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R. B. J. Smit
A. P. L. van Bergen
E. J. C. van Ameijden

400 Oser Avenue, Suite 1600
Hauppauge, N. Y. 11788-3619
Phone (631) 231-7269
Fax (631) 231-8175
E-mail: Main@novapublishers.com
http://www.novapublishers.com

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Chapter 2

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R. B. J. Smit, A. P. L. van Bergen and E. J. C. van Ameijden
Municipal Health Service Utrecht, Utrecht, The Netherlands

ABSTRACT

The Netherlands has a long tradition of health insurance based on the combination of both social and private insurance systems respectively. On January 1 2006 a new Health Insurance Act (Zorgverzekeringswet) (HIA), came into force. Under this Act all residents of the Netherlands are legally obliged to take out a basic health insurance which covers standard medical expenses such as General Practitioner, hospitals costs or pharmaceutical costs. As in many countries, vulnerable groups such as the homeless and those addicted to drugs and alcohol, are often uninsured for the cost of medical care. With the advent of the new HIA, it was anticipated that higher premium contributions, own risk levels and administrative procedures would lead to an increase in the number of

people without adequate health insurance. A lack of health insurance has serious consequences, not only for the individuals concerned, but also for the accessibility, utilisation and quality of healthcare.

In the city of Utrecht, several provisions have been put in place to improve the level of insurance of vulnerable groups and those affected by the Health Insurance Act and to maintain their insurance. In order to evaluate these provisions, the health insurance status of a group of 3,168 Public Mental Health care (PMHc) clients in the city of Utrecht was followed from July 2004 to January 2008, both retrospectively and prospectively. The percentage of uninsured PMHc clients showed a decrease from 27.4% in July 2004 to 12.4% in January 2008. The decrease was most noticeable in the group of addicted persons. However, the decline stagnated in the course of 2008. It was recommended to intensify case management in order to further decrease the proportion of uninsured in this client group. Of the original 2004 cohort, 245 persons had died, 33 had left the country and 178 were not found in any health insurance register. For the remaining cohort members a trend analysis was made. In January 2011 12.0% of the cohort members were uninsured, with higher percentages among persons younger than 40 (15.3%) and non-Dutch clients (13.9%) and a lower percentage among clients with a personal case manager (13.5%). Since case management seems to reduce the proportion of uninsured subjects the recommendation is to continue to focus on and intensify case management across all vulnerable groups.

Keywords: Health Insurance Act, uninsured, socially vulnerable persons, addicts, Public Mental Healthcare, homeless persons.

INTRODUCTION

In the Netherlands some form of health insurance has been in place since the beginning of the 20th century. However, it was only in 1941 that a public health insurance scheme was introduced under the Sickness Fund Decree. A tripartite system was imposed: a compulsory social health insurance scheme for wage earners and their dependents, voluntary social health insurance for self-employed people and a private health insurance. Eligibility for cover under the social health insurance schemes was subject to an income ceiling. [1] In 1957, the public health insurance was extended with a social health insurance for the elderly with a low income. In 1968, the Exceptional Medical Expenses Act (AWBZ) is passed in Parliament, which represented a national insurance scheme covering the whole population for the high costs of long term care related to chronic physical and mental illness. In 1974, a new

proposal to change the health insurance act again was discussed in Parliament. But it would take more than thirty years before the plans were realized. Meanwhile, with a worsening economic crisis in the mid seventies, the government invested heavily in schemes to reduce insurance premiums for the elderly. On January 1 2006, a new Health Insurance Act (HIA) came into force in The Netherlands.

