Evaluation and management of violence risk for forensic patients: is it a necessary practice in Italy?

Harry G. Kennedy[1], Fulvio Carabellese[2], Felice Carabellese[3]

[1] DUNDRUM Centre for Forensic Excellence, Trinity College Dublin National Forensic Mental Health Service, Central Mental Hospital, Dundrum, Dublin, Ireland; [2] Department of Medical Sciences and Neurosciences, University of Siena, Italy; [3] Section of Criminology and Forensic Psychiatry, Department of Internal Medicine, University of Bari "Aldo Moro", Bari, Italy

SUMMARY

The Law of 30 May 2014, n. 81 represents the point of arrival of an important reform of the Italian psychiatric forensic system. With it, in fact, Italy passed from a forensic psychiatric model based on OPGs to one based on REMS. The structural and functional characteristics of the REMS are aimed at assuring general security, individual care, rehabilitation programs in community environment and small scale dimensions. Our forensic model of treatment is very unusual indeed, so the use of such tools and specific practices for assessing the risk of disturbing conduct would provide more objective data with which to support statements that today may appear self-referential.

Key words: OPG, REMS, forensic psychiatry treatment, risk assessment, forensic psychiatry evaluation

Received: December 18, 2020
Accepted: January 4, 2021

Correspondence
Fulvio Carabellese
School of Medicine, Department of Medical Sciences and Neurosciences, University of Siena, viale M. Bracci 16, 53100 Siena, Italy
E-mail: carabellese.fulvio@gmail.com

Conflict of interest
The Authors declare no conflict of interest

How to cite this article: Kennedy HG, Carabellese F, Carabellese F. Evaluation and management of violence risk for forensic patients: is it a necessary practice in Italy? Journal of Psychopathology 2021;27:11-8. https://doi.org/10.36148/2284-0249-415

Introduction

The question for the title is of special interest in Italy after replacement of its large high secure forensic psychiatric hospitals, the OPGs (*Ospedale Psichiatrico Giudiziario*) with small local secure treatment facilities, the REMS (*Residenze per l'Esecuzione delle Misure di Sicurezza*) [1]. This model of care for the mentally ill who commit crime is different from the other European countries [2].

The REMS is designed as a residential treatment community, integrated within the larger community model of general psychiatry under the coordination of Mental Health Care (*Dipartimento di Salute Mentale*, DSM) [3]. The REMS units are small residences limited to a maximum of 20 beds. These are for persons who have been charged with criminal offences and for whom criminal responsibility has been either totally excluded or reduced due to a serious mental illness at the time of the crime. Such patients must also be judged socially dangerous, (art. 203 Italian penal code). Within the REMS the residents live in a setting where they are assisted by health professionals 24 hours a day.

Inside the REMS, patients take care of their personal hygiene, participate in therapeutic and psychotherapeutic plans and rehabilitation activities. The forensic patients regularly are treated with pharmacotherapy under the supervision of staff. Adherence to therapies takes place in REMS only with the consent of the inpatients [4] as with any other psychiatric patient in Italy.

Inpatients with comorbid substance abuse problems are provided with specific treatment programs [5].

Outside the REMS, activities include the acquisition of social skills, participation in physical exercise and sports, cultural, educational, and job

training activities. The patients are allowed to spend free time outside of the facility with their family when it is permitted. They also participate in psychoeducational programs with their family in the REMS and in the community [6].

Since the closure in Italy of the psychiatric hospitals (*Ospedale Psichiatrico*, OP) in Italy more than 40 years ago, the new forensic treatment model is now in harmony with the care model of general psychiatry [7].

The Law 9/2012 ordered the closing of the older, larger forensic hospitals (OPGs) and the change to a model of care based on regional residential facilities in the community (REMS) and this new convergence of intents and objectives has been welcomed by forensic psychiatrists and general psychiatrists [8] although some problems are emerging [9].

During the 40 years since the closure of psychiatric hospitals in Italy, psychiatrists have acquired specialized skills that characterize their clinical practices. Psychiatrists pay more attention to prognostic protective factors such as increasing intimate and non-intimate relationships, intra-familial relationships, supporting economic independence, working and living independently, the regularity and frequency of contacts with the mental health services, the constancy and adherence of care, the motivation for treatment. Each of these is likely to enhance the patient's residual autonomy.

The Structured Assessment of Protective Factors for violence risk (SAPROF) is a structured professional judgement tool to assess protective factors that mitigate the risk of violence [10,11]. In Italy structured professional judgment (SPJ) using such tools is less common, with the most common practice amongst experienced clinicians still being unstructured professional judgement. Drawing on the experience gained in the years following the closure of the OPs, Italian psychiatrists hoped that after the closure of OPGs, attention to such protective factors would contribute to a reduction in the risk of future criminal behavior in mentally ill offenders and would promote their social reintegration into their home environments. It is now useful to think about evaluating the effectiveness of this model over time for mentally ill socially dangerous offenders. Little use has been made of formal evaluation of the changed models of care in the last forty years.

By law, internment in REMS is a custodial security measure which is "extreme and exceptional". Law 81 of 2014 limits the maximum duration of internment in REMS to the maximum time of imprisonment had the offender been found guilty of the crime and sentenced. Catanesi and colleagues [6] reported that the average length of stay of patients in all Italian REMS is less than one year. This relatively short length of stay may be in part because the 30 REMS in the twenty regions of Italy have 604 beds [6] less than half the total beds in the six OPGs before their closures. This is a period of time much shorter than those considered in other jurisdictions as indicative of stabilisation and readiness for return to the community [12-15].

