SUBSTANCE USE AND PSYCHOPATHOLGY IN CORRECTIONAL SETTINGS:
AN EXPLORATORY STUDY ON
THE DEVELOPMENT OF A METHOD

SUMMARY

Joke De Wilde
Veerle Soyez
Stijn Vandevelde
Eric Broekaert
Tom Vander Beken
Rudy Guillaume
Elke Dumortier
Youri Caels

The research is part of the "Research programme in support of the federal drugs policy document", commissioned and financed by the Belgian Science Policy Office

CONTENT

1. PROBLEM DEFINITION AND CONTEXTUALISATION

1.1. Introduction

The joint occurrence of substance abuse disorders and another major psychiatric disorder (dual diagnosis of co-morbidity) is a complex problem. Amongst others, this complexity is one of the reasons why a considerable number of persons with a dual diagnosis finish for a shorter or longer period in prison.
Up to now, certainly in Belgium, few research has been conducted in relation to (for example the prevalence of) dual diagnosis in correctional establishments. This situation underlines the need for a systematic and appropriate way of screening and diagnosing co-morbidity in correctional establishments. It is in the context of this reality that the research project “Substance abuse and psychopathology in correctional establishments: An exploratory study on the development of a method” was accomplished

1.2. Contextualisation of the study

International research indicates the high prevalence of co-morbidity in substance users, quid est, the combined occurance of a major psychiatric disorder (cfr. DSM-IV, Axis I and Axis II) and substance abuse (Hasin et al., 1996). Especially within correctional or other secure contexts, many persons seem to fulfiill the criteria of having a dual diagnosis (Eden, Peters, & Hills, 1997; Katz, 1999; Timmerman & Emmelkamp, 2001). Besides negative effects for individual dually diagnosed persons, particularly because there is no well-developed comprehensive system of prison-based treatment, co-morbidity also negatively inluences the general atmosphere in prisons.
However, according to recently published studies, the reported (usually hig) prevalence rates heavily depend on the assessment methods used (Heilig, Forslund, Åsberg, & Rydberg, 2002). This finding underscores, without any doubt, the need for more systematic, comprehensive, accurate and adapted procedures for diagnosing co-morbidity (Heilig et al., 2002). Furthermore, the above-mentioned finding seems to be most applicable in specific secure settings, like prisons, where the implementation of assessment procedures is affected by specific conditions (Black, Arndt, Hale, & Rogerson, 2004). Existing instruments are often not validated for prison populations; ther is a high(er) risk of socially desirable answers or other forms of respondent bias and the administration of complex assessment protocols is often hampered by practical and financial difficulties. Therefore, currently used screening and assessment methods are often limited (have to be limited) to pencil-and-paper self-reports instruments (Megargee, 1995; Richards & Pai, 2003; Shearer & Carter, 1999).
It is in the context of these findings from international research, that this study should be situated. After all, untill today there is only limited use of standardized screening or assessment procedures in Belgian correctional establisments and instituations for mentally ill offenders.

1.3. Objectives

The finality of this study was the development of an adapted assessment method for the screening of psychiatric disorders and substance abuse disorders in newly arrived detainees and incarcerated mentally ill offenders in (psychiatric wards of) Belgian correctional establishments and other secure settings. A *first goal* consisted of mapping the current state of practice, focusing on currently available methods. Moreover, there was strived for creating an inventory (as complete as possible) of available instruments. A *second* important *objective* was the exploration of the current state of the art in literature in Belgium and abroad concerning the assessment of psychopathology and substance abuse ('dual diagnosis'). This included the description of examples of national and international 'good practices'. Besides a broad, general review of the literature, specific attention was given to studies within prison settings and to the accompanied special features. The necessity for specific forensic approaches was investigated as well. Consequently, the *third objective* contained the mapping and further exploration of 'setting specific conditions' (e.g. professional secrecy, judicial and security issues, etc.) and the financial and practical implications of the proposed assessment method. The *fourth* and *last goal* focused on the actual development, evaluation and adaptation of the assessment method.

In summary, we can formulate the objectives as follows:

Main objective. The development of an adapted assessment method for substance abuse and psychopathology, with special attention for the 'setting specific conditions'.

Sub objective 1 Mapping the current state-of-the-art of existing procedures for diagnosis and assessment

Sub objective 2. Developing an adapted assessment method, with a script coupled to this method;

Sub objective 3. Mapping the 'setting specific conditions', including: professional secrecy, the role of psychosocial services, and exploration of financial and organizational implications of the developed method.

2. STATE OF THE ART

2.1. Literature review

2.1.1. Comorbidity in correctional settings

International research indicates the elevated prevalence of co-morbidity among drug users (Carey & Correia, 1998; Fazel & Danesh, 2002; Hasin et al., 1996). In a recent article covering treatment of clients with a dual diagnosis, Burnam & Watkins (2006) cite a number of studies showing that the prevalence of comorbid substance abuse disorders and psychiatric disorders varies between 15% and 40%. Also Encrenaz & Messiah (2006, p.378) refer to research projects showing that there exists a high extent of comorbidity between substance abuse disorders and other (non-substance-related) psychiatric disorders. Among other things, substance-related disorders occur more often in persons suffering from a psychiatric disorder and vice versa: substance users struggle more often with other psychiatric disorders, like anxiety disorders or depression.

Especially within correctional or other secure contexts, many persons seem to fulfill the criteria of having a 'dual diagnosis' (Eden et al., 1997; Timmerman & Emmelkamp, 2001). Peters en Bartoi (1997) refer in this context to studies estimating that between 3% and 11% of the detainees suffers both from psychiatric disorders and substance abuse of dependence. In a recent study Black et al. (2004) report numbers that are even higher: 20% of the adults detainees is expected to have severe psychiatric disorders and 75% is expected to have a co-occuring substance use disorder.