By virtue of this new Act, everyone who is legally living or working in the Netherlands is obliged in principle to take out a basic health insurance. The standard package, as determined by the government, includes General Practitioner costs, hospital care, midwifery costs and pharmacy costs. Health insurers have to accept everyone for basic health insurance whatever their age, gender or health. Conscientious objectors (those who on grounds of faith or philosophy of life do not want to take out insurance) and soldiers in active service are excluded. Children under the age of 18 years are also required to take out insurance but they do not have to pay premiums. They are included in their parents' policy free of charge. [2] Individuals can insure themselves for supplementary costs of care which is not included in the standard package, such as physiotherapy or dental care. The provisions and premiums of those insurances vary by insurer. The government has no control over supplementary insurance.

Households with an income below a certain level receive for the insurance premium for supplementary insurance in the form of a health care allowance from the government.

Under the 2006 Act, people are no longer automatically insured, but are obliged by law to purchase health insurance. Those who do not purchase a basic health insurance are automatically classified as 'uninsured'. This is an important difference from the scheme under the Sickness Fund Decree, which automatically covered each eligible person. The government uses penalties to keep the number of uninsured as low as possible for example, those who are uninsured are liable to pay a fine over the period of non-insurance, which can extend up to a maximum of five years, as well to pay any medical costs incurred during the uninsured period. Further refusal to take out insurance can be punished by the government compulsorily withholding earnings. [3]

Uninsured persons must be distinguished from defaulters. Defaulters are defined as subscribers who failed to pay their premium for a period of at least six months. In this situation, insurers, then have the legal right to stop the contractual arrangement. In order to avoid this situation, the government introduced a regulation in 2009 which gives insurers the right to enforce defaulters to pay premiums while maintaining their membership and

preventing any switch to another health insurer, otherwise known as frivolous 'hopping'. Additionally, insurance funds agreed with the government that they will bear the financial risk over the first six months of defaulting after which period the government will assume this risk. The government also agreed a monitoring program to rapidly identify and track defaulters. Several penalties are used to compel them to pay their premium. [4]

It is undesirable to have civilians uninsured for several reasons. Firstly, the basis from the HIA is formed by the solidarity principle which states that everyone should contribute to the common facilities, regardless of how often he himself must rely upon. [5] If individuals do not take out basic health insurance this principle is undermined. Health insurers stand to lose income and the people who are insured have to pay a higher premium for their insurance.

Secondly, there may be effects on public health. Research shows that a lack of health insurance has a negative impact on access to medical services, quality of care and health status. [6-11] Even for short periods of lack of insurance ('churning') one already sees shifting in the usage of care, such as the postponement of care, insufficient usage –for instance of medication-, cancellation and a shift from regular care to emergency care. [12, 13] The quality of care for the uninsured lags behind in certain respects. In particular, the continuity of treatment and the quality of the relationship with medical professionals is reduced. [12, 13] There are also indications that differences in use of care and quality of care have an impact on health status. [14, 15] The lack of a health insurance increases mortality risk. In 2009, an estimated 44,789 deaths per year in the United States were associated with lack of health insurance. [16, 17]

Prior to the introduction of the HIA the issue of non-insurance was not high on the Dutch political agenda. Historically, the Netherlands has enjoyed a high rate of health insurance coverage. In 2005, only about 1.5% or the population did not have a health insurance. This percentage was however much higher among marginalized groups such as homeless people, addicted persons and long-term psychiatric patients. [18, 19] A review showed that between 1990 and 2006 the insurance rate of these groups in the four major cities in the Netherlands, Amsterdam, Rotterdam, The Hague and Utrecht, varied between 15% (residentially homeless) to 45% (night drifters). [20] The HIA of 2006 attempts to achieve universal coverage including these marginalised groups. Various provisions at national and municipality level have been taken to achieve this goal. [21-24]

Care inclusion criteria for Public Mental Healthcare (PMHc)
In Utrecht PMHc target group will get access to care under the following conditions:
Persons of 18 years and older

- who have problems in more than one aspect of life such as (imminent) homelessness, insufficient self-care, anti-social behaviour or serious debts,
- who have psychiatric problems and/or are addicted, have cognitive problems and/or inadequate coping strategies
- who display care-avoiding behaviour or are unable to find the way to social services
- who need care that is not available in the standard care packages

