresses, substance use may become more strongly motivated by relief from dysphoria, stress-related discomfort and other aversive states than by anticipated positive reward. The allostatic model provides a neurobiological account of how persistent dysregulation of reward and stress systems may intensify motivation for renewed consumption [12]. These mechanisms vary across individuals, however, and cannot be inferred solely from behaviour that appears irrational.

The proposed three-phase model distinguishes control over substance use from the capacity to organise behaviour directed towards obtaining the substance. These dimensions may change at different rates and need not be equally impaired within an individual. Progression to severe dysregulation is neither inevitable nor irreversible; treatment and changes in personal circumstances may support clinical improvement. The model is therefore a conceptual representation of possible clinical trajectories, not a validated staging instrument. Its principal contribution is to clarify that purposeful action may coexist with substantial addiction-related impairment, whereas more severe presentations may involve broader disruption of behavioural regulation (**Table 1**).

4. Criminal Responsibility and the Capacity for Self-Determination

Criminal responsibility entails more than establishing that an individual performed an unlawful act; it also requires consideration of the capacity to understand the significance of the conduct and regulate behaviour accordingly. Clinically, these capacities are related but distinct. An individual may recognise that an action is prohibited and anticipate its consequenc-

es, including punishment, yet have substantial difficulty incorporating that knowledge into behavioural regulation. The distinction between cognitive understanding and the capacity to act upon it is therefore relevant to the assessment of offences committed in the context of established addiction.

The intentional nature of an action does not, by itself, establish unimpaired self-determination. Intention concerns the immediate objective of an action, whereas self-determination also involves evaluating alternatives, weighing competing motivations and modifying conduct in response to foreseeable consequences. These functions may be differentially affected over the course of addiction. Preserved planning, purposeful action and awareness of unlawfulness therefore do not necessarily indicate an equivalent capacity to regulate the pathological motivation underlying the conduct.

Michelazzi's proposed concept of capacity for culpability (capacità di colpa), developed within the criminal law reform initiative promoted by the Italian association Diritti alla Follia, offers a framework for examining this distinction. Rather than restricting assessment to understanding and volition, the proposal considers the capacity to appreciate the normative significance of an action, anticipate its consequences and incorporate these considerations into decision-making. The central question is whether knowledge of the law and awareness of foreseeable consequences could effectively influence behavioural choices. Addiction is relevant within this framework insofar as its clinical manifestations interfere with the processes through which normative considerations acquire motivational significance, rather than merely because it is a recognised psychiatric disorder. Neither an addiction diagnosis nor intense craving is sufficient to establish diminished culpability without evidence of functional impairment specifically relevant to the offence.

This functional distinction also addresses concerns about the instrumental use of addiction diagnoses in criminal proceedings. If diagnosis alone justified diminished responsibility or more favourable judicial treatment, individuals might claim an addictive disorder irrespective of its clinical or forensic relevance. Habitual consumption, positive toxicological findings and retrospective reports of craving are insufficient, in isolation, to demonstrate impaired self-determination. An indiscriminate application of the addiction category could undermine forensic reliability and obscure genuine deterioration in behavioural regulation. The appropriate safeguard is therefore to require evidence that an established disorder substantially interfered with the decision-making capacities relevant to the offence, rather than to exclude addiction from consideration. Diagnostic classification and forensic assessment must remain distinct: neither addiction nor a substance-related motive automatically warrants a more favourable legal determination.

Research on inhibitory control and motivational salience supports the clinical plausibility of this approach. Drug-related cues and anticipated relief from aversive states may acquire disproportionate salience, reducing the relative influence of alternative rewards, social obligations and anticipated adverse consequences. Developments in the impaired response inhibition and salience attribution model describe interacting disturbances in motivational evaluation and behavioural regulation, with substantial individual variability and potential responsiveness to treatment [1]. Such findings identify plausible mechanisms of impairment but cannot independently establish whether a particular individual could have acted differently at the time of an offence. They do not constitute a biological criterion of criminal responsibility.

The interpretation of voluntary choice is similarly complex. Responsiveness to incentives, external constraints or threatened punishment may demonstrate preserved regulatory capacities, without establishing that those capacities remain equally effective when pathological motivations predominate. Conversely, intense craving, recurrent relapse and apparently irrational conduct do not establish that alternative actions were unavailable. Debate concerning addiction and choice reflects differing interpretations of whether behavioural responsiveness is compatible with clinically significant compulsivity [5, 6]. Neither the brain-disorder account of addiction nor evidence of purposeful decision-making can independently determine responsibility. Assessment instead requires examination of the relationship between the disorder and the capacities needed to regulate the specific conduct.

