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Version: Published Version

Article in Press

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Stratifying areas at risk of housing insecurity among families with children: a

multidimensional index for the improvement of policy interventions in England

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Abstract

Background

Housing insecurity resulting from multiple, involuntary residential moves is detrimental to

the health and wellbeing of families with children. Policy makers seeking to mitigate these

negative effects require a measure of risk of housing insecurity. Here we present the

development of a novel risk index for England.

Methods

We undertook a literature review to select drivers of housing insecurity and identify relevant metrics. We recruited a practitioner panel to rank and weight these metrics using a Likert survey. The weighted metrics were summed for each small area (Lower Super Output Area) in England to produce the overall risk score. The score was then stratified into five levels, from very low to very high, linked to geographical units for data mapping. The final index (called the "Families at Risk of Housing Insecurity Index") was made available on a public data platform.

Results

Eight drivers of housing insecurity were identified from the literature review as follows, (variable type and weight shown in brackets): primary school pupils eligible for free school meals (%, 0.5); income deprivation affecting children (%, 0.5); residential mobility (decile, 0.4); lone parent households (%, 0.3); pre-1919 dwellings (%, 0.3); households in fuel poverty (%, 0.3); households with dependent children in which the reference person is of Asian or Asian British, Black, Black British, or Caribbean ethnicity (%, 0.2); mental health (Small Area Mental Health Index; decile, 0.1).

Analysis of the index indicated a highly varied distribution of risk across England. Two noteworthy findings were the greater proportion of very high risk areas in Greater London, possibly indicating the impact of higher living costs in the capital city region. The index also suggested there were areas at higher risk in generally more affluent settings, possibly due to a greater proportion of older housing stock in these locations.

Conclusion

The Families at Risk of Housing Insecurity Index (FRoHII) was composed of metrics from public datasets at the small area level. The index provides a public resource to help identify areas where families with children might be at risk of housing insecurity. The index constitutes a tool and resource for professionals seeking to provide support to families within their catchment areas.

Keywords

Housing insecurity, children and young people, family health and wellbeing, multidimensional risk index, public data, homelessness

List of abbreviations

IMD Index of Multiple Deprivation

LSOA Lower Super Output Area

FRoHII Families at Risk of Housing Insecurity Index

SAMHI Small Area Mental Health Index

Introduction

Secure housing has been shown to support families' capabilities to live well (Sen, 1997; Kimhur, 2023; Hock et al., 2024). Problems in achieving secure housing, stemming from poor physical housing conditions and impermanence of tenure, have been linked to wider problems in social inequalities, inclusion and accessibility, and hazardous exposures (Mansour et al., 2022; DeLuca and Rosen, 2022, Carrere et al., 2022), which also affect the

health and wellbeing of dependent children (Gómez-Quintero et al., 2020; Hock et al., 2024).

Housing insecurity is a structural, dynamic and often 'semi-permanent' situation for family households (OECD, 2023a). It is also an international problem. For example, around 13% of households across all developed and developing nations have recently reported experiences of housing insecurity (ibid.). A common cause of housing insecurity across nations relates to increased housing expenditures in relation to household income (OECD, 2023b). For instance, the World Health Organization maintains that housing is unaffordable where 30% or more of income is spent on housing costs. For comparison, UK private renters in 2022 spent an average of 33.8% of income on housing, rising to 35% in London (McNally and Lally, 2024).

However, analysis of the underlying conditions of housing insecurity cannot be reduced to isolated drivers such as low income or eviction practices (DeLuca and Rosen, 2022), and must also account for its socially complex and place-based situation (cf. Murdoch et al., 2023; Boateng and Adams, 2023; Farero et al., 2024). This increase has also been driven by a lack of suitable housing, and social factors including relationship breakdown and discrimination (DeLuca and Rosen, 2022; Hock et al., 2024). Specific to nations within the United Kingdom, landlords have been able to electively end tenancies (under Section 21 of the Housing Act 1988), and there is widespread aging and substandard housing stock (Children's Society, 2020).

