Homeless People in the Netherlands: CODA-G4, a 2.5-year Follow-up Study

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Abstract_ *This observational, longitudinal multi-site cohort study followed over 500 homeless people for a period of 2.5 years, starting from the moment they reported at a central access point for social relief. Data were collected specifically for the cohort. This study, in which the perspectives of the homeless people plays a central role, explores the care needs and goals of homeless people and focuses on changes in housing, living situations and quality of life. By means of four face-to-face interviews, information was assessed on socio-demographics and background; care needs and goals; housing status and transitions in housing; living situations (including health, work and finances, social relations, criminal activities); and quality of life. This study achieved a high response rate of almost 75 percent at final follow-up. Essential elements of the successful tracking and follow-up of a homeless population are discussed. The main results regarding the characteristics of the cohort, housing and housing stability, and quality of life are presented.*

Keywords_ *homelessness, cohort study, research design, tracking of a homeless population, response rate*

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Introduction

It is estimated that around 60,500 clients are in the Dutch social relief system (Federatie Opvang, 2014). Most of these people live in a vulnerable situation and often suffer from health problems, psychiatric disabilities and psychosocial problems. In addition, they often lack basic necessities in life (housing, income, etc.) and are unable to sustain themselves in society. In 2006, the prevention of chronic homelessness in the Netherlands became a specific focus of policy with the adoption of the Strategy Plan for Social Relief (Dutch Government and Four Major Cities, 2006). This Strategy Plan was implemented to provide homeless people with an income, suitable accommodation and effective support, and to reduce the level of public nuisance caused by homeless people in four major cities in the Netherlands (i.e., Amsterdam, Rotterdam, The Hague and Utrecht) by means of an individual programme plan.

The main objective of the study was to determine the following aspects of the (lives of) homeless individuals accepted for an individual programme plan: 1) their care needs and goals in relation to their background and problems, 2) their housing transitions and predictors of stable housing, and 3) changes in their living situation (including health, work/finances, social relations, criminal activities) and quality of life as well as predictors of quality of life. To obtain this information, a cohort study was performed at the request of, and with financial support from, the Dutch Ministry of Health, Welfare and Sport: Cohortstudie Daklozen in de G4 (CODA-G4). A cohort study was considered the most appropriate method to evaluate the effects of the homelessness policy.

Cohort Description

This observational, longitudinal multi-site cohort study followed over 500 homeless people for a period of 2.5 years; study entry started from the moment an individual reported at a central access point for social relief in 2011 in one of the four major cities in the Netherlands and was accepted for an individual programme plan. It is obligatory for every homeless person to report at a central access point for social relief in order to gain access to social relief facilities, such as a night shelter.

At the start of the study in January 2011, potential participants were approached either at a central access point for social relief (one in each city), by an employee of the access point, or at temporary accommodation sites (where they stayed shortly after entering the social relief system) by the researchers or interviewers. When a potential participant expressed interest in taking part in the study, the researchers contacted that person to explain the study aims, the interview procedure and the informed consent procedure. When the participant agreed to participate, an interview appointment was scheduled. A trained interviewer met the participant at the individual's location of choice (generally a shelter facility, public library or the researcher's office). All participants gave written informed consent. Participants were interviewed face-to-face using a structured questionnaire (mean duration of 1.5 hours) and received €15 for participation on the baseline interview. The interviews were held in Dutch, English, Spanish or Arabic. To take into account the possibility of some participants being illiterate or having a cognitive disability, we also presented the questionnaires orally. In addition, for questions with a multiple-choice format, the participant was shown cards with the answering categories already listed, and we also repeated the categories verbally.

All 513 participants, including homeless adults (aged ≥ 23 years; *n*=410) and young adults (aged 18-22 years; *n*=103), satisfied the criteria set by the four Dutch cities at that time for starting an individual programme plan. These included: being aged ≥ 18 years, having legal residence in the Netherlands, having resided in the region of application for at least two of the last three years, having abandoned the home situation, and being unable to hold one's own in society. The number of participants was divided across the four cities in accordance with the inflow of homeless people at the central access points for social relief in these cities.

It was not feasible for staff at the access points to systematically register data on how many potential participants were approached to participate and how many refused, because their core tasks were already very time consuming. However, to obtain information on the representativeness of the study participants, we compared the total group of homeless adults and young adults who reported themselves at a central access point for social relief in one of the four cities in 2011 with the study participants in terms of age and gender. Adult participants were representative in terms of age and gender. Young adult participants were representative in terms of age but, in this subgroup, males were overrepresented.

