Individuals experiencing chronic homelessness: A ten year follow-up of a cohort in Spain.

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Conflict of interests

The authors deny the existence of any conflict of interest.

Acknowledgments

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Abstract

With the start of the great economic recession in 2007, homelessness increased fivefold in some regions of southern Europe. Larger numbers of people experiencing homelessness, compounded by a lowered capacity for social and health services to respond to their needs, precipitated an increase in so-called 'chronic homelessness'. The aim of this study was to establish the presence of chronic homelessness in a defined geographical area of Spain, and to determine the prevalence of diagnosed mental disorders within both the chronic and non-chronic homeless population. A prospective and descriptive study was designed to monitor a cohort of 826 individuals experiencing homelessness who constituted the entire identified homeless population in the relevant territory in 2006. This sample was followed until 2016 and sociodemographic as well as clinical information was collected, including the time spent homeless. The results obtained indicated that one in ten participants met the criteria for chronic homelessness, a rate that is lower than in the US, where the definition of chronicity that was applied originates from. Alcohol use disorder was the most common mental health disorder that contributed to the chronicity associated with homelessness. Being born in the country (Spain) where the study was conducted and being older were the main other variables associated with chronicity. People defined as chronically homeless in Spain were on average younger than in the US but women were present in the chronic subgroup at a similar rate. We also reflect on the limitations of the study and in particular the appropriateness of the concept of chronicity as applied to homelessness.

Bullet Points

What is known

Homelessness has increased in Europe in recent years.

The increase of homelessness has precipitated the emergence of a new characterisation of homelessness severity, as captured in the notion of the 'chronic homeless person' Although a multitude of services have been developed for chronically homeless people, there is no European-wide agreement on what 'chronicity' means as applied to homelessness.

What is added

The level of chronicity associated with homelessness is lower amongst the cohort studied in Spain than in the US.

A mental health diagnosis (especially an alcohol abuse disorder) is the main risk factor that contributes to the chronicity associated with homelessness.

It is important to clarify the definition of chronic homelessness in Europe, not least because the association with mental health issues runs the risk of pathologizing homelessness as a medical not social issue.

Keywords

Homelessness, homeless people, chronicity, mental health, inequalities, housing policies, alcohol abuse

Introduction

Homelessness is a situation of severe social exclusion characterized by lack of access to adequate housing, encompassing people living in the open, in temporary shelters, or in other situations of extreme residential deprivation such as unsafe or severely overcrowded housing (Busch-Geertsema, Culhane & Fitzpatrick, 2016). The causes of homelessness can be attributed to structural or individual risk factors. Structural factors include insufficient or inadequate social and health care systems (Elliott & Krivo, 1991), unemployment, poverty and limited access to affordable housing (Piat et al., 2015). These factors, which are cumulative (Labella, Narayan, McCormick, Desjardins, & Masten, 2019), can be aggravated by individual factors (Bramley & Fitzpatrick, 2018; Fitzpatrick, 2005). Individual factors include mental disorders, including those related to substance misuse, and neglect, mistreatment or abuse suffered during childhood (Shelton, Taylor, Bonner, & van den Bree, 2009).

During the economic recession which began in 2007, investment in social and health services in much of the Western world decreased while unemployment and poverty increased (Karanikolos et al., 2015). As a result, homelessness increased significantly in some countries and municipalities (Bainbridge & Carrizales, 2017), especially in those locations where unemployment and foreclosures were most severe (Faber, 2019). In some regions of Spain, the

number of Individuals Experiencing Homelessness (IEH) increased fivefold between 2008 and 2016 (Calvo, Carbonell, & Badia, 2018).

Some of those affected have been described as chronically homeless in a variety of scientific articles, but without a clear definition of "chronic homelessness" being offered (Fazel, Geddes, & Kushel, 2014). For example, several Spanish studies indicate a dichotomous conceptualization of chronicity (whether or not one is chronically homeless) both in the daily use of professional language and in scientific studies, but do not define the criteria used to determine the relevant cut-offs in an explicit way (Benito, Alsinet, & Maciá, 2017). At the same time, the concept of 'serious chronicity' has also been used (Sales-Campos, 2016), which implies that chronicity is a continuous rather than dichotomous variable, conflating "time spent in the condition of homelessness" with "chronicity", and attributing to greater time, greater chronicity. This confusion has a great relevance for practical purposes, as the question of who is and is not 'chronically homeless' impacts on both research and policy debate in this field and, increasingly, determines access to certain intervention programmes and services specific to IEH.

Given this emergence of programmes and services specifically aimed at addressing chronic homelessness in Spain and elsewhere in Europe (AHFE, 2018; Barcelona City Hall, 2014; Black & Gronda, 2011; Comunidad de Madrid, 2018), and the lack of explicit criteria for defining what chronic homelessness actually means and its implications in the European context, the central purpose of this study was to analyze the evolution of a cohort of IEH in a European setting (Girona in Spain) in order to identify and examine aspects of chronicity.

