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Revocation and recidivism after high-security forensic treatment in French-speaking Belgium: social, clinical, judicial, and trajectory factors

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ABSTRACT

Forensic patients discharged from high-security psychiatric hospitals require careful management during community reintegration. Post-release trajectories remain insufficiently explored in French-speaking Belgium. This retrospective longitudinal study examined revocation and recidivism among 168 individuals conditionally released between 2014 and 2018 from a high-security forensic psychiatric hospital in Wallonia. Outcomes were classified as conditional release maintained, unconditional release, or revocation. Revocation occurred in 18.5% of cases, within two years of discharge and more often in response to breaches of release conditions than to new offences. Although more than half of the patients committed at least one supervision breach, officially recorded recidivism remained low (3.0%). Compared with other groups, revoked individuals presented higher actuarial violence risk scores, more substance use disorders, more antisocial personality features, and greater number of breaches of conditional release. In contrast, individuals granted unconditional release were older, had lower violence risk scores, fewer antisocial personality features, fewer supervision breaches, and greater residential stability. Logistic regression analyses indicated that breaches of the no-reoffending condition, therapy non-adherence, and residence restriction violations were significant predictors of revocation, while more frequent supervision meetings were associated with lower odds of revocation. These findings support the interpretation of revocation as a preventive risk management mechanism within supervision framework.

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KEYWORDS High-security forensic psychiatric hospital; conditional release; revocation; criminal recidivism; violence risk assessment (VRAG-R); post-release supervision

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Introduction

The period following release from a high-security forensic psychiatric hospital is a particularly delicate phase for individuals subject to medico-legal measures. For patients found not guilty by reason of insanity (NGRI) or deemed not criminally responsible, this transition from a highly structured, secure environment to community living entails significant clinical, social, and legal challenges. International research on post-discharge trajectories of forensic psychiatric patients has examined a large range of outcomes, including the effectiveness of community-based treatment programs (Lee, 2003; Martin et al., 2012; Schmidt-Quernheim & Seifert, 2014), differences in follow-up care between forensic and general psychiatry (Björkly et al., 2010; Coid et al., 2007), and the prediction of recidivism risk using static and dynamic risk factors (Grann et al., 2000; Krona et al., 2017; Nitschke et al., 2020; Philipse et al., 2006). Although these studies differ in design, population, and legal contexts, they converge on two central outcomes that structure the evaluation of forensic psychiatric systems: revocation and criminal recidivism.

The interpretation of post-release trajectories in forensic psychiatry may also be informed by theoretical models of offender rehabilitation and risk management. The Risk-Need-Responsivity (RNR) framework (Bonta & Andrews, 2016) provides a relevant conceptual framework for understanding conditional release outcomes. According to the risk principle, the intensity of supervision and intervention should be proportionate to an individual's level of criminogenic risk. The need principle emphasises the importance of targeting dynamic criminogenic needs, such as substance misuse, antisocial traits, and treatment non-adherence, while the responsivity principle highlights the need to adapt interventions to individual clinical and psychosocial characteristics. In this perspective, actuarial violence risk assessment tools, such as the VRAG-R may contribute to structured decision-making regarding conditional release and post-release supervision.

Revocation of conditional release

The term readmission refers to a patient's return to hospital care in general and forensic psychiatry. It differs from revocation, which specifically means returning a patient under conditional forensic measures to a secure facility (Hayes et al., 2014). Revocation is a formal process triggered by breaches, such as substance use, non-compliance with treatment, failure to observe the residence or reporting requirements, or the commission of new offences (Lyons et al., 2022). This legal measure aims to protect public safety and ensure individuals receive proper care when they can no longer meet community living conditions.

Early studies examining post-discharge trajectories of NGRI patients have already reported relatively high revocation rates, ranging from 30% to 44%, depending on the samples and the national contexts investigated (Bertman-Pate et al., 2004; Callahan & Silver, 1998; Manguno-Mire et al., 2014; Monson et al., 2001). Subsequent research has reported lower estimates. For example, a study conducted in the state of Virginia among 127 NGRI patients reported a revocation rate of 24.4%, occurring on average a few over 2 years after community discharge (Vitacco et al., 2014). In a meta-analysis by Hayes et al. (2014), among 185 NGRI patients who had been granted conditional release, 48.1% patients were readmitted to hospital, and 26% had their conditional release revoked. More recently, among 245 NGRI patients conditionally released in New South Wales, Australia, nearly half (47.3%) committed at least one breach of their imposed conditions, while release was revoked in 28.2% cases, on average 2 years post-discharge (Lyons et al., 2022). These rates vary because a breach of conditions does not systematically result in revocation; judicial decisions depend on the severity and/or repetition of the violation, the clinical context, and the level of risk posed to the community. Finally, comparing revocation rates across jurisdictions remains challenging due to differences in readmission and treatment criteria, post-discharge supervision practices, and follow-up duration (Simpson et al., 2018).

Revocations due to non-compliance with conditions occur more frequently than those related to new criminal offences. Reported rates of revocation for breaches of conditions range from 5% to 49% over follow-up periods between 1.7 and 5.1 years (Bertman-Pate et al., 2004; Callahan & Silver, 1998; Green et al., 2014; Jeandarme et al., 2016; Lyons et al., 2022; Manguno-Mire et al., 2014; Vitacco et al., 2008, 2014; Wiederanders et al., 1997). These studies underline that conditional release revocations are relatively frequent and highlight the persistent difficulties in maintaining clinical and social stability after discharge (Lyons et al., 2022).

They also suggest that revocation of conditional release among forensic patients who fail to meet imposed conditions may contribute to the relatively low rates of criminal recidivism observed in this population (Hayes et al., 2014). Most frequently, violations of conditional release involved substance use, with prevalence ranging from 30.6% to 68.8%, followed by non-adherence to medication (23% to 24.1%). Other reported violations included violent or threatening behaviour (10.2% to 58.3%) and non-compliance with residence or movement restrictions (14.3% to 16.7%). Notably, conditional release was generally revoked due to breaches of imposed conditions rather than relapse of mental illness, as clinical deterioration was typically managed through hospital admission without revocation (Hayes et al., 2014; Lyons et al., 2022).

Moreover, conditional release revocation in forensic psychiatry is positively associated with demographic factors (male, younger age), social factors

(unemployment or lack of financial resources) (Lyons et al., 2022; Manguno-Mire et al., 2014), clinical factors (substance use disorders, schizophrenia, personality disorders, and treatment of non-adherence, antisocial traits), judicial factors (prior criminal history, early onset of offending) (Jeandarme et al., 2016; Lyons et al., 2022; Vitacco et al., 2014). In contrast, older age, occupational stability, access to financial resources, social support, and access to structured therapeutics appear to exert a protective effect against the risk of relapse and recidivism (Manguno-Mire et al., 2014; Vitacco et al., 2014).

Recidivism of conditional release

In most countries, treatment for individuals found that NGRI focuses on preventing recidivism, defined as any new conviction, regardless of the nature of the offence. Although official recidivism data tend to underestimate the real prevalence of recidivism, they remain the most widely used indicator (Fazel et al., 2016). However, establishing a causal relationship between forensic treatment and reduced recidivism is challenging, given the considerable variability in clinical profiles, social environments, and post-discharge supervision practices. To our knowledge, no meta-analysis has yet provided strong evidence that forensic psychiatric interventions, in and of themselves, consistently lead to lower recidivism rates. However, one meta-analysis and one systematic review suggest that forensic interventions can reduce mental health distress, improve institutional adjustment, and decrease the risk of new convictions and violations of conditions (Fazel et al., 2016; Morgan et al., 2012). Interventions combining both institutional and community elements, along with a certain level of compliance, appear to have more significant effects (Fazel et al., 2016; Martin et al., 2012). Conditional release requires sustained adherence to judicial and therapeutic conditions, including regular attendance at psychiatric follow-up appointments, treatment adherence, compliance with supervision requirements, and respect for imposed residence and behavioural conditions.