Follow-up measurements

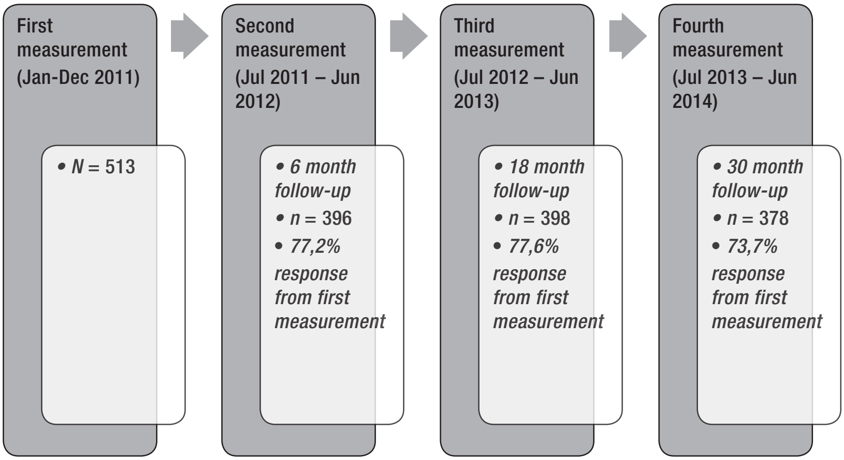
Participants were contacted at 6 months, 18 months and 30 months after the first measurement by telephone, e-mail, letter, their social network (family, friends and care providers), or private message via social media. Participants who were lost to follow-up at one or more measurement were again contacted for the next measurement(s). Participants were interviewed following the same procedure as used for the first measurement and received €20 for participation at the second interview, €25 for participation at the third interview and €30 for participation at the fourth interview. The fourth interview was the final interview.

We successfully followed this homeless population by means of the following methods (McKenzie *et al.*, 1999; North *et al.*, 2012):

1. collection of extensive contact information about the participant (telephone number, e-mail address, location where the participant regularly hangs out or resides), and about individuals in the participant's social network: the collection of contact information about the participant's relevant contacts after each interview was a particularly key element in the successful tracking of this group.
2. use of digital social networks such as Facebook: a Facebook profile was created for this cohort study. Private messages were sent when we found a participant online; this was particularly effective for the younger participants. Whereas earlier studies mentioned the telephone as an important tool in tracking difficult-to-follow populations, online social networks seem to be a promising tool for the future; a high proportion of homeless young adults use social network sites (Guadagno *et al.*, 2013).
3. use of cash incentives: we increased the financial incentives given to participants after each interview to promote participation in the subsequent follow-up interviews.
4. personal interviews by experienced interviewers: participants were interviewed face-to-face by interviewers who were selected based on good social skills and experience with vulnerable people. We tried to ensure that (as far as possible) participants were interviewed by the same interviewer at each measurement. Participants experienced this as very pleasant and reported that it contributed substantially to feelings of trust and confidence.
5. assurance of confidentiality: at each measurement, the interviewers emphasised that the information revealed by participants was confidential.
6. flexibility of the interviewers: as far as possible, the interviews were held at the participant's time and place of preference.

Figure 1 shows the overall sample sizes, response percentages and measurement period for each measurement.

Figure 1. Sample Size and Response per Measurement during the Study



For the final measurement, Table 1 shows the differences between responders and non-responders in terms of several baseline characteristics: i.e., adult non-responders were significantly younger than adult responders; when compared with young adult responders, young adult non-responders more often had the lowest education levels (i.e., no education or primary education) and less often had a low education level (e.g., pre-vocational education, basic labour-oriented education). No selective response was found with respect to the other characteristics measured at baseline.

Variables measured

Table 2 presents an overview of the variables measured at each follow-up measurement. To achieve the objectives of this study, the study questionnaire covered five main topics: 1) socio-demographics and background; 2) care needs and goals; 3) living situations (including health, work and finances, social relations, criminal activities); 4) housing status and transitions in housing; and 5) quality of life.