Forensic assessment should therefore extend beyond diagnosis to reconstruct the individual's clinical and functional condition at the time of the offence. Relevant considerations include the severity and course of addiction, withdrawal or other acute psychopathological manifestations, behavioural organisation, responsiveness to foreseeable consequences and the availability of realistic alternatives. Assessment should examine whether the offence occurred within a pattern of pathological drug-seeking and whether the disorder substantially impaired the influence of competing motivations on behaviour. A substance-acquisition motive does not, however, establish diminished self-determination. The motive for an offence and impairment of the capacity to regulate the conduct are distinct, and their relationship requires evidence rather than presumption.

The capacity-for-culpability framework also addresses responsibility for antecedent voluntary conduct. Initial substance use and subsequent decisions made during an established addictive disorder need

Table 2. Distinguishing clinical evidence from the assessment of criminal culpability in addiction

Clinical or behavioural finding	What it may establish	What it cannot establish independently
Substance consumption or positive toxicological findings	Exposure to a psychoactive substance.	The presence of addiction or diminished criminal responsibility.
Established addictive disorder	A clinically significant condition involving impaired regulation of substance use.	That decision-making was substantially impaired during the specific offence.
Intense craving or withdrawal	Pathological motivational pressure potentially influencing behaviour.	That alternative actions were unavailable or behavioural control was necessarily lost.
Purposeful planning of an offence	Preservation of certain instrumental and anticipatory capacities.	That pathological motivation did not substantially interfere with self-determination.
Markedly disorganised drug-seeking	Possible disturbance of behavioural regulation and integration of consequences.	Criminal incapacity without an individual clinical and forensic assessment.
Longitudinal clinical reconstruction	The course, severity and functional consequences of addiction, including the condition surrounding the offence.	A judicial determination of culpability, which remains the responsibility of the court.

Note. The proposed distinctions are intended to guide clinical and forensic reasoning. They do not constitute validated criteria for determining diminished criminal responsibility.

not involve equivalent capacities for behavioural regulation. Michelazzi's proposal asks whether the individual knew, or could concretely have foreseen, that an earlier action or omission would create or substantially increase the risk of subsequent impaired decision-making and unlawful conduct corresponding to that risk (**Table 2**). This approach preserves consideration of responsibility for earlier choices while questioning whether the voluntariness of initial use should automatically determine culpability for offences committed under substantially different clinical circumstances. It introduces temporal and functional dimensions into assessment without presuming that addiction excludes voluntary action.

A clinically informed assessment must avoid both the assumption that addiction automatically diminishes culpability and the inference that intentional unlawful conduct demonstrates unimpaired self-determination. The central question is whether the individual retained a meaningful capacity to incorporate normative considerations and anticipated consequences into behavioural regulation in the circumstances of the offence. Psychiatric expertise can contribute by reconstructing the clinical condition and identifying relevant functional impairments; the determination of culpability remains a judicial responsibility. Distinguishing diagnosis, functional impairment and legal responsibility provides the basis for examining the Italian criminal justice system, whose historical treatment of intoxication and addiction poses particular challenges to individualised assessment.

5. The Italian Legal Paradox

The Italian criminal justice system illustrates the difficulties arising when legal categories of substance-related conditions predate contemporary addiction medicine. Introduced in 1930, the Italian Criminal Code, commonly known as the Codice Rocco, distinguishes voluntary intoxication from chronic intoxication potentially relevant to criminal responsibility **[9]**. Under Articles 92 and 93, voluntary or negligent intoxication does not ordinarily exclude or diminish responsibility, whereas intoxication deliberately induced to facilitate an offence may increase punishment. Article 94 provides for increased punishment in cases of habitual intoxication; Article 95 permits application of the provisions concerning mental incapacity in cases of chronic intoxication caused by alcohol or narcotic substances. This framework prioritises the legal classification of intoxication rather than directly assessing the progressive behavioural dysregulation associated with addiction.

