Research

The impact of transitions from emergency housing to public housing in Aotearoa New Zealand

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Abstract

Housing is an important social determinant of health and wellbeing. Aotearoa New Zealand is an outlier in the Organisation for Economic Co-operation and Development both in terms of its notably poor housing standards and the fact that it is one of the few countries where public housing has a better indoor environment and tenure security than private rentals. Our paper analyses the transition from emergency housing to public housing among individuals experiencing homelessness in Aotearoa New Zealand. Using linked de-identified microdata, we identified 31,761 individuals, who moved from emergency housing to public housing between 2016 and 2023. We found about four-fifths of those who transited from emergency housing to public housing required more than one application, and it took more than two months to settle them into public housing. We found a decrease in annual hospitalisation rates (0.50 to 0.29) and the annual rates of mental health outpatient use (5.8 to 3.7) after entering public housing, confirming the importance of stable and secure housing for health and wellbeing. Considering the health and wellbeing benefits observed, increasing affordable and accessible public housing stock in Aotearoa New Zealand is recommended.

Keywords Emergency housing · Public housing · Social-economic outcomes · Evaluation · Linked data

1 Introduction

Public housing, sometimes called social or community housing, is housing owned or subsidised by central or local governments, or community trusts [1, 2]. Public housing is funded to reduce the cost of housing for people on low incomes and with high or specific needs. In Aotearoa New Zealand (hereafter referred to as Aotearoa NZ), the first state houses for inner-city workers to rent were built under the Workers Dwelling Act 1905 [3]. Subsequently, there have been several major building programmes of state houses: after the 1930's Great Depression and after WWII for returned servicemen and their families (Schrader, 2005). Following an inquiry into state housing, the Housing Corporation was established in 1974, and under the National Government became the Housing New Zealand (HNZ) Corporation in 2001. The Fifth National-led Government failed to acknowledge the growing extent of the affordable housing shortage, exacerbated by issues of high immigration and an inadequate rate of construction of affordable houses [4]. Consequently, the lack of affordable housing led to a rise in homelessness [5, 6]. The Government's response was establishing emergency housing, largely in motels, which was funded in 2016 by the Emergency Housing Special Needs Grant (EHSNG) [7].

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The Sixth Labour-led Government took office in 2017 and in 2019 established a Crown entity Kāinga Ora—Homes and Communities,¹ which was funded for a much-needed boost in the building and provision of public housing and urban regeneration [8]. There has been modest growth in public housing stock over the years, but public housing only represents approximately 3.8% of the total housing stock—well below the Organisation for Economic Co-operation and Development (OECD) average of 6.9% [9]. These policy swings in the provision, or disposal of public housing were mainly due to ideological variations across governments, together with the state of the fiscal cycle. The usual pattern has been for Labour-led governments to follow the centre-left pattern and upscale the building and maintenance of public housing, which apart from being a state asset can be a counter-cyclical economic policy [10]. Whereas, Nationalled centre-right governments have a preference to reduce state assets, by selling them at discounted rates to tenants, community groups, or developers [11, 12]. To varying degrees, both National and Labour-led governments have moved to a system of housing subsidies (rental and ownership) along with tax incentives to the private sector to address the growing shortage of affordable housing [13]. Specifically, the Accommodation Supplement, modelled on the US Housing Voucher Eight system [14, 15], has become after superannuation, the largest government benefit—greater than the provision of public housing.

The EHSNG has been highly controversial since its introduction in the latter stages of the Fifth National-led Government. Initially, EHSNGs were granted on a seven-day basis, with no payment required. In early 2020, to avoid "perverse incentives", the policy was amended to charge 25% of a person's income, the same as the Income-Related Rent Subsidy in public housing, after the first seven days, and allowed individuals and whānau (families) up to 21-days stay at the discretion of case managers [16]. While intended to be a seven-day stay, individuals and whānau on average are spending between 3 and 6 months in emergency housing [17]. EHSNGs are paid directly to short-term commercial providers (such as motels, hostels, campsites, boarding houses, and backpackers) on behalf of those who have nowhere else to stay and when other accommodation or transitional housing² is unavailable [18].

