The precarious practice of risk assessment in forensic psychiatry

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Abstract
The development of risk assessment in Sweden is presented and discussed in terms of practical problems and ethical dilemmas. A central task within Swedish forensic psychiatry has always been to identify dangerous, mentally disordered subjects prone to commit violent acts. A natural point of departure, and thus the empirical basis for these risk assessments, has generally been the psychiatric factors characterising the individual patient. These risk assessments, which have been used as guidelines for treatment and rehabilitation efforts, are primarily associated with pre-trial forensic psychiatric investigations, psychiatric compulsory treatment, and during later years also with life-timers applying for a fixed–term penalty. Although risk assessments are mainly focused on psychiatric patients, regulated by law and thus strongly linked to the legal system, and often used as grounds for coercive measures and integrity violations, no broad political debate has been seen. Even more alarming is a lack of clear and concise instructions and guidelines from the authorities in charge combined with the judicial system's pronounced expectations to have firm predictions delivered by the professionals within the field.

Key words**:** risk assessment, forensic psychiatry, mentally disordered offenders, practical problems, ethical dilemmas.

1. Introduction

1.1. Historical background

Olof Kinberg, the first professor of forensic psychiatry in Sweden, defined dangerousness as a "potential condition within a certain person in a given environmental situation, which implies a particular risk for a violation of other persons ´ legal rights or of the societal organization itself" (Kinberg, 1955a). His standpoint was that dangerousness resulted when the crime-eliciting forces (which he called "crime pression") are larger than the inner and outer crime-resistant forces (called "crime resistance"), and he introduced the concepts of inner and outer static as well as dynamic risk factors (Kinberg 1955b). His belief that "free will" was an illusion strongly influenced his view of crime, criminal responsibility, and, not least, predictability. Kinberg advocated treatment rather than punishment for all perpetrators, and considered risk assessments to be reliable and reasonable grounds for treatment and rehabilitation efforts (Kinberg, 1955 b). Kinberg ´s ideas had a great impact on Swedish legislation, and when the Penal Code of 1864 was replaced by the new Criminal Code of 1965, the concept of "not guilty by reason of insanity" was abandoned. In principle, all individuals convicted of a criminal act were judged guilty, but prison

sanctions were prohibited if the offender was found to suffer from a major mental disorder (or similar conditions) at the time of the crime. In most such cases, he or she would be sentenced to compulsory forensic psychiatric inpatient care. A special discharge board, made up of an experienced judge, an independent psychiatrist, further professionals as needed, and laymen, had to approve applications for the discharge of forensic inpatients. Temporary leaves from forensic units could be revoked if the psychiatric status or behaviour of a patient showed signs of deterioration as judged by the psychiatrist in charge of treatment.

Up until the 1970's, risk assessments in Sweden, as in most other countries, were regarded as clinical assessments of dangerousness and generally seen as an important service to society. This changed, however, when several international studies reported that the vast majority of individuals who had been assessed as "dangerous" by psychiatrists and therefore deprived of liberty, did not relapse in criminality as predicted when released (Steadman & Cocozza, 1974; Cocozza & Steadman, 1976; Thornberry & Jacoby, 1979). These findings, which, by the way, have never been disproved in new prospective studies, led to a dramatic reconsideration of the value of such assessments. Psychiatric evaluations of the propensity to commit crimes rapidly fell into disrepute and had minor importance throughout the 1970's and -80's in Sweden as well as in the rest of the western world. A common opinion, as expressed by Börje Lassenius at the Swedish National Board of Health and Welfare, was that "there are no dangerous patients - only dangerous situations". In line with this, unlimited prison terms for dangerous criminals were abolished as a sanction after modification of the law (SFS 1979:680). As a consequence, the two forensic psychiatric units with the highest security level in Sweden were closed.

1.2. Current situation

During the 1980's, a strong societal demand for coercive measures against "dangerous" mentally disordered persons re-emerged, leading to a new surge of interest in risk predictions in the western world. In Sweden, this was mirrored in the legal regulation of compulsory treatment in general psychiatric as well as in forensic psychiatry. The current Swedish legislation (SFS 1991:1137) calls for assessment of dangerousness if the perpetrator has committed a serious crime, is mentally disturbed, and sentenced to forensic psychiatric treatment. If such a person is assessed as being at risk of relapsing in serious criminality, the sentence to forensic psychiatric treatment involves "special court supervision", which means that all decisions regarding leaves of absence and discharge must be approved by an administrative court. Further, mentally disturbed inpatients must not be discharged from hospital if judged to "constitute a risk" to himself or others. The law provides no definition of the risk to be assessed or of the time such an assessment is expected to cover. There is no similar demand for risk assessments in perpetrators sentenced to prison.

1.2.1. Forensic psychiatric investigations

The majority of persons subjected to a forensic psychiatric investigation in Sweden have committed some type of violent crime (Holmberg, Forsman, Grann, Ingerloo, Skagerberg et al., 1999; National Board of Forensic Medicine, 2002), presumably under the influence of a mental disorder. Criminal identification is generally not a predominant feature among these subjects, and they do not score especially high on assessment instruments such as the PCL-R (Soderstrom, Sjodin, Carlstedt, & Forsman, 2004).