Table 1. Baseline Characteristics of Responders versus Non-responders at the Final Measurement for Adult and Young Adult Respondents

Baseline characteristics		**Adult responders at final measurement** (*n* range[1] from 303-308)	**Adult non-responders at final measurement** (*n* range from 98-102)	**Young adult responders at final measurement** (*n* range from 66-70)	**Young adult non-responders at final measurement** (*n* range from 32-33)
Gender	Male	78.9 percent	86.3 percent	54.3 percent	72.7 percent
Age in years	Mean	41.1	38.2 *	20.1	20.2
Ethnicity	First-generation immigrant	49.3 percent	41.8 percent	18.2 percent	34.4 percent
	Second-generation immigrant	14.6 percent	20.4 percent	47.0 percent	37.5 percent
Marital status	Never married	64.6 percent	64.7 percent	100 percent	100 percent
Education level	Lowest	30.6 percent	43.1 percent	28.6 percent	48.5 percent *
	Low	40.5 percent	33.3 percent	65.7 percent	36.4 percent *
	Intermediate	18.4 percent	16.7 percent	4.3 percent	15.2 percent
	High	10.5 percent	6.9 percent	1.4 percent	0 percent
Physical health complaints	Mean	3.0	2.9	2.5	2.1
Regular cannabis use		22.8 percent	26.5 percent	33.8 percent	51.5 percent
Regular alcohol use		14.3 percent	10.8 percent	6.0 percent	15.6 percent
Somatisation (high level)		37.5 percent	33.0 percent	24.3 percent	27.3 percent
Depression (high level)		45.5 percent	56.6 percent	20.0 percent	33.3 percent
Anxiety (high level)		38.2 percent	35.4 percent	24.3 percent	33.3 percent

* Significant difference at $p<0.05$ between responders and non-responders.

[1] range of *n*'s is given due to occasional missing data.

Table 2. Measurements at the First (T0), Second (T1), Third (T2) and Fourth (T3) Interview.

Variable	Instrument	T0	T1	T2	T3
Socio-demographics and background					
Socio-demographic characteristics	Gender, age, ethnicity, education, marital status, parenthood, religious background	x	x	x	x
Suspected intellectual disability	Hayes Ability Screening Index (HASI) (Hayes, 2000)		x		
Difficulties in childhood	[b]	x			
Previous homeless episodes	Number of months homeless ever in life, including current and previous homelessness episodes[a]	x			
Causes of homelessness	[b]	x			
Care needs and goals					
Care needs	Care needs in 22 life domains [b]	x	x	x	x
Service use	Use of services of 17 care providers (e.g., general practitioner, dentist and social services)[b]	x	x	x	x
Working alliance	Working Alliance Inventory – Short (WAI-S) (Tracey & Kokotovic, 1989)		x	x	
Barriers to care	[a]	x			
Health insurance	[a]	x		x	x
Housing preferences	[b]		x	x	x
Motivation for change	Treatment Self-Regulation Questionnaire (TSRQ) (Levesque *et al.*, 2007)		x		
Experiences with individual programme plan	[a]				x
Sources of improvements (self, care provider, social contacts, fate)	[a]		x		x
Personal goals	[a]	x	x	x	
Housing status and transitions in housing					
Current housing status	Lehman's Quality of Life Interview (Lehman, 1988; Wolf, 2007)	x	x	x	x
Housing transitions	Housing transitions since previous measurement[a]	x	x	x	x

Variable	Instrument	T0	T1	T2	T3
Living situation: Health					
Physical health	International Classification of Diseases (ICD)(World Health Organization, 1994)	x		x	x
Psychological distress	Brief Symptom Inventory 18 (BSI-18) (Derogatis, 2001).	x	x	x	x
Substance use (including cigarette smoking)	European version of the Addiction Severity Index (Europ-ASI, version III) (Kokkevi & Hartgers, 1995).	x		x	x
Gambling behaviour	[a]	x		x	x
Substance misuse/dependence	MATE(Schippers *et al.*, 2007), module 'Substance dependence and abuse'		x		x
Basic psychological needs	Three subscales of the Basic Psychological Needs questionnaire (Ilardi *et al.*, 2006).	x		x	x
Meaning in life	Three items of Ryff 's Scales of Psychological Well-Being (RPWB) (Ryff, 1989)				x
Living situation: Work and finances – Lehman's Quality of Life Interview (Lehman, 1988; Wolf, 2007)					
Daytime activities		x	x	x	x
Income		x	x	x	x
Adequacy of finances to cover basic expenditures		x	x	x	x
Debts		x	x	x	x
Sources of debts	[a]			x	x
Living situation: Social relations					
Social relations (e.g., contact frequency)	Lehman's Quality of Life Interview (Lehman, 1988; Wolf, 2007)	x		x	
Social support (from family, friends, partner)	Five items derived from the Medical Outcome Study (MOS) (Sherbourne & Stewart, 1991)	x	x	x	x
Living situation: Criminal activities – Lehman's Quality of Life Interview (Lehman, 1988; Wolf, 2007)					
Arrests, fines		x	x	x	x
Detention history					x
Quality of life					
Quality of life	Lehman's Quality of Life Interview (Lehman, 1988; Wolf, 2007)	x	x	x	x

[a] Developed for this cohort study

[b] Developed by Impuls – Netherlands Center for Social Care Research on the basis of literature reviews

Findings to Date

This section presents the main findings to date.