Can we be sure that treatment in REMS for these periods of time will protect patients or prevent patients from carrying out new violent acts?

Catanesi and colleagues [6] in the only study conducted so far in Italy on the situation of REMS, showed that the great majority of the offences by inpatients in REMS were acts of violence against the person (80%). About fifty percent of the inpatients had previous criminal convictions, mostly also offences against persons. Using the Italian version of the Modified Overt Aggression Scale (MOAS) [16] Catanesi and colleagues [6] demonstrated that more than one third of inpatients committed some type of violence while interred, in the month before the research assessment. Moreover, because this new forensic treatment model had not been tried before, its actual benefits and liabilities remained untested.

So why is it important to assess the risk of violent acts within REMSs and other Italian forensic facilities?

The answer is twofold, in our opinion. The seriously mentally ill under certain conditions, can engage in violent conduct with a higher risk than the general population [17-27].

Consequently, it is necessary to assess the level of specific therapeutic safety to match the needs of each patient following a verdict of not guilty for reason of insanity (NGRI) [28] where possible by using effective structured professional judgment tools [29].

The same can also be said for patients deemed socially dangerous and subjected to psychiatric security measures in REMS.

In these first years of REMS activity, contrary to expectations, the available beds proved to be insufficient and this has generated long waiting lists that are difficult to dispose of and the equally complex problem of having to keep patients waiting for their entry in REMS [9,30]. A more precise and reliable assessment of the necessary level of therapeutic security would allow the adoption of psychiatric security measures other than REMS internment in many cases [31]. This happens in other countries, e. g. in England and Wales for high security [32], medium or low security hospitals [33,34] in Belgium [35,36], and in Ireland [37-39]. Having structured judgment tools capable of assessing the risk of violence, the seriousness of violence and security needs would allow us to expand the treatment solutions offered by our system and to calibrate them more precisely to the needs of the individual subjects to be treated.

It seems all the more necessary to assess this need for a level of therapeutic security in the population of socially

dangerous NGRI offenders in our country in the light of what law 81/2014 has determined or has not changed [9]. This law has left unchanged the phases of ascertaining criminal responsibility and social psychiatric dangerousness. These assessments are left exclusively to the decision of the competent judge advised by his/her trusted expert forensic psychiatrist. The contribution of the diagnostic systems such as DSM in that preliminary phase is scarce or limited, except for those regions or single judicial offices such as Emilia Romagna region where memoranda of understanding have established collaborations in this sense.

Consider, for example, the recognition of the resources available to a specific territory in order to prepare a defined rehabilitation project with the possibility of success. Consider also that this kind of assessment is made up of many specific items for evaluation in risk assessment and needs assessment tools, including the assessment of readiness to move to lower levels of therapeutic security or to the community [40,41]. This is one of the reasons that led us, after collaborating in the validation of the HCR-20 V3 [42] for the Italian population [43], to promote the validation in Italy also of the DUNDRUM toolkit [44].

Secondly, we believe that the safety of the health professionals working in REMS and other forensic facilities is a topic that has been neglected up to now [45-47]. It seems necessary to deepen our understanding of this [4] given the extent and frequency of aggressive episodes to the detriment of health professionals [48]. That will be the subject of a further study in another article in this same issue.

With this contribution instead we will try to address the first of the answers to the previous question, and in particular what to expect in making an adequate and correct assessment of risk and seriousness of risk of violence for these patients including the need for therapeutic security.

Violence, harm and social dangerousness

We are interested in violence risk because it is relevant to social dangerousness. Social dangerousness is a legal concept. From a psychiatric point of view dangerousness is a clinical concept and arises from two things, risk of harm and the seriousness of harm [49-51].

Risk of harm

Risk or probability of violence is a statistical measure. How likely is it that the violence in question will arise in a defined period such as a day, a month or a year and how likely (probable) is it that the violence in question will arise per person, per 100 people or per 100,000 people, in men or in women, in a particular age group, in patients or in the general public. For example, the incidence rate of homicide can be expressed as 1 per 100,000 per annum. This is the risk that any person in a population might die due to homicide in a year.

Seriousness of harm

The seriousness of the violent incident is less easy to measure mathematically. Most people would agree that a fatal injury or an injury that is potentially fatal is serious. Most people would agree that a playful pat with the hand on the back of a friend is not serious. The seriousness of the area between these two extremes is a social judgment.

Evaluation of violence risk

There are a number of reasons why Psychiatrists must assess risk in forensic patients. We are concerned here with the most common clinical reasons why we must do this. Advising courts on risk of violence (probability of harm) is the least common reason and often the most problematic.

Assessing how to reduce the risk of violence and mitigate the seriousness of violence for our patients is common. For example, all Psychiatrists must constantly be aware of the risk of suicide. Risks and causes of suicide overlap with the risks and causes of serious violence to others [11,52].

The evaluation of risk of violence and of harm generally is the product of scientific research. Like all scientific research this has developed over time. The assessment of risk has developed conceptually and more importantly it has developed scientifically.