In 2005, the municipality of Utrecht coordinated by the Municipal Health Service (MHS) started an intensive information campaign together with care providers and social relief services targeted at various marginalised groups. A collective health care insurance was taken out for the lowest income groups with a supplementary package with premium reduction. Persons without a permanent address were allowed to use the postal address of the municipal social service or care providers in order to register for health insurance. In order to avoid lack of health insurance and increasing individual debts because of the penalty system in place, the municipality of Utrecht deducts the monthly health insurance premium automatically from the social security benefit payment, provided the patient has given them permission to do so. The health care allowance may then be paid directly to the insurer. Additionally, compulsory budget management can be imposed on those individuals receiving social security benefit who are not able to organise their own lives, among them many Public Mental Health Care (PMHc) clients. By means of centralised applications, standardised indications, integral care and case management, Utrecht provides focused attention to get the PMHc target group insured and to keep them insured. [25, 26]

In order to monitor the situation of the PMHc target group Utrecht followed the insurance status of 3,168 persons over a period of 3.5 years, from July 2004 to January 2008. A further assessment was made on 1 January 2011. The objectives were to answer the following questions:

- Did the number of uninsured among the PMHc target group in Utrecht increase or decrease during the period July 1 2004 to January 1 2008?

- Are the differences in trends in uninsurance rate due to socio-demographic variables and the kind of health problem?
- How did the insurance rate develop after 2008?
- Can specific individual profiles be distinguished based on time patterns in insurance status?
- Is there a relationship between case management and insurance rate?

METHODS

Research Population

This research was set up as a cohort study, in which participants were followed both retrospectively and prospectively. The basic population for the cohort consisted of 3,168 persons registered with one or more institutions or services for PMHc in Utrecht during the period July 1 2004 to May 1 2006. These include homeless shelters, primary care services for the homeless, mobile outreach teams, day care centres for drug addicts and housing accommodation for socially vulnerable persons. (A definition of the PMHc target group is provided in the framed text above). A social medical doctor of the MHS handled the registration data so that privacy was protected.

Data Collection

At 14 points in time the insurance status was determined by consulting VECOZO (Safe Communication in Care), an Internet portal for information exchange between health care providers and insurance organizations (www.vecozo.nl). The portal allows access to the insurance data of people who had or have at any given time taken out a health care insurance with one of the associated care insurers. VECOZO was founded in 2002. In 2006, all health insurance organizations were using the services of VECOZO. The patients' insurance data remains available in VECOZO for two years. For the interrogation of the VECOZO database, the following search criteria were used: family name, initials, date of birth and gender. The first assessment took place in May 2006. Retrospectively the insurance status was also measured on July 1 2004, January 1 2005, January 1 2006 and March 1 2006. Further prospective measurements took place on September 1 2006, January 1 2007,

March 1 2007, May 1 2007, July 1 2007, September 1 2007, November 1 2007 and January 1 2008. A final assessment-was carried out in January 2011. Up to July 1 2007 checks were performed manually. There after, COV4U was used, a programme with which the insurance status of large groups of people can be determined automatically through different parameters (www.promeetec.nl). It was established whether a client was insured or not (VECOZO code: 'not insured' and 'insurance concluded'). Clients that could initially not be traced through VECOZO, but could be found at a later date, were given a 'not insured' status retrospectively.

Socio-demographic features, gender, date of birth and ethnicity, were obtained from the registratries of local institutions and those of the MHS Utrecht. In the Netherlands ethnicity is defined on the basis of country of birth. Clients are considered ethnic Dutch if they and both their parents were born in the Netherlands. For the co-variables homelessness and addiction problems, proxy-variables were used. Homelessness was determined from the address data in VECOZO at the start of the research. Persons for whom there was no known address and those with a P.O. Box number or the address of a homeless shelter were classified as homeless. The presence of addiction problems was ascertained based on whether a person's name occurred in the register of care and treatment of drug addicts and/or hostels for alcohol or drug addicts. Information on case management was derived from records of the MHS Utrecht in 2011.

