

First examination of varying health outcomes of the chronically homeless according to Housing First configuration

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Homelessness is a diverse phenomenon that has been attributed to both individual and structural factors.¹ Interventions that target both sets of factors are critical,¹ with policy makers placing an increasing emphasis on addressing the social determinants of health to eliminate chronic homelessness.² Homeless individuals experience disproportionately higher rates of premature mortality; three times the rate of the general population.^{1,2} Co-occurring mental health disorders and substance misuse are higher among homeless populations¹ and strongly associated with both the entry into, and duration of, homelessness episodes.³ Poor physical and mental health status among homeless individuals is worsened by barriers to accessing primary health care, resulting in greater use of acute health care services.²

Improved health outcomes among individuals with chronic homelessness histories have been associated with the provision of stable housing.^{2,4} In recent years notable improvements have been documented among individuals in Housing First programs, which rapidly allocate individuals to long-term housing with attached support.⁵ However, it remains unknown whether a particular type of Housing First configuration is associated with superior health-related outcomes. Adaptations of the Housing First program have comprised two common configurations: scattered site (SS – private rental dwellings head-leased by a community housing

Abstract

Objective: To determine whether two Housing First configurations (scattered site [SS] versus congregated site [CS]) are associated with different health-related outcomes.

Methods: This ecological study employed a longitudinal, quantitative design to compare the outcomes from 63 individuals (SS: n=37; CS: n=26) in Sydney, Australia, over 12 months.

Results: Both configurations showed similar improvements in quality of life and psychological distress. While recent use of substances remained stable across the two configurations over time, a marginally greater increase in the proportion of CS individuals injecting more than weekly was found. For health service utilisation, CS participants had notably higher service utilisation rates for mental health specialists and the emergency department for mental health reasons at follow-up than SS participants.

Conclusion: Preliminary evidence of differential injecting and health service utilisation outcomes between configurations emerged within this small-scale study over the 12-month period.

Implications for public health: Given the rapid expansion of both SS and CS Housing First configurations across Western countries and the indications from this initial study that outcomes may differ according to configuration, there remains a need for robust evaluative evidence on the efficacy of various supported housing models on long-term individual outcomes.

Key words: homelessness, Housing First, health-related outcomes, substance use, Australia

provider) and congregated site (CS – single public housing block with onsite services). This preliminary study aimed to identify whether SS and CS configurations are differentially effective across individual health outcomes.

Full details of the study have been published elsewhere.⁶ Briefly, the study utilised a longitudinal, quantitative design and was conducted in Sydney, Australia. Individual outcomes were compared using baseline and 12-month follow-up interviews for participants of the SS and CS programs.

While allocation into the SS and CS programs occurred prior to this study and was not randomised, eligibility criteria into both configurations were the same. The study was approved by the NSW Population and Health Services Research Ethics Committee and the Human Research Ethics Committee of UNSW (HC11120/HC12625).

Eligible participants were at least 18 years old, provided informed consent, had a chronic homelessness history (defined in Australia as sleeping rough for at least six months), and currently engaged with the SS or CS

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Table 1: Self-reported outcomes by housing configuration group (SS vs CS) (n=63).