There is a growing body of literature which explores the impact of different forms of public housing support—i.e., temporary emergency housing, more permanent public housing, or subsidies to private landlords—on the wellbeing of tenants. The wellbeing of individuals and whānau is impacted by a wide range of co-determining factors [19–21], and some of the housing-related factors influencing wellbeing that are most prominently discussed in the international literature include residential (in)stability and (in)security, housing (un)affordability, and housing quality [22]. Indoor air pollution from mould and damp also plays a significant role in the health and wellbeing of individuals, and is a major cause of morbidity and mortality globally [23] and in Aotearoa NZ [24].

Unsurprisingly, the literature appears to be unanimous in finding that inadequate housing is associated with poor outcomes for health and wellbeing on any measure [25]. As a result, from this baseline, all forms of public housing provision appear to have positive impacts on tenant wellbeing. This is most evident in terms of mental health difficulties [26] and hospitalisations, which tend to rise steadily before people experience homelessness and then gradually decline after they are provided with housing [27–29]. These impacts tend to vary by tenancy type [30]. Moving out of public housing and into private sector rentals, for example, is associated with adverse changes in healthcare use patterns [31], while mental health outcomes in public housing tend to be significantly better than in private rentals subsidised through housing vouchers [32]. The stability of a tenancy is often seen as particularly important, with higher levels of instability, a marked characteristic of private rentals compared to public rentals. Instability is associated with worse mental health and social wellbeing [33–35].

The international literature has also found that a lack of housing affordability, paired with low incomes, are prominent drivers of housing instability and deprivation [36]. Given that low incomes are often a determining factor for access to public housing [37], there has been a significant amount of research carried out on the relationship between public housing and income. In the early 2000s, some studies seemed particularly concerned with the possibility that public housing would disincentivise participation in the workforce—driving down income levels [38, 39]. It appears, however, that while low incomes influence the need for public housing, public housing provision does not have a significant impact on income levels [39, 40]. While this was widely interpreted as the absence of moral hazard, it could be that emergency and public housing can alleviate some of the economic stressors on health and wellbeing [41]. Given that public housing

² Transitional housing provides temporary accommodation of up to 12 weeks for individuals and families who have nowhere to live and urgently need a place to stay.



¹ Käinga Ora—Homes and Communities provides public housing and home-related financial assistance, initiates or undertakes urban development on its own or on behalf of others and delivers aspects of the Government's Build Programme.

across the OECD has become increasingly *residualised*, this safety net only supports the most marginalised members of society [42]. Moreover, austerity measures targeting housing can have distressing consequences for public housing tenants [43].

While Aotearoa NZ's growing inability to provide enough public housing for those facing severe housing deprivation/homelessness reflects the dominant trends throughout the OECD, the Aotearoa NZ context nonetheless differs significantly from other cases. It is widely noted in European and North American studies that public housing is of worse quality than private accommodation [44, 45], and consequently that—despite being a clear improvement on homelessness—public housing tenants have significantly worse health and wellbeing outcomes overall than the general population [29, 46]. Aotearoa NZ is an outlier in that public housing offers a better indoor environment, tenure security, and wraparound supports than the private rental market [37, 47]. We can therefore expect the differential impacts on tenants of both emergency and public housing to be more pronounced in Aotearoa NZ's case.

Our paper analyses the differential impact of emergency housing and public housing on tenants. The objectives of the study are to:

- Use data linkage to identify a cohort of people, who lived in emergency housing between 2016 and 2023, and later became settled in public housing and have had contact with a broad range of government agencies.
- Compare the cohort's broad social and health outcomes, before and after they moved into emergency and public housing.
- Compare the condition of the indoor environment of the cohort's housing in the 2018 Census.

2 Methods

The data in this study came from the Integrated Data Infrastructure (IDI), a collection of linked de-identified microdata from different government agencies, surveys, and the Census. The IDI consists of eight broad data categories: health, justice, education and training, people and communities, benefits and social services, income and work, housing, and population data [48]. The EHSNG applicants were identified using the lump sum services code and payment reason type code, with the timing of the EHSNG determined by the decision date. The EHSNG data were then linked with HNZ data. The HNZ data contains tenancy and public housing information, which enables the selection of those who lived in public housing from 2016–2023. The public housing providers were HNZ (now Kāinga Ora—Homes and Communities) and Community Housing Providers (CHPs). During this period, over 270,000 tenants were living in public housing entry and used the household composition from the HNZ data. The final cohort was 31,761 individuals, consisting of the main EHSNG applicant in each household, who had successfully applied for the EHSNG and was now a public housing resident, along with their household members, as shown in Fig. 1.