Statistical Analysis

All statistical analysis was carried out by SPSS 19.0 for Windows. Generalized Estimating Equations (GEE) was used to analyse trends on a population level. GEE is a variation on Generalized Linear Models suited for repeated measuring of persons and for dichotomous outcome variables. Time expressed in the number of years lapsed since T0 and rounded off to 2 decimals, was included in the model as continuous variable. The data from the first 13 measurements were used for this purpose – T0 (July 2004) and T13 (January 2008). With Corrected Quasi-likelihood under Independence Model Criterion (QICC) the best fitting correlation structure was determined. The following options were tested: AR(1) ('auto regressive with lag 1'), exchangeable, independent and unstructured. The best fit was acquired with an exchangeable correlation structure. There were no missing observations. The logit function was chosen as it fitted the observed data best. Trends were

determined for different sub populations by gender, age category, presence of addiction problems and homelessness. For each subpopulation a 95% confidence interval was computed for the odds ratio and interaction term. These analyses give insight into the dynamics at group level. In order to test changes in insurance status at an individual level, the ‘proportion of change’ was measured i.e. the proportion of people changing their insurance status. [27] At 4 timepoints: January 1 2005, 2006, 2007 and 2008, the ‘proportion of increase’ and the ‘proportion of decrease’ were calculated. The proportion of increase is the share of the entire cohort of both insured and uninsured persons, which changes from the status ‘insured’ to the status ‘uninsured’. The proportion of decrease is the share of persons that changes its status of ‘uninsured’ to the status ‘insured’. The trend in time was tested using GEE.

With the data obtained at the last measurement in January 2011, group differences were examined using Pearson chi-square test with post-hoc testing. Individual insurance profiles were drawn up based on the number and type of changes in insurance status and statistically tested.

RESULTS

Number and Demographics of a PMHc cohort

The basic population for the cohort consisted of 3,168 persons. Records with incomplete information on gender, date of birth, family name or initials were excluded (n=370). Besides 245 persons who died during the course of the research period (July 1 2004 to January 1 2011), the following were excluded: 33 persons that moved abroad, 137 persons illegally resident in the Netherlands, and 178 persons who did not feature in the data files of the insurers and of whose insurance status could not be determined (table 1). After these exclusions the cohort consisted of 2,205 persons.

Over three quarters of the cohort members were male (76.6%). The average age on January 1 2011 was 46.0 years (sd 12.0). Sixty-two percent were ethnic Dutch and 25.8% had ethnicity other than Dutch. The ethnicity of 12.1% of the clients was unknown. Of the cohort members 36.3% was defined as homeless at the start of the research and 23.5% suffered from severe addiction problems (table 2).

Table 1. Number of persons who are excluded according to the exclusion criteria (n=3, 168)

Exclusion criteria	Number of persons
Incomplete personal data	370
Illegal	137
Deceased	245
Moved abroad	33
Unknown in VECOZO	178
Total	953

Table 2. Individual insurance profiles PMHc cohort, January 2011

Variable	Prevalence (%)				
	A. Continuously insured (n=1,212)	B. Newly un-insured (n=132)	C. Newly insured (n=408)	D. Off and on insured (n=453)	TOTAL (n=2,205)
Gender					
Female	26.9	24.2	18.6	17.9	23.4
Male	73.1*	75.8	81.4*	82.1*	76.6
Age at 1.1.2011 (year: average and SD)	47.7** (12.3)	45.0 (13.7)	44.5 (11.2)	43.1 (10.3)	46.0 (12.0)
Ethnicity					
Dutch	67.5 *	57.6	52.9 *	57.6 *	62.2
Other ethnicities	21.6 *	22.7	33.6 *	30.7 *	25.8
Unknown	10.9	19.7 *	13.5	11.7	12.1
Problems of addiction					
Yes	19.1*	12.1*	32.4*	30.9*	23.5
Not severe	80.9	87.9	67.6	69.1	76.5
Homeless					
Yes	29.9*	30.3	46.8*	45.9*	36.3
No	70.1	69.7	53.2	54.1	63.7
Case Manager					
Yes	33.8	19.7*	40.4*	33.3	36.3
No	66.2	80.3	59.6	66.7	65.9