According to the meta-analysis of Fazel et al. (2016), the estimated annual recidivism rate among released forensic psychiatric patients is approximately 4.5% for general offending (95% CI 3.68–5.29) and 3.9% for violent offending (95% CI 2.67–5.19). More recently, data from a Finnish cohort reported lower annual recidivism rates, with 2.0% for general offending (95% CI 1.32–3.00) and 1.1% for violent offending (95% CI 0.80–1.44) after discharge (Ojansuu et al., 2023).

These relatively low rates suggested that long-term forensic psychiatric care and access to structured treatment may have contributed to reducing the risk of recidivism (Sivak et al., 2023). In Sweden, the cumulative incidence of reoffending reached 13.5% at 12 months, 19.5% at 24 months, and 21.6% at 3 years post-discharge following a median inpatient treatment duration of

7.5 years (95% CI 6.9–8 years) (Sivak et al., 2023). In Belgium (Wallonia), earlier studies reported recidivism rates for high-risk forensic psychiatric patients ranged from 21.4% to 34.4% for general recidivism and from 5.2% to 17.4% for violent recidivism, following a follow-up period of 2.5 to 4.2 years (Ducro & Pham, 2006; Menghini et al., 2005; Pham & Ducro, 2008; Pham et al., 2005).

However, further clinical and demographic factors should also be considered. Men generally appear to present a higher risk of recidivism than women in forensic psychiatric populations. In a national Finnish cohort, annual general recidivism rates were 2.3% (95% CI 1.83–2.86) among men compared with 0.33% (95% CI 0.04–1.20) among women. Similarly, the annual violent recidivism rates were 1.2% (95% CI 0.04–1.20) among men and 0.33% (95% CI 0.04–1.20) among women (Ojansuu et al., 2023). Similar trends have also been reported in other forensic psychiatric populations (Fazel et al., 2009; Noland & Strandh, 2021). Moreover, substance use disorder (SUD) appears to constitute a major risk factor: individuals with SUD display annual general recidivism rates of 2.7% (95% CI 2.07–3.44) vs. 1.1% (95% CI 0.66–1.70) and violent recidivism rates of 1.4% (95% CI 1.00–1.95) vs. 0.60% (95% CI 0.30–1.08) for those without SUD (Ojansuu et al., 2023).

Several studies suggest that longer treatment duration and structured post-release supervision may be associated with more favourable post-discharge outcomes. In a nationwide Finnish cohort, longer treatment duration was marginally associated with a lower risk of general recidivism among forensic psychiatric patients (HR = 0.95, 95% CI 0.90–1.00) (Ojansuu et al., 2023). Similarly, higher recidivism rates were observed among patients with shorter treatment durations in several subgroups in Sweden (Sivak et al., 2023). Moreover, dynamic clinical risk factors have been shown to decrease progressively over the course of forensic treatment, suggesting that extended treatment may contribute to reductions in offence-related risk domains (Van Der Linde et al., 2020).

Regarding community supervision, residence in supervised housing and the presence of a legal guardian have been associated with a lower recidivism risk following discharge (Noland & Strandh, 2021). Furthermore, 57% patients discontinued pharmacological treatment within 2 years of release, highlighting the potential importance of sustained monitoring and support during community reintegration (Noland et al., 2024). Taken together, these findings suggest that extended inpatient care and structured post-release supervision may facilitate gradual reintegration and continuity of care, particularly among individuals presenting more complex clinical and criminogenic profiles. This may be especially relevant for patients with antisocial personality disorder (ASPD), psychotic disorder, and substance use disorder (SUD), as these conditions have consistently been associated with elevated risks of general and violent recidivism in forensic populations (Coid et al., 2007; Elonheimo et al., 2007; Falk et al., 2014; Fazel et al., 2009; Krona et al., 2017; Pickard & Fazel,

2013; Van Dorn et al., 2012; Wallinius et al., 2012; Witt et al., 2013; Yu et al., 2012).

In forensic patients with schizophrenia spectrum disorders, co-occurring substance use can worsen the onset and severity of symptoms, impair cognitive functioning, and increase the likelihood of antisocial behavior (Patterson et al., 2021). Additionally, previous studies have shown that childhood adversities, such as psychological and physical abuse, mental disorders and substance abuse in a first-degree parent, are also significant risk factors for violent behavior in adulthood (Falk et al., 2014; Krona et al., 2017; Reavis et al., 2013). However, it seems evident that persistent delinquent behavior must be considered, for assessments and preventive interventions, regardless of psychiatric comorbidities, such as psychosis (Kooyman et al., 2012; Krona et al., 2017). Moreover, antipsychotic and mood-stabilising medications should be systematically integrated into evaluations of treatment effectiveness, given their demonstrated capacity to reduce violent offending rates among psychiatric patients (Bali et al., 2026; Fazel et al., 2016).

Finally, some studies have suggested that pathways involving gradual progression through different levels of forensic care, combined with ongoing community supervision, may be associated with lower rates of revocation and reoffending following release (Hayes et al., 2014; Simpson et al., 2006, 2018). However, these findings should be interpreted cautiously, as available studies do not directly compare outcomes across security levels and therefore do not allow conclusions regarding whether medium-security pathways are associated with better outcomes than services at other security levels. Observed differences may partly reflect the characteristics of patients selected for particular treatment settings rather than the effects of the settings themselves. For example, among patients discharged from medium-security forensic psychiatric services in Flanders, violent recidivism was reported at 7.4% over a mean follow-up period of 3.6 years, while approximately one-quarter experienced revocation of conditional release and a significant decrease in sentence density following treatment was observed in 94.8% cases (Jeandarme et al., 2016). Notably, however, patients granted unconditional release, who had lower PCL-R scores and less antisocial personality disorder, nonetheless showed more than double the general recidivism rate of those remaining under conditional supervision (27.5% vs. 10.2%), suggesting a protective effect of ongoing supervision rather than of the security level of treatment per se. These findings are limited by the absence of direct comparisons across security levels and should not be taken as evidence of the comparative effectiveness of medium-security treatment.

Aim of the current study

This study examines post-discharge outcomes among forensic psychiatric patients conditionally released from a high-security facility over a period 4

years. More specifically, the study's aims were informed by the Risk-Need-Responsivity (RNR) model:

- Consistent with the Risk principle, we assess the prevalence of conditional release revocation and rates of general and violent recidivism (including sexual reoffending) in relation to levels of assessed violence risk.
- Consistent with the Need principle, we compare demographic, judicial, violence risk, clinical, living setting, probation supervision, and conditions characteristics across three post-discharge groups: (1) individuals remaining under conditional release, (2) individuals who obtained unconditional release, and (3) individuals whose conditional release was revoked.
- Consistent with the Responsivity principle, we examine the revocation dynamics, by analysing the reasons for revocation (breaches of release conditions versus new offences) and by reconstructing conditional release trajectories using detailed longitudinal data, including the systematic recording of condition violations over time.

