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CHAPTER 5

VIOLENT OFFENDERS AS A TARGET POPULATION FOR PUBLIC MENTAL HEALTH CARE

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ABSTRACT

This study sought to specify which part of a population of young adult violent offenders in Amsterdam (mean age 24.9 years, $sd = 8.2$) were eligible for Public Mental Health Care (PMHC). The results of a semi-structured clinical interview were used ($N=454$), which included the Self-Sufficiency Matrix (SSM-D). Using the SSM-D and two distinct definitions of what constitutes a need for PMHC, the size of the PMHC target population was determined twice. Depending on which definition was used, 35.9% (mathematical algorithm which put weights to single SSM-D domains) and 34.8% (problematic levels of self-sufficiency on a selection of domains) appeared to be eligible for entering the PMHC system. The study confirms that a substantial proportion of vulnerable people are among the forensic population.

BACKGROUND

The Public Mental Health Care (PMHC) system provides care and support for individuals and families with severe and complex problems, amongst other target populations. Clients of the PMHC system are typically those who do not actively or independently seek help for their problems or who do not have their needs met by regular health services (Lauriks, Buster, De Wit, Arah, & Klazinga, 2012). Possible explanations for this specific type of vulnerability include the presence of multiple competing needs, the conditional nature of the health care system (e.g. one has to have health insurance) and the lack of a perceived need for care (Andersen, 1995; Gelberg, Andersen, & Leake, 2000).

Studies have shown that many forensic populations (e.g., delinquents, arrestees, prisoners, detainees) constitute (future) target populations for the PMHC system (Bulten, Nijman, & Van der Staak, 2009; Buster, Dorn, Ceelen, & Das, 2014; Kuhlmann & Ruddell, 2005). This is indicated by an accumulation of addictive behavior, psychiatric disorders and social problems, in combination with a general lack of personal coping skills, including the tendency to inadequately use health services (Abram, Teplin, McClelland, & Dulcan, 2003; Buster et al., 2014; Skogstad, Deane, & Spicer, 2006). Moreover, the majority of PMHC clients are signaled by the police or (via hotlines) by citizens who worry about or experience nuisance from fellow local residents (Buster et al., 2014; Lauriks et al., 2012).

Despite consensus about the vulnerability of forensic populations, actually determining whom the PMHC should treat is difficult. In deciding whom to allocate to PMHC and whom to refer to different (private) social or health care providers, professionals typically weigh all available information about the clients' situations against an implicit reference framework of the PMHC target group, current municipal policy and personal experience. Therefore, the present study sought to further investigate and specify the vulnerability of an emerging forensic population of violent offenders.

METHODS

SETTING AND STUDY POPULATION

A diversion program was initiated in Amsterdam in 2011 to reduce the number of violent high impact (i.e. victim) crimes. Examples of such crimes are theft and burglary, public/aggravated assault and armed invasion/robbery. The diversion program is primarily based on civil law, rather than criminal law, and was implemented by the municipality on a city level. Organizations that contribute to the program represent a wide array of stakeholders, including law enforcement (police, public prosecution, jails, and probation

services), social services and health care (public health service, (forensic) mental health care). Inclusion criteria for the program was that persons needed to have been an arrested suspect at least three times in the preceding five years (the list is updated every six months) for a violent high impact crime, of which at least one had to have been committed (or attempted) in the last two years. Also, subjects had to have been arraigned to the examining magistrate in the same period. Offenders with only one or two of such violent crimes but with at least 33 additional arrests are also included. Once a person is enrolled in the program he is assigned to a professional who is responsible for designing an integrated care plan, including measures in the domain of justice and health care.