The vast majority (≤95 %) of perpetrators who have undergone a forensic psychiatric investigation are assigned some type of psychiatric diagnosis, but only about half of all investigated cases prove to have a mental disorder severe enough to exclude a sentence to prison (National Board of Forensic Medicine, 2002; Holmberg & Kristiansson, 2006). More than half of those exempted from regular sanctions suffer psychoses, particularly of the type seen in the schizophrenia spectrum. In a smaller proportion of patients, the main diagnosis is severe

compulsiveness or severe personality disorder with a tendency to develop psychotic reactions in response to stress and mental strain. Finally, a few cases involve serious neuropsychiatric and developmental conditions characterized by considerable neurocognitive functional impairments. The majority of forensic psychiatric patients subjected to risk assessments are thus perpetrators of a violent crime in association with a psychotic episode (National Board of Forensic Medicine, 2002).

1.2.2. Forensic psychiatric treatment

The law of 1991 (SFS 1991:1129) implied that the risk for future criminality must be assessed before a temporary or definite leave from forensic psychiatric units. Such decisions must in most cases (the 74 % sentenced to treatment with "special court supervision" based on the initial risk assessment (National Board of Forensic Medicine, 2002)) be made by an administrative court, most often after a request by the patient or his psychiatrist.

For risk assessments during ongoing care, the main instruction issued by the National Board of Health and Welfare merely states that the care giver shall provide "directions and ascertain that written routines are at hand" (SOSFS 2006:9, p.6) for the determination of the patient's propensity to hurt himself or others. The law text regulating the forensic psychiatric treatment explicitly states, however, that when a patient is considered for less restricted conditions or when discharge has been sought, the court shall evaluate the risk of criminal recidivism along with the effects of the care and treatment the patient has received (SFS 1991:1129). These evaluations are generally based on the risk assessment made in connection with the initial court proceedings combined with further information supplied by the care giver. This means that persons in forensic psychiatric compulsory care may come to undergo several risk assessments, e.g. when about to begin, change, or prolong periods of temporary leave, and in connection with possible discharge. In practice, more attention is given to the severity of the index crime than to the probability of a new offence, as exemplified by the fact that risk assessments usually are required before leave from hospital in cases of murder but not in less fatal crimes, such as assault and battery, although these crimes are associated with a much higher risk of re-offending.

1.2.3. Prison inmates and life-timers

Forensically examined offenders found not to have a severe mental disorder prohibiting a prison sanction are in most cases diagnosed with personality disorders, substance abuse disorders, and neuropsychiatric conditions such as attention deficit/hyperactivity disorder (AD/HD). Studies of general Swedish prison populations have also revealed high psychiatric morbidity (Levander, Svalenius, & Jensen, 1997; Holmberg et al., 1999) and high frequencies of neurocognitive problems such as AD/HD and dyslexia (Jensen, Lindgren, Meurling, Ingvar, & Levander, 1999). The subgroup of offenders with life-time sanctions is characterized by even higher frequencies of mental disorders than other convicts (Holmberg et al., 1999). Many have, in critical situations, committed crimes against persons they are close to. Few of these offenders have a pronounced criminal identification, and most may be described in terms of one-timers (National Board of Forensic Medicine, 2006). This means that the life-timers stand out as rather atypical, and that they to a relatively large extent differ from the offender category for which the risk prediction instruments have mainly been validated. Consequently, knowledge about risk assessment in this category is uncertain, and the life-timers may be grouped neither with severely mentally disordered nor with criminally identified perpetrators. Despite this uncertainty, risk assessment of life-timers was made mandatory in 2006 (SFS 2006:45) in all cases given a hearing for possible transformation to a fixed-time sentence. These assessments are performed by the National Board of Forensic Medicine by cross-disciplinary teams. In addition, precedential sentences by the Supreme Court state that the results of these risk assessments should take priority over other factors the court has to consider in order to reach a decision (Supreme Court Cases O 3016-07, O 2993- 07, O 2182-07).

1.2.4. Official instructions and practical limitations
The formal protocol of the risk assessments is partly regulated by law and described in terms of directives and advice in official guidelines issued by the National Board of Health and Welfare (SOSFS 1996:14; SOSFS 2006:9; SOFS 2006:16). It is stated that since single criteria most often have weak predictive power on the individual level, "a comprehensive analysis and evaluation of the risk of relapse as well as the prospect of reducing the risk shall be made on the basis of all available information" (our translation). More detailed directives beyond these general recommendations on how to carry out risk assessments within a forensic psychiatric investigation are not provided.

1.2.5. Time frames
One aspect that is not at all touched upon in the legal texts, instructions, or general advice is the question of the period of time that the risk prediction is supposed to cover. Nothing is to be found pertaining to this problem, neither in the sections concerning the forensic psychiatric coercive care nor in the documents addressing the question of time-limitation of lifetime sentences.
Both the decision about lifetime sentences and that about discharge from forensic psychiatric coercive care will, at least hypothetically, affect the whole future life of the individual. It is at the same time a well-known fact that risk predictions are perishable goods with limited "best before dates" (Borum, 1996). What is particularly problematic is the fact that such assessments, and interpretations of such assessments, are likely to follow the patient through the years as non-questioned truths, just as "report parrots report" (Price, 1997).