The following hypotheses were investigated:

- Consistent with the Need principle, individuals whose conditional release is revoked are expected to present a higher prevalence of criminogenic needs, including substance use disorders, treatment non-adherence, extensive criminal histories, higher violence risk levels, and antisocial personality disorder. They are also expected to be younger and more likely to reside in institutional living settings than individuals who maintain conditional release or obtain unconditional release (Bonta et al., 1998; Davoren et al., 2013; DiCiro et al., 2025; Grachev et al., 2026; Gray et al., 2008; Korkmaz & Şimşek, 2025; Lyons et al., 2022; McDermott et al., 2008; Wood, 2011). Factors associated with conditional release revocation and unconditional release will additionally be examined.
- Revocation of conditional release will occur more frequently because of breaches of imposed conditions (e.g. substance use and treatment non-adherence) rather than due to the commission of new criminal offences.
- Patients whose conditional release was revoked will not necessarily exhibit higher rates of violent recidivism than those who maintained conditional release or obtained unconditional release suggesting that revocation may function as a preventive risk management mechanism by interrupting destabilising trajectories before the occurrence of serious reoffending.

Method

Belgian legislative framework governing internment and conditional release

Under Belgian law, individuals who commit an offence but are deemed not criminally responsible due to insanity are not subject to penal sanctions. Instead, they may be placed under an internment measure ordered by a regional court (Moniteur Belge, 2014). This measure aims to protect society while ensuring mandatory psychiatric treatment (Oswald et al., 2017). Responsibility for implementing internment measures lies with the Social Protection Chambers (SPC) which are multidisciplinary commissions (composed of a psychiatrist, a lawyer, and a judge). In Belgium, interned individuals are generally treated in specialised forensic psychiatric facilities. Under Belgian internment law, individuals may be subjected to internment measures when a severe mental disorder substantially impairs judgment or behavioural control at the time of the offence. This includes psychotic disorders, severe personality disorders, intellectual disabilities, and certain severe substance-related disorders when associated with major psychiatric impairment. Although the Law on Internment was originally intended to restrict the use of this measure to the most severe cases, the number of interned individuals has continued to rise in recent years, reaching 4,198 persons in June 2023, including 891 detained in carceral facilities, compared with 3,820 individuals a decade earlier (Deckers et al., 2014; *Rapport internement*, 2023).

Interned individuals may periodically appear before the Social Protection Chamber (SPC) to request conditional release. Conditional release may be progressively granted by the SPC when clinical stabilisation, treatment adherence, and risk management conditions are considered sufficient to permit supervised community reintegration. During this phase, individuals must comply with a set of judicially imposed conditions, including refraining from further offences, maintaining a fixed residence, responding to judicial summonses, and adhering to ongoing psychiatric supervision and treatment (Moniteur Belge, 2014). In the event of a breach of these conditions, the individual may be readmitted to a forensic psychiatric facility and the conditional release revoked. Once the SPC determines that the individual no longer poses a significant risk to society, unconditional release may be granted, thereby terminating the internment measure.

Between 2019 and 2022, the number of conditional release revocations recorded by the SPC increased slightly from 179 to 201, despite a temporary decline in 2021 (180 in 2020 and 168 in 2021). Over the same period, the number of individuals under ongoing conditional release steadily increased, rising from 1,817 in 2019 to 2,039 in 2022 (*Rapport internement*, 2023). This trend may reflect greater caution in granting unconditional release or

persistent difficulties among some interned individuals in achieving sufficient autonomy within the community.

Sampling and data collection

Data were extracted from the medico-legal records of three SPCs for patients who were discharged between September 2014 and September 2018. In total, 168 patients were released by the SPC of Mons ($n = 78$), French-speaking Brussels ($n = 50$), and Liège ($n = 40$). The database provided information on the post-discharge trajectories of patients released from the forensic psychiatric hospital Centre Régional Psychiatrique 'Les Marronniers' in Tournai, Belgium. Three groups were identified based on the type of released status in effect at the time the individual's case file was reviewed: (1) Conditional Release (CR; 50.0%, $n = 84$), (2) Unconditional Release (UR; 31.5%, $n = 53$), and (3) Revocation of Conditional Release (RCR; 18.5%, $n = 31$).

Procedure and outcome measures

Demographic, judicial, clinical, and Treatment/Care trajectory information were extracted. Approval for this study was obtained from the ethics review board of the Centre Régional Psychiatrique 'Les Marronniers' (reference DV/VJ/MDN/2022).

Demographic characteristics

Age at admission and at discharge, length of hospitalization (years), length of longitudinal follow-up (years), nationality, marital status, and the SPC responsible for the case was collected.

Judicial information

Judicial information was retrieved from the Central Criminal Records of the Ministry of Justice. Violent offenses were restricted to acts of non-sexual violence against others, that is, the intentional use of physical force or power – threatened, attempted, or actual – against another person. Offenses were divided into three types: sexual, violent non-sexual, and non-sexual non-violent. Prior convictions were classified into two categories: prior sexual offences and prior non-sexual offences. Finally, prior internment has been recorded.

Psychiatric diagnoses

Mental disorders were classified according to the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association (Ed.),

2013). The most recent and most frequently recorded diagnoses in the case files were retained. The major mental disorders considered in the study included schizophrenia spectrum and other psychotic disorders; SUD and addictive disorders; and anxiety and/or mood disorders. Personality disorders included Cluster A disorders (paranoid, schizoid, schizotypal), Cluster B disorders (antisocial, borderline, narcissistic, histrionic), and Cluster C disorders (avoidant, dependent, obsessive – compulsive), as well as personality disorder not otherwise specified (NOS). Intellectual disability and psychiatric comorbidity were also considered.

Violence risk appraisal guide-revised (VRAG-R)

The VRAG-R is an actuarial risk assessment instrument designed to estimate the long-term risk of violent recidivism among offenders, including forensic psychiatric populations. The VRAG-R is a revised version of the original VRAG and consists of 12 static risk factors derived from historical, clinical, demographic, and criminological information, such as prior violent behaviour, sexual offending, antisociality, marital status, age at the index offence, and prior convictions for violent and non-violent offences. Item scores are weighted and summed to yield a total score ranging from –32 to 40, which classifies individuals into one of the nine risk categories associated with empirically derived probabilities of violent reoffending over extended follow-up periods (Harris et al., 2015).

In international validation studies, the VRAG-R has demonstrated good interrater reliability ($ICC = .83-.99$), and predictive validity for violent recidivism has generally been reported as moderate to good ($AUC = 0.66-0.74$) (Glover et al., 2017; Rice et al., 2013). However, predictive accuracy varies across populations and contexts in Belgium. In a Flemish medium-security forensic psychiatric population, the VRAG showed good reliability but non-significant predictive validity for the outcomes examined (van Heesch et al., 2016). In contrast, studies conducted in French-speaking Belgium reported good predictive accuracy in carceral and medico-legal populations (general recidivism: $AUC = 0.74$; violent recidivism: $AUC = 0.82$; non-violent recidivism: $AUC = 0.75$) (Pham et al., 2005). More recent findings in released individuals who had sexually offended showed good convergence between the VRAG-R and related actuarial tools such as the SORAG, as well as moderate to good predictive validity (general recidivism: $AUC = 0.70$; violent recidivism: $AUC = 0.80$; sexual recidivism: $AUC = 0.66$; non-violent non-sexual recidivism: $AUC = 0.75$) (Ducro & Pham, 2022). Finally, evidence from a large cohort of patients treated in a high-security forensic psychiatric facility, indicates that antisocial and criminal behaviour, assessed using the Psychopathy Checklist – Revised (PCL-R), is more strongly associated with the total VRAG and VRAG-R scores ($r = .68$ and $r = .72$, respectively) (Delannoy et al., 2025). These findings

support the applicability of the VRAG-R within the Belgian medico-legal context. In this study, two psychologists trained on the scoring of the VRAG-R independently coded the data. The VRAG-R demonstrated excellent interrater reliability ($ICC = .96$).