2.1 Sociodemographic characteristics

To get demographic information, we linked the cohort to the personal details data. The personal details dataset in the IDI uses information from a higher weighted source, such as the Department of Internal Affairs and the Ministry of Health over other sources where demographic data are less likely to be accurate. We linked the data of those who were 25 years and over to their income data from the Inland Revenue dataset. We assessed their individual income from wages and salaries, benefits, and all sources of income before tax. We analysed these income sources in the years before and after they received EHSNG and moved into public housing. We also linked the cohort to the 2018 Census data to retrieve information on their tenure type and housing condition (the presence of mould and damp) at the time of the census.

2.2 Hospitalisation and mental health outpatient use

Hospitalisation data were sourced from the Ministry of Health National Minimum Dataset (NMDS), containing publiclyfunded hospital discharge and event data. Transfers within or between hospitals are recorded as separate events. Mental health outpatient data were retrieved from the Programme for the Integration of Mental Health Data (PRIMHD), containing information about referrals and services provided. Outpatients, and patients receiving mental health services in an office or clinical setting rather than being admitted to the hospital overnight were identified using the activity type code.



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Fig. 1 Identification and selection of the study cohort



We excluded individuals with incomplete hospitalisation or mental health outpatient data from the post-EHSNG and post-public housing analysis. For example, the latest update made to the 'June 2023 IDI Refresh' hospitalisation data was in June 2022. Therefore, we excluded individuals who received EHSNG or entered public housing after June 2021 from the one-year post-period analysis, as there is incomplete hospitalisation information for these individuals.

2.3 Statistical methods

Chi-squared tests were used to determine the significance of differences between reported dwelling conditions by tenure at the time of the 2018 Census. The analysis was conducted using Stata 17 [49].

3 Results

There were 31,761 persons from 12,447 households included in the final analysis. Table 1 shows that the majority of the tenants were female (54.3%) and Maori (49.5%). The data also show that 56.4% of the cohort were children and young adults under the age of 25, and out of the 12,447 households, 44.2% were households with single adults and children. We used the 2018 Census to see how many of the cohort, who had never lived in public housing before 2016, had become HNZ tenants. About 40% of this cohort had been housed by HNZ when the 2018 Census was conducted. We examined the housing conditions of the overall cohort and found that 33.7% lived in damp houses and 27.9% lived in houses where there was always/sometimes mould larger than an A4-sized paper at the time of the 2018 Census. This is higher than the overall national rate for damp (21.5%) and mould presence (16.9%) [50].

We further broke down the analysis by comparing the housing conditions where the cohort lived in 2018 by tenure type. Table 2 shows that those who lived in private rentals were statistically significantly more likely to live in damp houses (38.9% vs. 33.1%, p < 0.001) and mouldy houses (33.3% vs. 26.2%, p < 0.001) compared to those whose landlord was HNZ.

The mean annual individual income from wages and salaries, benefits, and all sources of income in the year the cohort first received EHSNG was \$6,866.05, \$11,703.33, and \$20,748.74, respectively. The mean annual individual income from wages and salaries, benefits, and all sources of income in the year the cohort moved into public housing was \$6,587.21, \$13,007.74, and \$21,776.70, respectively. This suggests that by the time the cohort were eventually settled in public housing, their income from benefits had increased and their mean income from wages and salaries had declined compared to when they first received EHSNG. Figures 2 and 3 show that the individual income from wages and salaries five years



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Table 1Socio-demographiccharacteristics of the cohort	Variable		
	Sex		
	Male		
	Female		

Variable	Count	%
Sex		
Male	14523	45.7
Female	17238	54.3
Age group (years) at EHSNG receipt		
Under 16	13461	42.4
16–24	4449	14.0
25-64	12972	40.8
65 and over	873	2.8
Ethnicity (multiple ethnicities allowed)		
European	11196	35.3
Māori	15714	49.5
Pacific Peoples	11016	34.7
Asian	1602	5.1
MELAA [*]	1467	4.6
Other	219	0.7
Public housing status		
Applicant	13383	42.1
Partner	1311	4.1
Child	13455	42.4
Additional occupant	3609	11.4
Public housing household composition		
2+adults without children	534	4.3
2+adults with child(ren)	1656	13.3
Single person aged 24 years or younger	516	4.2
Single person aged 25 years +	4236	34.0
Single adult with child(ren)	5505	44.2
Landlord (2018 Census)		
HNZ	6054	40.2
Private	6015	39.9
Other	2991	19.9
Damp (2018 Census)		
Always damp	1623	10.8
Sometimes damp	3450	22.9
Not damp	5067	33.6
Others (Not stated, don't know, response unidentifiable)	4923	32.7
Mould (2018 Census)		
Mould over A4 size—always	1824	12.1
Mould over A4 size—sometimes	2379	15.8
No mould/mould smaller than A4 size	6216	41.3
Others (Not stated, don't know, response unidentifiable)	4644	30.8