So called unstructured professional judgement is based on training and experience. However, it is variable from one expert to another, it produces an assessment which cannot be measured or tested and is neither transparent nor reliable.

Actuarial evaluation approaches are statistically valid in so far as they identify risk factors that increase the likelihood of a violent event within a defined time. However, they can exclude important factors, they can inadvertently discriminate against certain groups and although statistically predictive, they are often weak predictors. Most commonly, actuarial risk checklists identify risk factors which are historic or fixed and not amenable to change.

Modern risk assessment instruments rely on structured professional judgement based on risks for which there is reasonably good evidence. The best known of these is the HCR-20 [42,53]. There are also newly emerging risk assessment instruments for protective factors such as the SAPROF [54,11] and for specific risks such as sex offending, risk of violence in children, domestic violence and suicide. Of note, not all the risk factors included in risk assessment instruments are predictive of risk of violence in all populations or all settings [55,56].

Risk and cause

An added problem with risk factors is that they may not be causal and therefore may not be relevant for treatment to reduce probability or mitigate seriousness of future violence. For example, having a poor employment record or not being married are statistical risk factors for future violence in the mentally ill. But they are not causal factors. They are indirect consequences of having severe mental illness. These may have no causal role (confounders) or they may be intermediate steps between a causal factor and an outcome (mediators or moderators). Actuarial risk factors may have low sensitivity if they have high false negative rates. More commonly actuarial risk factors and risk instruments may have low specificity with large numbers of false positives, particularly when the true risk (incidence rate) is very low [57,58].

Risk factors may be distal (at several removes from the violent event), they may be indirect (one risk factor leads to another factor which leads to the violent event) [59] or they may be accidental statistical associations with both causal or risk factor and outcome (confounders) which are not relevant at all [60]. Causation in psychiatry and human behaviour is seldom in the mathematical form 'if A then B'. Much more commonly, a causal model allows for high levels of uncertainty 'in some cases of A, some examples of B may follow'.

Causal factors are therefore more important for treatment and risk management [22,61-64]. Causal factors are a subset of risk factors. Causal factors always are antecedent to the violent event, that is they must occur prior to the violent event and they are usually proximate (close in time) to the violent event. Early experiences and later behaviour may be understood as indirect contributory factors that are not causal in themselves [59,65]. There may be a distinction here between a necessary causal effect and a sufficient causal event. Causal factors are good explanations for the violent event. Good explanations can be tested and can be falsified. Good explanations are hard to vary. And good explanations may have unexpected 'reach' so that they cast light on other phenomena [66]. An explanation that is meaningful and comforting may be completely incorrect from a causal point of view [67] though a good scientific explanation may also be a discovery that arises from a creative conjecture provided it then meets the other conditions of being antecedent, proximate, falsifiable, hard to vary and having some reach [66].

When considered from this point of view, many of the confusions in the research literature on the relationship between mental illnesses and mental disorders and harmful events such as violence can be clarified. There is no statistical association between mental illness (broadly defined) and crime (broadly defined). However, there is a relationship between untreated severe mental illness (for example psychosis) and violence particularly when delusions are active, are associated with anger [64,68] and are associated with strong moral judgements [69,70]. All of these are relevant to treatment. Substance misuse is the strongest statistical association with future violence probably because it is close to being a causal factor. Personality disorder and negative attitudes are also strongly associated with future violence. Risks and causes for self-harm and suicide overlap with the risks and causes of violence including serious violence [11,52].

However, the risks and causes for instrumental and deliberative violence are often different from the risks and causes for impulsive and expressive violent acts. Risks and causes may be quite different for physical violence against the person, sexual violence or other types of harm such as fire setting or robbery. In each of these cases, background factors, current context and current mental state, as well as future therapeutic rapport, adherence to treatment and risk management plans and social situation in the near future are all important though not necessarily equally important [60].

Formulating risk as a means of planning management

It follows that when formulating regarding a risk and the treatment needed to reduce future of probability risk, causes are usually more important than risks. However social supports and contexts, although indirect are also very important. There should be a greater emphasis on causal formulation over risk formulation for treatment planning. But the future prevention and management of violence may also require attention to matters that are not directly causal.

A formulation should start by distinguishing between the different types of violent act identified in the history of the patient. For example, the same patient may have a history of street robbery with violence since adolescence (instrumental and deliberative, to pay for drugs, anti-social attitudes); domestic violence towards serial partners (expressive, impulsive, intoxicated, negative attitudes towards women and children); violence towards others in prison and in hospital (expressive, instrumental, ego centric dominance oriented); and a single act of serious violence acting on delusions (instrumental and deliberative, intoxicated or delusional or both, often with a moral content). The treatment and management of these various behaviours must therefore be complex.

In the community, risk assessment instruments such as the HCR-20 (V3), the SAPROF and the SRAMM are supported by good evidence as a basis for risk assessment and the first part of a risk formulation for treatment and management.

In prison the same measures apply including the HCR-20 and SVR-20 (for sexual risk) the Level of Service

Inventory-Revised (LSI-R) which measures the need for intensity of structures and supports. The Threshold Assessment Grid can be used for screening purposes [71].

Management of violence risk

A forensic patient who requires treatment may represent a risk of violence to those providing social care and those providing psychiatric or psychological treatment. Care and treatment may require conditions of therapeutic safety and security so that care and treatment can be provided safely. Assessing the right level of therapeutic security for each patient is an essential clinical skill for Forensic Psychiatrists [37,72].