* Pearson chi-square test with post-hoc testing based on adjusted residuals, p<.05.

** Anova with LSD post hoc test, p<.05.

Trend Analysis at Group Level

Figure 1a shows the progress in insurance status of 2.205 persons during the first research period from July 1 2004 to January 1 2008. The percentage of uninsured decreased from 27.4% in July 2004 to 12.4% in January 2008. The chances of being uninsured compared to the chances of being insured decreased annually by 0.718. A similar decrease was noted in men and women and across different age groups (table 3). Among the homeless, the percentage of uninsured decreased from 33.4% to 13.3% (Odds Ratio 0.715) and among addicts from 36.8% to 10.7% (OR 0.632). The odds ratio of the interaction term time*addiction was 0.946 (95% CI (0.914-0.980)). This indicates that the number of uninsured among addicts showed a stronger decline during the research period compared to non-addicted clients. Figure 1b depicts these trends graphically.

Table 3. Trends in being uninsured, odds ratio per year and interaction terms with 95% confidence interval (95% CI) according to gender, age group, severe addiction problems, and homelessness

	N	Trend * OR (95% CI)	Interaction term ** OR (95% CI)
Time (in years)	2205	**0.718 (0.685-0.752)**	
Gender			
Female	515	**0.714 (0.641-0.796)**	0.996 (0.883-1.123)
Male	1690	**0.717 (0.681-0.756)**	
Age *39 years or younger*	1202	**0.726 (0.684-0.771)**	0.985 (0.955-1.016)
40 years or older	1003	**0.699 (0.647-0.755)**	
Addiction problems			
Yes	519	**0.632 (0.577-0.691)**	**0.946 (0.914-0.980)**
Not severe	1686	**0.753 (0.712-0.795)**	
Homeless			
No	1404	**0.710 (0.663-0.761)**	1.002 (0.972-1.032)
Yes	801	**0.715 (0.669-0.764)**	

* Odds ratio is determined for each subgroup (split file). Statistically significant odds ratios are in bold.

** Model tested with interaction term subgroup* time. Statistically significant odds ratios are in bold.

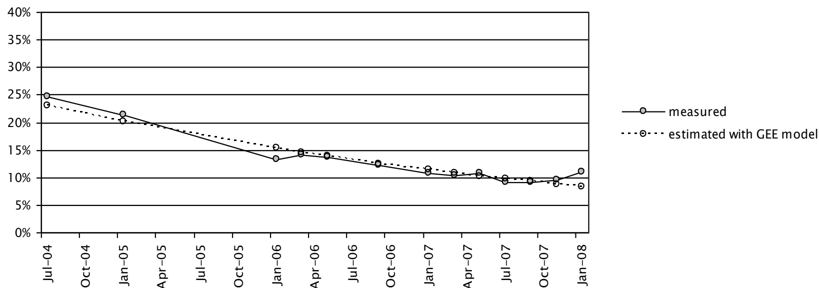

Figure 1a. Percentage of uninsured on 13 moments in the period July 2004-January 2008 in total cohort, measured and estimated with a GEE model.