The time frame of risk assessments is thus a crucial aspect that so far has received little attention within research on and development of the praxis for forensic psychiatric predictions. The majority of professionals working with risk prediction are most likely aware of the problems related to the time aspect, but it is unclear how they deal with them.
As for shorter time-frames, some risk factors, such as the *risk of immediate harm* to self and others, are routinely assessed in all (forensic) psychiatric consultations. Suicide risk is assessed on the basis of historical or actuarial risk factors (e.g. sex, age, substance abuse, previous suicide attempts, and recent significant losses) and the current psychiatric status (e.g. depressive thought content, melancholic symptoms, suicidal ideation, and intense feelings of worthlessness) (Bongar, Maris, Berman, Litman, & Silverman, 1993; Cardell, Bratcher, & Quinnett, 2009; Nordentoft, 2007). Immediate risk for violence towards others may be assessed by following the same principles. First to be considered are actuarial factors, such as previous crimes, age, sex, and the presence of substance abuse and its relation to previously violence. Next registered are any psychiatric factors that may be uniquely related to a transient phase of violent acting out in a way that is clearly causative from a clinical point of view, e.g. paranoid ideation when there is a known potential victim, feelings of an imminent catastrophe during the first episode of schizophrenia, mixed manic and depressive symptoms in affective psychosis, and extreme obsessive interests (Levander, 2000). The latter factors sometimes require a shorter period of involuntary treatment, for which there is not only a civil law on compulsory psychiatric treatment but also effective psychiatric treatment forms.

The current situation in Sweden could be summarized as follows: Risk assessments of individuals, i.e. predictions about "dangerousness" are required by authorities in a number of situations, such as pre-trial forensic psychiatric assessments, in connection with temporary leave or discharge from ongoing forensic psychiatric care, and when life-timers apply for a time-limited sentence. Since the practical situation always concerns a separate individual, the risk assessments are of an invariably idiographic nature. Legal texts and guidelines merely provide vague indications about how to evaluate risk of relapse into criminal behaviour.

2. Scientific progress and practical problems

2.1. From dangerousness to risk

From the beginning of the 1970s, assessments of "dangerousness" were in disrepute but resurfaced after some time as "risk" assessments, in what was called a new generation of violence prediction research. This development was in tune with the emerging dominance of the risk concept in our culture from the beginning of the 1980s (Beck, 2002). Instead of categorical assessments of "dangerousness", the "risk" of violence was measured as the proportion of individuals who relapsed or committed a certain type of crime in a (hypothetical) group sharing similar rating scores on structured or semi-structured rating scales, or "instruments", such as the "Historical Clinical Risk management - 20-items" (HCR-20) (Webster & Eaves, 1995; Webster, Douglas, Eaves, & Hart, 1997), the Psychopathy Checklist – Revised (PCL-R) (Hare, 1980; Hare 1991), and the Violence Risk Appraisal Guide **(VRAG) (**Quinsey, Harris, Rice, & Cormier, 1998). These instruments were translated and adapted to Swedish conditions during the 1990's (Belfrage, Fransson, Soderberg, & Vasko, 1998; Grann, Långström, Tengström, & Stålenheim, 1998a; Grann, Belfrage, & Tengström, 1998b; Grann, Langstrom, Tengstrom, & Kullgren, 1999).

Assessments of dangerousness were formerly dichotomies like yes-no, in-out, but risk assessments introduced probabilistic models (Steadman, 2000). The assessments are based on various sources of information, and the predictive validity of these sources vary. Historical and actuarial data maintain a robust predictive validity in populations of personality- disordered offenders, whereas clinical and risk management factors may be of greater importance in offender populations in which major mental disorders are prevalent (Litwack, 2001).

Since the 1990's, researchers, especially in Canada, have worked long and hard to re-create a platform for psychiatric and psychological expert evaluations of future violent behaviour (Hare, 1980; Monahan, 1984; Harris, Rice, & Quinsey, 1993; Webster & Eaves, 1995). Influenced by this development, the National Board of Forensic Medicine in Sweden requested and supported Swedish research on assessment of risk prediction (Belfrage et al 1998; Grann et al, 1998a and 1998b; Belfrage, Fransson, & Strand, 2000), hoping to fill the gap between scientific evidence and the legal demands described above.

2.2. Violence and risk assessment in the clinical situation

Comparatively little is known about clinical risk factors for violent crime (Levander, 2000). Research on suicide risk assessments is far more advanced, and some lessons may undoubtedly be learned from this area. For both suicide and violent acting out, a number of factors may be used to identify persons at increased risk. Conventional actuarial risk assessments and epidemiological research may underestimate the importance of specific psychiatric symptoms in the chain of events leading up to a crime.