Outcome	Baseline		Follow-up		Change	95%CI	Adjusted effect ^a	95%CI
	N	%	N	%				
Physical and psychological health outcomes								
WHOQOL-BREF physical health (M±SD)							-0.1	-13.1, 3.7
SS	35	52±23	35	58±18	6	-12, 12		
CS	22	53±26	22	63±19	10	1, 20		
WHOQOL-BREF psychological health (M±SD)							-0.1	-8.0, 7.6
SS	35	58±21	35	61±17	3	-3, 8		
CS	22	52±23	22	59±21	7	-1, 14		
BSI psychological distress (M±SD)							0.1	-0.3, 0.4
SS	33	1.4±1.0	33	1.0±0.8	-0.4	-0.6, -0.2		
CS	22	1.5±1.0	22	1.0±0.8	-0.5	-0.9, -0.1		
Substance use outcomes: Greater than weekly use								
Tobacco							7.8	0.8, 78.9
SS	36	78	36	72	-6	-17, 6		
CS	26	65	26	81	16	1, 30		
Alcohol							0.4	0.1, 2.3
SS	37	22	37	27	5	-8, 19		
CS	26	15	26	15	0	-11, 11		
Cannabis							1.2	0.3, 4.8
SS	37	19	37	19	0	-18, 18		
CS	26	31	26	35	-4	-18, 10		
Amphetamine							#	
SS	37	0	37	3	3	-3, 8		
CS	26	8	26	4	-4	-18, 10		
Opioids							1.2	0.2, 7.2
SS	37	0	37	8	8	-1, 17		
CS	26	0	26	12	12	-2, 25		
Injection							3.4	0.6, 18.2
SS	37	3	37	8	5	-5, 16		
CS	26	15	26	31	16	1, 30		
Health service outcomes: Utilisation in the past 12 months								
GP							3.2	0.5, 18.7
SS	37	89	37	73	-16	-29, -4		
CS	22	100	22	91	-9	-22, 4		
Ambulance call-out							2.0	0.6, 6.7
SS	37	30	37	27	-3	-23, 17		
CS	22	55	22	50	-5	-26, 17		
ED attendance (PH reason)							1.2	0.4, 4.1
SS	37	30	37	32	2	-17, 23		
CS	21	52	21	48	-4	-32, 22		
ED attendance (MH reason)							5.8	1.1, 31.3*
SS	37	11	37	11	0	-14, 14		
CS	22	32	22	32	0	-27, 27		
Hospital inpatient (PH reason)							1.0	0.3, 4.0
SS	37	19	37	22	3	-12, 17		
CS	22	32	22	32	0	-24, 24		
Hospital inpatient (MH reason)							11.6	1.1, 127.7*
SS	37	14	37	3	-11	-24, 2		
CS	22	27	22	23	-4	-30, 21		
MH specialist							3.8	1.0, 14.0*
SS	36	53	36	42	-11	-27, 5		
CS	22	64	22	68	4	-24, 33		
D&A treatment facility							1.8	0.1, 37.5
SS	37	14	37	3	-11	-21, -0.1		
CS	21	19	21	10	-9	-29, 10		

a: Adjusted for baseline housing duration and baseline score; # Not estimated due to low number of events; * p<.05

SS, scattered site; CS, congregated site; WHOQOL-BREF, World Health Organization's Quality of Life-BREF; BSI, Brief Symptom Inventory; GP, general practitioner; MH, mental health; D&A, drug and alcohol; ED, emergency department; PH, physical health; n, number; M, Mean; SD, Standard Deviation; CI, Confidence Interval.

programs. Eighty participants (recruitment rate 66%) were administered a baseline survey from November 2012 to May 2013. Sixty-three consented and completed the 12-month follow-up survey (79% follow-up rate). This survey was administered on average 12.7 months post-baseline. Participants received an \$40 food voucher after each survey.

Measures included: socio-demographic characteristics (sex, age, Indigenous status, health diagnoses, homelessness history); physical and psychological quality of life (World Health Organization's Quality of Life-BREF instrument); psychological symptoms (Brief Symptom Inventory); greater than weekly use of specific substances in the three months prior to interview (tobacco, alcohol, cannabis, amphetamines, opioids, and non-medical injection of any drug); and utilisation of various health services over the past 12 months (general practitioner (GP), ambulance, emergency department (ED) for physical health (PH) or mental health (MH), inpatient hospital for PH or MH, MH specialist, and drug and alcohol (D&A) treatment facility).