1. Characteristics of the cohort

The majority of the adult and youth participants were male (80 percent and 60 percent, respectively) and had a non-native Dutch background (60 percent and 63 percent, respectively). At the time of the baseline interview, the average age of the adults was 40 and that of the youth participants was 20. Over 70 percent of the adults and 91 percent of the youth participants had a level of education that was low to very low.

Homelessness

At the time of the baseline interview, most of the adults (63 percent) and the youth participants (56 percent) were homeless for the first time in their lives. In the six months preceding the baseline interview, many participants had stayed temporarily with family, friends and/or acquaintances. They most frequently reported financial problems, conflicts or breaks in personal relationships, and house evictions as the cause of their homelessness. Among youth participants, house evictions mostly concerned evictions by their parent(s) or caretaker(s) (Van Straaten *et al.*, 2012).

Substance use

Of all participants, 58 percent reported having used one or more substances in the 30 days prior to the baseline interview, e.g., cannabis, alcohol (≥5 units on one occasion), crack cocaine, ecstasy, cocaine (snorting), amphetamines, methadone or heroin. Participants who had used a substance in the 30 days prior to the baseline interview were significantly younger (36 years) than participants who had not (41 years). Significantly more participants who used a substance were male (85 percent) compared to those who had not used any substance (60 percent). Among these homeless people, the substances most frequently used were cannabis (44 percent) and alcohol (≥5 units on one occasion) (31 percent). Other substances were used by around ≤ 5 percent of the participants. Of all participants, 27 percent was classified as a substance misuser and 21 percent as substance dependent (Van Straaten *et al.*, 2015b).

Suspected intellectual disability

Among this cohort, the prevalence of suspected intellectual disability was 30 percent (Van Straaten *et al.*, 2014b). A comparison of care needs between participants with and without a suspected intellectual disability in domains such as housing & daily life, finances & daily activities, physical health and mental health revealed that, at the 1.5-year follow-up, participants with a suspected intellectual disability had care needs for a longer period of time than those without a suspected intellectual disability. Especially in the domain ‘finances’, most participants with a suspected intellectual disability made the transition from an unmet care need to a met care need between baseline and follow-up, whereas participants without a suspected intellectual disability mostly made the transition from an unmet care need to no care need. Also, participants with a suspected intellectual disability more often preferred housing supports available by appointment than those without a suspected intellectual disability (Van Straaten *et al.*, 2015a).

2. Housing and housing stability

At the time of the fourth measurement (2.5 years after the baseline interview), 57 percent of the participants were housed. One-third (34 percent) resided in an institution, of whom roughly half (49 percent) participated in supported housing. At 2.5 years after they reported to the social relief system, 7 percent of the participants was marginally housed and 3 percent was still homeless.

At the fourth measurement, 84 percent of participants was stably housed in the sense that they had, for a time period of at least 90 days, been housed independently or participated in supported housing (69 percent), or resided in an institution (15 percent). Participants who were arrested in the year prior to the first measurement were less often stably housed 2.5 years later than those who had not been arrested. Participants who had many somatic complaints at the first measurement were less often stably housed 2.5 years later than those who did not. In addition, having more unmet care needs at the first measurement was a predictor of being less often stably housed 2.5 years later (Al Shamma *et al.*, 2015).

3. Quality of life

The quality of life of the participants improved significantly between the baseline interview and the 2.5-year follow-up in several domains: housing, finances, daily activities, mental health, resilience, safety, relationship with family, and contact with children. The largest improvements were reported in the domains of housing and finances.

At the fourth measurement (2.5 years after entering the social relief system), participants were most satisfied with the contact with their children, their resilience and their safety. They were least satisfied with their financial situation; this corresponds with their debt situation, which showed no significant improvement since baseline. At the 2.5-year follow-up, the mean debt of participants was almost 15,000 Euro.