In seeking to develop a place-based understanding of risk of housing insecurity among households with dependent children, we have developed a risk index with a specific focus on stressors in England, as a developed nation, that may be objectively and systematically mapped on a small area basis. We have focused on this discrete national context to maintain the consistency of the public, small area data that underpin the index. We have also drawn from a conceptualisation of housing insecurity specific to the United Kingdom: resulting from residential moves that are involuntary, forced or reactive, and related to poverty, among families with dependent children (Mahony, 2020).

Insecure housing has been shown to be detrimental to residents' physical and mental health; moreover, insecure housing itself presents a barrier to accessing key services (Shaw, 2003; Shelter, 2017; Mason et al., 2024). It has also been recognised as detrimental to children's cognitive and social development, educational attainment, safety and physical and mental health (Hutchings et al., 2016; Children's Society, 2020).

The complex and contextualised character of housing insecurity presents a challenge to researchers seeking to formulate a unifying measure of risk (Leopold et al, 2016). In this paper we present a composite index of housing insecurity that: i) reflects evidenced drivers of risk as identified by a literature review, ii) is compiled using public datasets, and iii) reflects metrics that have been prioritised by housing practitioners.

Aims

This research set out to develop a risk index of geographic areas affected by housing insecurity, and to stratify levels of risk to help locate areas that house at-risk families. We

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sought to highlight both areas of the highest risk, and areas with a higher risk than might otherwise be expected if markers of deprivation were to be considered alone. Given the social and place-based complexity of housing insecurity, which our literature review has highlighted, the question for our present research is: Can we develop an evidence-based risk index of housing insecurity affecting families with dependent children that might help practitioners to locate areas, at the smallest scale possible, where risk is greatest? We hope that locating areas based on evidence in this way might improve the application of resources to where they are most needed.

The research sought to draw directly from the literature on housing insecurity to identify key drivers, to select small area metrics from public sources associated with specific pressures of housing, family life, and wellbeing, and finally to gather advice for metric ranking from housing practitioners. Our overall objective was to develop a stratified risk score for open publication that is available to and used by housing practitioners.

Review

A literature review was conducted under critical appraisal principles (CEMB, 2025) to identify the key drivers of risk of housing insecurity in England. The literature was found to be diverse, comprising peer-reviewed qualitative research and systematic review articles, detailed qualitative and quantitative reports by housing and homelessness organisations, and government statistical reports. The literature also comprised reports of separate indices of housing insecurity and were included in the review for comparison.

The publications were sourced through keyword searches in academic journals, web-based repositories, and online government repositories. Inclusion criteria were:

- Framing of independent research in terms of the impacts of housing insecurity, or aspects of homelessness, on health and wellbeing of families with children.

- Relevance to the context of the housing crisis in England.

- Timeliness - research was published after the onset in 2010 of the UK austerity programme (cf. Oxfam, 2013).

The literature review served to identify the following drivers of housing insecurity: cost-of-living, insecure tenure or potential for insecure tenure, relationship breakdown, quality of housing, quality of living environment, ethnicity, and mental health. For each indicator we also reviewed metrics that might reflect these drivers at the small area level. These are presented in the Results section, Table 1, and are reviewed in detail below.

Cost-of-living is a major economic indicator for risk of housing insecurity (Hock et al., 2024). In the UK, as many as 15% of private rental tenants have experienced a rent rise proportionally greater than their increase in earnings (Shelter, 2021). Currently, housing costs account for up to 38% of expenditure for rented households, compared to just 19% for those in owner-occupied properties (MHCLG, 2023a). As a result, many families have been forced to cut back on essentials such as heating and food, with negative effects on family health (Shelter, 2021).

Insecure tenure is strongly associated with housing insecurity. Currently in England, 19% of all households, and 34% of households with dependent children, are in the private rented sector, which is more than double the number 15 years ago. Most are supported by tenancies of less than one year (MHCLG, 2023b). Across English regions, 24%-38% of private rented sector dwellings fail to meet the Decent Homes Standard (MHCLG, 2024).