Trajectories variables

Living setting at discharge and during the follow-up period

Living setting at discharge was categorised into institutional settings (e.g. psychiatric hospitals, residential facilities, and sheltered housing) and community-based settings (e.g. living alone, with family, or with a cohabiting partner). During the follow-up period, the number of changes in living setting was analysed.

Probation supervision and breaches of conditional release

Breaches of conditional release conditions were identified retrospectively from judicial, probation, and clinical records which were systematically available to all participants. We examined the number of justice assistant meetings and release conditions. These typically included supervision requirements (regular meetings with the justice assistant and compliance with reporting obligations), housing conditions (residence at a specified address), residence or movement restrictions (limitations on travel or access to certain locations), treatment conditions (adherence to psychiatric treatment), occupational conditions (engagement in work, training, or structured daily activities), prohibition of reoffending, substance use conditions (abstinence from alcohol and/or drugs, requiring acceptance of monitoring through testing), and other individualised conditions tailored to specific risks or needs. Treatment non-adherence was coded from documented evidence in medico-legal and probation records, including repeated missed psychiatric or psychological appointments, refusal of prescribed treatment, interruption of follow-up care, or explicit reports of non-compliance communicated to the Social Protection Chamber. The number of violations per condition category was calculated. Finally, the mean interval between two justice assistant reports, as well as the probation supervision ratio (duration of supervision (days) / number of justice assistant reports), were calculated.

Data analysis

Statistical analyses were conducted using IBM SPSS Statistics (Version 29; IBM Corp [IBM], 2022). Descriptive analyses were first performed on the total sample. Non-parametric statistics were employed for the analyses due to

a lack of normality across all dependent variables, as confirmed by the Kolmogorov – Smirnov test ($N > 50$). Given the large number of pairwise comparisons performed, Holm – Bonferroni corrections were additionally applied within each family of post hoc comparisons according to the nature of the variables examined in order to reduce inflation of type I error (Holm, 1979). Because the study was retrospective and included all eligible cases discharged during the study period, *a priori* power analysis was conducted. A post hoc sensitivity analysis was therefore performed using GPower as an approximate benchmark for three-group comparisons. Although non-parametric tests were used because several continuous variables violated normality assumptions, the closest available GPower procedure was a one-way fixed-effects ANOVA model. With $N = 168$, three groups, $\alpha = .05$, and power = .80, the minimum detectable effect size was $f = .24$, indicating adequate power to detect small-to-medium group differences.

For continuous variables, group comparisons across the three post-discharge trajectories (conditional release, unconditional release, and revocation of conditional release) were conducted using Kruskal – Wallis tests, followed by Mann – Whitney U tests for pairwise comparisons when appropriate. Effect sizes were calculated using $r = z/\sqrt{N}$ (Field, 2024).

They included age, age at admission and at discharge, length of hospitalization, duration of longitudinal follow-up, VRAG-R total score, number of justice assistant meetings, number of release conditions, number of violations per condition category, number of changes in living setting, mean interval between justice assistant reports, and the supervision ratio. Cohen r criterion was used: .10 = small, .30 = medium, .50 = large (Cohen et al., 2003).

For categorical variables, a comparison between the subsamples was conducted using the chi-squared (χ^2) test or Fisher's exact test, as appropriate. Cramér's V was calculated as a measure of association strength. They included nationality, marital status, type of index offence (sexual, violent non-sexual, non-sexual non-violent), prior convictions (sexual and non-sexual), prior internment, psychiatric diagnoses (major mental disorders, personality disorder clusters, intellectual disability, psychiatric comorbidity), living setting at discharge (institutional vs. community-based), VRAG-R risk categories, and the presence of breaches of conditional release. Finally, logistic regression analyses were conducted using a forward likelihood ratio (LR) stepwise procedure to identify predictors of conditional release revocation. Demographic, clinical, criminological, violence risk, and post-release trajectory variables (e.g. living arrangements at discharge, living setting during follow-up, probation supervision, and breaches of conditional release conditions) were entered as predictors in the stepwise selection process. Odds ratios (OR) with 95% confidence intervals (CI) were reported to estimate the magnitude and precision of associations. Statistical significance was set at $p < .05$. Multicollinearity diagnostics indicated low variance inflation factors

(VIF range 1.04 to 1.76), suggesting no problematic collinearity among predictors. The Hosmer – Lemeshow goodness-of-fit test indicated adequate calibration of the final model ($\chi^2(7) = 4.08, p = .771$).

Results

Sample description

The total sample was predominantly of Belgian nationality (82.1%, $n = 138$). Only a minority of participants were married or living with a partner (11.9%, $n = 20$). The mean age at admission to forensic psychiatric care was 38.60 years ($SD = 12.68$, range 20.27 to 73.18), and the mean age at conditional release was 45.96 years ($SD = 12.59$, range 24.59 to 78.61).

Approximately half of the index offences were non-violent and non-sexual offences (48.2%, $n = 81$), followed by violent non-sexual offences (47.6%, $n = 80$). Sexual offences accounted for 26.2% ($n = 44$) of cases, while offences that were both sexual and violent represented 6.5% ($n = 11$). Nearly one-quarter of the sample (23.2%, $n = 39$) had a prior internment. Most participants (66.1%, $n = 111$) had previously committed offences, mainly non-sexual offences (63.7%, $n = 107$), while sexual offences were less frequent (13.1%, $n = 22$). Major mental disorders were highly prevalent (92.9%, $n = 156$), with SUD (73.2%, $n = 123$) and psychotic disorders (54.2%, $n = 91$) being the most common diagnoses. Approximately, 39.9% ($n = 67$) of the sample met criteria for a personality disorder, most frequently Cluster B personality disorders and particularly antisocial personality disorders. Regarding psychiatric comorbidity, over one-third of the sample (36.9%, $n = 62$) presented comorbid major mental and personality disorders. In terms of violence risk, participants were classified on average in the fifth risk category of the VRAG-R, corresponding to a population with estimated violent recidivism rates of 26% ($n = 25$) at 5 years and 51% ($n = 25$) at 12 years.

With respect to the treatment characteristics, the mean length of hospitalization was 11.30 years ($SD = 6.44$, range 1.58 to 34.90), and the mean duration of longitudinal follow-up was 3.81 years ($SD = 2.12$, range 0.04 to 10.12). At the time of conditional release, the living setting was predominantly institutional (85.7%, $n = 144$). Living setting during the follow-up period were exclusively institutional for 60.7% ($n = 102$) of participants, exclusively community-based for 7.7% ($n = 13$), and mixed (institutional and community-based) for 31.5% ($n = 53$).

Breaches of conditional release

Regarding probation supervision, participants attended a mean of 8.12 meetings with a justice assistant ($SD = 4.88$, range 1 to 32). The mean probation

supervision ratio was 0.45 (SD = 0.45, range 0.05 to 4.82). The mean number of condition violations was 2.52 (SD = 4.16, range 0 to 20). Substance use – related violations were the most frequent, affecting 33.3% of the participants ($n = 56$), followed by violations of the no-reoffending condition (31.0%, $n = 52$). Housing-related violations were observed in 25.6% of the participants ($n = 43$), while treatment-related violations occurred in 18.5% ($n = 31$). Violations of supervision requirements involving the justice assistant and occupational conditions were each observed in 13.1% of the participants ($n = 22$). Finally, residence or movement restrictions were breached by 10.1% of the participants ($n = 17$), and other individualised conditions were violated by 8.3% ($n = 14$).