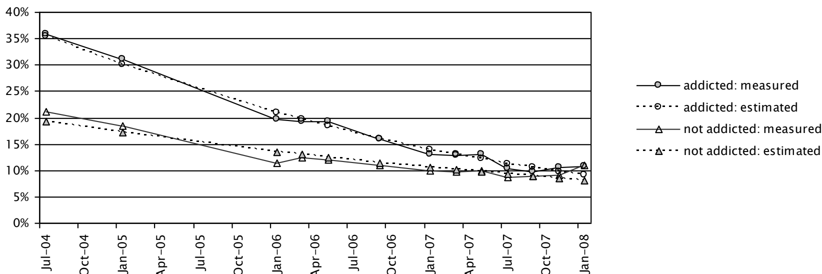

Figure 1b. Percentage of uninsured on 13 moments in the period July 2004-January 2008 in addicted and non-addicted groups, measured and estimated with a GEE model.

Insurance Status Switching at Individual Level

The decrease in the number of uninsured is the result of two processes:- uninsured persons who take out insurance,-and insured persons who become uninsured. Figure 2 shows switching of insurance status at four timepoints during the study. It illustrates that dynamics inside the PMHc cohort are greater than expected on the grounds of figure 1. Between January 1 2006 and January 1 2007, the percentage of uninsured in the cohort fell from 15.7% to 12.7% i.e. a difference of 3.0% (Figure 1). The proportion of change in the same period was 12.2%: 4.6% of the cohort members became uninsured (proportion of increase) and 7.6% became insured (proportion of decrease). One year earlier the dynamics were even stronger. Between January 1 2005 and January 1 2006 the proportion of increase was 14.6% and the proportion of decrease 6.1%.

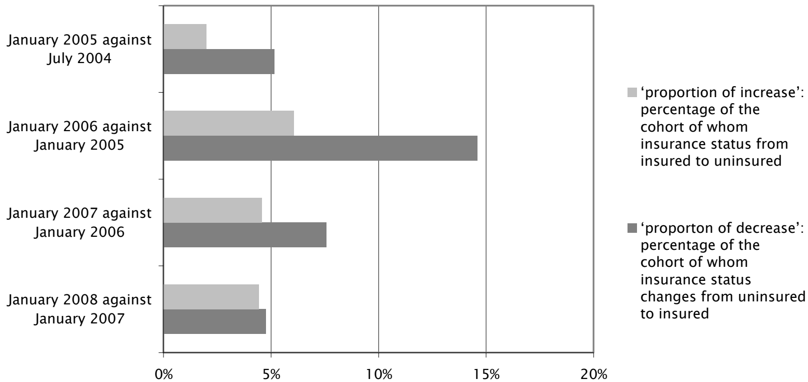

Figure 2. Percentage of PMHc cohort that switched insurance status, on four timepoints (N=2,205).

Trends in the proportion of increase and proportion of decrease are determined using GEE. Due to the fit of data, only the last three assessment timepoints have been used. The analyses show that since January 2005, the odds of changing from being insured to being uninsured decrease annually by 0.842 (95% CI (0.732, 0.969)), while the odds of going from uninsured to insured decreased by 0.531 (95% CI (0.472, 0.597)). As a result, January 1 2008 showed only a slightly positive balance: 4.4% of the cohort members became uninsured, in comparison with 4.8% who became insured.

Insurance Status January 2011

The stagnating trend observed in 2008, was reason for rechecking the insurance status of the cohort members three years later, in January 2011. The results are shown in table 4. Twelve percent of the cohort members were uninsured in January 2011. GEE analysis revealed no significant decrease since the last measurement in January 2008 (p=0.656). The percentage of uninsured is higher among clients younger than 40 years and non-Dutch clients. Clients with a case manager are less frequently uninsured.

Four groups can be distinguished based on their insurance behaviour:

- *Group A:* the "continuously insured". This is the largest group with 1,212 persons or 55.0% of the PMHc cohort, who were already insured before the new care system was introduced and continued to be so up to January 1 2011.