*MELAA Middle Eastern, Latin American and African

after the first receipt of EHSNG and public housing entry was lower than five years before. Income from benefits after the first receipt of EHSNG and public housing entry was also higher than five years pre-EHSNG and pre-public housing entry.

Figure 4 illustrates the distribution of the number of EHSNGs a person received before settling in public housing. The data reveal that a significant majority frequently and consistently applied for the grant, as over 87% of individuals, who later got settled in public housing, required more than one EHSNG. The median number of EHSNGs was six, and over 20% needed more than 15 EHSNGs before being successfully settled in public housing. More than half (53.2%) of those needing more than 15 EHSNGs were Maori and 32.9% were Pacific Peoples.



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Table 2	Damp and mould
presence	e by tenure type at
the 201	8 Census

	HNZ		Private		Other		
	Count	%	Count	%	Count	%	
Damp (5073, 33.7%)							
Always damp	654	10.8	780	13.0	189	6.3	
Sometimes damp	1350	22.3	1557	25.9	543	18.2	
Not damp	1968	32.5	1866	31.0	1230	41.1	
Other (Not stated, don't know, response unidentifiable)	2082	34.4	1812	30.1	1029	34.4	
Mould (4203, 27.9%)							
Mould over A4 size—always	690	11.4	909	15.1	225	7.5	
Mould over A4 size—sometimes	894	14.8	1092	18.2	390	13.0	
No mould/mould smaller than A4 size	2544	42.0	2316	38.5	1359	45.5	
Other (Not stated, don't know, response unidentifiable)	1926	31.8	1698	28.2	1017	34.0	







Fig. 3 Average annual income five years pre- and post-public housing entry

Figure 5 illustrates the distribution of the time interval between receipt of the first EHSNG and the final settlement in public housing. Over 80% of people required more than two months to be settled in public housing after receiving their first EHSNG, with a median waiting period of eight months. Notably, more than 15% of individuals waited more than two years to enter public housing.

Figure 6 shows the dynamic changes in hospitalisations over a five-year period before and after the first EHSNG receipt and settlement in public housing. It indicates a steady increase in hospitalisations when individuals begin to experience homelessness. For instance, five years prior to the receipt of an EHSNG, the hospitalisation rate was below 0.3 but it rose to over 0.5 upon approval of an EHSNG. Similarly, the hospitalisation rate five years before entering public housing was 0.33, and it steadily increased to over 0.5 before moving in. More importantly, Fig. 6 reveals that hospitalisations drop significantly after entering public housing compared to emergency housing. Following the











Fig. 5 Distribution of the number of months after the first EHSNG before settling in public housing

Fig. 6 Hospitalisation trajectories five years before and after entering emergency and public housing

approval of an EHSNG, hospitalisation decreased to around 0.4, remaining higher than the level recorded five years prior to the application. However, after moving into public housing, there was a significant drop in hospitalisations to below 0.3, even lower than the level recorded five years before entering public housing.

Figure 7 shows the dynamic changes in mental health service interaction over a 5-year period before and after the first EHSNG and settlement in public housing. It depicts a steady increase in mental health outpatient events before the receipt of an EHSNG and prior to entering public housing. The average number of mental health outpatient events continues to rise even after the first receipt of EHSNG, peaking over six. Unfortunately, mental health outpatient events did not return to pre-homelessness levels, even several years after EHSNG receipt. However, five years after settling in public housing, mental health outpatient events experience a significant drop reverting to a level even lower than the original rate.