SPSS 22.0 was used to compare whether the changes within groups differed significantly from baseline to follow-up between the two configurations. Unadjusted means and proportions of outcomes were calculated for each group at baseline and follow-up, as well as within-group changes. Multiple linear/logistic regressions were used, depending on the nature of the dependent variable, to estimate the difference in outcomes between configurations at follow-up, after adjusting for baseline housing duration and baseline outcome value.

Results

The 63 participants were similar in socio-demographic composition to all individuals within the two Housing First programs in Sydney.⁶ Most participants were male (81%) and Australian born (79%), and 16 per cent identified as Indigenous. Participants were, on average, 44 years old and diagnosed with a mean of four physical health conditions (most commonly dental problems (69%), chronic pain (48%), and chronic infections (43%)). Participants had typically been diagnosed with two mental health disorders, including mood (69%), anxiety (51%) and substance misuse (47%) disorders. Four-in-five participants screened positive for a cognitive

impairment of some degree (81%), and over half reported a rough sleeping history of more than five years (60%).

In the longitudinal comparisons, no between-groups differences were found for quality of life or psychological distress, with both groups showing comparable improvements across outcomes over time (Table 1). Similarly, no differences were found between groups for the specific substances used. However, there was a significant within-group increase over time in the proportion of CS participants who injected more than weekly (AOR 3.4, 95%CI 0.6–18.2).

For health service utilisation, between-group differences were found firstly for the proportions of participants who attended the ED for MH reasons (AOR 5.6, 95%CI 1.1–31.3), and secondly, for the proportion who engaged with a MH specialist (AOR 3.8, 95%CI 1.0–14.0). CS participants had notably higher service utilisation rates for these MH services, despite similar self-report rates of MH disorders between SS and CS groups. Table 1 also shows reductions for SS participants' engagement with GPs and D&A treatment facilities over time.

Discussion

Both groups reported similar rates of improvement for quality of life and psychological distress, which suggests the provision of stable housing with attached support, regardless of configuration, improved these outcomes over 12 months. These findings replicate those found in past Housing First studies,^{4,7} however this is the first evidence of trends across configurations, which may inform Housing First staff that they should expect to see improvements in these health outcomes regardless of configuration.

Consistent with results from Housing First programs in North America,⁸ the use of substances remained unchanged over 12 months in both configurations. However, our study points to a potential differential impact of configuration on injecting behaviour: one-third of CS participants reported greater than weekly injecting at follow-up compared to 8% of SS participants. We also found higher engagement with MH specialists and the ED for MH reasons among CS participants. A possible explanation for these differential findings is that the SS configuration stabilised individuals' injecting behaviours and MH more so than CS housing in the 12-month

period. Alternatively, the set-up of the CS configuration may have facilitated continued or increased injecting behaviours if fellow residents were also injecting. Onsite CS staff may have more closely observed residents compared to SS participants who were visited by case managers weekly, and consequently the likelihood of referral to MH treatment may have been higher at the CS. While these findings should be interpreted with caution due to small sample sizes, they are potentially important if replicated in future studies, as it would have significant ramifications for program planning, resource allocation and harm minimisation strategies adopted by Housing First programs.

Study limitations included non-random participant assignment into programs, small sample sizes, baseline interviews occurring at a set point in time rather than housing entry, and self-report data. While findings should be interpreted with caution, this study raises the issue of differential outcomes associated with specific configurations; a critical understanding given the expansion of SS and CS configurations across Western countries despite a limited evidence-base.

Conclusions

This is the first study to examine specifically whether the configuration and consequently, access to onsite support services in Housing First models, has a differential impact on individuals' health status and service utilisation. Although the programs examined were small in size, this type of research is crucial for generating questions that could be addressed by larger studies. Our results suggest that further research with larger sample sizes is required to determine which specific individuals show greater health improvements in particular housing configurations. Obtaining a clearer understanding of how different configurations of supported housing influence the health and well-being of homeless individuals is critical for informing the expansion of community-based solutions.

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