An important finding is that persons with a dual diagnosis are, in essence, a heterogeneous group of persons (Drake & Wallach, 2000; Lehman, 1996). Despite this heterogeneity there are a number of common characteristics. Peters & Bartoi (1997, p.3), Drake & Wallach (2000) en Eden, Peters & Hills (1997) give in this context an overview of the important implications of a dual diagnosis[1]:

- detainees with co-occuring disorders have more pronounced difficulties in employment, family and social relationships, have more serious medical problems, and have lower levels of relapse prevention skills
- detainees with co-occuring disorders are more likely to leave substance abuse treatment programs prematurely
- more rapid progression form initial drug use to drug dependence
- more frequent hospitalization
- higher rates of depression and suicide
- poor prognosis for completion of treatment
- noncomplicance with medication and treatment interventions
- individuals with co-occuring disorders do not fit well into existing treatment programs; treatment programs are not adapted to their needs

[1] For an overview of the studies on which the results are based, see Peters & Bartoi (1997)

- poor social functioning, lower satisfaction with relationships, homelessness, violence, and incarceration
- lowered functional status
- HIV infection
- disturbing behaviour and violence
- quicker recurrence of symptoms after treatment

2.1.2. Screening and assessment of dual diagnosis in correctional establishments

Given the specific problems of dually diagnosed clients, screening and assessment is highly important. A routined screening for co-occuring substance abuse problems and psychiatric disorders is already the standard procedure in different countries, amongst others in the United States, both within and outside a correctional context (Black et al., 2004; RachBeisel, Scott, & Dixon, 1999). The reported (usually high) prevalence rates heavily depend on the assessment methods used (Heilig et al., 2002; Peters & Bartoi, 1997). In a number of studies there is stated that both substance abuse problems and psychiatric disorders remain underdiagnosed. Although this is also the case in, for example, treatment programs, this findings seems to be most applicable within specific settings, like prisons, where the implementation of assessment procedures is affected by specific conditions (Black et al., 2004)

A number of studies evaluated the validity of psychiatric diagnoses in substance abusers (Heilig et al., 2002; Kranzler et al., 1995). The diagnoses that were given by social workers in the context of their normal range of duties seemed to be valid for substance abuse, moderately valid for personality disorders and little valid for anxiety disorders, major depression and dual diagnosis (cf. Crawford, Crome, & Clancy, 2003). Heilig and collegeaus (2002) studied in this context the validity of the label 'dual diagnosis' given by social workers compared to the results of a structured and systematic evaluation using DSM-III-R criteria. The most important conclusion of this study was that well-developed procedures, executed by qualified personnel are a conditio sine qua non for correctly attributing the label 'dual diagnosis'.
Of course, whether or not a person receives a correct diagnosis has important consequences: overtreatment of mental health symptoms with medications, lack of referral to appropriate treatment, lack of appropriate interventions, low effectivity when (often inappropriate) treatment is offered (Peters & Bartoi, 1997). An even more important implication is the overrepresentation of persons with psychiatric disorders in prison, where they essentially don't belong. In this context Rogers, Jackson, Salekin & Neuman (2003) refer to the need for a time-limited, but nonetheless effective assessment of Axis I disorders and symptoms, by means of existing, structured interviews.

Preceding findings underscore the importance of more systematic, comprehensive, accurate and adapted procedures for diagnosing co-morbidity, especially within correctional setting (Heilig et al., 2002). Despite the existance of a large number of instruments (particularly for substance abuse on the one hand and psychiatric disorders on the other), for the time being a clear protocol in which previous remarks are taken into account, is (certainly in Belgium) lacking. A possible option proposed in this context by Roesch, Ogloff and Eaves (1995) is the need to screen psychiatric disorders in all detainees, after which further assessment is performed for these persons that possibly have psychiatric disorders. Additionally, Black and colleagues (2004) stress the importance of screening instruments that are embedded in a more comprehensive approach,

for instance with the inclusion of a referral to treatment when the screening reveals the presence of certain symptoms. Also Drake & Wallach (2000) mention that integrated screening and treatment of dual diagnosis, during which attention is given to both psychiatric disorders and substance abuse, offers most chances for success.

2.2. Survey within the Psychosocial Services

2.2.1. Introduction

In a first phase of the research project, and in preparation of the development of an appropriate assessment method, the psychosocial services (PSS) of all Belgian prisons and forensic psychiatric units (FPU) were asked for information. The inquiry of the PPS within the FPU was considered as very important in the context of this study, because these centers fulfill an exemplary role with regard to screening and assessment of detainees.
There has been chosen to include the PSS –and not the medical services- in the survey, as –currently- the PSS is taking up a major part of the screening and assessment of substance use and psychopathology of detainees. Stimulated by the fundamental law of January 12, 2005 (Belgian Bulletin of Acts, Orders and Decrees, 1 February 2005), concerning the prison system and the legal position of detainees, this will probably change in the future when medical services will receive treatment finality. In this respect, the assessment method that is developed is actually intended to be used by the medical services.

2.2.2. Methodology

An identical questionnaire for Flanders and Walloon was developed on the basis of a literature study. The questionnaire comprises two parts. In a first part the medico-psychosocial screening of detainees is assessed (who is screened? who conducts the screening? when and where does this take place? what are the aims and implications? which instruments are used?), as well as the interventions offered (medical, psychiatric and psychosocial interventions, formation and training, concrete measures for individuals using substances and/or with a psychiatric disorder, and staff training), and the prevalence of dual diagnosis in the organization. A second part assesses the setting specific conditions (time, personnel, space, legal framework and others), the bottlenecks and plusses, and the future perspective concerning medico-psychosocial screening.