Fig. 7 Trajectories of mental health outpatient events five years before and after entering emergency and public housing



4 Discussion

In our study, we describe the socio-demographic characteristics of our emergency housing cohort and their health and social outcomes. More than half of households (7,161, 57.5%) in our study have at least one child. This could be an indication that families with children are often prioritised. The cohort is composed mainly of children and young adults (56.4%), highlighting the issue of homelessness among these two groups. There is growing evidence that life opportunities are highly affected by the place where a person grows up, especially for children [51, 52]. Living in emergency housing before being settled in public housing means that these children had to move houses and change schools, friends, and ultimately their social networks. This is often more difficult for children if they are moved to socio-economically segregated and impoverished neighbourhoods [53]. Previous research has reported the importance of social networks in the health and wellbeing of children in public housing [54]. Children in emergency or public housing are a vulnerable population due to their parents' economic situation. This is because living in public housing. We know from an increasing amount of research that temporary housing, which inevitably increases the instability of tenants' lives, is particularly disruptive for children [52, 53, 55].

There is compelling evidence of discrimination against Māori, though literature exploring institutional racism as a key driver for Māori housing inequalities is limited [6, 56]. The effects of income inequality, housing unaffordability, and the subsequent impacts on health and wellbeing disproportionately impact on Māori [57]. The high prevalence of Māori in this cohort reflects the inextricable link between colonisation and its evolving impacts on housing outcomes for Māori today [58–60]. The lack of exploration into the racialised disparities in housing outcomes may result in the continuation of sustained higher homelessness among Māori and severe housing deprivation due to inaction on racial disparities [6, 56]. Mills et al. [61] in their study on post-prison housing experiences revealed that Māori are disproportionately represented in unstable housing situations, being twice as likely as non-Māori to experience severe housing challenges. Additionally, Houkamau and Sibley [62] discovered that individuals who were perceived as fitting stereotypical Māori characteristics were less likely to be homeowners compared to other ethnic groups in Aotearoa NZ.

One in three persons (33.7%) in the cohort lived in damp houses at the time of the 2018 Census. This is higher than the national rate of one in five persons (21.5%) [50]. Those living in private rentals were more likely to be living in damp houses than those living in public housing. Although damp varies by tenure type, both private and public housing tenants lived in sub-optimal conditions. Nationwide, visible mould larger than an A4 sheet of paper was reported by 16.9% of households in the 2018 Census [50], which was lower than the 27.9% of households in the cohort. The 2018 Census was conducted before the Healthy Homes Standards (HHS) became law in 2019 [63]. Existing public and community rental properties were required to meet the HHS by 1 July 2024, so housing conditions are likely to have improved since then; private rental housing have until 1 July 2025 to be fully compliant [64].

Indoor residential mould has negative health impacts, increasing the risks of respiratory symptoms and infections, allergy conditions, and is an emerging health concern for chronic multiple-symptom presentations such as hypersensitivity pneumonitis, allergic alveolitis, chronic rhinosinusitis and allergic fungal sinusitis [23, 65]. The mean rates of hospitalisation five years pre-and post-EHSNG, and five years pre-and post-public housing were higher than the 0.224 national average in Aotearoa NZ reported in 2018/19 [66]. Our results show that people in the cohort were more likely

to live in houses that were damper and mouldier than the average Aotearoa NZ population at the time of the 2018 Census, which could have had a detrimental effect on their health. Aotearoa NZ is an outlier in the OECD both in terms of its "notably poor housing standards" and the fact that it is one of the few countries where public housing has a better indoor environment and tenure security than private rentals [47, 67]. The findings of this study confirm this situation, as people in the cohort living in private rentals were more likely to be living in damp houses than those living in public housing. Given that poor housing is detrimental to health and wellbeing—particularly among children and older people [67]—it is little surprise that public housing in Aotearoa NZ has stronger positive impacts on mental and physical health than emergency housing.

Poor housing conditions in rental accommodation are likely to be due to rental housing stock being generally older than owner-occupied houses, with more surface and interstitial condensation being responsible for indoor residential mould [65]. However, leaky building defects in newer housing can also lead to mould. The existing body of evidence on the impact of damp and mouldy homes on health—which was worse in rental properties than in owner-occupied homes—prompted the establishment of the HHS law that addresses this [68–71]. The HHS aim to ensure rental properties are warm and dry through heating, insulation, ventilation, draught stopping, moisture ingress and drainage [72]. While the nature of public housing governance means that it is possible to track how many public houses are compliant with the standards, no such mechanism exists in the private rental system. The central government does not collect data on how many private rentals are compliant, and the number of compliance checks carried out is low (roughly 1,000 per year) considering approximately one-third of Aotearoa NZ households are renting [73–75]. Considering the overall poorer quality of private rental houses in Aotearoa NZ, we expect that the private rental system and accommodation used for emergency housing would have lower rates of compliance with the HHS than public housing.