In the absence of an accepted European definition of chronic homelessness, the study applied the definition developed by the Department of Housing and Urban Development (HUD) of the US Federal Government (2016), albeit after some amendment to fit with local conditions as noted below. HUD define chronic homelessness as encompassing: i) unaccompanied homeless individuals with a disabling condition (such as a mental, developmental, organic or physically diagnosable condition that limits daily life) who have been in a homeless situation for a year or more; and ii) unaccompanied homeless individuals with a disabling condition who have been in a homeless situation for at least four episodes in the last three years. *An episode of homelessness is*

"a separate, distinct, and sustained stay on the streets and/or in a homeless emergency shelter." HUD requires that "a chronically homeless person must be unaccompanied and disabled during each episode" (Department of Housing and Urban Development, 2007. pp 3-6). According to this definition, in 2017, 15.7% of all homeless people in the US were chronically so (HUD Exchange, 2017). This same report indicates that the average age of chronic IEH in 2010 was 50 years old with a tendency for it to increase compared with previous years, with this ageing process in itself associated with aggravated health conditions and expanding needs for social and health services (see also Culhane et al, 2013, 2019). There is also evidence that chronically homeless people in the US, as defined by HUD, experience worse health and other outcomes than other homeless people, including with respect to the most severe mental health disorders, including substance use disorders, and are more likely than non-chronic homeless people to elude existing programme efforts (Tsemberis, Gulcur, & Nakae, 2004).

While this HUD definition of chronic homelessness has a number of limitations and challenges, as reflected on in the final section of this paper, it is the only clearly articulated and measurable definition currently available and for this reason was applied in the present study. Given our adoption of the HUD definition, the detailed study objectives were to i) to establish the prevalence of mental health disorders and, consequently, of disabled conditions, amongst a substantial IEH cohort, ii) alongside the temporal pattern of their homelessness experiences, in order to iii) analyze the prevalence and profile of chronic homelessness in a defined geographical area in southern Europe, and iv) to compare this to what is known about chronic homelessness in the US.

Materials and Methods

Design

Observational and descriptive retrospective cohort study.

Population and study sample

The population studied was the IEH group in Girona according to the global typology of homelessness conceptualization by Busch-Geertsema, Culhane & Fitzpatrick (2016). That is, it includes not only those people without accommodation who live in open spaces (what is

sometimes termed 'rooflessness') or in specific accommodation projects aimed at IEH, but also those in serious situations of unsafe and inadequate housing. The sample consisted of the entire population of IEH in Girona aged 16 and above who requested specific services aimed at homeless people during the year 2006 or were identified by street outreach services (a specific intervention street team for IEH).

Procedure and ethics

During the calendar year 2006, the registration of all the IEH aged 16 and over in the city in contact with relevant services was initiated as part of the routine data collection associated with delivery of these services. At this time, the decision to collect this data and follow this cohort was made for operational rather than research reasons. The Research Ethics Committee CEI-Girona was consulted in 2016 about the development of a retrospective study based on this routine administrative data and approved the research protocol (code COHORT 2006), taking into account both the utility of the data and the impossibility of accessing the sample in any other way, following the recommendations of the Medical Research Council about necessity, sensibility, importance, anonymization and professional manage of such data. Formal ethical approval was obtained for the study to be undertaken retrospectively on October 28, 2016 This cohort was followed retrospectively from January 1, 2006 until June 15, 2016. During the period within which the cohort was tracked, the care services for IEH in the city of Girona were centralised into a single (mainly publicly-funded) centre which offered food and nutrition services, temporary overnight stays, short or medium-term accommodation, social services and street outreach services. The centre coordinates with the local mental health and primary health care centres in order to access information about homelessness amongst hospitalized people, immigrants in specialised institutions, and victims of gender-based violence.

Variables

Sociodemographic data: sex, origin, date of birth, marital status, education, criminal records.

<u>Situation of homelessness</u>: the records from all of these centralised services were analysed and compared with police records (there is a specialist unit within the local police force which registers every occasion in which an officer locates an IEH in the city in order to facilitate the

contact with the street outreach team), the follow-up registry maintained by the street outreach team, and the clinical records from the public mental health services of the region, which also attend to IEH. The absolute number of days in which there was evidence that the person was in a situation of homelessness was obtained. Following the recommendations of the Ethics Committee, all of the individuals included in the database were anonymized and assigned a unique code.

Situation of Chronic Homelessness: as noted above, the condition of chronicity was defined according to the criterion of the Federal Government of the US (Department of Housing and Urban Development, 2007) and its revision in the year 2016 (Department of Housing and Urban Development, 2016), with the following adjustments. First, we limited the "disabling conditions" mentioned in (i) and (ii) above to mental health disorders only, including substance use disorders. Second, as information on separate episodes within the same year was not available from our data sources, we applied a conservative criterion with respect to (ii), specifically: we considered homelessness experienced four years in a row, instead of three years in a row, as the consecutive episodes necessary to attribute chronicity to a participant's experience of homelessness.

Statistical analysis

The sociodemographic and diagnostic characteristics of mental health for the IEH at baseline were presented using descriptive statistics. The condition of chronicity was calculated and discriminant analyses were carried out according to the clinical and sociodemographic characteristics. A descriptive analysis was performed for the clinical and socio-demographic characteristics; absolute and relative frequencies were used for the qualitative variables, and central tendency and dispersion measures were used for the quantitative variables. Parametric and non-parametric tests were used for comparative means in quantitative variables, and chi-squared test was used for qualitative variables. The effect size was calculated using Cohen's *d*. Bivariate analyses were conducted to compare Survival of the cohort, mental health diagnosis and characteristics of chronicity by socio-demographic variables.