After receiving approval of the Directorate-General Execution of Punishments and Measures for carrying out study, a staff member of the PSS of each Belgian prison (N=33) and FPU (N=3), c.q. the director, the psychiatrist, the psychologist or the social worker, was contacted by phone and given information about the project. Subsequently, the first part of the questionnaire was send by email. As soon as this first part was filled in electronically, an interview by phone was organized. During this telephonic interview that lasted in average for about one hour and a half, the electronic questionnaire was run through –and if necessary completed- before the questions from the second part of the interview were asked.

2.2.3. Results

In all prisons, all detainees are screened shortly after entrance. The interpretation and proportion of this screening is highly determined by the size of the prison and available personnel and time. The differences found in relation to the medico-psychosocial screening have more to do with differences between institutions than with differences between Flanders and Wallonia.
However, there is a remarkable difference between prisons on the one hand and forensic psychiatric units on the other hand regarding the care/treatment offered. While in prisons it is only possible to offer pre-therapeutic care and –especially in large prisons- there is not enough time to see all detainees on a regular basis, in the FPU a treatment plan is made and treatment is given on a standard basis. On works further on the findings of the earlier screening that is always be done in prison. When indicated, the detainees are, based on this screening, referred to the FPU, which plans additional assessment.

In this context, it is important to keep in mind a number of bottlenecks related to this survey. Based on the interview by phone, it became clear that not all respondents had been interpreting the term 'screening' in the same way while administering the electronic questionnaire. Additionally, during analysis of the results it turned out that the answers differed according to the function of the person that was interviewed and that the answers were dependent from eventual deliberation between different staff members beforehand.
The inquiry about setting specific preconditions revealed the difficult position of the PSS: on the one hand they have an expertise task (advices / preparation of rehabilitation), on the other hand they have a treatment task during which they engage the detainees in pre-therapeutic conversations. This creates role entanglement and explains partially some conflicting remarks in relation to the duty of professional confidentiality.

Different suggestions were formulated for the construction of a measuring instrument for screening and assessment, but again the field of tension between care and expertise became clear. Furthermore, questions were posed about the usefulness of screening, given the limited means to provide care. In this context, several respondents referred to the lack of space in psychiatric annexes and psychiatric wards of correctional establishments, leading to a situation in which mentally ill offenders end up between convicted persons, which hampers specially adapted treatment.
The need for a standardized test battery, which is the same in all correctional establishments, clearly comes to the forefront; the use of only one questionnaire is considered unsatisfactory.

2.3. Overview of existing instruments for screening and assessment of dual diagnosis

The use of standardized instruments for the identification of co-morbidity in correctional settings is highly recommended. Furthermore, the use of similar instruments in different penitentiary institutions can lead to a shared comprehension of co-morbid problems and can promote a recommended approach. In literature different essential components of screening and assessment in forensic settings are summed up: (1) the juridical history, (2) the identification of signs and symptoms of major psychiatric disorders, (3) the identifications of symptoms of

substance abuse, (4) patterns of recent and current substance abuse and (5) other motivational and health factors that can influence the approach of these individuals.
Given the fact that, until now, there exists no instrument that evaluate all of these five factors, different independent instruments for psychopathology and substance abuse have to be combined for the screening of co-morbidity (Peters & Bartoi, 1997). This method was clearly illustrated by the examples of *'good practices'* of which the description can be consulted in the research report.

By means of an elaborated literature study, an inventory was made of all existing screening and assessment instruments that evaluate one of the above mentioned factors. This inventory thus aims to give an overview of the existing screening and assessment instruments for both substance abuse and psychopathology, as well as for co-morbidity. It is important to mention that not all instruments were validated in a forensic population. However, the starting point for this inventory was to give a broad overview of instruments for screening and assessment. On the other hand, it was checked to which extent the instruments were appropriate for use in a correctional setting, as this information was important for further steps in the study (see Part III of the research report for more information).

Although the inventory is elaborate, this doesn't mean at all that the list is complete and that all existing measuring instruments are mentioned. There is a subdivision on the basis of the type of instrument (screening or assessment) and the aim (measuring substance abuse, psychopathology, co-morbidity, readiness to change or feigning of symptoms). The inventory can be consulted online on the website of Federal government department of Belgian Science Policy (http://www.belspo.be/belspo/fedra/proj.asp?l=nl&COD=DR/26).

3. DEVELOPMENT ASSESSMENT METHOD

The assessment method was given shape based on the results of the literature study; furthermore the current state-of-the-art in Belgian correctional settings was taken into account when selecting a number of relevant instruments out of the large amount that is available. Additionally, the selection was guided by experiences in different 'good practices' abroad.

In the first place, it became clear that the instrumentation had to fulfill a number of conditions:
(1) The instrumentation used should give, in a short term, an overview of the possible problems of a person and preferably also allow giving insight into his or her treatment needs;
(2) The administration of the instrumentation should (preferably) not take more than 1 hour;
(3) The proposed method has to be composed of different instruments in order to get a picture of the person that is as complete as possible: demographic data, substance use, psychopathology, co-morbid disorders, motivation for treatment and treatment history.
(4) Depending on the problems of the persons, more or less instruments can be needed to get a good assessment and a good treatment proposal.