Relationship breakdowns have been shown to be a preceding factor in homelessness (Forty, 2008). The UK homelessness charity, Centrepoint, reported that two thirds of young people who come into contact with their service do so following a relationship breakdown (Centrepoint, 2016). For families with children, divorce or separation are drivers of housing insecurity, and lone parents typically move into private rented or social housing (Mikolai and Kulu, 2017).

A further measure of housing insecurity is that some regions of England have concentrations of old housing stock. More than one third of private rented properties were built prior to the Housing Act 1919, which stipulated improved building regulations. Around one third of dwellings built before 1919 have been shown to fall below government standards for habitation, repair, facilities, and comfort (MHCLG, 2025).

Residents from ethnic minority backgrounds are more likely to experience poor quality housing, and to face difficulties in finding secure housing due to discrimination (Shelter, 2021). Residents from ethnic minority backgrounds also more likely to remain in overcrowded accommodation while remaining close to community support (Fitzpatrick, Watts & McIntyre, 2024).

Fuel poverty is associated with rising energy prices outstripping householders' means to pay energy bills (Corlett et al., 2022). This trend results in cold and damp living conditions that are detrimental to the physical health and wellbeing of residents (cf. Marmot Review Team, 2011), including parents and their children (Mohan, 2021; Mohan, 2022).

Housing insecurity is detrimental to residents' mental health; associated with anxiety, stress, depression, and poor sleep (Mason, Alexiou & Taylor-Robinson, 2024). However, other housing problems, including energy poverty and short-term tenures similarly have negative impact on residents' mental health (Carrere et al., 2022). Mental health problems also affect residents' capabilities to deal with housing problems (cf. Diggle et al., 2017).

Other risk indices of housing and health

Several studies have sought to produce indices for the inter-dependencies of housing, daily living and wellbeing (Robeyns, 2005; Jessiman et al., 2021; Murdoch et al., 2023). For example, Ndaba et al. (2024) presented a weighted score for housing insecurity based on findings of a participatory survey in the context of housing in South Africa. Elsewhere, Boateng and Adams (2023) presented a multidimensional risk model of housing insecurity based on factor analysis from participatory surveys specific to informal settlements in Ghana, including aspects of shelter quality and tenure status. Further, a housing quality risk index for France was developed by Richard et al. (2023) from a composite, unweighted score for the impact of physical housing and service accessibility characteristics on residents' health. The factors included in this index were derived from an independent health advisory report and tested through site visits of 27 homes of vulnerable residents.

Development of the index described in this paper differs from those cited in this section. For instance, Ndaba et al. (2024) and Boateng and Adams (2023) have depended on participatory data gathered in specific locations. Whereas Richard et al. (2023) have developed an administrative tool to assess individual dwellings. Alternatively, the Housing Insecurity Index 2020: England and Wales (City Monitor, 2020), has offered an index based on risk metrics aggregated to the local authority scale. However, the index does not account for the high variation in real or potential risk that exists within local authority boundaries.

We have sought to distinguish our novel index to those presented in this review by ensuring it is uniformly based on systematic public data, is repeatable with periodically updated metrics, and is inter-operable among different administrative areas.

Methods

The evidence from the literature review of drivers for housing insecurity risk was used to create an unweighted dataset, featuring eight metrics for each small area (Lower Super Output Area, LSOA) in England. LSOAs are the smallest area units for the collation and publication of census data in the UK. LSOA boundaries are drawn around residential population clusters, and typically encompass around 1,000-3,000 individuals, or 400-1,200 households. In building the index from the LSOA level we limited the metrics to data that were collected and published at the LSOA level, or else could be imputed reliably from geo-coded data sources. Small area metrics were either calculated as percentages or stratified into deciles.