Continuity in the cohort was determined by means of a Kaplan-Meyer survival analysis and the main characteristics associated with chronicity were included as covariables. All statistical

contrasts were bilateral, and confidence intervals were calculated using a 95% significance level. The IBM SPSS statistics software version 22 was used for all statistical analysis.

Results

The study consisted of a sample of 826 IEH aged 16 or over that came to the attention of relevant services on at least one occasion in 2006. Girona had a total population of 89,890 people registered in the municipal register in 2006, of which 75,423 were aged 16 or over (INE, 2007). This represented a global rate of 11 IEH per 1,000 inhabitants aged 16 or over. The 87.7% of the sample (n =724) were male and the age average was 38.9 years old (SD = 11.9). The 63.8% (n = 526) were migrants (not born in Spain). Table 1 shows the sociodemographic characteristics of the sample and the comparison according to gender and origin.

Table 1. Sociodemographic characteristics of the sample (n = 826).

Categories	N (%)	Gender comparison [†]		Origin comparison	
		Male n (%)	Female n (%)	Foreign n (%)	Indigenous n (%)
Age, mean (SD)	38.9 (11.9)	38.7 (11.7)	39.9 (13.7)	35.2 (9.9)	45.3 (12.4)
Gender, male	724 (87.7)	0 (0)	0 (0)	479 (66.2)	245 (33.8)
Education [‡]					
- Elementary	87 (65.9)	71 (63.9)	16 (76.2)	38 (73.7)	60 (63.8)
 High school 	44 (33.3)	39 (35.1)	5 (23.8)	11 (28.9)	33 (35.1)
- University	1 (0.8)	1 (0.9)	0 (0)	1 (2.6)	0 (0)
Civil status; single [‡]	147 (54.9)	130 (55.6)	17 (50.0)	72 (54.1)	75 (55.6)
Criminal records; yes ‡	104 (12.6)	92 (69.7)	12 (54.5)	37 (74.0)	67 (64.4)
Immigrant origin; yes	529 (64.0)	479 (90.5)	48 (9.1)	0 (0)	0 (0)
Origin					
- Catalonia (autochthon)	104 (12.6)	87 (12.0)	17 (17.0)	0 (0)	104 (12.6)
- Spain§	196 (23.7)	160 (22.1)	36 (36.0)	0 (0)	196 (23.7)
- Europe	155 (18.8)	130 (18.0)	24 (24.0)	155 (18.8)	0 (0)
- Africa	321 (38.9)	311 (43.0)	10 (10.0)	321 (38.9)	0 (0)
- Latin-America	37 (4.5)	23 (3.2)	13 (13.0)	37 (4.5)	0 (0)
- Other	13 (1.6)	12 (1.7)	0 (0)	13 (1.6)	0 (0)
Mental disorder and/or substance abuse diagnosis					
 Mental disorders 	74 (9.0)	61 (8.4)	13 (13.0)	31 (5.9)	43 (14.2)
 Substance abuse disorders 	183 (22.2)	164 (22.7)	19 (19.0)	72 (13.7)	111 (36.8%)
- Both	50 (6.1)	43 (5.9)	7 (7.0)	20 (3.8)	30 (9.9)

[†]There are 2 transsexuals in the sample not included in this gender comparison.

[‡]Available <20% of the sample.

[§]Be considered autochthon in the analysis.

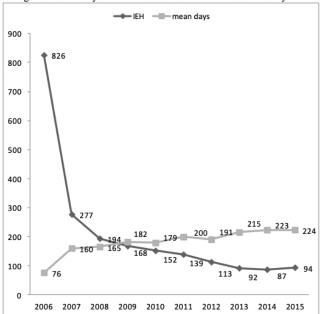
Survival of the cohort

The median number of days in a situation of homelessness in 2006 was 16 but with a very wide range of 1 to 365, of which 80 people (9.7%) spent the entire year in this situation. This wide range leads to a pronounced disparity between the median homelessness duration (16 days) and the average number of days homeless which was 76.2 (SD = 64.4; range = 1 - 365; 95%CI= 68.4 - 84.1). One fifth of the entire cohort (19.9%) had records of homelessness prior to 2006.

The average number of days homeless in the 10 years between 2006 and 2016 was established at 384.86 (SD = 863.1; range = 1 - 4,015; 95%CI =350.0 - 419.6) with a median of 36. Thus the median duration was less than one tenth that of the average duration, again demonstrating the impact of the statistical outliers with longer duration of homelessness. Figure 1 shows the evolution of the number of IEH in the sample and the average number of days per year throughout the 10 years of follow-up. Of the total cases, more than half (n = 429; 51.9%) only remained in the cohort during the year 2006. On comparing these shorter-term IEH with the rest

Figure 1.

Descriptive graph of the number of IEH present in the cohort throughout the study and the average number of days in a homeless situation referenced annually.



of the IEH, it was observed that the short term IEH were younger (37.9 vs. 39.8 years, p = .019; Cohen's d = .2), with a higher percentage of immigrants (69.0 vs. 57.4%; $\chi^2 = 11.8$; df = 1; p = .001) and women (14.3 vs. 9.8%, $\chi^2 = 3.8$; df = 1; p = .032) and with a lower frequency of mental health diagnosis (15.2 vs. 35.8%; $\chi^2 = 46.2$; df = 1; p < .001).