As a result, following criteria were proposed for the selection of the instruments:

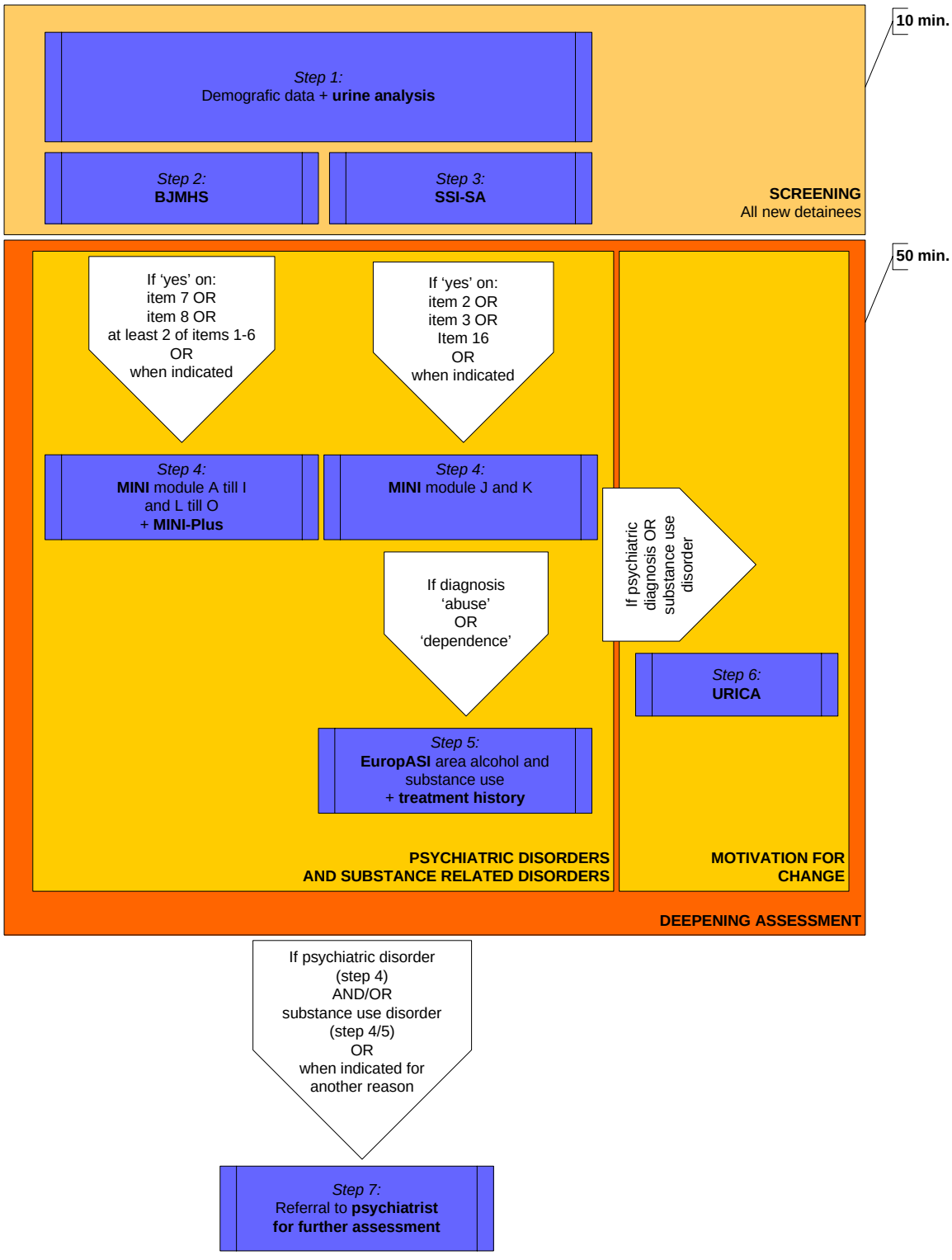
- validity and reliability (preferably also tested in a forensic population);
- usefulness of the instrument in a correctional setting;
- length of the administration;
- available languages;
- costs;
- scope of symptomatology covered by the instrument (more than just one disorder);
- function of the instrument (the instrument should focus specifically upon screening or diagnosis and upon treatment that eventually results from this screening)

No instruments were included that measure *malingering* or feigning of symptoms. Given the finality of the assessment –whether one should or should not start treatment- it didn't seem appropriate to the researchers to use such instruments, as they can possibly undermine the confidential relationship between detainee and social worker.

Following instruments were finally selected:
(1) the **Brief Jail Mental Health Screen** (BJMHS),
(2) the **Simple Screening Instrument for Substance Abuse** (SSI-SA),
(3) the **Mini International Neuropsychiatric Interview** (MINI and MINI-PLUS),
(4) the **European Addiction Severity Index** (EuropASI), and
(5) the **University of Rhode Island Change Assessment Scale** (URICA-NL)

For more information concerning these instruments we refer the interested reader to the final report.

The assessment method that was developed, and that is illustrated in the scheme below, consists of two major parts that in turn are divided in different steps. The results of the screening determine if further assessment is necessary and how this assessment should pass off.