Revocation of conditional release

Approximately one-fifth of patients granted conditional release experienced revocation and were subsequently referred either to a prison psychiatric annex or back to a high-security forensic psychiatric hospital (18.5%, $n = 31$). Revocation occurred on average 1.87 years after release (SD = 1.57; range 0.19 to 6.97). During the conditional release period, the mean number of imposed conditions was 10.84 (SD = 3.45, range 6 to 17), and the mean number of meetings with a justice assistant during follow-up was 7 (SD = 4.89, range 1 to 24). Regarding the reasons for the revocation, 54.8% of the cases ($n = 17$) were attributable to breaches of imposed conditions. In addition, there were 25.8% ($n = 8$) of revocations resulted from the commission of new violent offences, whereas 9.7% ($n = 3$) were related to new non-violent offences and 9.7% ($n = 3$) to deterioration of the individual's mental state.

Recidivism among released patients

Recidivism was defined as any new conviction following conditional release, regardless of offence type. Importantly, revocation following a new offence did not systematically imply official recidivism, as some offences were not prosecuted. After a mean follow-up period of 3.81 years, the official overall recidivism rate was 3.0% ($n = 5$). Among individuals who officially reoffended, violent recidivism (including sexual offences) accounted for 80.0%, while non-violent recidivism accounted for 20.0%.

Recidivism generally occurred early after release, with most cases arising within the first 2 years, although one case occurred more than 7 years post-release. Recidivist profiles were heterogeneous: two individuals had been interned for sexual offences and three for non-violent, non-sexual offences, sometimes involving multiple offences. Reoffences included sexual, violent, or non-violent offences.

Most recidivist acts occurred in non-institutional living settings, with only one case occurring in an institutional setting. All recidivists had a history of substance use, most had prior criminal convictions, and a substantial proportion presented with antisocial personality disorder, were single, or had experienced prior internment, all of which are established risk factors for recidivism. Age at release varied widely among recidivists.

Comparisons across conditional, unconditional, and revoked groups

Regarding demographic characteristic (Table 1), UR individuals were significantly older than RCR individuals ($U = 579.00$, $p = .025$, $r = .25$). No other significant differences were observed between the three groups for the remaining demographic variables.

Regarding judicial characteristics, no significant group differences were observed for judicial variables. However, clear differences emerged when violence risk was considered. UR individuals displayed significantly lower VRAG-R scores than both CR ($U = 1316.00$, $p < .001$, $r = .33$) and RCR individuals ($U = 298.50$, $p < .001$, $r = .50$), whereas RCR individuals showed significantly higher VRAG-R scores than the CR individuals ($U = 853.50$, $p = .029$, $r = .22$).

The distribution of VRAG-R categories indicates that individuals with unconditional release are predominantly represented in lower risk categories, those under conditional release show an intermediate profile, while revoked individuals are overrepresented in higher risk categories, suggesting that actuarial violence risk differentiates post-release trajectories (Figure 1).

Regarding clinical variables, the RCR individuals presented significantly higher rates of substance-related and addictive disorders compared with both the CR group ($p = .001$, *Cramér's V* = .29) and the UR group ($p = .001$, *Cramér's V* = .36). With respect to personality disorders, the RCR individuals were more likely to present Cluster B personality disorders than UR individuals ($p = .016$, *Cramér's V* = .29), whereas UR individuals were less likely to present Cluster B personality disorders than CR individuals ($p = .009$, *Cramér's V* = .23). More specifically, antisocial personality disorder was significantly more prevalent in the RCR group compared with the UR group ($p = .007$, *Cramér's V* = .32), less prevalent in the UR group compared with the CR group ($p = .024$, *Cramér's V* = .20). In contrast, CR individuals were more likely to present Cluster C personality disorders than UR individuals ($p = .043$, *Cramér's V* = .18). With respect to comorbidities, CR individuals were significantly more likely to present comorbid mental and personality disorders compared with UR individuals ($p = .009$, *Cramér's V* = .21).

Regarding the post-release supervision and living trajectories, UR individuals had significantly longer follow-up periods than both CR ($U = 784.50$, $p < .001$, $r = .54$) and RCR individuals ($U = 491.50$, $p = .002$, $r = .33$), as well as

Table 1. Demographic, judicial, violence risk, clinical, and post-release trajectory characteristics among conditional, unconditional, and revoked groups.

	Conditional Release (n = 81–84)		Unconditional Release (n = 52–53)		Revocation of Conditional Release (n = 29–31)		χ^2 / Kruskal- Wallis H
	n (%)	M (SD)	n (%)	M (SD)	n (%)	M (SD)	
<i>Demographic</i>							
Belgian nationality	66 (78.6)		46 (86.8)		26 (83.9)		1,58
Married/living together	12 (14.3)		5 (9.4)		3 (9.7)		0,20
Single	60 (71.4)		36 (67.9)		22 (71.0)		0,91
Age		49.16 (12.27)		53.17 (12.62)		46.50 (13.05)	6,09*
Age admission		38.37 (11.33)		40.91 (11.98)		35.13 (11.13)	4,74
Age at discharge		45.95 (12.23)		47.99 (13.06)		42.52 (12.38)	3,70
Length of hospitalization (years)		10.74 (6.50)		12.16 (6.29)		11.37 (6.58)	0.61
Length of longitudinal follow-up (years)		2.94 (1.98)		5.20 (1.50)		3.79 (2.17)	40,42***
<i>Judicial qualification index offence</i>							
<i>Qualification index offence</i>							
Sexual	22 (26.2)		14 (26.4)		8 (25.8)		.004
Non-sexual violent	46 (54.8)		21 (39.6)		13 (41.9)		2.94
Non-sexual non-violent	39 (46.4)		22 (41.5)		20 (64.5)		4.36
<i>Prior convictions</i>	61 (72.6)		29 (54.7)		21 (67.7)		4,69
<i>Qualification prior conviction</i>							
Sexual	16 (19.0)		4 (7.5)		2 (6.5)		5,25
Non-sexual violent	59 (70.2)		27 (50.9)		21 (67.7)		5,50
<i>Prior internment</i>	20 (23.8)		13 (24.5)		6 (19.4)		3.27
<i>Risk assessment</i>							
<i>Total score VRAG-R</i>		3.01 (16.89)		−8.46 (16.57)		11.31 (15.93)	14.59***
<i>Category risk</i>	5.32 (2.31)		3.71 (2.35)		6.41 (2.10)		24.29***
<i>Psychiatric diagnosis</i>							
<i>Any psychotic/SUD/mood disorders</i>	74 (88.1)		51 (96.2)		31 (100)		6,16*
Psychotic disorders	45 (53.6)		28 (52.8)		18 (58.1)		.240
SUD	58 (69.0)		35 (66.0)		30 (96.8)		15.38**
Anxiety and mood disorders	11 (13.1)		6 (11.3)		1 (3.2)		2.78

(Continued)

Table 1. (Continued).