Mental health diagnosis

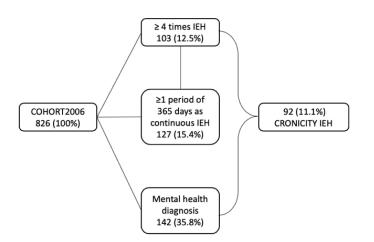
A mental health diagnosis was observed in 207 IEH (25% of the whole IEH cohort under study). Of these, 183 IEH (88.4% of those with a mental health disorder) had a drug-use related

diagnosis and 50 (24.2%) dual pathology. The main mental health diagnoses were therefore substance use disorders (SUD) and alcohol dependence was the most frequent diagnosis with substance misuse, accounting for 59.4% of those with mental health disorder diagnosis and 14.9% of the total study population. Opioid use and cannabis were the next most commonly used kind of drugs. Of non drug-use mental disorder diagnosis, schizophrenia was the most frequent diagnosis (n=19) followed by other psychotic disorders (n=16), personality disorders (n=15) or anxiety (n=14). A total of 114 IEH (13.8% of the total cohort) presented some kind of mental health disorder but did not stay enough time in the cohort to be considered as chronic IEH. On comparing IEH with and without mental health diagnosis, a lower percentage of immigrants was observed in the former (40.1% vs. 59.9%; $\chi^2 = 64.8$; df = 1; p < .001). IEH with mental health diagnosis stayed more days in a homeless situation than IEH without (1,718 vs. 921 days; F = 62.5; df = 294.2; p < .001; Cohen's d = .7). There were 115 IEH (55.6%) with mental health diagnosis that did not stay the minimum of times and/or days in homelessness situation to be considered as chronic.

Characteristics associated with chronicity in homelessness

A total of 92 IEHs (11.1% of the cohort) were identified as meeting the thresholds for chronicity applied in the study, having either had a minimum of one 365-day stay and/or four consecutive years with lower stays in IEH status along, alongside a mental health diagnosis including substance use disorders. 77% of these chronic IEH were men and 23% were women. Figure 2

Figure 2: Flowchart of the chronicity results of the individuals experiencing homelessness (IEH) sample

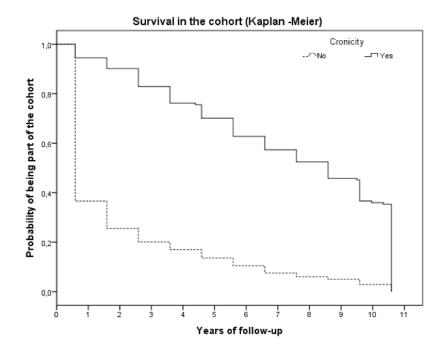


shows the flow chart of the number of IEH according to the different requirements of the chronicity criteria applied.

Of the total IEH studied in the cohort, 206 (25%) fulfilled the criteria of having a stay longer than 365 days or 4 consecutive years with stays in a situation of IEH. No differences were observed according to gender, with 25.3% of men vs. 23.0% of women ($\chi^2 = .3$; df = 1; p = .622) in this situation. Even so, the relationship between men and women varied according to their origin, since the percentage of immigrant women meeting the criteria of a homelessness duration greater than 365 days or 4 consecutive years was 8.5% compared to 20.8% of immigrant men ($\chi^2 = 4.1$; df = 1; p = .026), and 35.8% in non-immigrant women ($\chi^2 = 10.5$; df = 1; p = .001).

Age was one of the main discriminators between the chronic and non-chronic IEH, with chronic cases being older (41.2 vs. 38.5; p = .013; Cohen's d = .3). Among the chronic and non-chronic IEH, no gender differences were observed, at 12.2% and 12.0% of women respectively, but there were differences observed according to national origin. Immigrants comprised fewer chronic IEH (7.1% vs. 18.2%) ($\chi^2 = 24.1$; df = 1; p < .001). The people who presented a mental health diagnosis but were not chronically homeless were the group who spent the shortest time homeless, with a median of 1.8 years (95%CI = 1.4-2.2), followed by the cases without a mental health diagnosis. Chronic cases had a mean survival time in the cohort of 8.3 years (95%CI =

Figure 3. Survival analysis according to criteria of chronicity



7.7-8.8). Figure 3 shows the survival analysis according to chronicity criteria (Log-Rang test: $\chi^2 = 127.1$; df = 1; p < .001). According to our results, native Spanish people who had more diagnosed mental disorders and older people were more likely than other IEH to fit the criteria for chronicity.

Discussion

This is the first European longitudinal study that has followed a cohort of people affected by homelessness for more than ten years to determine homelessness chronicity and associated characteristics. Given the emergence of programmes and services specifically aimed at addressing chronic homelessness in Spain and elsewhere in Europe, we would argue that an understanding of the nature of prevalence of this phenomenon is ever more important. There are a number of key points to emerge from our analysis with regard to first the prevalence, and second the profile, of the chronic homeless population in Girona, Spain particularly as compared to that in the US and other European countries, that have potentially wider resonance.