10 min.
Step 1:
Demografic data + urine analysis
Step 2:
BJMHS
Step 3:
SSI-SA
SCREENING
All new detainees
50 min.
If 'yes' on:
item 7 OR
item 8 OR
at least 2 of items 1-6
OR
when indicated
If 'yes' on:
item 2 OR
item 3 OR
Item 16
OR
when indicated
Step 4:
MINI module A till I
and L till O
+ MINI-Plus
Step 4:
MINI module J and K
If diagnosis
'abuse'
OR
'dependence'
If psychiatric
diagnosis OR
substance use
disorder
Step 6:
URICA
Step 5:
EuropASI area alcohol and
substance use
+ treatment history
PSYCHIATRIC DISORDERS
AND SUBSTANCE RELATED DISORDERS
MOTIVATION FOR
CHANGE
DEEPENING ASSESSMENT
If psychiatric disorder
(step 4)
AND/OR
substance use disorder
(step 4/5)
OR
when indicated for
another reason
Step 7:
Referral to psychiatrist
for further assessment

4. PILOT STUDY

4.1. Introduction

The developed method was tested in a small, selected sample of newly arrived detainees (N=91). Data were collected until a pre-determined number of clients with a dual diagnosis (N=30 for Flanders and N=30 for Wallonia) was represented in the study sample. The pilot study was conducted in two prisons and two wards for mentally ill offenders (each time one in Flanders and one in Wallonia). For Flanders Ghent and Merksplas co-operated, for Wallonia it was Mons and Paifve.

The data collected were analyzed both in a quantitative and qualitative way: the quantitative analysis gives a first –very preliminary- indication of the number of clients with a dual diagnosis in correctional settings. The numbers are described and discussed elaborately in the final report, together with the impact of the pilot study on the developed method. In consideration of the implementation of the developed method, a script was written. Qualitative analysis of the data offered the possibility to evaluate and adjust this script.

During the months June, July and August 2006 al newly arrived detainees in the participating correctional establishments were selected for participation in the pilot study. Two additional conditions were related to participation: the detainee should understand and talk Dutch or French and should be able to make time for one or one and a half hour. If the person met the conditions, the study was explained to the detainee and his/her consent to participate was asked. It was explicitly stressed that data would only be used in a strictly confidential and totally anonymous way for scientific research. The information that was collected during the study could be referred to a third party, but only with the explicit consent of the client.

After signing the informed consent form the actual research was started. The proposed assessment method (see schematic overview) was –with the exception of some adaptations (for an overview: see final report) - followed as strictly as possible.

4.2. Results

During the pilot study, the instruments were administered from 91 detainees. For an overview of the quantitative results we refer the interested reader to the final report.
All administrations run smoothly; proceeding differed from setting to setting, dependent on the organization within the prison concerned. Usually a list of all newly arrived detainees was placed at the disposal of the researchers. After selection on the basis of the criteria set (language and time), the persons were called one by one to ask their consent for participation in this study. In exceptional cases someone of the medical service, eventually together with the researcher, had already gone around in prison to explain the study and to ask consent for participation.

Willingness to participate was different for prisons compared to psychiatric wards for mentally ill offenders. Where there were almost no refusals to participate in the psychiatric wards, there were obviously more refusals in the prisons.
For a number of persons, that were extremely suspicious, it was important to stress once more that data wouldn't be passed to PSS or justice in any case. It is possible that a number of detainees have participated in the study because they hoped that, by doing so, their situation could be changed. In exceptional cases, the administration didn't run smoothly or could only be done partially (N= 9 of 9.89%).

If there were not enough *newly arrived* detainees (e.g. in psychiatric wards for mentally ill offenders) that could participate in the pilot study on the moment of data collection, the researchers went back in time. This procedure had a number of consequences for administration of the instruments. However, this problem will exist to a lesser extent once the final instrumentation will be implemented in Belgian correctional settings, given the fact that it should be administered as soon as possible after entrance in prison.
The duration of the examination varied between half an hour and three hours, with an average of one hour. Duration of administration depended on how much explanation the person involved needed to understand the questions and on how much the person was willing to talk. Detainees were offered the chance to bring their story; as such the reliability of the results increased.

5. CONCLUSIONS AND RECOMMENDATIONS

The adjusted assessment method for screening and assessment of substance use and psychopathology in newly arrived detainees was given shape on the basis of the results of different subparts of the study. In a first stage an elaborated literature study was done, giving insight into the necessary conditions for screening and assessment of dual diagnosis in correctional settings. By means of an inventory of existing screening- and assessment instruments, the most appropriate instruments were selected. An inquiry within the PSS of all Belgian prisons and FPU offered the possibility to formulate some bottlenecks and suggestions that should be taken into account when developing an assessment procedure for the medical service.
In order to fully test the developed method, a pilot study was conducted in two prisons and two psychiatric wards for mentally ill offenders in Flanders and Wallonia, until a pre-determined number of 60 persons with a dual diagnosis was represented in the study sample.

5.1. Prevalence of dual diagnosis

Although limited –which makes it essential to interpret the results with necessary care- the pilot study offers the possibility to give some numbers regarding the prevalence of substance use and psychopathology in a prison population.
When comparing the results from the pilot study with international research, one is initially stopped by an important shortcoming: in the present study both detainees that newly arrived in prison and detainees that stayed already longer in prison participated. Usually, this is not the case in international research that makes the differences between both groups, proceeding from the finding that a prison setting can possibly strengthen some symptoms and weaken some other (Blaauw, Roesch, & Kerkhof, 2000; Brinded, Simpson, Laidlaw, Fairley, & Malcolm, 2001). This means that, in order to make a good comparison, both groups should be split up and that besides this, preferably, a separate category for mentally ill offenders should be created. This last category isn't always mentioned apart in literature either: usually the covering term 'detainees' is used.