Under Italian case law, chronic intoxication is not equivalent to prolonged substance use or clinically established addiction. Its legal relevance requires persistent pathological alterations sufficiently severe to constitute a mental disorder affecting criminal responsibility. An individual with severe addiction and substantial impairment of motivational regulation and behavioural control may therefore fail to meet the requirements for diminished imputability. Conversely, the legal significance of chronic intoxication depends on the interpretation of pathological persistence rather than a systematic assessment of the functional effects of addiction during a specific offence. This discrepancy does not justify treating every addictive disorder

as a basis for diminished responsibility; it raises the question of whether the existing categories adequately encompass clinically relevant impairment.

The Italian Constitutional Court addressed these issues in Judgment No. 21/2026, concerning a constitutional challenge to Article 95 of the Criminal Code [8]. The referring court questioned the exclusion of substance-related disorders that may substantially impair understanding or volition without producing the permanent or irreversible pathological alterations traditionally associated with chronic intoxication. The Constitutional Court rejected the challenge, finding that the legislative distinction remained within constitutional limits. The judgment did not, however, deny the possibility of clinically significant addiction-related impairment. It recognised the constitutional relevance of personal culpability while accepting legislative discretion to establish a specific, more restrictive framework for offences committed in the context of substance dependence.

The judgment links personal responsibility to the possibility of acting differently, while accepting that responsibility may derive from an earlier opportunity to undertake treatment despite substance-related impairment at the time of the offence. Clinically, this reasoning raises the question of whether access to treatment can be equated with the capacity to initiate and sustain it in a disorder characterised by impaired control, treatment ambivalence and recurrent relapse. The issue is not whether antecedent decisions should be disregarded, but whether their legal significance can be assessed without considering the course of addiction and the individual's functional capacity for self-determination.

A further tension arises from Law No. 140 of 5 August 2026, which introduced Articles 94-ter and 94-quater into Presidential Decree No. 309/1990, the consolidated legislation on narcotic substances and addiction treatment [10, 11]. These provisions expand access to therapeutic and socio-rehabilitative programmes as alternatives to conventional imprisonment for individuals with drug or alcohol dependence. Article 94-ter establishes therapeutic home detention linked to residential or, where eligible, semi-residential treatment. Article 94-quater provides a procedure for the early resolution of criminal proceedings associated with access to such programmes. Eligibility remains subject to statutory conditions concerning sentence thresholds, assessment of dependence, the relationship between the disorder and the offence, and the suitability of the therapeutic programme.

The resulting tension concerns the different legal significance assigned to addiction. A disorder considered insufficient to alter the attribution of criminal responsibility may nonetheless justify a specialised therapeutic response during sentence execution. These positions are not inherently incompatible, as culpability and the administration of punishment serve distinct purposes. They nevertheless expose limited correspondence between the clinical meaning of addiction and its legal consequences, particularly when statutory provisions use habitual consumption, dependence and chronic intoxication without consistently distinguishing their clinical implications.

The legislation also creates assessment challenges for addiction services. Access to therapeutic alternatives may require conclusions beyond routine diagnosis, particularly when clinicians must reconstruct the relationship between addiction and an offence committed years earlier. Establishing current dependence may also be difficult to reconcile with the longitudinal course of addiction in individuals who are abstinent, receiving effective opioid agonist treatment or in remission but remain vulnerable to relapse. Assessment should distinguish the absence of current substance use from resolution of the underlying disorder, and physiological dependence on prescribed treatment from persistent pathological drug-seeking.

Treatment setbacks and breaches of programme requirements raise further concerns. The new provisions specify conditions for revoking therapeutic home detention and impose substantial restrictions on subsequent access to alternative measures. Although judicial supervision requires enforceable conditions, the course of addiction treatment is often uneven. Recurrent substance use does not necessarily indicate an absence of therapeutic benefit or preclude subsequent recovery. Treating every recurrence as deliberate non-compliance risks converting a manifestation of the disorder into grounds for terminating the intervention intended to address it. Conversely, recognising relapse as a possible feature of addiction does not remove the need to assess conduct that creates serious risks or substantially breaches judicial requirements.

The Italian experience illustrates broader difficulties in integrating addiction medicine into criminal justice. The same disorder may be insufficient to diminish culpability, relevant to preventing further offending and difficult to establish within administrative certification procedures. The central question is not simply whether the law should be more permissive, but whether it can distinguish substance consumption, clinically established addiction and demonstrable impairment of self-determination. Without these distinctions, therapeutic alternatives may coexist with an account of responsibility insufficiently responsive to functional impairment, while addiction services must reconcile clinical objectives with judicial expectations that do not consistently reflect the course of the disorder.