As the risk of committing a violent crime is increased among persons with psychotic disorders as compared to healthy individuals, Levander (2000) described the unique and disease- specific aspects that should be considered in the clinical situation. These risk aspects are not the same as those we find in actuarial risk assessment instruments or in combined clinical- actuarial instruments such as HCR-20, but rather unique and specific individual aspects of the disorder, which, Levander claims, the experienced clinician evaluates almost "intuitively". The assessment is made within the frame of the clinical contact and focused on the current status, where dangerousness is a fairly rare phenomenon that is usually possible to evaluate only for a couple of days. The possible dangerousness of a patient is represented by a complex web of interacting factors, which makes dangerousness a continuous rather than a dichotomous factor. The risk assessment should thus use a graded concept of risk, i.e. risk as a continuous variable, which is compatible with the factual state of things. The unique and individual-specific risk factors are

primarily linked to the active symptoms of psychotic illness with imperative hallucinations, extreme forms of diminished empathy, and perversions (Mullen, 1997; Levander, 2000). It is, for example, a well known clinical observation that individuals with schizophrenia are most dangerous under the first acute phase of the illness when they are confused and do not understand what is happening to them, and in the late phase of the disorder. Their dangerousness is most often directed toward close relatives, e.g. their parents, and very seldom against friends and almost never against strangers (Nordström, 2005).

2.3.Methodological problems

The psychiatric risk assessment methods developed during the last decade are not without technical problems. Mossman (1994) has illustrated how the predictive value and the proportion of correct and incorrect assessments may vary between raters even when using a fictitious instrument with large Receiver Operating Characteristics (ROC) curves and a specified prevalence of relapses that does not differ between groups.

The ROC method is well suited for solving two kinds of problems in research on risk prediction. First, the cut-off score that is most effective in distinguishing signal from noise can be calculated from the curve's point of inflection (Rice & Harris, 1995), and, second, the area under the curve (AUC) can be used as a measure of the instrument's overall capacity to distinguish between signal and noise at *all* possible cut-off scores (Mossman, 1994, Green & Swets, 1966). This value may also be interpreted as the probability of an actual signal having a higher score than the noise in the continuous variable (Rice & Harris, 1995). It may be edifying to dwell upon the kinds of information these analyses can and cannot provide. ROC analyses were invented as a method with the specific aim of finding the most effective cut-off score between signal and noise in complex information. (Zweig & Campbell, 1993*;* Pepe 2000). The AUC is thus very useful in comparing the theoretical accuracy of different test methods *at all possible cut-off levels*, but provides no information about the accuracy in a single prediction, which would require a predetermined cut-off. The prevalence of the studied phenomenon in the actual group of subjects is not considered in the ROC method and would have been needed to evaluate predictions. The use of ROC to evaluate a research approach where categorical statements about dangerous/non-dangerous are avoided in favour of estimated degrees of risk is also fundamentally contradictory, since ROC is a method for transforming continuous data to categorical data (Fawcett, 2006).

A further methodological aspect that needs to be addressed before introducing new methods is the *reliability*, especially when using many different sources of information clinically**,** across raters and over time. A greater proportion of inaccurate ratings can be expected if the methods are used by others than research teams trained in co-rating. This would hardly be regarded as an acceptable basis for decisions affecting individuals in any other field of medicine, and it is very far from the degree of reliability required to convict somebody of a crime.

2.4. Risk management

A "third generation" of risk research has therefore been proposed, a structured clinical assessment focusing risk factors in order to manage individual cases, instead of performing predictions ("risk management"). The obvious argument against this is that since risk factors are not defined as causal factors, it cannot be taken for granted that management of such factors necessarily influences the outcome. Apart from trying to predict the likelihood of a particular kind of violent offence using actuarial risk assessment instruments (factors such as attitudes, impulsivity, mental state, family and social circumstances, substance use), a structured professional judgment should also consider availability and acceptance of support (National Board of Forensic Medicine, 2000). The general aim seems to be to move from prediction towards prevention by managing the risk factors once they are identified, and HCR-20 is held out as a good instrument for such risk management.

2.5. Recent research: limitations, problematic areas, and possible solutions

Recent years have brought research that has shed further light on the difficulties and uncertainties surrounding risk assessments of individual patients. One such problem is the transition from the nomothetic to the idiographic level. Practically all research has been nomothetical and thus dealt with number of relapsing individuals in a group without attention to the single individual, i.e. the ability to identify who the individuals who relapse are. In an analysis of actuarial risk assessment instruments (ARAIs), Hart, Michie, & Cooke (2007) have shown that when the individual level is surpassed, the confidence interval for the single individual becomes too large to meaningfully express anything about his risk of relapse. ARAIs can therefore not be used to estimate an individual's risk for future violence with any reasonable degree of certainty and should therefore be used with great caution or not at all (Hart et al, 2007). Since assessment instruments like the HCR-20 and PCL-R have not been shown to be superior at identifying the individual who will relapse, they should be seen as a complement and not a substitute to a careful and clinically informed appraisal (Dahle, 2006). The concept of psychopathy as reflected in the PCL-R has long been seen as a core indicator for various risk assessment methods across diagnostic categories. Psychopathy was conceptualised as related to violent behaviour, and as it could be described as the personality disorder that personified dangerousness, it served very well as a predictor of future violence. Recent research has somewhat changed this picture, since it seems to be the behavioural factor, i.e. previous criminal behaviour, rather than the personality facets of the psychopathic construct that constitutes the predictive power of PCL-R. Walters, Raymond, Grann, and Dahle (2008) have in a collaborative study analyzed six samples from different countries with respect to the four factors of PCL-R, where they found virtually no support for any incremental validity of factors 1, 2, and 3 (Interpersonal, Affective, and Lifestyle, respectively) above and beyond factor 4 (Antisocial).