First, only one in ten IEH in the sample were diagnosed as being chronically homeless, this compares with 15.7% of all enumerated homeless people experiencing chronicity in the US according to the Housing Inventory Count (HUD Exchange, 2017) - and the 24% according to the Non-Profit Organization National Alliance to End Homelessness (2019). We think it likely that the lower level of chronicity identified in the Girona cohort as compared with that in the US is likely due to several factors, and in particular the very strong representation of immigrants in our study. As noted above, two-thirds of the IEH included in this study were immigrants, mostly non-EU citizens from Africa. Evidence that the drivers of homelessness amongst immigrants are mainly economic is consistent with the lower presence of mental disorders among them and the shorter time they spent in the cohort as happen in other Spanish studies (Panadero-Herrero & Muñoz-López, 2014). They also match findings from the UK that immigrant rough sleepers are less likely than UK-born rough sleepers to have complex support needs associated with childhood trauma, mental ill-health and substance abuse disorders (Fitzpatrick *et al.*, 2013).

Another potential explanation for the difference between our results on chronicity and that indicated by the US data is that we applied a conservative criterion that required four consecutive years (instead of three) experiencing homelessness, and also only included IEH already diagnosed by a mental health service. That is, we relied on existing diagnoses of mental health disorders and a bespoke diagnostic instrument was not applied in the course of the research used to check whether those IEH that had not been treated in a mental health service in fact had a mental health disability.

Second, in terms of the profile of those affected by chronicity in Girona, there are also a number of pertinent points to be made in comparison to the US, and other European countries, including with respect to age, gender and health profile. According to HUD, the chronic population in the USA is an average of 50 years old, while in our sample it was 42.3 years old (similar to other Spanish data which had an average age of 44.3 years (Panadero-Herrero & Muñoz-López (2014). We can say, then, that the chronicity trend in the analysed cohort occurs in a younger population than in the US (see also Culhane *et al*, 2013, 2019).

With regards to gender, the chronic homeless population in Girona contained similar rates of homeless women to that in the US (25%) (Nino, Loya & Cuevas, 2009): 12% of the entire IEH cohort in Girona were women and that percentage increased to 23% when considering only those IEH who fitted the criteria for chronicity (Panadero-Herrero & Muñoz-López, 2014). The stronger presence of women in the chronic than non-chronic homeless population in Girona and the US is consistent with theories that postulate a greater vulnerability of women among people in a situation of homelessness, and speak of a double marginalization (being homeless and a woman), due to greater victimization as a result of the exceptionally harsh conditions of street living that are specific to women (Young, Shumway, Flentje, & Riley, 2017).

The clinical records of the participants indicated that one in four IEH was diagnosed with a mental disorder, substance use disorders being the most prevalent, affecting one in five IEH. The presence of alcoholism disorder, which accounted for 60% of the IEH diagnosed with a mental disorder, was similar to that of IEH in other European regions (Schreiter et al., 2017) such as the UK, Germany, France, Holland and Greece (Fazel, Khosla, Doll, & Geddes, 2008). Compared to the average established in the analysis of the US, the data indicated an above-average rate of alcoholism (range from 33 to 58%) but a below-rate of opioid and cocaine consumption (Fazel et al., 2008; Polcin, 2016). The diagnosed psychotic disorders, which made up eight percent of the cases, are on the lower end of a wide range of international averages that is established between 3 and 42% (Fazel et al., 2008). These patterns seem likely to be strongly mediated by the level of protection offered by the health and social welfare systems in different national contexts (Benjaminsen & Bastholm, 2015). Anxiety disorders (7%) and dual pathology (24%) were

significantly lower than the international average, which in both cases exceeds 40% (Fazel, Geddes, & Kushel, 2014).

Study Limitations

This study has a number of limitations. Firstly, our data on duration of homelessness is limited to those in contact with the services studied in the city of Girona. Therefore, an IEH could be displaced to another geographical territory and remain in a situation of homelessness without our knowledge. Equally, they could remain in Girona but cease to use relevant services, and thus also drop out of our study. While both of these factors may have contributed to the very substantial decline in the overall scale of the cohort being tracked after the first year, based on professional intelligence it seems likely that the larger element of the decrease should be attributed to geographical mobility. However, this is an interpretation based in the opinion of the professionals involved in the study and we do not have access to data that would enable us to verify it. In any case, these limitations therefore reinforce the conservative nature of the results presented.

Second, as noted above, our information regarding mental disorders and drug dependence were reliant on existing diagnoses from relevant public services. It is therefore likely that the rates of mental and substance misuse disorders reported here were less complete than in prospective studies deploying diagnostic tools, including some of the meta-analyzes from the US and elsewhere with which we have compared our data.

Third, this work was carried out in a specific geographical area with some peculiarities inherent to the territory that could make it difficult to extrapolate them. It would therefore be advisable to carry out cohort follow-up studies in other territories.