A high level of somatisation at the first measurement was a predictor of a poorer general quality of life 2.5 years later, whereas experiencing more feelings of relatedness at the first measurement was a predictor of a better general quality of life 2.5 years later (Al Shamma *et al.*, 2015).

Output of the Study

Annual reports citing the main results (including an English summary) were published at the request of the Dutch Ministry of Health, Welfare and Sport (Van Straaten *et al.*, 2012; Van der Laan *et al.*, 2013; Van Straaten *et al.*, 2014a; Al Shamma *et al.*, 2015). This cohort study has resulted in four international publications (Van Straaten *et al.*, 2014b; Van Straaten *et al.*, 2015a; 2015b; 2016) and several articles are in preparation.

To enhance policy relevance, we also published the results for each city separately; these results were made available to the relevant policy-makers and care professionals.

Participant panels

Drafts of reports were presented to participant panels, each consisting of about eight formerly homeless people in each of the four cities; their feedback was included in the final version of the reports.

These panels also ensured that the client's perspective was established in this study.

During the meeting with the participant panels in which the results of the fourth measurement were discussed, these formerly homeless people raised the following issues (amongst other items):

- the importance of debt relief and suitable employment in order to get back on track;
- that more continuity in the care system is required, e.g., by appointing one regular care professional;
- the lack of affordable housing, which hampers the attainment of independent housing;
- that extra support should be given to people with a prison record in the transition to independent housing; and
- that more attention should be paid to empowerment to improve the quality of life of homeless people.

Strengths and Limitations of the Study

This study is unusual in Europe, in that cohort studies of homeless people on whom follow-up data are specifically collected are relatively scarce. However, there is an emerging international trend in carrying out cohort studies involving homeless people. Also unique to our study is that we collected information via face-to-face interviews rather than conducting a register-based study, which is more frequently done in studies with homeless people (Morrison, 2009; Nielsen *et al.*, 2011; Slockers *et al.*, 2015). Also noteworthy is our relatively long follow-up period of 2.5 years and the high response rate among this group of homeless people. Essential elements in the successful tracking and follow-up of this group were: 1) the collection of extensive contact information for each participant, 2) the use of digital social networks such as Facebook, 3) the use of cash incentives, 4) personal interviews by experienced interviewers, 5) assurances of confidentiality, and 6) the flexibility of the interviewers (McKenzie *et al.*, 1999; North *et al.*, 2012).

This study provides highly relevant information for both practice and policy. For example, the relevance for policy is in the fact that the results from this study were included in a number of Letters to Parliament regarding social relief. This study also allowed the establishment of a strong and valuable infrastructure that can be used for further follow-up and more in-depth research.

Some limitations of this study also need to be noted. The first relates to the homeless persons included in the study: i.e., participation was restricted to those individuals who reported to a central access point for social relief. Subgroups not included in this study included undocumented homeless people and homeless people who did not make use of social relief facilities; no reliable data are available on the size of these 'hidden' subgroups. However, because every homeless person must report to a central access point for social relief in order to gain access to social relief facilities, a substantial section of the homeless population is covered by this selection criterion.

A second limitation is the fact that no data are available on the number of potential participants who were initially invited. This is because it was not feasible to systematically collect data on how many potential participants were approached and how many refused to participate; consequently, no initial non-response data are available. However, for comparison purposes, the municipalities involved had access to data on the total group of homeless adults/young adults who had reported at a central access point for social relief in 2011. Comparisons among the study participants showed that adult participants were representative in terms of age and gender, and that young adult participants were representative in terms of age but, in this subgroup, males were overrepresented; this overrepresentation might influence the generalisability of the results.

The third limitation concerns the selective loss to follow-up of participants who were younger (among the adults) or had the lowest education level at baseline (among the young adults). However, loss to follow-up in this study was only around 25 percent.

Following this vulnerable group of persons for a longer period of time is worthwhile to gain additional insight into their housing situations, functioning and possible re-integration in society over time. Policy-makers in two of the four cities decided to perform follow-up measurements of the participants who live in their city; these follow-up measurements are currently being prepared.

Further Details

Ethics approval

This study complies with the criteria for studies that have to be reviewed by an accredited Medical Research Ethics Committee (aMREC). Upon consultation, the Medical Review Ethics Committee region Arnhem-Nijmegen concluded that the study was exempt from formal review (registration number 2010/321). The study was conducted according to the principles expressed in the Code of Conduct for Health Research with Data (http://www.federa.org/).

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