As the supervising authority for specialized psychiatric care in Sweden, the National Board of Health and Welfare is also the authority with the ultimate responsibility for the quality aspects, including the scientific evidence for the use of risk assessments within this area. In the wake of several incidents that attracted public attention in the early 2000s, the National Board of Health and Welfare decided to attend to the question of risk assessment in forensic as well as in general psychiatry.

In 2002, the National Board of Health and Welfare published a follow-up study, which included all patients in forensic psychiatric care on September 27, 1995 and followed them for about three and a half years through the National Police Board registers (National Board of Health and Welfare, 2002). The total number of patients came to 665 (8 % of whom were women), and 309 patients had been discharged by the end of the study period. An unexpected finding was that 28 % of the patients were convicted of new crimes during ongoing treatment, and especially remarkable was that 30 of these offenders (5 %) had committed serious crimes of violence (sexual crimes in 19 cases, manslaughter in 8, homicide in 7, and aggravated assault in 9). Sixty-five of the 309 patients who were discharged during the follow-up period (21 %) relapsed in some kind of criminality, including 38 persons (12 %) who relapsed into violent crimes. The only factor found to be significantly correlated to relapse in violent criminality was ongoing substance abuse at discharge. The high relapse rates, both during ongoing care and after discharge, indicate a poor ability to identify relapse propensity, in combination with failure to deal with significant risk factors such as ongoing substance abuse (National Board of Health and Welfare, 2002).

2.6. "Insane acts" and their consequences for risk assessment

A number of severe and very high-profile crimes that occurred during 2003 came to turn the attention of the shocked general public to offenders with mental disorders. The murder of the Foreign Secretary had an enormous media impact and was soon followed by two new fatal incidents referred to as "insane deeds" in the press. A common factor among these perpetrators

was that they had sought psychiatric care shortly before the crimes but not been admitted to inpatient treatment. It was against this background that the National Board of Health and Welfare was commissioned by the government to 1) make a survey of the use of risk assessments in the specialized psychiatric care section, and 2) compile a review on the scientific evidence for risk assessments in cooperation with the Swedish Council on Technology Assessment in Health Care. The first task resulted in the report "Risk assessment within specialized psychiatric care" (National Board of Health and Welfare, 2004).
Summarized in the final chapter of this report (National Board of Health and Welfare, 2004) are current praxis as well as present knowledge in the field. Given the Board's status as a supervisory agency, this text must be regarded as an instruction. For this reason, it seems extremely problematic that the directives are contradictory and vague, not least since risk assessments in many cases are regulated by law (SFS 1991:1129). By way of introduction, risk assessments are described as "fresh goods", where the current level of knowledge permits no "psychiatry-based determinations of risk of violent acts beyond the immediate perspective in the presence of a mental disorder requiring treatment (National Board of Health and Welfare, 2004, p. 31). It is hard to interpret this declaration in any way other than that the question of risk of violent acts can only be elucidated in the very brief and directly disorder- related perspective. When, in the next paragraph, the importance of not misjudging the risk (p. 31), i.e. that possible measures should be based on a threshold value which as much as possible attempts to avoid false negatives while trying to keep the number of false positives as low as possible, so that measures involving deprivation of liberty will not be used for preventive purposes, the Board appears to advocate a moderate and cautious strategy for risk assessments. It is nevertheless difficult to uphold such a strategy without placing a rather large number of subjects among those judged as "dangerous" (Grann & Nilstun, 2000).

This impression is also supported by the reference to article 5 of the European Convention and to the Madrid Declaration, both of which are documents that clearly state that psychiatry must not "be used to detain individuals on the grounds of perceived dangerousness" (National Board of Health and Welfare, 2004, p. 31). When the authors go on to discuss risk assessments as "one link in a whole chain of measures" that all are aimed at reducing risk behaviour, i.e. the risk assessment procedure is described as a process with the aim of "preventing the occurrence of identified risks", it becomes difficult to understand what they mean (National Board of Health and Welfare, 2004, pp. 32-33). And it becomes even more difficult when it is declared that "the risk that the patients commits violent crimes against others must be as methodically evaluated as we today determine the risk of suicide" (National Board of Health and Welfare, 2004, p. 33). With this shift in the argumentation, it seems that the Board has put one foot firmly in each camp, first stating that the scientific support for risk assessments is limited and calls for great caution, and then going on to argue that risk assessments should always be carried out regarding the potential risk of psychiatric patients to commit violent crimes against others.