- *Group B:* the "newly uninsured". This is the smallest group with 132 persons or 6.0% of the PMHc cohort, who were insured before the new care system was introduced but became uninsured in the period thereafter and remained so until January 2011.
- *Group C:* the "newly insured". This group – 408 persons or 18.5% of the PMHc cohort – consists of uninsured who between July 1 2004 and January 1 2008 took out insurance and remained insured.
- *Group D:* the "off and on insured". This group – 453 persons or 20.5% of the PMHc cohort – switched insurance status more than once.

Table 2 shows the composition of the four groups. Group A, the continuously insured, is characterised by a higher number of women (26.9%), higher average age (47.7 years at January 1, 2011), lower percentage of non-Dutch clients (21.6%), fewer severe addiction problems (19.1%) and fewer homelessness (29.9%) than other groups.

Table 4. Percentage uninsured January 2011 (N=2,205)

Variable	%	N	p
Total	12.0	264	
Gender			
Male	12.5	211	.188
Female	10.3	53	
Age at 1.1.2011			
39 years of younger	15.3	107	.001
40 years or older	10.4	157	
Ethnicity			
Dutch	9.8	135	.000
Other ethnicities	13.9	79	
Unknown	18.8	50	
Problems of addiction			
Yes	13.1	68	.355
Not severe	11.6	196	
Homeless			
Yes	13.5	156	.102
No	11.1	108	
Personal case management			
Yes	9.0	68	.002
No	13.5	196	

Group B is characterised by a higher percentage of unknown ethnicity (19.7%), fewer addiction problems, and fewer clients receiving case management than on average. In groups C and D the proportion of women is lower (18.6% and 17.9% respectively), non-Dutch clients are more frequent than on average (33.6% and 30.7% respectively) and both the number of addicts (32.4% and 30.9% respectively) and homeless are higher (46.8% en 45.9% respectively) than on average. Group C has the highest percentage of clients with case management (40.4%).

DISCUSSION

This retrospective and prospective study describes the changes in health insurance status of a cohort of PMHc clients before and after the HIA came into force in January 2006. Instead of being insured automatically, civilians are obliged to purchase health insurance.The provision should prevent citizens from behaving themselves as ‘free riders’, but could raise barriers for certain excluded groups who have insufficient skills to meet their civil obligations. This could result in more homeless people and other PMHc target groups becoming and remaining uninsured.

The present study shows that overall, the number of the uninsured decreased in the PMHc group since the HIA was enacted. The percentage of the uninsured fell from 27.4% in July 2004 to 12.4% in January 2008. The provisions put in place by the municipality of Utrecht appear to have been effective. What is striking, however, is that the decreasing trend had already begun before the introduction of the HIA and that the decrease in uninsuredness was more pronounced among addicts.

In 2001 the Municipality of Utrecht had started the implementation of a comprehensive plan to provide structural accommodation to addicted homeless people in order to reduce the disruption and criminality that was associated with this group. They were offered living space and prolonged care in residential homes. Financing of these homes is made from the Exceptional Medical Expenses Act, which is linked to health insurance. In 2004, MHS encouraged PMHcare providers in Utrecht to seek funding through the Exceptional Medical Expenses Act. To qualify for the care, health insurance was necessary. [28] The policy to get the group of addicted homeless people off the streets and into support, may well have contributed to these findings.

The trend of falling numbers of uninsured clients observed between 2004 and 2008 has stopped. No significant decrease was found in the period 2008-2011. In January 2011, 12.0% of the cohort members were uninsured. The highest percentages of uninsured were found in the group under the age of 40 years and among non Dutch clients. This is comparable with the characteristics of uninsured clients in the general population. [29] However the number of uninsured in the general population is significantly lower than the PMHc group. In May 2010 only 0.8% of the Dutch population was uninsured and the numbers are still falling. [29] Our group of uninsured persons consists of a hard core group, which became uninsured after the introduction of the HIA and remained uninsured (6.0%) (Group B) and a group (D) of 'off and on' insured clients who oscillate between being insured and uninsured (20.5%). Group B is characterised by a higher percentage unknown ethnicity (19.7%), fewer addiction problems and fewer clients receiving case management than on average. It could either be a sign of a less problematic group or be a typical profile of care avoiders. Further investigation will be necessary to find out more about this group.