Since provision of health care is a key feature of the program, the PHS identifies persons with (mental) health and social problems by having them screened by psychiatric nurses, psychologists or psychiatrists. If written consent is provided, reports of (recent) mental health evaluations are requested as well. Results of the screening are reported to a supervising psychiatrist, with whom a working diagnosis is formulated. Together with representatives from the major health care providers in the city, a treatment advice is then formulated. If necessary, the PHS then refers and actively guides subjects to health care. To date, at least 60% of those enrolled in the diversion program were screened, all on a voluntary basis. About 70% of those who were screened resided in prison at the time of screening; others were screened at a place and time that suited them best, including locations of the public health service or even at home. Based on a previous evaluation, it is furthermore estimated that 50%-70% of the referrals are successfully followed by treatment.

OUTCOMES

The screening consists of a semi-structured diagnostic interview, which includes the Dutch version of the self-sufficiency matrix (SSM-D). Self-Sufficiency Matrices were developed in the U.S. in the 1990's and are related to, but considerably less familiar than, instruments like the Health of the Nation Outcome Scales (HoNOS) and the Camberwell Assessment of Need (CAN) (Mulder et al., 2004; Phelan et al., 1995; Slade, Phelan, Thornicroft, & Parkman, 1996; Wing et al., 1998). The SSM-D was introduced in the Netherlands in 2010 and developed as an observational screening tool that provides a reliable assessment of the degree of self-sufficiency on essential life domains (Lauriks et al., 2014). For this aim, self-sufficiency is defined as the realization of an acceptable level of functioning either by oneself or by adequately organizing the help of informal or formal care providers. The SSM-D comprises 11 domains (see table 1) and categorizes the level of self-sufficiency on each domain on a 5-point scale with 1 = 'acute problems'; 2 = 'not self-sufficient'; 3 = 'barely self-sufficient', 4 = 'adequately self-sufficient' and

5 = 'completely self-sufficient', thus forming a matrix. Indicators that specify each level of self-sufficiency for every domain are defined, and described in each cell of the matrix. The SSM-D has adequate psychometric properties (i.e. internal consistency, convergent validity and inter-rater agreement) (Fassaert et al., 2014).

Two SSM-D based definitions of the PMHC target population were applied. First, Lauriks et al., (2014) previously used the SSM-D to develop a decision support tool (DST), in order to substantiate allocation decisions to PMHC for homeless people in Amsterdam. In other words, the SSM-D can be used to predict which part of a homeless population would be allocated to the PMHC system by professionals, solely based on their individual SSM-D profile (Lauriks et al., 2014). The predicted probability of being eligible for PMHC, given the scores on the SSM-D domains, can be calculated as follows:

$$P(\text{allocation}) = \frac{1}{1 + e^{-(14.45 - .13(F) - .50(D) - .65(H) - .06(Do) - 1.02(M) - .06(Ph) - .99(A) - .14(ADL) - .37(S) - .31(C) - .43(J))}}$$

where *F*=Finances score; *D*=Day-time activities score; *H*=Housing score; *Do* = Domestic relations; *M*=Mental health score; *Ph*=Physical health score; *A*=Addiction score; *ADL*=Daily life skills score; *S*=Social network score; *C*=Community Participation score; *J*=Judicial score.

This formula shows that all SSM-D domains matter, and that Mental health and Addiction have the largest influence on the final probability of allocation. The algorithm was applied to the present study population. In line with the original DST, the probability of their eligibility for PMHC was labeled as 'Definitely' ($P \geq 0.80$), 'Probably' ($0.50 \leq P < 0.80$), 'Probably not' ($0.21 < P < 0.50$) and 'Definitely not' ($P \leq 0.21$).

Because the DST was developed in a very specific context and population and as it provides only a rough and preliminary estimation of vulnerability, an additional definition was constructed. Based on Buster et al., (2014), PMHC eligibility was defined as showing problematic levels of self-sufficiency (SSM-D scores < 3) in the domains of Mental Health or Addiction, combined with having social problems (i.e. problematic levels of self-sufficiency in Finances or Day-time activities or Housing).