The relatively wide variation in forms and use of risk assessments and risk prevention described in the inspection of the specialized psychiatric care (National Board of Health and Welfare, 2004), from systematic and well structured measures to more sporadic and unstructured efforts, can most likely be explained by the fact that the overall guidelines have been unclear and full of contradictions along with the fact that no assessment method is more accurate than any other. Rather than issuing contradictory statements, the National Board of Health and Welfare as the authority in charge should have made a systematic cost-benefit analysis regarding the use of risk assessments and the measures based on such assessments that could reasonably play a role within the psychiatric care. The characteristics of the risk assessment instruments are relatively well known today, both when it comes to accuracy and margins of error such as number needed to detain for prevent a relapse in serious criminality (Buchanan, & Leese, 2001). As in other medical areas, this field needs development towards a praxis based on analyses of economic as well as

human costs, and of ethical aspects as well as positive and negative effects. By initiating such analyses, the authorities involved would contribute to the establishment of an objective and scientific basis for a broad discussion on the politics of care, which could guide politicians in taking a stand on in which contexts care givers should be engaged in risk assessments and which preventive measures the assessments should lead to.

A possible, if not entirely fair, comparison may be made with mammography screenings for breast cancer. Considering that these examinations are relatively over-inclusive, empirical studies have shown that it is justified to give all women above the age of 40 the opportunity to undergo mammography (Ringash & Canadian Task Force on Preventive Health Care, 2001; Morimoto, Nagao, Okazaki, Kira, Nakagava, et al., 2008). When the various costs are balanced against the number of individuals actually saved, you find a turning point at age 40 where the gains in life and reduced suffering have been judged to be greater than the costs, including the anxiety caused by a number of false positive results (Ringash & Canadian Task Force on Preventive Health Care, 2001). In analogy with mammography and breast cancer care, political consensus ought to be found for guidelines for how to evaluate and deal with the question of risk factors in specialized psychiatry. By a carefully considered balancing of risk preventive measures and their possible effects on the patients' liberty of action against the gains achieved by preventing potential acts of violence and thus the making of new victims, it should be possible to find the point where costs and measures match the gains.

2.7. Evidence-based knowledge and risk assessment

The second task given to the National Board of Health and Welfare in collaboration with the Swedish Council on Technology Assessment in Health Care (Statens Beredning för Medicinsk Utvärdering (SBU)) was to examine the scientific support for the methods currently employed for assessing the risk that a psychiatric or forensic psychiatric patient one day will commit an act of violence. Their conclusions were presented in the report entitled "Risk assessment within psychiatry. Can violence in society be predicted?" (our translation) (SBU, report 175, 2005). The initial step of the investigation was a PubMed search for literature (published after 1993) with wide criteria to find as many potentially relevant studies as possible, followed by a PsychInfo search, which altogether generated 4 052 articles. The aim was to establish figures for the accuracy of risk assessments of psychiatric in- and outpatients from both general and forensic psychiatry. Studies on persons admitted to hospital for observation or investigation regarding criminal behaviour were included as were studies on pre-trial forensic investigations if it was clear that mental disease, dementia, drug abuse, mental retardation, or personality disorders were among the main reasons for the investigation. Studies including persons admitted to psychiatric wards in the prisons were included, but studies of subjects without mental problems who were incarcerated due to criminality and assessed for risk of violent recidivism were not. Studies of mixed groups (person in prison and special hospital) were included if the prison inmates had clearly defined mental problems, such as personality disorders, drug abuse, and mental retardation. After excluding studies examining risk for violence inside psychiatric wards or other psychiatric settings, the review was finally limited to studies focused on risk for violence in society. Meta-analyses and literature reviews were compiled and reported separately. Careful evaluation according to strict criteria by two researchers independently of each other resulted in 37 relevant articles, 27 of which concerned risk assessment of forensic psychiatric patients, i.e. persons under care because they had committed serious crimes. The remaining ten studies involved general psychiatric patients. Each of the 37 studies where assessed for scientific value by an instrument containing nine criteria, each weighted on a three-graded scale (high, medium, or low scientific evidential value). The final evidential value was based on a combined estimation of all the criteria, where each criterion did not have the same weight since *Design* and *Size of sample (n)* were more important than the others (since a high *n* gives a higher statistical value and reduced the risk for so called *type II-faults)*. Studies with n>200 were given the highest grade and

n<50 the lowest.

The results confirmed that psychiatric risk assessments were superior to chance in identifying the patients who would subsequently engage in violence. There was support for the value of risk assessments in both forensic and general psychiatry. Although forensic psychiatric populations proved to be studied more frequently, the fact that the scientific evidential value was higher in the general psychiatric studies gave more support to the presence of risk assessments among general psychiatric patients than among forensic psychiatric patients. It was also found that risk assessments based on currently available and evaluated methods, independent of how carefully accomplished, always are connected with a certain measure of uncertainty. Women and ethnic minorities were not represented satisfactorily, and most study populations were small and not representative for a nation or larger regions, particular not in Sweden. Neither did any study support the claims for validity of forensic psychiatric risk assessments with a "high value of evidence". All in all, the results of the literature survey did not allow further general conclusions than those outlined above.