Forensic patients may require high or medium or low levels of therapeutic security. It is essential to make sure that the right patient is in the right place at the right time. Therapeutic security describes systems for environmental security, for example a place from which it is not possible to abscond; procedural security for example ways to prevent access to weapons, lighters, drugs; and relational security, ratio of staff to patients or residents and the quality of the therapeutic relationship between the staff (carers and therapists) and patients or residents [28].

It follows that Forensic Psychiatrists must evaluate risk of violence and seriousness of violence in different contexts. For example, in the community before admission, in a prison [73], in a residential unit or hospital or therapeutically safe and secure setting [74,75]; and when returned to the community [76-78].

In a therapeutically safe and secure setting such as a REMS or a Forensic Hospital the DUNDRUM-1 is a measure of the level of therapeutic security needed and this is independent of measures of risk such as the HCR-20 [37], whether high secure [32], medium [33,79] or low secure or all three [39,80]. This depends more on the seriousness of violence than the probability of violence. The DUNDRUM-2 is a measure of the urgency of need for admission, the priority on a waiting list [38].

In such a setting, brief, quickly rated daily assessments of short-term risk such as the DASA [81] or Bröset [82] are helpful in recognising imminent risk and preventing violence [83-86]. The items that make up the DASA and Bröset are antecedent, proximate and explanatory factors which are more like causal factors than risk factors. Similarly, the DRILL Behaviours predict restrictive and intrusive interventions such as restraint, seclusion and increased medication [87] and ensure high clinical standards in the use of interventions to reduce and manage violence in therapeutically safe and secure settings. In such settings, the HCR-20 and similar risk assessment instruments have dynamic measures which should identify reducing risk of violence. However, measures of treatment programme completion and forensic recovery may be more relevant to reduced risk, reduced seriousness of risk and future management of risk [88,89]. It can be shown that measures of global function (GAF) and symptom severity (PANSS) are also highly relevant and can be shown to mediate between treatment and change [11].

On returning a forensic patient from a therapeutically safe and secure setting to the community, risk factors that are relevant to future violence include personality disorder, a combination of mental illness and personality disorder, or relapse of mental illness where that is a sole factor. Relapse of substance misuse is also highly relevant. Most important of all is recovery in a forensic context, the long term engagement with the treating clinicians and adherence to risk management plans that include treatment to prevent relapses of symptoms, relapses of substance misuse or relapse concerning social context [41,76].

Treatment and management

Treatment should be oriented towards the identified causes of violent behaviours – physical health, mental health, substance misuse, violence related behaviours, self-care and activities of daily living, education occupation and creativity, family therapy. These can be summarised as four recoveries – forensic recovery of autonomy and responsibility, symptomatic recovery from suffering, functional recovery of independence, and personal recovery – therapeutic alliance, hope, satisfaction and quality of life. These treatment needs should be evident directly from a formulation of causes of violence.

Prevention and management of future violence also arises from identified risk factors as well as causes. For example, close monitoring of abstinence from substance misuse, social supports and frequent monitoring of mental state, and most of all from a quality of life that fosters engagement, adherence to treatment and abstinence, and enhanced dignity expressed as self-actualisation (to express oneself) and self-transcendence (to contribute to one's society).

Some conclusive considerations

As in all human activities, there is no ideal formula or theory that cannot improve over time. Similarly, the mental health model for Italy or any modern state may for now be among the most effective and respectful for the patient, even the perpetrator of crimes. The forensic treatment model has recently been adapted for the Italian mental health model, which has among its characterizing points its spread in the territory, respect of the patient's rights and the objectives of treatment and recovery massively oriented towards social rehabilitation. Making habitual use in Italian psychiatrist's clinical prac-

tice of the assessment and management tools used in other countries can refer to the same factors (clinical, personological, family, social, cultural, etc.) taken into consideration in those same instruments, with equal effectiveness.

Psychiatrists may feel that by using these instruments and approaches habitually and regularly in Italy's REMSs, in our forensic and non-forensic facilities, they may be abdicating personal experience, individual capacity, intuition and perhaps even their creativity.

However, the use of such instruments to support professional judgment, with all their limitations, would have the advantage of allowing us to speak a common language. And we all know how much we need to do it. We are paying a very high price for the heterogeneity of our public health during this period of the pandemic. We must find a more homogeneous and transparent language and practice in all Italian country.

Moreover, the use of standardised measures would allow comparisons with the models of other countries. It cannot be enough to assert, risking self-referentiality, that one's model is the best, the one that works best, the one that rehabilitates the patient, the one that stigmatizes him/her less, just because we have opted for a non-custodial model.

Comparison with other models is indispensable and this can only take place by adopting in our practices the regular use of assessment and management tools, including those for the risk of violent acts also used in other countries. And to re-use them over time, regularly. Maybe in a few years the REMS project will be able to demonstrate that patients are less violent than in other countries or that the therapeutic relationship and working alliance with the patient, which absorbs so much of the professional energies of psychiatrists, sometimes even at the cost of one's personal safety, is the most important and effective key to prevent the risk of violent acts and helping the patient to consolidate their well-being and their health.