OTHER VARIABLES

Demographic characteristics, including age, gender, educational level and ethnic background were available as well. According to the definition of the Dutch Central Bureau of Statistics, ethnicity was defined according to clients' country of birth and that of their parents. Psychiatric diagnoses were registered according to the DSM-IV system. From the clinical interview, information was gathered concerning five (categories of)

major psychiatric disorders, namely mood -, anxiety -, psychotic-, substance use - and impulse control disorders (including ADHD).

ANALYSIS

Descriptive analyses were conducted to calculate the proportion of the sample that is a target group for PMHC and the point-prevalences of the selected variables within each group. DSM-IV differential diagnoses were excluded from the calculation of the prevalence of psychiatric disorders. All analyses were done in SPSS version 21.

RESULTS

By the end of October 2014, 922 violent offenders had been identified by the diversion program, of whom 558 (61%) had been screened by the PHS. Only persons with complete data on the SSM-D (454 people or 81%) were included in the present study. Their average age was 24.9 years ($sd = 8.2$). Overall, 18.5% did not finish any kind of education, 34.8% only finished elementary school, 30.6% had lower vocational or high school education, while 11.2% had some form of higher education (4.8% with educational level unknown). A migrant background was established for 88.3% (34.1% first generation, 3.5% unknown ethnic background). The prevalence of any psychiatric disorder was 68.7%. Specific prevalence rates were 6.4% (depressive and/or anxiety disorders), 3.7% (psychotic disorders), 48.7% (substance abuse) and 6.2% (ADHD). Intellectual disabilities were suspected in 54.0% of all cases.

Table 1 indicates that a substantial proportion of the study population was not self-sufficient or had acute problems on a number of essential life domains. Apart from the Judicial domain, prominent problem areas were Finances (all together, 55.5% had no or insufficient income in combination with high and/or increasing financial debts) and Day-time activities (50.2% had no job or did not follow any education and - in case of in-crisis situations - caused nuisance). According to the DST, needs were likely to be met in the PMHC for 35.9%; another 13.0% 'probably' belonged there. Using the second definition, 34.8% of the study population belonged to the target population of the PMHC. There was substantial overlap between both target groups; most persons (77.3%) who 'definitely' met the DST criteria also belonged in the PMHC system according to the second definition.

Table 1. *Self-sufficiency of subjects (N=454)*

| SSM-D domains | Acute problems (%) | Not self-sufficient (%) | Barely self-sufficient (%) | Adequately self-sufficient (%) | Completely self-sufficient (%) |
|-----------------------------------|--------------------|-------------------------|----------------------------|--------------------------------|--------------------------------|
| Finances | 29.3 | 26.2 | 27.5 | 9.7 | 7.3 |
| Day-time activities | 20.3 | 39.9 | 20.0 | 16.3 | 3.5 |
| Housing | 18.7 | 7.3 | 40.7 | 25.3 | 7.9 |
| Domestic relations | 2.9 | 18.5 | 42.1 | 26.4 | 10.1 |
| Mental Health | 2.0 | 24.9 | 26.2 | 30.4 | 16.5 |
| Physical Health | 0.2 | 4.2 | 8.6 | 13.9 | 73.1 |
| Addiction | 5.9 | 18.1 | 23.3 | 17.8 | 34.8 |
| Activities daily life | 0.2 | 2.0 | 33.3 | 28.0 | 36.6 |
| Social Network | 8.4 | 23.1 | 49.8 | 17.8 | 0.9 |
| Community participation | 13.9 | 22.0 | 32.2 | 23.8 | 8.1 |
| Judicial | 17.4 | 53.7 | 21.4 | 7.3 | 0.2 |
| Target population PMHC [1] | | | | | |
| <i>Total (%)</i> | 100.0 | | | | |
| Definitely (%) | 35.9 | | | | |
| Probably (%) | 13.0 | | | | |
| Probably not (%) | 15.0 | | | | |
| Definitely not (%) | 36.1 | | | | |
| Target population PMHC [2] | | | | | |
| Yes | 34.8 | | | | |

[1] According to the decision support tool designed by Lauriks et al., (2014) for the Amsterdam Public Mental Health Care (PMHC) system.