	Conditional Release (<i>n</i> = 81–84)		Unconditional Release (<i>n</i> = 52–53)		Revocation of Conditional Release (<i>n</i> = 29–31)		χ^2 / Kruskal- Wallis <i>H</i>
	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	
<i>Personality disorder cluster A/B/C</i>	38 (45.2)		16 (30.2)		13 (41.9)		3.14
Cluster A	15 (17.9)		10 (18.9)		3 (9.7)		1.36
Cluster B	24 (28.6)		5 (9.4)		10 (32.2)		8.42*
Antisocial personality disorder	17 (20.2)		3 (5.7)		9 (29.0)		8.52*
Cluster C	7 (8.3)		0 (0.0)		0 (0.0)		7.30*
NOS	4 (4.8)		3 (5.7)		2 (6.5)		.142
<i>Intellectual disabilities</i>	32 (38.1)		16 (30.2)		11 (35.5)		4.67
<i>Comorbidity personality and mental disorders</i>	35 (41.7)		14 (26.4)		13 (41.9)		3.66
<i>Living arrangements at discharge</i>							
Institutional setting	73 (86.90)		45 (84.91)		26 (83.87)		.212
Community based settings	11 (13.10)		8 (15.09)		5 (16.13)		.212
<i>Living setting during the follow-up period</i>							
Institutional setting	55 (65.48)		30 (56.60)		17 (54.84)		1.62
Community-based settings	5 (5.95)		7 (13.21)		1 (3.23)		3.48
Institutional and community	24 (28.57)		16 (30.19)		13 (41.94)		1.94
Number of changes in living setting		2.93 (2.30)		1.87 (1.32)		3.42 (2.03)	17.43***
<i>Probation supervision</i>							
Justice assistant supervision meetings		7.83 (5.58)		9.23 (3.30)		7.00 (4.89)	13.13***
Mean interval between two justice assistant reports (days)		141.86 (42.66)		155.61 (37.96)		125.85 (52.53)	5.29**
Number of conditional release conditions		10.08 (3.47)		9.30 (4.34)		10.84 (3.43)	5.65
<i>Breaches of conditional release</i>							
Justice assistant supervision meetings	5 (5.95)		1 (1.89)		16 (51.61)		50.03***
Housing	19 (22.61)		2 (3.77)		22 (71.0)		47.15 ***
Residence restriction	5 (5.95)		0 (0.0)		12 (38.71)		35.43 ***
Therapy	8 (9.52)		1 (1.89)		22 (70.97)		70.93***
Occupation	6 (7.14)		2 (3.77)		14 (45.16)		34.67***
No reoffending	20 (23.81)		7 (13.21)		25 (80.65)		45.63 ***

(Continued)

Table 1. (Continued).

	Conditional Release (<i>n</i> = 81–84)		Unconditional Release (<i>n</i> = 52–53)		Revocation of Conditional Release (<i>n</i> = 29–31)		χ^2 / Kruskal-Wallis H
	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	
Substance use	28 (33.33)		7 (13.21)		21 (67.74)		26.18***
Other	3 (3.57)	.	1 (1.89)		10 (32.26)		28.61***
Probation follow-up ratio		.52 (.61)		.42 (.14)		.26 (.12)	27.53***

Note. * <.05; **<.01; ***<.001.

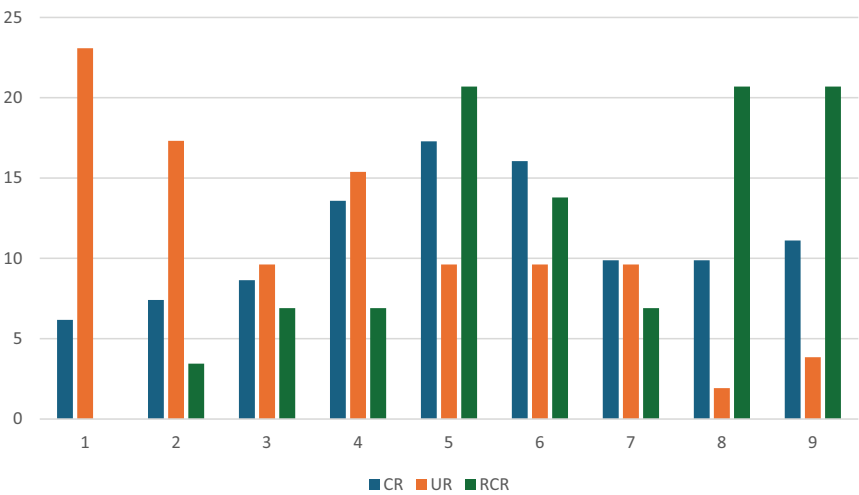


Figure 1. Prevalence of VRAG-R risk categories across the three post-discharge groups.

significantly more meetings with a justice assistant than RCR individuals ($U = 494.00$, $p = .015$, $r = .35$). In addition, UR individuals experienced significantly fewer changes in living environment than both CR ($U = 1630.50$, $p = .005$, $r = .15$) and RCR individuals ($U = 384.50$, $p < .001$, $r = .23$), reflecting greater housing stability among those who obtained unconditional release.

Regarding violations of conditional release conditions, a clear trend has emerged across all post-release trajectories. RCR individuals committed significantly more violations than CR and UR individuals across supervision requirements (respectively, $p < .001$, *Cramér's V* = .52 and .60), housing conditions (respectively, $p < .001$, *Cramér's V* = .45 and .72), residence or movement restrictions (respectively, $p < .001$, *Cramér's V* = .41 and .53),

occupational conditions (respectively, $p < .001$, *Cramér's V* = .45 and .51), treatment conditions (respectively, $p < .001$, *Cramér's V* = .62 and .75), the no-reoffending condition (respectively, $p < .001$, *Cramér's V* = .52 and .67), and other individualised conditions (respectively, $p < .001$, *Cramér's V* = .40 and .43), whereas UR individuals generally displayed the lowest rates of condition violations. Substance use – related violations showed a more complex pattern. RCR individuals committed significantly more substance use – related violations than UR individuals ($p < .001$, *Cramér's V* = .56). In contrast, CR individuals committed significantly more substance use – related violations than UR individuals ($p = .009$, *Cramér's V* = .23) and RCR individuals ($p = .001$, *Cramér's V* = .31). In addition, CR individuals committed significantly more housing-related violations than UR individuals ($p = .003$, *Cramér's V* = .26). The relevant differences related to violence risk, substance use disorders, supervision trajectories, and breaches of conditional release, remained statistically significant after Holm – Bonferroni correction.

Logistic regression highlighted a progressive improvement in predictive performance across models, with Nagelkerke R^2 increasing from .43 to .65 (Table 2). In the final model, the numbers of breaches related to no-reoffending, therapy engagement, and residence restrictions were associated with significantly increased odds of revocation, whereas a higher number of justice assistant supervision meetings was associated with reduced odds of revocation. Breach of the no-reoffending condition emerged as the strongest predictor.

Table 2. Logistic regression models predicting the revocation.

Model	Step	Predictor(s)	B	S.E.	Wald	Odds Ratio (CI)	R^2
1	1	Breach No reoffending	2.121	.372	32.526	8.339*** (4.023–17.284)	.434
2	1	Breach Therapy	1.614	.444	13.219	5.025*** (2.105–11.998)	.539
	2	Breach No reoffending	1.599	.413	14.994	4.951*** (2.203–11.124)	
3	1	Breach Therapy	1.723	.481	12.807	5.599*** (2.180–14.384)	.615
	2	Breach No reoffending	2.118	.509	17.286	8.311*** (3.063–22.551)	
	3	Justice assistant supervision meetings	–.242	.084	8.336	.785** (.666–.925)	
4	1	Breach Residence restriction	1.298	.503	6.661	3.662* (1.367–9.814)	.653
	2	Breach Therapy	1.447	.530	7.441	4.249** (1.503–12.013)	
	3	Breach No reoffending	2.131	.542	15.461	8.425*** (2.912–24.372)	
	4	Justice assistant supervision meetings	–.265	.097	7.505	.767** (.635–.927)	

Note: 95% CI; * $p < .05$; ** $p < .01$; *** $p < .001$; Nagelkerke R^2 .