Despite the limited sample and the abovementioned shortcomings, it becomes clear that the results from this study at least offer a picture of the prevalence of the most important Axis I disorders in a prison population that is quite similar to the prevalence mentioned in international studies. The most common Axis I disorders in detainees is a substance-related disorder (abuse or dependence of illegal drugs or alcohol) (Andersen, 2004). This is confirmed by the current study. Prevalence ranged from 38 to 62% for the abuse and dependence of alcohol and from 43 to 57% for the abuse and dependence of illegal drugs. This study doesn't offer the possibility to find out which detainees were given a diagnosis for a substance related disorder for the first time while being in prison; however, it is possible to say something about the nature of the drugs that ever has been used by the persons involved in this study. The drugs that were most currently used by the sample studied are heroin, medication, cocaine and cannabis. This result is similar to

findings from other studies concerning substance use in correctional settings in Belgium (Hariga et al., 2004; in Sleiman, 2004).
Besides substance related disorders, a large number of psychiatric problems can be found in the studied sample as well. Again, this finding is parallel to international studies. A recent German study, for instance, reported that 88% of the detainees has a least one psychiatric disorder (von Schönfeld et al., 2006). In this study the researchers also assessed the prevalence of DSM-IV Axis II disorders. This was not done in the pilot study reported here, as research has shown that Axis II disorders are of the often diagnosed incorrectly or over-diagnosed (Eden et al., 1997). In order to give a correct Axis II diagnosis, elaborated psychiatric examination –whether or not by means of the structured interview- is necessary. This was not feasible, given one of the criteria set for the assessment procedure to be developed –id est, administration of the instrumentation should not take more than 1 hour. The study of von Schönfeld and colleagues further mentioned significant differences between detained men and women. Given the small number of women in the sample of the study presented here (N=9/91) it is not possible to report any findings on this topic. The percentage of women represented in our sample (9.8%) corresponds to the percentage of women in the total Belgian prison population (Federal Government Department Justice, 2005). Given the under-representation of women in Belgian correctional settings, it is necessary to compose a larger sample in order to be able to make any statement about possible differences between detained men and women.

In studies concerning psychiatric disorders in detainees mainly mood and adaptation disorders, anxiety disorders and psychotic disorders are mentioned; these disorders occur more often in detainees compared to the general population (Blaauw et al., 2000; Fazel & Danesh, 2002). Exactly those disorders are also found most often in the detainees in the current study sample. Besides this, it appears that the detainees in the prison sample of this study report an average of 4 disorders. This finding as well is comparable to other research that talks about an average of 3.5 disorders per detainee (von Schönfeld et al., 2006). Previous findings clearly underline the high prevalence of co-morbidity and multiple problems. Differences studies have shown that there is a high level of co-morbidity between substance related disorders and other (not substance related) psychiatric disorders (Encrenaz & Messiah, 2006). Following the definition that was handled within this research project –*the combined appearance of a major psychiatric disorder (DSM IV, Axis I) and a substance related disorder*- 66% of the respondents can be given the label 'dual diagnosis'. Other studies report numbers that vary between 3 and 11% (Peters & Bartoi, 1997), until even 75% of all detainees. The important differences in prevalence are possibly explained by the fact that 'dual diagnosis' isn't always defined in the same way (Drake & Wallach, 2000). Another possible explanation for the inconsistent prevalence numbers found in literature is the lack of an adjusted assessment method, using standardized instruments (Heilig et al., 2002). However, the extensive screening and assessment is exactly for this target group absolutely necessary. Finally, it is also plausible that the prevalence in the current study is relatively high compared to a number of other studies, because of the inclusion of the group mentally ill offenders in the sample.

5.2. Assessment of dual diagnosis in a correctional setting

One of the most important setting specific preconditions for the administration of an instrumentation covering dual diagnosis arises from the nature of the correctional system on its own. We are confronted with people that reside compulsory within a correctional setting. Screening of such a population, with a focus on eventual treatment, isn't evident at all. On the other hand, the pilot study that was conducted in the context of this research project proved that such a screening certainly is feasible and can offer the basis for extended treatment.
Apart from the fact that treatment in a "compulsory" context entails a number of intrinsic problems of "voluntariness", the situation of persons staying in prison becomes also more complex because of the duality regarding medical, psychiatric and psychosocial interventions. On the one hand, these persons are "locked up" and they are stimulated to participate in medico-psychosocial research and treatment because this is considered meaningful in relation to their rehabilitation. These interventions (expertises) are partly "control driven" and the results are as a rule used for the correctional file of the person involved. On the other hand these persons are, like anyone else, sometimes in need of care and they ask medico-psychosocial treatment for this situation. Interventions from this perspective are focused on help and by definition not "control driven". The results from examination and screening in this context concern a patient and not a detained person. Consequently, these results are not intended to be written in the correctional file.

However, the reality in Belgian prisons shows that interventions with control finality (expertises) and interventions with care finality are closely knit. The personnel in prison that is responsible for medico-psychosocial affairs, usually isn't split up in accordance with the finality. At least there are, understandably, frequent and intense contacts between both finalities (control vs. care). The result is that, in practice, it becomes very difficult to distinguish control and care, especially for the detainees involved, and that all kind of discussions concerning the exchange of information turn up. The legislation concerning the duty of professional confidentiality (art. 458 of the penal code) doesn't allow that treatment staff "shares" information and assessment with colleagues working in the "control sphere". Practically things aren't that evident: the same examination is sometimes needed twice, it concerns colleagues that work with the same person, etc.

The fundamental law of January 12, 2005, concerning the prison system and the legal position of detainees (Belgian Bulletin of Acts, February 1, 2005), which isn't operational on these points yet, offers more clarity in relation to this issue. Following article 96 of this law, care providers retain professional independence and evaluations and decisions regarding the health situation of the detainee should only be based on medical criteria. They can not be force to perform actions that postpone their relationship based on mutual trust with the detainee. Their function of care provider is considered incompatible with the task of being an expert in prison. The medical expertise is, according to article 100 and further of this law, totally detached from care provision and should be executed by consulting medical doctors, whose function is incompatible with the task of care provider in prison.