Fourth, and perhaps most fundamentally, we would wish to acknowledge legitimate concerns about the very concept of 'chronicity' as applied to homelessness, as well as with respect to the specific HUD definition utilised in this study. The idea of chronicity has its origin in medicine and has an aspect of irreversibility in communicable diseases (HIV / AIDS), non-transmissible diseases (cardiovascular, diabetes, cancer), mental illness (schizophrenia) or permanent physical

disabilities (WHO, 2002). While the extreme vulnerability of some people in situations of homelessness is evident, especially those who have serious mental health conditions and addictions, at the same time we would argue that there is a need to exercise great caution when describing as "chronic" (for life) a feature which is strongly related to socioeconomic factors. This conceptualisation of chronicity may encourage a fatalistic or deterministic approach to the exclusion of homeless people, which in fact is amenable to reversal with effective social, economic and health policies that empower vulnerable people and facilitate their exit from homelessness (Luchenski et al, 2017). The integration of 'disabilities' alongside time spent homeless in the HUD definition of chronic homelessness compounds the risk, at least arguably, of pathologizing homelessness as a (long-term) medical problem rather than a (solvable) social problem. We would therefore welcome future qualitative as well as quantitative studies that explored the appropriateness of chronicity as a concept to be applied in the homelessness field and, insofar as it is appropriate applied, reflect on how it is best defined and understood.

Relevant here is our study's finding that episodic and transitory homelessness are much more common than chronic homelessness, with the large gap between the median and average durations reinforcing this point. The IEH immigrants presented a more stable mental health and a lower presence in the chronic group, which has been argued to be determined by the largely economic drivers of the migratory process. Alcoholism and mental health disorder were intrinsic to the definition of chronicity used in this study. While from a health perspective both of these disorders can be considered chronic, this does not mean that people cannot recover from them or live for long periods without symptoms. This partial or total remission, periodic or permanent, would allow the IEH to overcome the condition of chronicity as it is understood at present. Equally, an IEH can have an ongoing chronic severe mental disorder or substance use problem, but live fully reintegrated in society, just like any non-homeless individual who has suffered from these conditions. Thus an ambitious recovery and reintegrative agenda should lie at the heart of all policy and practice in this field.

Conflict of interests

The authors deny the existence of any conflict of interest.

References

- AHFE. (2018). Strategic framework to address chronic homelessness. Retrieved from https://static1.squarespace.com/static/566631e8c21b864679fff4de/t/5ad663a56d2a73651 75b2bd0/1523999670272/CH_Strategic_Framework
- Ajuntament de Barcelona. (2014). L'Ajuntament amplia el nombre de places destinades a les persones sense sostre i importa el model Housing First d'atenció a persones sense llar [The City Council expands the number of places for the homeless and imports the Housing First model for the care of the homeless]. Retrieved from https://ajuntament.barcelona.cat/premsa/wp-content/uploads/2014/08/2014 08 19 Sense-Sostre-Housing-First.pdf
- Aubry, T., Tsemberis, S., Adair, C. E., Veldhuizen, S., Streiner, D., Latimer, E., ... Goering, P. (2015). One-year outcomes of a randomized controlled trial of Housing First with ACT in five canadian cities. *Psychiatric Services*, 66(5), 463–469. https://doi.org/10.1176/appi.ps.201400167
- Bainbridge, J., & Carrizales, T. (2017). Global homelessness in a post-recession world. *Journal of Public Management & Social Policy*, 24(1), 6.
- Benito, E., Alsinet, C., & Maciá, M. A. (2017). Midiendo la calidad de vida de las personas sin hogar: La Escala GENCAT de calidad de vida.[Measuring quality of life of homeless persons: The GENCAT scale of quality of life] *Educación Social: Revista de Intervención Socioeducativa.*, 66, 127–142.
- Benjaminsen, L. & Bastholm Andrade, S. (2015). Testing a typology of homelessness across welfare regimes: Shelter use in Denmark and the USA. *Housing Studies*, *30*(6): 858-876. https://doi.org/10.1080/02673037.2014.982517
- Bernad, R., Yuncal, R., Fundación, R., & Panadero, S. (2016). Introducing the Housing First model in Spain: First results of the Habitat Programme. *European Journal of Homelessness*, 10(1).
- Black, C., & Bronda, H. (2011). Evidence for improving acess to homelessness services.

 Australian Housing and urban Research Institute (AUHIR). Retrieved from https://www.ahuri.edu.au/__data/assets/pdf_file/0025/7279/SYN059_Evidence_for_impr oving_access_to_homelessness_services.pdf
- Bramley, G., & Fitzpatrick, S. (2018). Homelessness in the UK: who is most at risk? Housing