References

1. Carabellese F, Felthous AR. Closing Italian forensic psychiatry hospitals in favor of treating insanity acquittees in the community. Behav Sci Law 2016;34:444-59. https://doi.org/10.1002/bsl.2234
2. Castelletti L, Scarpa F, Carabellese F. Treating not guilty by reason of insanity and socially dangerous subjects by community psychiatric services: an Italian perspective. Italian Journal of Criminology 2018;3:182-9.
3. Scarpa F, Castelletti L, Lega I. The closure of forensic psychiatric institutions in Italy. In: Vollm B, Braun P, Eds. Long term forensic psychiatric care – clinical, ethical and legal challenges. New York, NY: Springer 2017, pp. 317-30.
4. Carabellese F, Urbano M, Coluccia A, et al. Informed consent in forensic treatment. Lights, shadows, assumptions, perspectives. Italian Journal of Criminology 2018;3:207-14.
5. Pickard H, Fazel S. Substance abuse as a risk factor for violence in mental illness: some implications for forensic psychiatric practice and clinical ethics. Curr Opin Psychiatry 2013;26:349-54. https://doi.org/10.1097/YCO.0b013e328361e798
6. Catanesi R, Mandarelli G, Ferracuti S, et al. The new residential forensic psychiatric system (REMS): a one-year population study. Italian Journal of Criminology 2019;13:7-23. https://doi.org/10.7347/RIC.NS2019.p07
7. Traverso S, Traverso GB. La nascita delle REMS in Toscana ai sensi della Legge n. 81/2014. Italian Journal of Criminology 2017;11:220-3.
8. Casacchia M, Malavolta M, Bianchini V, et al. Il superamento degli ospedali psichiatrici giudiziari: a new deal per la salute mentale? Rivista di Psichiatria 2015;50: 199-209.
9. Mandarelli G, Coluccia A, Urbano MT, et al. Current issues, penitentiary treatment problems and prospect after law 81/2014. Italian Journal of Criminology 2019;13:316-26. https://doi.org/10.7347/RIC-042019-p316
10. de Vogel V, de Ruiter C, Bouman Y, et al. SAPROF: Structured assessment of protective factors for violence risk. Guidelines for the assessment of protective factors for violence risk. English version, 2009. Utrecht. Forum Educatief.
11. Abidin Z, Davoren M, Naughton L, et al. Susceptibility (risk and protective) factors for in-patient violence and self-harm: prospective study of structured professional judgement instruments START and SAPROF, DUNDRUM-3 and DUNDRUM-4 in forensic mental health services. BMC Psychiatry 2013;13:197. https://doi.org/10.1186/1471-244X-13-197
12. Sharma A, Dunn W, O'Toole C, et al. The virtual institution: cross-sectional length of stay in general adult and forensic psychiatry beds. Int J Ment Health Syst 2015;9:25. https://doi.org/10.1186/s13033-015-0017-7
13. Davoren M, Byrne O, O'Connell P, et al. Factors affecting length of stay in forensic hospital setting: need for therapeutic security and course of admission. BMC Psychiatry 2015;15:301. https://doi.org/10.1007/978-3-030-12594-3_8
14. Völlm BA, Edworthy R, Huband N, et al. Characteristics and pathways of long-stay patients in high and medium secure settings in England; a secondary publication from a large mixed-methods study. Front Psychiatry 2018;9. https://doi.org/10.3389/fpsyt.2018.00140
15. Shah A, Waldron G, Boast N, et al. Factors associated with length of admission at a medium secure forensic psychiatric unit. J Forensic Psych Psychol 2011;22:496-512. https://doi.org/10.1080/14789949.2011.594902
16. Margari F, Matarazzo R, Casacchia M, et al. Italian validation of MOAS and NOSIE: a useful package for psychiatric assessment and monitoring of aggressive behaviours. Int J Methods Psych Res 2005;14:109-18. https://doi.org/10.1002/mpr.22
17. Flynn S, Rodway C, Appleby L, et al. Serious violence by people with mental illness: National Clinical Survey. J Interpersonal Violence 2014;29:1438-58. https://doi.org/10.1177/0886260513507133
18. Fazel S, Gulati G, Linsell L, et al. Schizophrenia and violence: systematic review and meta-analysis. PLoS Med 2009;6:e1000120. https://doi.org/10.1371/journal.pmed.1000120
19. Fazel S, Langstrom N, Hjern A, et al. Schizophrenia, substance abuse, and violent crime. Jama 2009;301:2016-23. https://doi.org/10.1001/jama.2009.675
20. Fazel S, Grann M. The population impact of severe mental illness on violent crime. Am J Psychiatry 2006;163:1397-403. https://doi.org/10.1176/ajp.2006.163.8.1397
21. Keers R, Ullrich S, Destavola BL, et al. Association of violence with emergence of persecutory delusions in untreated schizophrenia. Am J Psychiatry 2014;171:332-9. https://doi.org/10.1176/appi.ajp.2013.13010134

22 Coid JW, Ullrich S, Kallis C, et al. The relationship between delusions and violence: findings from the East London first episode psychosis study. JAMA Psychiatry 2013;70:465-71. https://doi.org/10.1001/jamapsychiatry.2013.12

23 Witt K, van Dorn R, Fazel S. Risk factors for violence in psychosis: systematic review and meta-regression analysis of 110 studies. PLoS One 2013;8:e55942. https://doi.org/10.1371/journal.pone.0055942