After being provided both with the EHSNG and then with public housing, tenants' mental health improves, and their number of hospitalisations decreases. This effect, however, is more pronounced after public housing provision, than after receiving EHSNG. The hospitalisation rate and mental outpatient events dropped to 0.30 and 3.76, respectively, five years after public housing provision. The hospitalisation rate and mental outpatient events dropped to 0.38 and 5.35, respectively, five years after an EHSNG receipt. This reflects findings from the international literature that all forms of public housing provision appear to have positive impacts on tenant wellbeing from the baseline of homelessness/severe housing deprivation, but that these impacts vary by tenancy type [26, 27]. People are required to provide an address when enrolling in general practice (GP) and mental health facilities. Receiving an EHSNG allows individuals to better access healthcare, which may explain the initial increase in mental health outpatient visits after receiving an EHSNG. However, EHSNG recipients do not enjoy the tenure security and wraparound support that public housing tenants receive, which leads to a substantial difference in health and well-being improvements. Specifically, the different economic and political determinants at play in emergency and public housing speak to a broader set of assumptions about public housing provision in Aotearoa NZ. While Labour governments are more likely to intervene directly in the housing market through the provision of public housing, National governments have increasingly relied on rental subsidies and tax incentives to the private sector to address the growing shortage of affordable housing—subsidising private landlords and moteliers to provide affordable and emergency housing through mechanisms such as the Accommodation Supplement and the EHSNG [47]. The state-provision and market-provision of affordable housing respond to different economic and political demands, and consequently provide very different standards when it comes to housing guality, residential (in) stability, and housing (un)affordability.

In contrast to public housing—which was intended throughout most of the twentieth century to improve quality and affordability in the private rental market by directly competing with it—the private rental market responds to pressures from the economic system and is consequently incentivised to maximise income while minimising costs within the bounds of the existing regulatory framework [76]. The private rental market in Aotearoa NZ has historically been incredibly under-regulated. Until the introduction of the HHS in 2019, housing followed the outdated standards set by the Housing Improvement Regulations of 1947 [67, 77]. Despite recent efforts, such as the introduction of the HHS, to improve housing quality in Aotearoa NZ, these standards do not apply to the many motels and boarding houses that provide emergency accommodation [78]. Emergency housing, by definition, is temporary. Living in housing that lacks the security of tenure tends to undermine stable access to schools, services, employment, and tenants' families and communities—with broader impacts on wellbeing [79]. The private rental market tends to provide poorer security of tenure than public housing and homeownership, which has notable impacts on wellbeing [37].

The emergency housing system provides an even less secure form of accommodation than private rentals. Emergency housing is intended to be a short-term measure to provide shelter before tenants are provided with greater stability through public housing, although this short-term intention is rarely borne out in practice [78]. Moreover,



in 2020, the Sixth Labour Government removed emergency and transitional housing from the Residential Tenancies Act—further reducing the residual stability emergency housing may offer [78]. Individuals may be required to depart due to misconduct and subsequently need to reapply for the EHSNG to secure further accommodation. Recipients of the EHSNG are frequently uninformed about behavioural standards, and there is also insufficient accountability among providers for the fair treatment of emergency housing clients [7, 78]. Public housing in Aotearoa NZ traditionally provides a much greater level of security and stability than private rentals due to the possibility of lifelong tenancies, although this has been undermined in recent years. In 2013, the Fifth National-led Government introduced reviewable tenancies, which sought to move people out of public housing [79]. The Sixth Labour-led Government instituted Sustainable Tenancy policies and ended tenancies sparingly, but reviewable tenancies for public housing were reinstated by the Sixth National-led Government in 2024.