6. Clinical Treatment Versus Penal Control

Therapeutic alternatives to imprisonment provide an opportunity to address addiction within a

healthcare framework, while highlighting the distinction between clinical treatment and penal supervision. Addiction services seek to reduce disorder severity, prevent complications and restore autonomous functioning. Judicial authorities are responsible for enforcing prescribed conditions, protecting public safety and responding to further unlawful conduct. These objectives may be complementary when effective treatment reduces drug-related offending, but they are not interchangeable. Tensions arise when treatment continuation depends more on compliance with judicial requirements than on evidence of clinical benefit.

Relapse illustrates this distinction. Recurrence of substance use after clinical improvement may reflect renewed pathological motivational pressure, insufficient treatment intensity or changes in clinical and social circumstances. It warrants assessment of contributing factors and, where appropriate, adjustment of treatment. Within a judicially supervised programme, however, the same event may breach the conditions of an alternative to detention. Repeated substance use, refusal of treatment and conduct that endangers others may require different responses. Automatically equating relapse with therapeutic failure conflates a possible manifestation of the disorder with deliberate rejection of care and may interrupt treatment when more intensive intervention is needed.

This issue is particularly relevant to opioid addiction, for which effective treatment does not necessarily require elimination of all opioid exposure. Methadone and buprenorphine maintenance treatment aim to stabilise opioid-related neurobiological and behavioural disturbances, suppress withdrawal, reduce craving and limit recurrent illicit opioid-seeking. Physiological dependence on prescribed opioid agonists may coexist with substantial improvements in clinical stability, social functioning and behavioural regulation and must therefore be distinguished from persistent addictive behaviour. Similarly, occasional detection of a non-prescribed substance cannot independently establish treatment failure or an inability to benefit from continued care. Effectiveness requires longitudinal assessment of substance-use frequency and severity, treatment retention, psychiatric and physical health, functional recovery and drug-related harm.

Certification of addiction for access to therapeutic measures presents related challenges. Clinical certification establishes the presence, characteristics and current status of a disorder, whereas judicial procedures may also require assessment of its relationship to the offence, treatment suitability and the likelihood of programme completion. These questions involve distinct evidential requirements and uncertainties. Clinical history, documented substance-use patterns, previous treatment and evidence of impaired control may support diagnosis, but cannot independently establish that addiction caused a specific offence. Identifying an appropriate treatment likewise does not guarantee compliance with all judicial conditions or the absence of further offending. Combining these questions within a single certification process may require addiction specialists to draw conclusions beyond the evidential limits of clinical assessment.

The interval between the offence and clinical evaluation introduces further uncertainty. Proceedings and sentence execution may occur years after the conduct under examination, during which addiction may progress, enter remission or respond to treatment. Current findings may therefore differ substantially from the clinical condition at the time of the offence. This is particularly relevant to long-term opioid agonist treatment, where current stability may coexist with a history of severe behavioural impairment. The absence of recent illicit substance use does not invalidate reconstruction of a previous disorder, just as current addiction does not establish the extent of earlier impairment. Reliable certification requires explicit separation of documented historical findings, current observations and retrospective clinical interpretations.

Participation in judicial supervision also raises concerns about professional independence and the therapeutic relationship. Effective care depends on disclosure of substance use, craving, adherence difficulties and other problems requiring intervention. When disclosure may affect continuation of an alternative to imprisonment, patients may withhold clinically relevant information, while clinicians face competing obligations to the patient and the supervising authority. These tensions may reduce the reliability of clinical information and impede therapeutic collaboration. Clear boundaries between confidential assessment, legally required reporting and judicial decision-making are therefore essential to prevent treatment from becoming primarily an instrument of surveillance.

These considerations do not imply that judicial conditions should be suspended whenever clinical difficulties arise. Public safety, victims' rights and prevention of further offences remain legitimate responsibilities of the criminal justice system. Responses to non-compliance should instead be proportionate to the conduct and informed by its clinical significance. Recurrence of substance use, a missed appointment and a new violent offence should not be treated as equivalent solely because each breaches programme conditions. Differentiated responses, supported by communication between clinicians and judicial authorities, may permit management of clinical setbacks without disregarding conduct requiring more restrictive intervention.