The group of 'off and on' insured client (group D) also includes defaulters, who with the information available to the study group were undistinguishable from uninsured client. Both categories fall under different regulations. However, due to the financial impediments and the actual deferment of insurance claims by the insurers, the difference between defaulter and uninsured is mostly semantic in real life. The group of off and on insured may also contain persons who are or have been detained in jail during the research period. As a consequence of their behaviour and lifestyle the PMHc group does come frequently in contact with the police. In 2008 half of new PMHc clients had in the preceding five years been in contact with police or judiciary. [30] This could be for public drinking or in limited cases more serious and frequent violations of the law which could lead to imprisonment. Detainees fall during their imprisonment under a regulation of the Ministry of Justice and their basic health insurance is suspended. As this is not recorded in VECOZO we can not quantify the impact on our results.

Following an earlier evaluation of the impact of the introduction of the HIA on the insurance status of PMHc clients in Utrecht 2008, we recommended more focussed and intensive case management to be put in place for both groups of uninsured. [31] The data from January 2011 show that clients with a personal case manager have a higher chance of becoming newly insured and less likely to become uninsured. The recommendations made earlier to focus and intensify case management appear to be effective.

This study has both strengths and limitations. The strong points are the length of time over which data were collected, the large number of participants and the diversity of the research group. The study included not only homeless people staying in shelters but also vulnerable groups in both recovery and prevention programmes. One limitation, however, is that a closed cohort was used. We determined the group at risk at one specific moment in time. It is possible that persons did not longer meet the criteria for PMHc target group after July 1 2006 and were thus incorrectly included in the cohort. As the problems faced by the PMHc group are severe, interrelated and persistent and the period of recovery is mostly long, we expect that the use of a closed cohort may only have resulted in some bias.

Another limitation of this study is the selection of clients is based on registration data. We cannot rule out that people made use of PMHc services without meeting the PMHc criteria. However we estimate these numbers to be small. The capacity of PMHc services is limited and those receiving care are necessarily selected where vacancies are given to those who really need care. Moreover, the services offered are not really attractive to people who do not belong to the target group. A further consequence of the use of registration data is that people who met the PMHc criteria but did not appeal for assistance, were not included in this study. This influences the generalising effect of the study.

Despite these limitations, our study provides important information regarding the uninsured who are in contact with social workers.

Being uninsured has a negative impact on the access, use and quality of care. A lack of health insurance is associated with increased risk of death. In the PMHc target group, where care avoidance is the rule rather than the exception, not having health care insurance can be quite a disadvantage. Another associated problem is that these people will see their debts increase which delays their recovery and may lead to relapse. In order to achieve a further reduction in the number of uninsured more measures will need to be taken. The Ministry of Health, Welfare and Sports came to the same conclusion, and advocates an active search based on file linking. [18] One must be aware that despite all measures there will always remain a group with a lack of insurance and due to the financial consequences, the focus should be on the defaulters. Locally, the best approach appears to be to focus on the group that runs the highest risk, however the hard core of uninsured PMHc members in Utrecht hardly deviates from the average PMHc member in respect of socio demographic features and problems. A broad approach, focused on the individual, seems to be the only option. In this regard, the

integral approach of the case managers to take care of the insurance at the first interview, deserves to be developed further. Furthermore, MHS can regularly check the insurance status of PMHc-clients with an active file and give feedback to the case managers. If the approach is improved for those who enter and leave prison and for those who lose their benefits, this might yield great profits. It is essential that a prisoner has an allowance or work when he is released. Thus, importantly, social workers should cooperate in taking care of this target group in different fields.

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