Looking at the actual access to information, the conditions seem to be much more optimal in forensic than in general psychiatry. But since the SBU-report experimented with various levels of evidence in the different studies, describing the scientific quality rather than the precision of the predictions, the risk assessments in general psychiatry were awarded the highest scientific support. This means that the best studies on psychiatric samples were made within general psychiatry, which does not exclude that the best risk predictions are likely to be made within forensic psychiatry. Just about all sources, such as criminal records etc., are accessible to forensic psychiatry, which is not the case in general psychiatry. The facts that the patients are seen during shorter periods and that the information is less complete in general than in forensic psychiatry suggest that the opportunities for more correct risk assessments are greater in forensic psychiatry than in general adult psychiatry.

3. Ethical implications

3.1. Medical ethics and risk assessments Risk analysis applied to any field has a wide range of ethical implications (Lewens 2007). Central to forensic psychiatry is the balance between conflicting individual interests, professional values, the public interest of safety, and important social values, such as justice. Forensic psychiatric risk assessments take place in a medical and usually institutional context, entailing the responsibility of medical scientists and practitioners to use well confirmed methods in a way that does not generate (by misunderstanding or misuse) too serious adverse primary, secondary, or tertiary effects (Beauchamp & Childress, 2001). This is the core of the basic ideas expressed by standard medical research ethics declarations since the *Nuremberg Code* (cf. Council for International Organizations of Medical Sciences (CIOMS), 2002): there is a limit to what sort of socio-political schemes medical professionals can participate in without acting unethically.

The scientific concept of risk is an aggregate of an *undesirable outcome* and the probability that this outcome will actually occur. Since forensic psychiatric findings do not allow distinct discrimination between different sorts of crime regarding probability of relapse, it is doubtful if forensic psychiatric science can actually contribute to a risk assessment from a *general point of view*. Since society's perspective on the severity of different crimes may be questioned on ethical grounds, it may not be compatible with medical ethics to take an active part in the legal system. Thus, the old issue of the responsibility of psychiatric expertise in a wider social context seems to be as alive today as it was in the 1970's, when the initial opposition to assessments of dangerousness was loud and clear. In view of professional ethics as well as general legal and social values, it is particularly crucial to consider if forensic psychiatric risk assessments

contribute to prejudicial and unfair discrimination of people with mental health problems in the legal system. This is associated with the way the information provided by forensic psychiatric risk assessments is understood within the legal system and by the public. The more weight the legal system puts on the presumption that persons with mental health problems are more likely than others to commit crimes, the more can such a presumption be expected to be reflected in the popular opinion as filtered through the legal system. Since the collected knowledge within forensic psychiatry cannot lend support to such oversimplified interpretations, it may be seen as highly questionable to participate in such a practice. From the medical ethics perspective, the emphasis should rather be on counteracting prejudice against persons with mental health problems, not least by insisting on scientific validity.
It is difficult to see how forensic psychiatric risk assessments made to inform the court can avoid serving as an affirmation of the prejudice that 'crazy people' who commit crimes are generally more dangerous than others. It is still an open ethical question whether such adverse consequences must be regarded as an acceptable price for the protection of the public from persons who may or may not be more criminally inclined than others. What if ethnicity, or gender, or religion, or socioeconomic status were systematically used in a similar way?

The risk assessor is in many cases also the care-giver (physician) of the person assessed. This is important for securing quality in judgments based on clinical experience, for achieving correct classification of the patient's condition when making a bona fide risk analysis. As a clinical care-giver, the professional is supposed to act on the best interest of his patient. For a forensic psychiatric risk assessor, however, it is the public interest that is in focus, and this may not always coincide with the patient's best interest. The opposing practical 'pulls' of these roles in such cases may influence each other, and the decision will be in conflict with one or the other of the aims of these two professional roles and thus constitute an ethical dilemma (Robertson & Walter, 2008). What is more, this factor introduces a further source of chance/arbitrariness into the legal system. The risk assessor may, for instance, be more influenced by concern for his patient than by the need to protect potential victims – or *vice versa*.

There are thus two main basic ethical problems – one concerning professional ethics and one concerning social justice. If there is no, or very poor, scientific basis for predictions and/or if it is possible or even probable that the information delivered will be misused, misunderstood, and/or in any way contribute to an unfavourable legal outcome, medical ethics would seem to demand that the professional should decline to answer society's call for risk assessments.[1]

A more nuanced solution might be to approach the issue on a case by case basis – but decline when neither science nor clinical experience provides a basis for prediction. In that case, the professional can deliver something approaching what society asks for whenever it is not irresponsible (if done in the right way) from a professional, ethical point of view. This solution presumes that delivering risk assessments is not – as, for instance, in Sweden – a systematic *requirement* by society laid on professional forensic psychiatric expertise.
Looking at the institution of health care *as a whole* adds a further source of criticism to the one based on the particular relation between an individual patient and an individual risk assessor. Tännsjö (1999, ch. 6) has claimed that the institutional goals of health care (expressed in medical ethical principles and values) are so far removed from the goals of the legal and penal system that the latter system should not involve medical professionals in legal decisions regarding criminal justice. This turns the focus to the ethical problem of social justice. It may be argued against Tännsjö that the overall importance of the values protected by the legal system in this respect are

[1] A radical alternative, suggested by Appelbaum (1997), is to hold out the forensic psychiatric profession as serving solely the criminal justice system, thus not being subject to standard requirements of medical ethics. This view has not gained wide support in the forensic psychiatric community, however.

of such weight that they should sometimes take precedence over professional ethical values even at an institutional level.