The medico-psychosocial expertise in prisons contains according to the law (art. 101) those services offered by experts focusing on assessment and counseling for the decision making processes related to, amongst others:

1. the individual detention plan;
2. the placement and referral of detainees;
3. temporarily leaving the correctional setting;
4. the unusual forms of the penal execution;
5. the early release.

As stated earlier, the function of such an expert is incompatible with the task of care provider in prison.

Previous considerations clearly illustrate that a complete separation of services with care finality and services with expertise finality is quintessential. Given the fact that the fundamental law concerning the prison system and the legal position of detainees (Belgian Bulletin of Acts, February 1, 2005) foresees that the medical service and the PSS will function completely independent in the future, both services will need an "adapted" assessment method. After all, the finality of this assessment will be different for both services: the (current) medical service will get care finality and assessment within this service will mainly serve the formulation of a treatment plan. The PSS will become a service with control finality; within this service assessment will be used in function of the formulation of a detention and/or rehabilitation plan.
Based on this separation, most of the problems that have been summed up by PSS collaborators in this research project, id est lack of time leading to limited screening / assessment and follow-up of the files; vagueness about what information can/cannot be passed to other services; dubious relationship based on mutual trust with the detainee because of double role (expertise versus care), can be solved.

It is within this context that the developed assessment method got its highly specific interpretation. As it is the aim to have the assessment done solely in the interest of the detainee, it didn't seem appropriate e.g. to involve an instrument that measures feigning of symptoms (malingering), as this might possibly undermine the relationship based on mutual trust between the "care provider" and the "patient". In the current context, the use of such instrument by the PSS is almost standard procedure. However, it is possible to consider the use of a malingering instrument–when indicated- within the context of the developed assessment method too. Therefore, the most prevailing instruments that measure 'feigning of instruments' are included in the 'overview of existing instruments for screening and assessment of dual diagnosis'.

Additionally, a good screening and assessment is liable to a number of concomitant preconditions. As such, the personnel that will be responsible for screening and assessment (amongst others) needs to be trained and prepared thoroughly in order to be able to administer the different instruments and to recognize symptoms. In this way, "missing" certain diagnoses or attributing wrong diagnoses can be prevented as much as possible. On the other hand, it is important to realize that no screening instrument can offer a 100% watertight guarantee. Yet, given the consequences of no or wrong treatment or referral of persons with a dual diagnosis, it is crucial that wrong diagnosis (and especially: under diagnosis) should be avoided as much as possible. When the results for the BJMHS are compared to the results of the validity study of this instrument (Steadman et al., 2005), similar results are found. However, Steadman and colleagues (2005) make a difference between men and women: 73.5% of the detained men was correctly classified, 14.6% seemed to be false-negative; for detained women they found percentages of 61.6% correct classifications and 34.7 false-negative cases (not referred, but having a DSM-IV

diagnosis anyway). In the current pilot study 67% was correctly classified, while 10% were false-negative cases. It has to be mentioned that in this study the number of women represented in the sample was limited. Furthermore, judgment of accuracy of the BJMHS was based on the MINI. In the study of Steadman and colleagues (Steadman et al., 2005) the Structured Clinical Interview for DSM-IV (SCID) was use to do so.
Steadman and colleagues explain a number of the false-negatives by the fact that the BJMHS only scores current symptoms. Other false-negatives are allocated to the fact that the BJMHS doesn't screen for depression and anxiety, disorders that often occur in women (Steadman et al., 2005). In an unpublished study, in which the same authors revise the BJMHS based on findings from their earlier studies, they conclude that adding extra items in order to screen anxiety and depression doesn't lead to a substantial improvement of the instrument, given the fact that by doing so, the number of false-positive cases strongly increases (personal communication Steadman, 31/08/06).
For the same reason (namely avoiding the risk of increasing the number of false-positive cases) it was decided to stay to the original translation for 'item 8': 'have you ever been in a hospital for emotional or mental health problems'. In other words, there was not opted for the extended alternative 'have you ever been treated for emotional or mental health problems'. Based on this original version, persons with the most serious problems are selected and it can be avoided that too many people will be referred (for example, people that once received outpatient treatment for emotional or mental health problems, but don't experience any more problems right now). Given the context in which screening and assessment takes place, it will be important to refer only those people who really need a deepening assessment.

At first, the implementation of the newly developed assessment method on the medical services of all Belgian correctional settings certainly requires an investment. In order to execute the screening and assessment thoroughly, it will be necessary to recruit additional trained staff. Furthermore, the nurses that work already in the correctional setting will need training as well in order to be able to use the instrumentation in the right way. However, training alone is not sufficient: the attitude of the personnel regarding the detainees is as important. Only when a certain relationship of mutual trust with the detainee can be build, it will be able to collect useful information for the development of a treatment plan.
It is obvious that also the time available per detainee will influence quality of the administration of the instrumentation. The research team wants to stress that the developed method is only useful when administered thoroughly, which means that enough time needs to be foreseen to go through the assessment procedure.

However, despite these investments needed, the newly developed assessment method also leads –in the long run- to cost reduction: as people are screened and diagnosed more accurately, this will result in more effective referral and treatment. This may result in reduced recidivism, making people stay out of prison.

REFERENCES

Andersen, H. S. (2004). Mental health in prison populations, a review - with special emphasis on a study of Danish prisoners on remand. *Acta Psychiatrica Scandinavica, 110*(Suppl. 424), 5-59.