24 Sariaslan A, Larsson H, Fazel S. Genetic and environmental determinants of violence risk in psychotic disorders: a multivariate quantitative genetic study of 1.8 million Swedish twins and siblings. Mol Psychiatry 2016;21:1251-6. https://doi.org/10.1038/mp.2015.184

25 Fazel S, Lichtenstein P, Grann M, et al. Bipolar disorder and violent crime: new evidence from population-based longitudinal studies and systematic review. Arch Gen Psychiatry 2010;67:931-8. https://doi.org/10.1001/archgenpsychiatry.2010.97

26 Fazel S, Wolf A, Chang Z, et al. Depression and violence: a Swedish population study. Lancet Psychiatry 2016;2:224-32. https://doi.org/10.1016/S2215-0366(14)00128-X

27 Fazel S, Smith EN, Chang Z, et al. Risk factors for interpersonal violence: an umbrella review of meta-analyses. Br J Psychiatry 2018;213:609-614. https://doi.org/10.1192/bjp.2018.145

28 Kennedy H. Therapeutic uses of security: mapping forensic mental health services by stratifying risk. Adv Psych Treat 2002;8:433-43. https://doi.org/10.1192/apt.8.6.433

29 Vitacco MJ, Tabernik HE, Zavodny D, et al. Projecting risk: the importance of the HCR-20 risk management scale in predicting outcomes with forensic patients. Behav Sci Law 2016;34:308-20. https://doi.org/https://doi.org/10.1002/bsl.2221

30 Carabellese F, Urbano M, Coluccia A, et al. Workers safety in public psychiatric services: problems, laws and protections, Clinica Terapeutica 2017;168:271-9.

31 Gualtieri G, Traverso S, Pozza A, et al. Clinical risk management in high-security forensic psychiatry residences. Protecting patients and health professionals: perspectives and critical issues of the law 81/2014. Clinica Terapeutica 2020;171: e97-100. https://doi.org/10.7417/CT.2020.2196

32 Williams HK, Senanayke M, Ross CC, et al. Security needs among patients referred for high secure care in Broadmoor Hospital England. BJ Psych Open 2020;6. https://doi.org/10.1192/bjo.2020.35

33 Freestone M, Bull D, Brown R, et al. Triage, decision-making and follow-up of patients referred to a UK forensic service: validation of the DUNDRUM toolkit. BMC Psychiatry 2015;15:239.

34 Lawrence D, Davies TL, Bagshaw R, et al. External validity and anchoring heuristics: application of DUNDRUM-1 to secure service gatekeeping in South Wales. BJ Psych Bull 2018;42:10-8. https://doi.org/10.1192/bjb.2017.6

35 Habets P, Jeandarme I, Kennedy HG. Applicability of the DUNDRUM-1 in a forensic Belgium setting. J Forensic Pract 2019;21:85-94. https://doi.org/10.1108/JFP-11-2018-0043

36 Jeandarme I, Habets P, Kennedy H. Structured versus unstructured judgment: DUNDRUM-1 compared to court decisions. Int J Law Psychiatry 2019;64:205-10. https://doi.org/10.1016/j.ijlp.2019.04.006

37 Flynn G, O'Neill C, McInerney C, et al. The DUNDRUM-1 structured professional judgment for triage to appropriate levels of therapeutic security: retrospective-cohort validation study. BMC Psychiatry 2011;11:43. https://doi.org/10.1186/1471-244X-11-43

38 Flynn G, O'Neill C, Kennedy HG. DUNDRUM-2: Prospective validation of a structured professional judgment instrument assessing priority for admission from the waiting list for a forensic mental health hospital. BMC Res Notes 2011;4:230. https://doi.org/10.1186/1756-0500-4-230

39 O'Neill C, Smith D, Caddow M, et al. STRESS-testing clinical activity and outcomes for a combined prison in-reach and court liaison service: a 3-year observational study of 6177 consecutive male remands. Int J Ment Health Syst 2016;10:67. https://doi.org/10.1186/s13033-016-0097-z

40 O'Dwyer S, Davoren M, Abidin Z, et al. The DUNDRUM Quartet: validation of structured professional judgement instruments DUNDRUM-3 assessment of programme completion and DUNDRUM-4 assessment of recovery in forensic mental health services. BMC Res Notes 2011;4:229. https://doi.org/10.1186/1756-0500-4-229

41 Davoren M, Hennessy S, Conway C, et al. Recovery and concordance in a secure forensic psychiatry hospital – the self-rated DUNDRUM-3 programme completion and DUNDRUM-4 recovery scales. BMC Psychiatry 2015;15:61. https://doi.org/10.1186/s12888-015-0433-x

42 Douglas KS, Hart SD, Webster CD, et al. HCR-20V3: assessing risk for violence: user guide, Mental Health, Law, and Policy Institute, Simon Fraser University, 2013.

43 Caretti V, Ciappi S, Scarpa F, et al., Eds. HCR20-3 Checklist per la valutazione del rischio di recidiva di un crimine violento. Adattamento italiano. Firenze: Hogrefe 2019.

44 Kennedy H, O'Neill C, Flynn G, et al. Dangerousness understanding, recovery and urgency manual (The DUNDRUM Quartet) V1.0.26 (01/08/13) four structured professional judgement instruments for admission triage, urgency, treatment completion and recovery assessments. Dublin, Ireland, Trinity College Dublin, 2013.