We sought to add weight to the metrics, so that those with higher impact would make a greater contribution to the overall risk score. To add correct weight to the metrics, we conducted a survey among a panel of housing practitioners to rank each indicator in order of importance to the risk index. This process of consensus-seeking from a practitioner panel has been highlighted as critical to effective risk modelling (Alkire, 2008; Fischoff & Morgan, 2009; Aggarwal, 2016).

The practitioner panel consisted of 29 participants working in the field of housing, either as local authority or third-sector officers. The participants were recruited through an open invitation among senior practitioners. The invitation was open to any housing officer or senior professional with two or more years of professional experience. The invitation was limited to six local authority partners, which evenly represented councils located in both northern and southern areas of England, including Greater London, and rural and urban areas. Each practitioner had at least two years' professional experience in a housing field, with one third having more than 15 years' experience.

We invited the housing practitioners to respond to a Likert-scale survey using a web-based format. The survey was composed of a set of statements, which were derived from the literature review to reflect the main drivers of risk. Practitioners' responses were collated, and the balance of responses was interpreted by the researcher to rank and weight the metrics for inclusion in the index. The statements, responses, interpretations, ranks and weights are provided in Appendix 1. The researcher then applied an established method for devising multidimensional indices (Alkire, 2008) to convert the ranked metrics to numeric weights (Table 2). Applying numeric weights in this way helps to prevent the index from

clustering around the middle range of values. Instead, it allows for areas of extreme high or

low risk to be highlighted.

Results

A complete list of drivers and data sources as contenders for the housing index is shown in

Table 1. The list of metrics selected from the practitioner panel are also shown in Table 1,

including some additional notes about selection and processing of the metrics.

Table 1. Drivers, associated metrics, data sources, and denominators used to compose the

index.

Drivers	Metric	Datasets and sources	Denominator
Cost-of-living affecting households with dependent children	% primary school pupils eligible for free school meals	HM Government Schools, pupils and their characteristics 2023/24 For LSOAs with missing data, the mean rates were imputed based on nearest neighbour; in proportion of the ratio of 0-15 to 18-64 year olds in those areas	Total school pupils in state-funded primary schools
Income deprivation	Income Deprivation Affecting Children (IDACI 2019)	Ministry of Housing, Communities & Local Government. Indices of Deprivation 2019: Income Deprivation Affecting Children Index (IDACI)	Total households with dependent 0-15 year olds

Insecure tenures	Residential Mobility ('churn')	Consumer Data Research Centre (CDRC) Residential Mobility	Total residential moves at index year
Relationship breakdown	% lone parent households with dependent children	Office for National Statistics (ONS): TS003 - Household composition variable: Census 2021. Single family household: Lone parent family: With dependent	Total households with dependent children per LSOA
Potential for insecure tenure	% of private rented households	ONS: TS054 – Tenure: Census 2021	All households per LSOA
Quality of housing	% pre-1919 properties	CDRC Dwelling Ages and Prices	Total dwellings per LSOA
Quality of living environment	% households in fuel poverty	Department for Energy Security and Net Zero (DESNZ) / Data Mill North	Estimated number of households per LSOA
Ethnicity	% Households with dependent children in which the reference person is of Asian or Asian British Black, Black British, or Caribbean ethnicity	ONS England and Wales Census 2021 - RM058: Household composition by ethnic group of Household Reference Person	Total households with dependent children
Mental health	SAMHI score	PLDR: SAMHI (Daras and Barr, 2021)	Total general population

Notes on selection of metrics

The rationale for selecting certain metrics itemised in Table 1 has been outlined as part of the literature review. Here, we provide additional details about selections of other metrics itemised in Table 1.

We selected Eligibility for Free School Meals among primary school children, an annual school data metric, as a proxy for the impact of hardship on families with children. Crucially for the composition of the index, this metric is derived annually from successful applications for free school meals based on household hardship. The National Travel Survey (DoT, 2024) has revealed that most primary school children live locally to their school. For this reason, the eligibility value approximates levels of household need within the school catchment. We imputed mean values for neighbouring LSOAs in proportion to the ratio of primary school-age children to the working-age population. The Eligibility for Free School Meals metric serves to add up-to-date nuance, albeit estimated, to the census metric Income Deprivation Affecting Children (outlined below).