Beyond questions of wraparound support and residential stability, the recent resurgence of neo-liberal ideologies has created a situation where the social and economic determinants of health are distributed in an increasingly unequal manner [80]. Emergency and public housing as a safety net can alleviate some of the economic stressors on health and wellbeing, but the finding that incomes—both from wages and salaries and from social welfare benefits—remained very low across the cohort after receiving an EHSNG, or being provided with public housing, shows that underlying economic marginalisation has not been addressed. The incomes of the cohort before and after the housing interventions simply do not match the cost of living. The cohort of this study is not alone on this—many people on benefits or low incomes cannot afford private rental housing in Aotearoa NZ [81]. Aotearoa NZ's housing is the least affordable in the OECD [82], surpassing international measures of housing affordability (where more than 30% of one's income is spent on rent or mortgage payments), almost one in four renters and more than one in ten homeowners pay more than 40% of their income on housing [83]. This mismatch between incomes and housing costs is reflected in the growing demand for both emergency and public housing.

Our results demonstrate that the state provision of public housing leads to increased positive outcomes in terms of physical and mental health than subsidising private landlords and moteliers to provide emergency housing through EHSNGs. In the immediate sense, EHSNGs can be seen as an acute answer to a chronic problem—providing cash payments to private landlords to temporarily reduce financial pressure on economically marginalised tenants. The high rate of repeat applications for EHSNGs, along with the rapidly growing Housing Register—which contains eligible applicants who have been assessed but not currently placed in public housing, suggest that the lack of available public housing and a gross undersupply of affordable private rental housing function as barriers to exiting emergency housing. This finding is consistent with a government review of housing [84] which determined that the current system is overly reliant on the EHSNG. Ultimately, public housing is much more effective at reducing the negative health and wellbeing impacts associated with poverty and housing deprivation, yet despite the recent historical increase in public housing, it is still inadequate to provide support to all who need it. This highlights the urgent on-going need for quality, stable, timely, and accessible public housing.

The results of our study are limited to those who eventually made it into public housing. Information on those who applied for and received EHSNG and never made it into public housing is not captured in our study. Given this, future studies could explore the similarities and differences between the cohort that got into public housing and those that did not. In our analysis of income data, we were also unable to adjust for inflation. This is because the income period for each person spans different times, which makes it difficult to obtain a comprehensive and consistent inflation adjustment. For example, an individual who received their first EHSNG in 2016 will have their five-year income data from 2011 and 2015, while another 2020 EHSNG recipient's five-year income data will be from 2015 and 2019. Given this challenge, we presented the income data in nominal terms without adjusting for inflation, while acknowledging its potential impact on the interpretation of our results. The number of grants applied for and the months it took to be eventually settled into public housing could have been influenced by some factors which are not captured in our study. For instance, those who apply for public housing are often placed on the Housing Register. The length of time it takes to get into public housing depends on the urgency of one's needs, the number of other people with urgent needs on the list, the definitions of needs by different governments, and the availability of a suitable property [85]. It is also possible that those who sought assistance from housing-related agencies and non-governmental organisations are more likely to have their applications fast-tracked due to the institutional knowledge and advocacy of service providers compared to those who made their applications by themselves [86, 87].

5 Conclusion

Children, young adults, females, single adults with children, and Māori are over-represented in this housing cohort. This highlights the risk of homelessness among these groups. Public housing offers more stable and secure housing tenure and better indoor housing conditions compared to private rental housing. There are significant health and wellbeing benefits of being settled in public housing compared with being in emergency housing. This establishes a clear prima facie basis in health and wellbeing for the government to continue to fund and build more affordable and accessible public housing.

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Data availability Data were accessed with the permission of Statistics New Zealand under their 'five safes' framework. All data are de-identified and only accessible via a secure connection from approved datalabs. Data and results must be aggregated and anonymised in accordance with Statistics New Zealand protocols. All results are checked for confidentiality by Statistics New Zealand prior to their release from the secure environment. These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI), which is carefully managed by Statistics New Zealand. For more information about the IDI, please visit https://www.stats.govt.nz/integ rated-data/. The results are based in part on tax data supplied by Inland Revenue to Statistics New Zealand under the Tax Administration Act 1994 for statistical purposes. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes and is not related to the data's ability to support Inland Revenue's core operational requirements. Access to the data used in this study was provided by Statistics NZ under conditions designed to give effect to the security and confidentiality provisions of the Data and Statistics Act 2022. The results presented in this study are the work of the author, not Statistics NZ or individual data suppliers.

Declarations

Competing interests Philippa Howden-Chapman was a director on the board of Kāinga Ora—Homes and Communities (formerly Housing NZ), the public housing authority (2018–2024). The views expressed here are her own and the authors and do not necessarily represent the views of the board.

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