45 Biancosino B, Delmonte S, Grassi L, et al. Violent behavior in acute psychiatric inpatient facilities: a National Survey in Italy. J Nerv Ment Dis 2009;197:772-82. https://doi.org/10.1097/NMD.0b013e3181bb0d6b

46 Magnavita N, Heponiemi T. Violence towards health care workers in a Public Health Care Facility in Italy: a repeated cross-sectional study. BMC Health Serv Res 2012;12:108. https://doi.org/10.1186/1472-6963-12-108

47 Sossai D, Molina FS, Amore M, et al. Analisi degli episodi di violenza in un grande ospedale italiano. Medicina del Lavoro 2017;108:377-87. https://doi.org/10.23749/mdl.v108i5.6005

48 Palumbo C, Di Sciascio G, Di Staso S, et al. Evaluation of safety at work in psychiatric setting: the "Workplace Safety Assessment". La Medicina del Lavoro 2016;107:284-92.

49 Scott P. Assessing dangerousness in criminals. Brit J Psychiatry 1977;131:127-42. https://doi.org/10.1192/bjp.131.2.127

50 Webster CD, Haque Q, Hucker SJ. Violence risk-assessment and management: advances through structured professional judgement and sequential redirections, New York, NY: John Wiley & Sons 2013.

51 Shaw S. The dangerousness of dangerousness. Med Sci Law 1973;13:269-71. https://doi.org/10.1177/002580247301300410

52 Sansegundo MS, Ferrer-Cascales R, Bellido JH, et al. Prediction of violence, suicide behaviors and suicide ideation in a sample of institutionalized offenders with schizophrenia and other psychosis. Front Psychol 2018;9:1385. https://doi.org/10.3389/fpsyg.2018.01385

53 Haque Q, Webster CD. Structured professional judgement and sequential redirections. Crim Behav Ment Health 2013;23:241-51. https://doi.org/10.1002/cbm.1886

54 De Vries Robbé M, De Vogel V, De Spa E. Protective factors for violence risk in forensic psychiatric patients: a retrospective validation study of the SAPROF. Int J Forensic Ment Health 2011;10:178-86. https://doi.org/10.1080/14999013.2011.600232

55 Yang M, Wong SC, Coid J. The efficacy of violence prediction: a meta-analytic comparison of nine risk assessment tools. Psychol Bull 2010;136:740. https://doi.org/10.1037/a0020473

56 Fazel S, Singh JP, Doll H, et al. Use of risk assessment instruments to predict violence and antisocial behaviour in 73 samples in-

volving 24 827 people: systematic review and meta-analysis. Bmj 2012;345:e4692. https://doi.org/10.1136/bmj.e4692

57 Szmukler G. Risk assessment:'numbers' and 'values'. Psychiatric Bull 2003;27:205-7. https://doi.org/10.1192/pb.27.6.205

58 Szmukler G. Violence risk prediction in practice. Brit J Psychiatry 2001;178:84-5. https://doi.org/10.1192/bjp.178.1.84

59 Gonzalez RA, Kallis C, Ullrich S, et al. Childhood maltreatment and violence: mediation through psychiatric morbidity. Child Abuse Negl 2016;52:70-84. https://doi.org/10.1016/j.chiabu.2016.01.002

60 Freestone MC, Ullrich S, Coid JW. External trigger factors for violent offending: findings from the U.K. prisoner cohort study. Crim Just Behav 2017;44:1389-412. https://doi.org/10.1177/0093854817713237

61 Coid JW, Kallis C, Doyle M, et al. Shifts in positive and negative psychotic symptoms and anger: effects on violence. Psychol Med 2018;48:2428-38. https://doi.org/10.1017/S0033291718000077

62 Coid JW, Kallis C, Doyle M, et al. Identifying causal risk factors for violence among discharged patients. PLoS One 2015;10:e0142493. https://doi.org/10.1371/journal.pone.0142493

63 Coid JW, Ullrich S, Bebbington P., et al. Paranoid ideation and violence: meta-analysis of individual subject data of 7 population surveys. Schizophr Bull 2016;42:907-15. https://doi.org/10.1093/schbul/sbw006

64 Ullrich S, Keers R, Coid JW. Delusions, anger, and serious violence: new findings from the MacArthur Violence Risk Assessment study. Schizophr Bull 2014;40:1174-81. https://doi.org/10.1093/schbul/sbt126

65 Widom CS, White HR. Problem behaviours in abused and neglected children grown up: prevalence and co-occurrence of substance abuse, crime and violence. Crim Behav Ment Health 1997;7:287-310. https://doi.org/10.1002/cbm.191

66 Deutsch D. The beginning of infinity: explanations that transform the world. London, UK: Penguin 2011.

67 Shepherd M. Sherlock Holmes and the case of Dr Freud. London, UK: Tavistock Publications 1985.

68 Kennedy H, Kemp L, Dyer D. Fear and anger in delusional (paranoid) disorder: the association with violence. Br J Psychiatry 1992;160:488-92. https://doi.org/10.1192/bjp.160.4.488