We selected Income Deprivation Affecting Children from 2019 population data, to reflect the proportion of 0-15 year olds living in families experiencing income deprivation. These relate to a working-age household member being in receipt of unemployment or low-income benefits. Additional details are available via MHCLG (2019).

We selected the Residential Mobility metric to reflect the frequency at which households change tenancies. This metric is released annually by the Consumer Data Research Centre and is compiled at the LSOA level from electoral registers, consumer registers and land registry house sale data. Areas with higher residential mobility ('churn') and higher levels of

socio-economic deprivation were deemed to reflect an underlying potential for housing

insecurity.

We selected the Small Area Mental Health Index (SAMHI; Daras and Barr, 2021) to reflect

the circular relationship between housing pressures and mental health problems. The

SAMHI is composed from individual-level primary data, including residential area identifiers,

derived from mental health related hospital attendances, medical prescriptions, and

benefits claims. While we were unable to link these data directly to housing issues, our

literature review has shown that people experiencing poor mental health are more likely to

struggle with housing problems.

<u>Metric ranking</u>

The practitioner panel ranked the finalised risk metrics with an associated numerical

weight to compose the overall score. The risk score was calculated for each LSOA in England,

and categorised on a range from 0-10, where 0 represented no risk and 10 represented

highest risk. Some areas with little to no residential housing were marked as having 'no

data'.

Table 2. Risk model variables, types, and weights for score calculation.

Variable	Type	Weight
Eligibility for free school meals	Percentage	0.5
Income deprivation affecting children	Decile	0.5
Residential mobility ('churn')	Decile	0.4

Pre-1919 housing stock	Percentage	0.3
Households in fuel poverty	Percentage	0.3
Households with lone parents	Percentage	0.3
Households with dependent children in which the reference person is of Asian or Asian British Black, Black British, or Caribbean ethnicity	Percentage	0.2
Mental health index (SAMHI)	Decile	0.1

Risk score aggregation: English regions

We compared the proportion of LSOAs falling into risk score categories with the proportions of households with children located in sub-national regions (Table 3). Regions in England showed different proportions of small areas with households with children at moderate and high risk of housing insecurity (Figure 1).

The regions feature variation across each housing insecurity risk level. For instance, in Greater London, 33% of households with dependent children are at low risk of housing insecurity, compared to 73% in East England. Furthermore, Greater London features a higher proportion of households at moderate risk, with 45% falling within this category, compared to 13% in East England, and the greatest proportion of households at high risk, with 19% being in this category compared to 2% in East England. Regions featuring a greater proportion of households at high to very high risk include the North West (12%), West Midlands (10%), and Yorkshire and the Humber (10%); all percentages here are approximate.

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Table 3. Households with children at relative risk of housing insecurity, mean percent by English region (<1 = less than 1%).