[2] Problematic levels of self-sufficiency (SSM-D scores < 3) in the domains Mental Health and/or Addiction in combination with social problems (Finances or Day-time activities or Housing).

DISCUSSION

This short study sought to investigate and specify which part of an emerging forensic population of violent offenders in Amsterdam appears to be eligible for admittance to the capital's PMHC system. Based on two different definitions, it was indicated that this counted for at least one third of the study population, which is considerable. For example, Buster et al. found an accumulation of addiction, mental health and social problems in 35% of their study population consisting of arrestees (Buster et al., 2014). However, their study population was older than our population of violent offenders and the size of the PMHC target population was smaller in lower age categories. Also, Buster et al., (2014) measured the presence of problems, while SSM-D scores also take into account how these problems are dealt with (Lauriks et al., 2014). Thus, the proportion of persons in our sample who had problems, but were able to cope with them and were consequently self-sufficient, may have been higher.

As a matter of fact, a significant part of the study population revealed an objective need for mental health and addiction care: the point-prevalence of any psychiatric disorder (including addiction and personality disorders) neared 70%. This finding is in accordance with results from other Dutch studies among different forensic population. It is often suggested, though not conclusively proven, that there is a causal relation between presence of psychiatric disorders and persistence of criminal behavior or criminal recidivism (Blaauw, Vegter, & Monterie, 2002; Loeber, Hovee, Slot, & van der Laan, 2015; RSJ, 2012; Schoemaker, van Zessen, & Olij, 1997). However, exact prevalence rates in these studies vary. For example, Bulten & Nijman (2009) reported a point-prevalence of psychiatric disorders among detainees of 56.5% (95%-BI: 49.5-63.7) and a lifetime prevalence of 80 - 90% (Bulten et al., 2009). There are various explanations for these variations, including methodological differences between studies (e.g. variety of instrumentation, definitions of psychopathology) (Ogloff, Warren, Tye, Blaher, & Thomas, 2011). In the present study, an additional source of variation may have been the fact that a significant part of the study population (~30%) was not imprisoned at the time of the screening. That is, others have pointed at the possible association between (duration of) prison time and the incidence and prevalence of mental disorders (Andersen, 2004).

A limitation of this study is that the DST based on the SSM-D was constructed to distinguish a PMHC target group amongst people in need for stable housing and social benefit. As a consequence, the weight of the domains Housing and Finance within the DST algorithm is limited, whereas in a population of criminal offenders these weights are likely to be larger. To check for impact, a sensitivity analysis was conducted in which

the DST was limited to a subgroup who was at best 'barely self-sufficient' in the domain Housing (N=303). In this specific group, the estimated size of the PMHC population was as high as 48.8%. Thus, applying the DST in the present study may have led to an underestimation of the PMHC population size.

In short, this study confirms the presumption that a forensic population of violent offenders may host a large number of vulnerable people, defined as the extent to which they meet criteria for entering the PMHC system. As such, it stresses the importance of combining judicial actions in a diversion program with screening and timely organization of appropriate support, including provision of (mental) health care. After all, only a minority of those entering prison are likely to be in contact with health care (including a general practitioner) before entering prison (More & Weijters, 2011) and studies indicate that treatment gaps at the start of detention periods tend to endure both during and after imprisonment (de Wit, Segeren, & Witteveen, 2012; Te Brake, De Jongh, De Bakker, & Devillé, 2005). This is unfortunate, since prison time provides an opportunity to reach persons who are otherwise difficult to engage. We find the fact that, to date, at least 60% of violent offenders in Amsterdam cooperated with a voluntary screening, of whom 70% while imprisoned, promising in that respect.