Just as in some areas of public health, medical professionals partake in policies where the best interest of patients is sacrificed for the sake of protecting basic social stability and welfare (Dawson, 2008; Munthe 2008). Thus, there may be some room in medical ethics for forensic psychiatric experts to participate in the execution of criminal justice for similar reasons, especially if there are ways to solve the professional ethical dilemma involved in forensic psychiatric risk assessment. This mode of reasoning rests on the premise that the criminal justice system *is* just - that it really is designed to protect important social values. It is, however, an urgent question whether or not this is true.

3.2. The legal system and the mentally disordered offenders

It is very doubtful whether a legal system based on the presumption that 'crazy people' are more dangerous than other people can really be justified. From the point of justice, this presumption rather looks as scientifically unfounded prejudice giving rise to unjust discrimination.

It may, of course, seem apt to apply some sort of precautionary strategy when it comes to the *evaluation* done on the basis of a psychiatric risk assessment. That is, even if there is no scientific evidence for the belief that this particular mentally ill individual is more likely than someone else to commit crime, and even if we are unable to establish any causal connection between particular risk factors and specific outcomes, it may from the point of view of society make sense to apply the rule of 'better safe than sorry'. For example, if the person has committed several crimes of a similar type before and on top of that is mentally unstable in a way that may be *suspected* to *possibly* affect the likelihood of relapse, let us play it safe and keep him isolated from society! Such reasoning may appear particularly attractive regarding very severe criminality.

However, precaution works both ways (Sandin, 1999). Just as we may find the 'better safe than sorry' approach attractive applied to the possible occurrence of crime, we would surely like to apply the same principle to the possible occurrence of systematic discrimination of certain categories in the legal system. All civilized nations do a trade-off between the public interest of fighting crime and the public interest of upholding decent standards of judicial security, where the latter is given a very high significance. So, the precautionary reasoning may as well be applied to the other side of that equation, thus arguing that in order not to jeopardize judicial security, mentally ill people should not be treated as *a priori* more likely to have a higher risk of relapse in a serious crime than others.

From the point of view of ethics and forensic psychiatric science, the provocative conclusion seems to be that there are strong reasons to question any legal system built on the presumption that 'crazy offenders' are dangerous in a way that motivates *forensic psychiatric* risk assessment for decisions about temporary or permanent leave from hospital. Of course, the risk of relapse can be assessed for these offenders as it can for any offender, but there are strong reasons to avoid building into the legal system the unproven (if not disproved) prejudice that mentally ill people who have committed crime are substantially more likely to relapse into criminal behaviour than comparable offenders just because of their psychiatric status.

To this can be added the various uncertainties and deficiencies regarding judicial security that seem to follow from the use of forensic psychiatric risk assessment in legal decision-making. Careless use of uncertain data in this field threatens to jeopardize judicial security, mislead public attention, and reinforce prejudice against people with mental health problems among the general public.

4. Concluding remarks

On the whole, the progress of risk assessment in Sweden during the last decade has followed the

international development and is nowadays carried out as a structured clinical assessment with Swedish versions of (instruments such as) HCR-20 and PCL-R. Subject groups with a higher probability than others for violent acting out, especially re-acting out, can in fact be identified (SBU, 2005), but it is much more difficult to assess individuals and arrive at a reasonable conclusion about the individual risk to relapse into criminality (Hart et al, 2007). Clear accounts of previous behaviour, the most important predictor for new crimes, are simply found in the criminal records, whether or not the offenders are mentally disordered. Male gender, youth, substance abuse, and low age at onset of antisocial behaviour always turn up as risk factors in research on the probability of relapse in violence (Hastings & Hamburger, 1997; Eriksson 2008). That all offenders are supposed to be treated equally and fairly is hardly apparent from the way society has singled out the category of mentally disordered subjects as especially perilous. They are supposed to be extensively scrutinised and, when there is a risk for relapse into criminality, they are handed over to an unlimited form of detention with considerably reduced individual rights. This focus on the mentally disordered offenders is initiated *by politicians and policy makers,* and written into the laws that regulate the forensic psychiatric practice. There is thus an imbalance between regular offenders and those who suffer from a severe mental disorder that is difficult to justify. Despite this remarkable focus on the mentally disordered offenders which is likely to entail repressive measures and potential integrity violations, Sweden has had no political debate questioning this development. Instead, the supervising authorities have increasingly emphasized the importance of performing risk assessments at the same time as the scientific evidence for these assessments has been disputed, lending very little support to the psychiatrists and psychologists supposed to carry out the assessments. The idea of special rules for certain categories of people is not rational and might jeopardize established relations with patients as well as the general confidence in our work. Can we be so sure that rules that today apply to mentally disturbed or mentally retarded persons might not come to be extended to further categories, such as persons of foreign extraction or persons without employment? What we now need is research to obtain specific knowledge about all types of risk factors and all types of offenders, clear assessments of need for risk prediction, the means to provide accurate information and to leave matters concerning legislation and judicial measures up to the politicians

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