Discussion

The present study examined post-discharge trajectories following high-security forensic psychiatric treatment in French-speaking Belgium, with a specific focus on revocation of conditional release and criminal recidivism. By comparing demographic, clinical, judicial, violence risk, and post-release trajectory characteristics across conditional release (CR), unconditional release (UR), and revocation of conditional release (RCR) groups, this study highlighted the factors associated with revocation.

Overall post-discharge outcomes after high-security forensic treatment

The sample reflected the high level of clinical and criminological heterogeneity reported in high-security forensic psychiatric populations (Fazel et al., 2016; Hayes et al., 2014). Participants presented long histories of forensic care, high rates of violent and non-sexual offending, frequent prior convictions, and a predominance of major mental disorders, particularly substance use, and psychotic disorders, notably combined with antisocial personality disorders.

Consistent with previous studies, actuarial violence risk levels were moderate to high, underscoring the accumulation of static and behavioural risk factors in this population (Harris et al., 2015; Pham et al., 2005). Despite this elevated risk profile, officially recorded recidivism remained low, a finding in line, with meta-analytic evidence suggesting that both long-term inpatient forensic treatment and structured post-release supervision are associated with reduced reoffending (Fazel et al., 2016; Ojansuu et al., 2023). In contrast, breaches of conditional release conditions were frequent, especially those related to substance use, treatment adherence, housing stability, and compliance with supervision requirements. Living arrangements indicated a highly structured post-release context: most participants were discharged to institutional settings. During the follow-up, the majority remained exclusively in institutional placements, with only a small minority residing exclusively in community-based settings. This sustained level of structure and supervision may partly account for the coexistence of frequent breaches of conditional release and low levels of officially recorded recidivism, as similarly observed in other forensic cohorts where restrictive and closely monitored environments limit exposure opportunities for reoffending (Fazel et al., 2016; Hayes et al., 2014; Lyons et al., 2022). The accumulation of breaches of conditional release conditions is a key indicator of the revocation process.

Revocation affected approximately one-fifth of conditionally released patients and typically occurred within the first 2 years following discharge. This result is consistent with international findings identifying the early post-release period as a critical phase for destabilisation (Lyons et al., 2022; Vitacco

et al., 2014). As previously indicated, revocation was more often driven by breaches of imposed conditions than by new criminal offences, supporting that revocation plays a preventive and regulatory role rather than a direct response to reoffending (Hayes et al., 2014; Wiederanders et al., 1997). Finally, the small number of recidivist cases shared well-established risk factors (substance use histories, prior convictions, antisocial traits, and community-based living arrangements) further aligning with existing models of violent and general recidivism in forensic populations (Fazel et al., 2009; Krona et al., 2017).

Demographic, clinical, post-release trajectory, and risk factors associated with revocation

In line with, our initial hypothesis, individuals whose conditional release was revoked displayed a markedly more adverse profile than those who remained under conditional release or obtained unconditional release. Revoked patients were younger at discharge, presented more likely to present substance use disorders, antisocial personality features, and treatment non-adherence. These findings are highly consistent with previous research identifying younger age, substance misuse, antisocial traits, and elevated actuarial risk scores as key correlates of revocation in forensic populations (Jeandarme et al., 2016; Lyons et al., 2022; Manguno-Mire et al., 2014; Vitacco et al., 2014). In line, with studies demonstrating the incremental validity of actuarial tools (Ducro & Pham, 2022; Harris et al., 2015; Pham et al., 2005), elevated VRAG-R scores among revoked individuals further support the relevance of static criminological and behavioural factors in differentiating post-release trajectories.

Protective factors and pathways to unconditional release

Conversely, individuals who obtained unconditional release exhibited a comparatively more favourable profile, characterised by lower violence risk, lower antisocial personality disorders, greater residential stability, longer follow-up periods, and more sustained engagement with probation supervision. These findings align with earlier work highlighting the protective role of structured supervision, stable housing, and gradual progression through levels of security in promoting successful reintegration (Hayes et al., 2014; Jeandarme et al., 2016; Simpson et al., 2018). Notably, the logistic regression analyses identified breaches of conditional release (particularly violations of the no-reoffending condition, treatment non-adherence, and residence restrictions) as the strongest predictors of revocation, while more frequent meetings with a justice assistant were associated with reduced odds of revocation. This result echoes prior evidence suggesting that supervision

intensity and continuity are critical in identifying early signs of destabilisation and mitigating escalation toward revocation or reoffending (Björkly et al., 2010; Coid et al., 2007; Lyons et al., 2022).

Revocation as a regulatory mechanism: breaches versus reoffending

Consistent with our second hypothesis, revocation occurred more frequently due to breaches of imposed conditions than due to the commission of new criminal offences. This pattern has been repeatedly documented across jurisdictions and legal systems (Hayes et al., 2014; Lyons et al., 2022; Vitacco et al., 2014; Wiederanders et al., 1997) and underscores the fact that revocation primarily reflects difficulties in maintaining clinical, behavioural, and social stability under community conditions rather than immediate criminal recidivism. Substance use-related violations emerged as particularly salient, reinforcing previous evidence that substance misuse is a central driver of post-release instability in forensic populations, contributing both to supervision breaches and to escalation toward revocation (Fazel et al., 2009; Krona et al., 2017; Ojansuu et al., 2023). However, the differentiated pattern observed between CR and RCR individuals reflects differential tolerance thresholds or graduated supervisory responses to substance use breaches. In practice, such violations may be addressed through intensified monitoring, treatment adjustments, or formal warnings rather than immediate revocation, particularly when individuals remain otherwise compliant with other release conditions.

Revocation and recidivism: preventive risk management rather than failure

Finally, our findings support the third hypothesis that revocation does not necessarily coincide with higher rates of officially recorded violent recidivism. Despite a relatively high revocation rate and substantial non-compliance among the RCR group, official recidivism remained low in the overall sample. This observation is consistent with meta-analytic and large cohort studies reporting low conviction-based recidivism rates among forensic psychiatric patients following discharge, even in the presence of frequent supervision breaches (Fazel et al., 2016; Ojansuu et al., 2023; Sivak et al., 2023). Together, these findings support the interpretation of revocation as a preventive risk management mechanism rather than a simple indicator of treatment failure. By allowing judicial and clinical authorities to intervene early in destabilising trajectories, often before serious reoffending occurs, revocation may contribute to maintaining low rates of violent recidivism at the population level, particularly in high-risk forensic cohorts. Nevertheless, these low recidivism rates should be interpreted cautiously. A substantial proportion of patients

remained in institutional settings or highly structured community living arrangements following discharge, often under intensive supervision and multiple conditions of release. Such environments may reduce exposure to criminogenic situations and opportunities for offending while facilitating early intervention in the event of clinical or behavioural destabilisation. Moreover, structured supervision and support may contribute to a degree of stability that does not necessarily reflect functioning under less restrictive conditions. Consequently, the low recidivism rates observed may partly reflect the protective effects of post-release supervision and environmental structure rather than treatment effects alone. In addition, recidivism was operationalised using officially recorded convictions, which likely underestimates the true prevalence of reoffending, as not all offences are detected, prosecuted, or result in an official conviction.