International guidance emphasises that treatment for substance use disorders in criminal justice

settings should meet the clinical and ethical standards applied in community care, including access to evidence-based pharmacotherapy and continuity of treatment [16]. The UNODC–WHO Informal Scientific Network has likewise advocated clinical independence, voluntary access to appropriate care and integration of treatment with broader health and social support [19]. These principles are particularly relevant when therapeutic alternatives to detention are introduced without adequate resources, professional autonomy or access to appropriate treatment options.

The essential distinction is between treatment delivered within a judicial framework and treatment subordinated to penal objectives. The former can address an established disorder while preserving legitimate legal safeguards; the latter risks defining therapeutic success solely by the absence of disciplinary breaches or criminal recidivism. Effective addiction treatment may reduce unlawful conduct, but its primary clinical aims remain control of the disorder and restoration of health and functioning. A coherent relationship between addiction medicine and criminal justice requires recognition of their distinct responsibilities rather than a single, undifferentiated measure of success.

7. Conclusions: Towards a Clinically Informed Model of Criminal Responsibility

The relationship between addiction and criminal responsibility cannot be adequately captured by a categorical distinction between voluntary substance use and mental incapacity. Addiction is a heterogeneous clinical condition in which behavioural regulation may change over time and become impaired despite preserved understanding of an action's unlawfulness. The challenge for criminal law is to recognise clinically relevant impairment of self-determination without treating addiction as a general justification for unlawful conduct.

The proposed progressive model distinguishes impaired control over substance consumption from deterioration in the capacity to organise substance-seeking behaviour. These dimensions may evolve differently, and neither apparent intentionality nor behavioural disorganisation independently establishes their relationship in a specific offence. The model is a conceptual framework, not a validated instrument for determining criminal responsibility; its purpose is to identify functional changes that may warrant individualised forensic assessment.

Michelazzi's proposed concept of capacity for culpability offers a potential framework for relating these clinical distinctions to legal reasoning. Its focus is whether normative considerations and foreseeable consequences could effectively influence decision-making in the circumstances of the offence, rather than whether a diagnostic category applies. Application would require explicit evidential standards, longitudinal clinical reconstruction and safeguards against the instrumental use of addiction diagnoses. Assessment must remain individualised, with the final determination of culpability reserved to the judicial authority.

The Italian experience illustrates the limitations of legal categories that do not consistently distinguish substance consumption, addiction and functional impairment. Developments in therapeutic alternatives to imprisonment may improve responses to addiction-related offending, provided that treatment retains its clinical objectives and professional independence. Therapeutic effectiveness should not be equated solely with absence of relapse or compliance with judicial requirements, and clinical diagnosis should not be used as a substitute for forensic assessment of criminal responsibility.

A clinically informed approach preserves the distinction between healthcare and criminal justice while clarifying their complementary responsibilities. Psychiatric expertise can identify the functional consequences of addiction; legal institutions determine culpability and impose proportionate sanctions. The objective is neither to excuse addiction-related offending nor to disregard pathological constraints on behaviour, but to assess criminal responsibility in relation to the individual's actual capacity for self-determination at the time of the offence.

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Contributors

Icro Maremmani: Conceptualisation of the clinical framework; development of the distinction between substance use, dependence and addiction; interpretation of the progressive impairment of behavioural control and self-determination; integration of addiction medicine perspectives into the discussion of criminal responsibility; writing – original draft; writing – review and editing. Andrea Michelazzi: Conceptualisation of the psychiatric and forensic framework; development of the capacity-for-culpability approach; critical analysis of the relationship between addiction-related impairment, decision-making and criminal responsibility; contribution to the discussion of legislative reform; writing – review and editing. Lorenzo Somaini: Contribution to the clinical and organisational analysis of addiction treatment services; interpretation of diagnostic certification and treatment eligibility; critical appraisal of therapeutic alternatives to imprisonment and the relationship between clinical outcomes and judicial requirements; writing – review and editing. Michele Capano: Conceptualisation of the legal framework; analysis of the Italian Criminal Code and the constitutional implications of addiction-related criminal responsibility; interpretation of recent legislative developments; organisation and moderation of the interdisciplinary discussion; writing – review and editing. All authors: Critical revision of the manuscript for important intellectual content and approval of the final version for publication.

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Conflict of interest

The author has no conflict of interest.

Ethics

Not applicable.

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