Blaauw, E., Roesch, R., & Kerkhof, A. (2000). Mental disorders in European prison systems. Arrangements for mentally disordered prisoners in the prison system of 13 European countries. *International Journal of Law and Psychiatry, 23*, 649-663.

Black, D. W., Arndt, S., Hale, N., & Rogerson, R. (2004). Use of the Mini International Neuropsychiatric Interview (MINI) as a screening tool in prisons: Results of a preliminary study. *The Journal of the American Academy of Psychiatry and the Law, 32*, 158-162.

Brinded, P. M. J., Simpson, A. I. F., Laidlaw, T. M., Fairley, N., & Malcolm, F. (2001). Prevalence of psychiatric disorders in New Zealand prisons: a national study. *Australian and New Zealand Journal of Psychiatry, 35*, 166-173.

Burnam, A., & Watkins, K. (2006). Substance abuse with mental disorders: Specialized public systems and integrated care. *Health Affairs, 25*(3), 648-658.

Carey, K. B., & Correia, C. J. (1998). Severe mental illness and addictions: assessment considerations. *Addictive Behaviors, 23*(6), 735-748.

Crawford, V., Crome, I. B., & Clancy, C. (2003). Co-existing problems of mental health and substance misuse (dual diagnosis): A literature review. *Drugs: Education, Prevention and Policy, 10*, S1-S74.

Drake, R. E., & Wallach, M. A. (2000). Dual diagnosis: 15 years of progress. *Psychiatric Services, 51*(9), 1126-1129.

Eden, J. F., Peters, R. H., & Hills, H. A. (1997). Treating prison inmates with co-occuring disorders: An integrative review of existing programs. *Behavioral Sciences and the Law, 15*, 439-457.

Encrenaz, G., & Messiah, A. (2006). Lifetime psychiatric comorbidity with substance use disorders: Does healthcare use modify the strength of associations? *Social Psychiatry and Psychiatric Epidemiology, 41*, 378-385.

Fazel, S., & Danesh, J. (2002). Serious mental disorder in 23 000 prisoners: A systematic review of 62 surveys. *The Lancet, 359*, 545-550.

Hariga, F., Todts, S., Doulou, M., M, M., & (2004). *Toxicomanie en prison: monitoring des risques sanitaires. Une enquête dans 10 prisons Belges, SPF Justice Bruxelles*.

Hasin, D. S., Trautman, K. D., Miele, G. M., Samet, S., Smith, M., & Endicott, J. (1996). Psychiatric Research Interview for Substance and Mental Disorders (PRISM): reliability for substance abusers. *American Journal of Psychiatry, 153*, 1195-1201.

Heilig, M., Forslund, K., Åsberg, M., & Rydberg, U. (2002). The dual-diagnosis concept used by Swedish social workers: limited validity upon examination using a structured diagnostic approach. *European Psychiatry, 17*, 363-365.

Katz, R. I. (1999). The addiction treatment unit: A dual diagnosis program at the California Medical Facility - A descriptive report. *Journal of Psychoactive Drugs 31*(3), 41-46.

Kranzler, H. R., Kadden, R. M., Burleson, J. A., Babor, T. F., Apter, A., & Rousaville, B. J. (1995). Validity of psychiatric diagnoses in patients with substance abuse disorders - Is the interview more important than the interviewer. *Comprehensive Psychiatry, 36*(4), 278-288.

Lehman, A. F. (1996). Heterogeneity of person and place: Assessing co-occuring addictive and mental disorders. *American Journal of Orthopsychiatry, 66*(1), 32-41.

Megargee, E. I. (1995). Assessment research in correctional settings: Methodological issues and practical problems. *Psychological Assessment, 7*(3), 359-366.

Peters, R. H., & Bartoi, M. G. (1997). *Screening and assessment of co-occurring disorders in the justice system*. Unpublished manuscript, Florida: National GAINS Center.

RachBeisel, J., Scott, J., & Dixon, L. (1999). Co-occuring severe mental illness and substance use disorders: A review of recent research. *Psychiatric Services, 50*(11), 1427-1434.

Richards, H. J., & Pai, S. M. (2003). Deception in prison assessment of substance abuse. *Journal of Substance Abuse Treatment, 24*, 121-128.

Roesch, R., Ogloff, J. R. P., & Eaves, D. (1995). Mental health research in the criminal justice system: The need for common approaches and international perspectives. *International Journal of Law and Psychiatry, 18*(1), 1-14.

Rogers, R., Jackson, R. L., Salekin, K. L., & Neuman, C. S. (2003). Assessing axis I symptomatology on the SADS-C in two correctional samples: The validation of subscales and a screen for malingered presentations. *Journal of Personality Assessment, 81*(3), 281-290.

Shearer, R. A., & Carter, C. R. (1999). Screening and assessing substance abusing offenders: Quantity and Quality. *Federal Probation, 63*(1), 30-34.

Steadman, H. J., Scott, J. E., Osher, F., Agnese, T. K., & Robbins, P. C. (2005). Validation of the brief jail mental health screen. *Psychiatric Services, 56*(7), 816-822.

Timmerman, I. G. H., & Emmelkamp, P. M. G. (2001). The prevalence and comorbidity of Axis I and Axis II pathology in a group of forensic patients. *International Journal of Offender Therapy and Comparative Criminology, 45*(2), 198-213.

von Schönfeld, C.-E., Schneider, F., Schröder, T., Widmann, B., Botthof, U., & Driesen, M. (2006). Prevalence of psychiatric disorders, psychopathology, and the need for treatment in female and male prisoners. *Der Nervenarzt, 77*, 830-841.