- Studies, 33(1), 96–116. https://doi.org/10.1080/02673037.2017.1344957
- Busch-Geertsema, V., Culhane, D., & Fitzpatrick, S. (2016). Developing a global framework for conceptualising and measuring homelessness. *Habitat International*, *55*, 124–132. https://doi.org/10.1016/J.HABITATINT.2016.03.004
- Calvo, F., & Carbonell, X. (2017). Using WhatsApp for a homeless count. *Journal of Social Distress and the Homeless*, 26(1), 25–32. https://doi.org/10.1080/10530789.2017.1286793
- Calvo, F., Carbonell, X., & Badia, M. (2018). Homelessness and unemployment during the economic recession: The case of the city of Girona. *European Scientific Journal*, *14*(13), 1857–7881. https://doi.org/10.19044/esj.2018.v14n13p59
- Comunidad de Madrid (2018). Plan de inclusión de personas sin-hogar en la Comunidad de Madrid 2016-2021. retrieved from http://www.madrid.org/es/transparencia/sites/default/files/plan/document/302_387_guia_personas_sin_hogar_0.pdf
- Culhane, D., Metraux, S., Byrne, T., Stino, M. & Bainbridge, J. (2013). The age structure of contemporary homelessness: Evidence and implications for public policy. *Analyses of Social Issues and Public Policy*, *13*(1): 1-17. https://doi.org/10.1111/asap.12004
- Culhane, D., Treglia, D., Byrne, T., Metraux, S. Kuhn, R., Doran, K. & Johns. E. (2019). *The emerging crisis of aged homelessness: Could housing solutions be funded from avoidance of excess shelter, hospital and nursing home costs?* Retrieven from https://www.aisp.upenn.edu/wp-content/uploads/2019/01/Emerging-Crisis-of-Aged-Homelessness-1.pdf
- Department of Housing and Urban Development. (2007). *Defining chronic homelessness: A technical guide for HUD Programs*. Washington. Retrieved from https://www.hudexchange.info/resources/documents/DefiningChronicHomeless.pdf
- Department of Housing and Urban Development. (2016). Chronic Homelessness HUD Exchange. Retrieved November 28, 2018, from https://www.hudexchange.info/homelessness-assistance/resources-for-chronic-homelessness/
- Elliott, M., & Krivo, L. J. (1991). Structural determinants of homelessness in the United States. *Social Problems*, 38(1), 113–131. https://doi.org/10.2307/800641

- Faber, J. W. (2019). On the street during the Great Recession: Exploring the relationship between foreclosures and homelessness. *Housing Policy Debate*, *29*(4), 1–19. https://doi.org/10.1080/10511482.2018.1554595
- Fazel, S., Geddes, J. R., & Kushel, M. (2014). The health of homeless people in high-income countries: descriptive epidemiology, health consequences, and clinical and policy recommendations. *Lancet*, 384(9953), 1529–1540. https://doi.org/10.1016/S0140-6736(14)61132-6
- Fazel, S., Khosla, V., Doll, H., & Geddes, J. (2008). The prevalence of mental disorders among the homeless in western countries: Systematic review and meta-regression analysis. *PLoS Medicine*, *5*(12), e225. https://doi.org/10.1371/journal.pmed.0050225
- Fitzpatrick, S. (2005). Explaining homelessness: a critical realist perspective. *Housing, Theory and Society*, (1): 1–17. https://doi.org/10.1080/14036090510034563
- Fitzpatrick, S, Bramley, G & Johnsen, S. (2013) Pathways into multiple exclusion homelessness in seven UK cities. *Urban Studies*, 50(1): 148-168.
- Gulcur, L., Stefancic, A., Shinn, M., Tsemberis, S., & Fischer, S. N. (2003). Housing, hospitalization, and cost outcomes for homeless individuals with psychiatric disabilities participating in continuum of care and housing first programmes. *Journal of Community & Applied Social Psychology*, 13(2), 171–186. https://doi.org/10.1002/casp.723
- Hansen, H., Bourgois, P., & Drucker, E. (2014). Pathologizing poverty: New forms of diagnosis, disability, and structural stigma under welfare reform. *Social Science & Medicine*, *103*, 76–83. https://doi.org/10.1016/J.SOCSCIMED.2013.06.033
- Huber, M., Knottnerus, J. A., Green, L., van der Horst, H., Jadad, A. R., Kromhout, D., ... Smid, H. (2011). How should we define health? *BMJ*, *343*, d4163. https://doi.org/10.1136/bmj.d4163
- HUD Exchange. (2017). 2017 AHAR: Part 1 PIT Estimates of Homelessness in the U.S. HUD Exchange. Retrieved February 26, 2019, from https://www.hudexchange.info/resource/5639/2017-ahar-part-1-pit-estimates-of-homelessness-in-the-us/
- INE. (2007). Instituto Nacional de Estadística (INE) [National Statistics Institute]. Retrieved November 28, 2018, from http://www.ine.es/dynt3/inebase/index.htm?padre=527