Implications for post-release care and risk management

Strengths of this study include the use of longitudinal medico-legal records, the comparison of three distinct post-discharge trajectories, and the systematic coding of conditional release categories and associated violations, enabling a detailed analysis of post-release dynamics beyond conviction-based outcomes alone. To our knowledge, this is the first longitudinal study conducted in French-speaking Belgium to examine conditional release trajectories following high-security forensic psychiatric treatment. It is also the first in this context to explore the association between actuarial violence risk assessment (VRAG-R) and the types of release decisions granted by the SPC.

Beyond its methodological contributions, the study carries important clinical and policy implications. The findings support the relevance of the risk principle derived from the Risk-Need-Responsivity framework (Bonta & Andrews, 2016), according to which the intensity of supervision and intervention should be proportionate to an individual's level of risk. Release decisions and post-release supervision strategies may therefore benefit from being grounded in empirically validated and operationalised measures of violence risk, such as the VRAG-R, applied within a structured and longitudinal decision-making framework. The differentiation observed between conditional release, unconditional release, and revocation trajectories further underscores the importance of aligning supervision intensity, therapeutic engagement, and risk management strategies with individual criminogenic needs.

The present results underscore the need for personalised and structured risk management strategies following conditional release. Revoked individuals displayed more adverse clinical and criminological profiles, particularly in relation to substance use disorders, antisocial traits, and repeated breaches of imposed conditions. These results highlight the

importance of early identification of destabilising factors and the implementation of targeted interventions, notably specialised substance use treatment programmes, enhanced therapeutic engagement, and close supervision for high-risk individuals. Such approaches are consistent with evidence demonstrating that structured forensic ambulatory care and supervised outpatient follow-up improve stability and reduce reoffending after discharge (Coid et al., 2007; Schmidt-Quernheim & Seifert, 2014). However, the specific components, intensity, and quality of these interventions remain insufficiently documented, and comparative evaluations of their effectiveness are still limited (Jeandarme et al., 2016), highlighting the need for more systematic outcome research in forensic aftercare.

The findings also emphasise the importance of integrated care pathways combining psychiatric treatment, addiction management, and the reduction of violence risk factors. From both a clinical and policy perspective, these results underscore the central role of structured care pathways, supported by specialized mobile internment care teams, which provide community-based ongoing care to promote clinical stability and prevent care disruptions. In coordination with the patient's care network, including general practitioners and family members, such teams facilitate appropriate admissions, thereby reducing the risk of subsequent revocation. Previous studies have shown that substance misuse, antisocial traits, and persistent delinquent behaviour are central drivers of both breaches and recidivism (Fazel et al., 2009; Ojansuu et al., 2023). Therefore, post-release supervision should not only monitor compliance but actively address dynamic risk factors through coordinated medico-socio-judicial collaboration. Consistent with Belgian data, gradual progression through decreasing levels of security and sustained structured supervision appears to support more stable community trajectories and relatively low violent recidivism rates (Jeandarme et al., 2016).

The relatively frequent use of revocation in Belgium may reflect a preventive policy aimed at interrupting destabilising trajectories before serious reoffending occurs. Revocation may be a regulatory risk management tool embedded within a structured supervision framework (Hayes et al., 2014; Jeandarme et al., 2016; Lyons et al., 2022). However, prolonged conditional release trajectories may increase exposure to breaches and revocations, potentially contributing to system congestion and sustained pressure on forensic and community services (, 2023). In this perspective, optimising post-release care requires balancing public protection with progressive and individualised reintegration. Strengthening coordination between mental health services, probation authorities, and social support systems, ensuring equitable access to treatment and rehabilitation resources, and enhancing professional training in risk assessment and management are essential steps toward reducing breaches, limiting unnecessary revocations, and promoting

safer long-term outcomes (Bali et al., 2026; Jeandarme et al., 2016; Lyons et al., 2022; Ojansuu et al., 2023).

Limitations and future directions

Several limitations must nevertheless be acknowledged. First, the study relied primarily on the VRAG-R, a static actuarial measure of violence risk. Although the VRAG-R demonstrated good reliability and predictive validity in Belgian forensic settings, it neither captures dynamic risk factors nor provides a direct probabilistic estimate of individual recidivism risk, unlike instruments such as the Offender Group Reconviction Scale (OGRS; Howard, 2018). Similarly, the absence of structured professional judgement approaches, such as the HCR-20 or dynamic instruments, such as the Historisch Klinisch Toekomst-Revised represents an important limitation. Unlike purely actuarial tools, these instruments integrate clinical, contextual, and risk management factors that may better reflect the evolving supervision and reintegration needs following discharge (Belfrage & Douglas, 2019; Bogaerts et al., 2018).

Relatedly, the omission of formal protective factor assessments, such as the Structured Assessment of Protective Factors (de Vogel et al., 2009) represents a notable gap. Combining risk and protective factor instruments would allow for a more balanced and dynamic evaluation of reintegration potential and post-release outcomes. Future research should therefore integrate actuarial tools with protective factor measures to better understand the mechanisms promoting stability and desistance.

A further limitation concerns the retrospective design of the study, which relied on the completeness and accuracy of available medico-legal, judicial, and clinical records. Although multiple sources were used to corroborate key information, some variables may have been inconsistently documented across case files of such treatment modalities during both inpatient care and community follow-up. Although diagnostic and supervision variables were documented, the study did not systematically assess the type, intensity, duration, or nature of therapeutic interventions delivered (e.g. structured psychotherapeutic programmes, substance use treatment, pharmacological management, or rehabilitative services). Consequently, the specific contribution of treatment to post-release trajectories, revocation, and recidivism outcomes cannot be determined. Future studies should incorporate structured measures of treatment provision and therapeutic engagement to better elucidate the mechanisms underlying successful reintegration.

Furthermore, the study was limited to individuals who obtained conditional release from a single high-security forensic psychiatric hospital, which may have introduced selection bias. As a result, the findings may not be generalizable to all forensic patients, particularly those treated in other settings, including medium and high security forensic

hospitals. Additionally, the lack of a comparison group makes it difficult to determine whether the observed outcomes are specifically attributable to the characteristics of this cohort or reflect broader post-release processes. Future research would benefit from adopting a multicentre design and incorporating a comparison group, in order to enhance the generalizability of findings and better disentangle the specific factors contributing to successful community reintegration following conditional release.

Finally, the very small number of officially recorded recidivism cases ($n = 5$) substantially limited statistical power to conduct detailed analyses of recidivist profiles or compare trajectories across groups for this outcome, thereby restricting interpretation to a largely descriptive level. Although the overall sample size was sufficient to detect small-to-medium group differences, statistical power remained limited for rare outcomes, such as officially recorded recidivism. Consequently, findings related to recidivism should be interpreted cautiously. Ongoing data collection extending the observation period to 2014–2023 will increase the number of outcome events and allow for more robust and comprehensive statistical analyses in the future work. It should also be noted that the Belgian medico-legal framework governing internment, conditional release, and revocation differs considerably from those in many other jurisdictions, warranting caution when extrapolating these findings to other countries, legal systems, or forensic service structures.

Conclusion

This study provides the first longitudinal analysis of conditional release trajectories following high-security forensic psychiatric treatment in French-speaking Belgium. Revocation affected one in five individuals, mainly due to breaches of conditions rather than new offences, while officially recorded recidivism remained low. Higher actuarial risk, substance use disorders, anti-social traits, and repeated supervision breaches were associated with revocation, whereas greater stability characterised unconditional release. These results suggest that revocation functions as a preventive risk management mechanism within a structured supervision framework. Strengthening integrated, risk-informed post-release care is essential to support safe and sustainable reintegration.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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