69 O'Reilly K, O'Connell P, Corvin A, et al. Moral cognition and homicide amongst forensic patients with schizophrenia and schizoaffective disorder: a cross-sectional cohort study. Schizophr Res 2018;193:468-9. https://doi.org/10.1016/j.schres.2017.07.026

70 O'Reilly K, O'Connell P, O'Sullivan D, et al. Moral cognition, the missing link between psychotic symptoms and acts of violence: a cross-sectional national forensic cohort study. BMC Psychiatry 2019;19:408. https://doi.org/10.1186/s12888-019-2372-4

71 Slade M, Powell R, Rosen A, et al. Threshold Assessment Grid (TAG): the development of a valid and brief scale to assess the severity of mental illness. Soc Psychiatry Psychiatr Epidemiol 2000;35:78-85. https://doi.org/10.1007/s001270050011

72 Kennedy H, Castelletti L, O'Sullivan O. Chapter 14: impact of service organization on teaching and training. In: K Goethals, Ed. Forensic psychiatry and psychology in europe – a cross-border study guide. Heidelburg: Springer Nature 2018.

73 Forrester A, Till A, Simpson A, et al. Mental illness and the provision of mental health services in prisons. Brit Med Bull 2018;127:101-9. Doi: 10.1093/bmb/ldy027.

74 Muller-Isberner R, Webster CD, Gretenkord L. Measuring progress in hospital order treatment: relationship between levels of security and c and r scores of the HCR-20. Int J Forensic Ment Health 2007;6:113-21. https://doi.org/10.1080/14999013.2007.10471256

75 Pillay SM, Oliver B, Butler L, et al. Risk stratification and the care pathway. Ir J Psychol Med 2008;25:123-7. https://doi.org/10.1017/S0790966700011228

76 Davoren M, Abidin Z, Naughton L, et al. Prospective study of factors influencing conditional discharge from a forensic hospital: the DUNDRUM-3 programme completion and DUNDRUM-4 recovery structured professional judgement instruments and risk. BMC Psychiatry 2013;13:185. https://doi.org/10.1186/1471-244X-13-185

77 Doyle M, Coid J, Archer-Power L, et al. Discharges to prison from medium secure psychiatric units in England and Wales. Br J Psychiatry 2014;205:177-82.

78 Doyle M, Dolan M. Predicting community violence from patients discharged from mental health services. Br J Psychiatry 2006;189:520-6.

79 Jones RM, Patel K, Simpson AIF. Assessment of need for inpatient treatment for mental disorder among female prisoners: a cross-sectional study of provincially detained women in Ontario. BMC Psychiatry 2019;19:98. https://doi.org/10.1186/s12888-019-2083-x

80 Adams J, Thomas SD, Mackinnon T, et al. The risk needs and stages of recovery of a complete forensic patient cohort in an Australian state. BMC Psychiatry 2018;18:35. https://doi.org/10.1186/s12888-017-1584-8

81 Ogloff JR, Daffern M. The dynamic appraisal of situational aggression: an instrument to assess risk for imminent aggression in psychiatric inpatients. Behav Sci Law 2006;24:799-813. https://doi.org/10.1002/bsl.741

82 Almvik R, Woods P, Rasmussen K. The Brøset violence checklist: sensitivity, specificity, and interrater reliability. J Interpers Viol 2000;15:1284-96. https://doi.org/10.1177/088626000015012003

83 Hvidhjelm J, Sestoft D, Skovgaard LT, et al. Aggression in psychiatric wards: effect of the use of a structured risk assessment. Issues Ment Health Nurs 2016;37:960-7. https://doi.org/10.1080/01612840.2016.1241842

84 Chu CM, Daffern M, Ogloff JRP. Predicting aggression in acute inpatient psychiatric setting using BVC, DASA, and HCR-20 clinical scale. J Foren Psych Psychol 2013;24:269-85. https://doi.org/10.1080/14789949.2013.773456

85 Maguire T, Daffern M, Bowe SJ, et al. Risk assessment and subsequent nursing interventions in a forensic mental health inpatient setting: associations and impact on aggressive behaviour. J Clin Nurs 2018;27:e971-83. https://doi.org/10.1111/jocn.14107

86 Maguire T, Daffern M, Bowe SJ, et al. Evaluating the impact of an electronic application of the dynamic appraisal of situational aggression with an embedded aggression prevention protocol on aggression and restrictive interventions on a forensic mental health unit. Int J Ment Health Nurs 2019;28:1186-97. https://doi.org/10.1111/inm.12630

87 Kennedy HG, Mullaney R, McKenna P, et al. A tool to evaluate proportionality and necessity in the use of restrictive practices in forensic mental health settings: the DRILL tool (Dundrum restriction, intrusion and liberty ladders). BMC Psychiatry 2020;20:515. https://doi.org/10.1186/s12888-020-02912-6

88 O'Reilly K, Donohoe G, Coyle C, et al. Prospective cohort study of the relationship between neuro-cognition, social cognition and violence in forensic patients with schizophrenia and schizoaffective disorder. BMC Psychiatry 2015;15:155. https://doi.org/10.1186/s12888-015-0548-0

89 O'Reilly K, Donohoe G, O'Sullivan D, et al. A randomized controlled trial of cognitive remediation for a national cohort of forensic patients with schizophrenia or schizoaffective disorder. BMC Psychiatry 2019;19:27. https://doi.org/10.1186/s12888-019-2018-6