- Karanikolos, M., Mladovsky, P., Cylus, J., Thomson, S., Basu, S., Stuckler, D., ... & McKee, M. (2013). Financial crisis, austerity, and health in Europe. *Lancet*, *381*(9874), 1323-1331.
- Labella, M. H., Narayan, A. J., McCormick, C. M., Desjardins, C. D., & Masten, A. S. (2019). Risk and adversity, parenting quality, and children's social-emotional adjustment in families experiencing homelessness. *Child Development*, 90(1), 227–244. https://doi.org/10.1111/cdev.12894
- Luchenski, S., Maguire, N., Aldridge, R. W., Hayward, A., Story, A., Perri, P., Withers, J., Clint, S., Fitzpatrick, S., & Hewett, N. (2017). What works in inclusion health: overview of effective interventions for marginalised and excluded populations. *Lancet 391*(10117): 266-280. https://doi.org/10.1016/S0140-6736(17)31959-1
- Márquez, G. M., & Urraza, X. A. (2016). The impact of the crisis on homelessness in Spain: social intervention in a context of greater need and fewer resources. *European Journal of Social Work*, 19(1), 31–45. https://doi.org/10.1080/13691457.2015.1022712
- Mills, C. (2015). The psychiatrization of poverty: Rethinking the mental health-poverty nexus. Social and Personality Psychology Compass, 9(5), 213–222. https://doi.org/10.1111/spc3.12168
- Moreno-Colom, S., & López-Roldán, P. (2018). El impacto de la crisis en las trayectorias laborales de las mujeres inmigrantes en España [The impact of the crisis of the career path of immigrant women in Spain]. *Cuadernos de Relaciones Laborales*, 36(1), 65–87. https://doi.org/10.5209/CRLA.59557
- Muñoz, M., Koegel, P., Vázquez, C., Sanz, J., & Burnam, A. (2002). An empirical comparison of substance and alcohol dependence patterns in the homeless in Madrid (Spain) and Los Angeles (CA, USA). *Social Psychiatry and Psychiatric Epidemiology*, *37*(6), 289–298. https://doi.org/10.1007/s00127-002-0555-6
- National Alliance to End Homelessness. (2019). *Chronically homeless*. Retrieved February 26, 2019, from https://endhomelessness.org/homelessness-in-america/who-experiences-homelessness/chronically-homeless/
- Nino, M. D., Loya, M. A., & Cuevas, M. C. (2009). Who are the chronically homeless? Social characteristics and risk factors associated with chronic homelessness. *Journal of Social Distress and the Homeless*, 19(1–2), 41–65. https://doi.org/10.1179/105307809805365145

- Panadero-Herrero, S., & Muñoz-López, M. (2014). Salud, calidad de vida y consumo de sustancias en función del tiempo en situación sin hogar [Health, quality of life and substance consume and length of homelessness]. *Anales de Psicología*, 30(1), 70–77. https://doi.org/10.6018/analesps.30.1.137911
- Piat, M., Polvere, L., Kirst, M., Voronka, J., Zabkiewicz, D., Plante, M.-C., ... Goering, P. (2015). Pathways into homelessness: Understanding how both individual and structural factors contribute to and sustain homelessness in Canada. *Urban Studies*, 52(13), 2366–2382. https://doi.org/10.1177/0042098014548138
- Polcin, D. L. (2016). Co-occurring substance abuse and mental health problems among homeless persons: Suggestions for research and practice. *Journal of social distress and the homeless*, 25(1), 1-10.
- Sales-Campos, A. (2016). Sinhogarismo y exclusión social: de la asistencia a la prevención [Homeless and social exclusion. From assistance to prevention]. *Revista de Treball Social*, (209), 9–25.
- Schreiter, S., Bermpohl, F., Krausz, M., Leucht, S., Rössler, W., Schouler-Ocak, M., & Gutwinski, S. (2017). The prevalence of mental illness in homeless people in Germany. Deutsches Arzteblatt International, 114(40), 665–672. https://doi.org/10.3238/arztebl.2017.0665
- Shelton, K. H., Taylor, P. J., Bonner, A., & van den Bree, M. (2009). Risk factors for homelessness: Evidence from a population-based study. *Psychiatric Services*, 60(4), 465–472. https://doi.org/10.1176/ps.2009.60.4.465
- Tsemberis, S., Gulcur, L., & Nakae, M. (2004). Housing first, consumer choice, and harm reduction for homeless individuals with a dual diagnosis. *American Journal of Public Health*, 94(4), 651–656. https://doi.org/10.2105/AJPH.94.4.651
- Uribe, J., & Alonso, S. (2009). Les persones en situació de sense-llar de Barcelona: perfil, estat de salut i atenció sanitària [Individuals experiencing homelessness in Barcelona: Profiles, health status and healthcare attention]. Barcelona. Retrieved from http://xarxanet.org/sites/default/files/bofill_-_persones_sense_llar.pdf
- Waegemakers Schiff, J., & Schiff, R. A. L. (2014). Housing first: paradigm or program? *Journal of Social Distress and the Homeless*, 23(2), 80–104. https://doi.org/10.1179/1573658X14Y.0000000007

- Wagner, J., Diehl, K., Mutsch, L., Löffler, W., Burkert, N., & Freidl, W. (2014). Health status and utilisation of the healthcare system by homeless and non-homeless people in Vienna. *Health & Social Care in the Community*, 22(3), 300–307. https://doi.org/10.1111/hsc.12083
- Watts, B., Fitzpatrick, S., & Johnsen, S. (2017). Controlling homeless people? Power, interventionism and legitimacy. *Journal of Social Policy*, 47(02), 235–252. https://doi.org/10.1017/S0047279417000289
- WHO. (2002). *Innovative care for chronic conditions*. Retrieved from http://www.who.int/chp/knowledge/publications/icccglobalreport.pdf
- Woodhall-Melnik, J. R., & Dunn, J. R. (2016). A systematic review of outcomes associated with participation in Housing First programs. *Housing Studies*, *31*(3), 287–304. https://doi.org/10.1080/02673037.2015.1080816
- Young, D. A., Shumway, M., Flentje, A., & Riley, E. D. (2017). The relationship between childhood abuse and violent victimization in homeless and marginally housed women: The role of dissociation as a potential mediator. *Psychological Trauma: Theory, Research, Practice, and Policy*, (5), 613–621. https://doi.org/10.1037/tra0000288