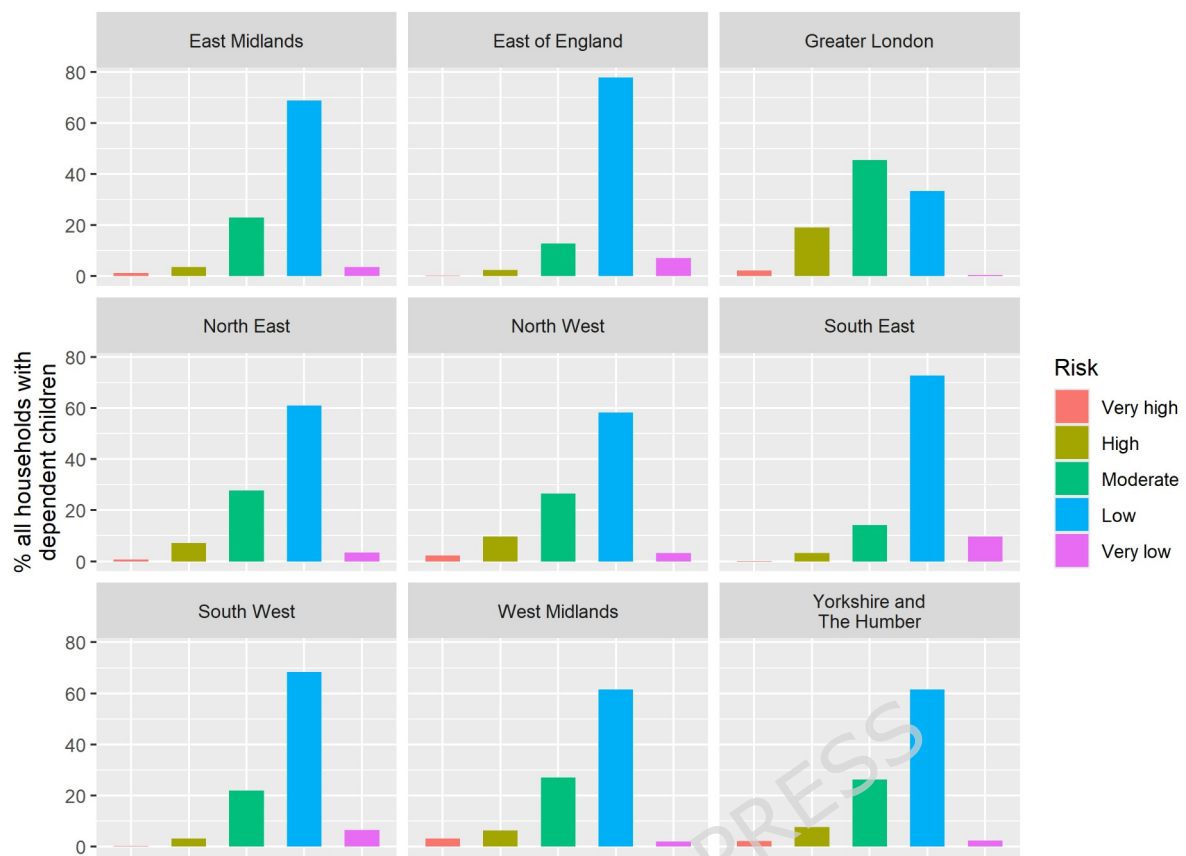| Region	Very high	High	Moderate	Low	Very low
East Midlands	1.28	3.48	22.99	68.76	3.5
East of England	0.15	2.3	12.72	77.71	7.12
Greater London	2.14	18.92	45.37	33.22	0.34
North East	0.61	7.07	27.8	61	3.52
North West	2.25	9.72	26.45	58.31	3.27
South East	0.05	3.15	14.27	72.76	9.75
South West	0.19	3.18	21.85	68.29	6.5
West Midlands	3.21	6.27	27	61.55	1.93
Yorkshire and The Humber	2.21	7.66	26.3	61.48	2.35

Figure 1. Proportions of households with children in each risk category for English regions.

Risk score aggregation: multiple deprivation

We compared the risk scores for each small area (LSOA) to the Index of Multiple Deprivation

(IMD) quintiles, where quintile 1 represents the most deprived areas. As income deprivation

is a major factor in housing insecurity, we found a linear relationship between housing

insecurity and deprivation (Figure 2): as deprivation increases, generally so does the risk of

housing insecurity. However, the housing insecurity index shows some useful departures

from the deprivation pattern. Figure 2 indicates that households in less deprived areas also

experience a medium to high risk of housing insecurity: about 20% in quintile 3 (moderately

deprived), 10% in quintile 4 (less deprived), and 4% in quintile 5 (least deprived).

We sought to identify any specific factors that might increase risk of housing insecurity in some areas within these IMD quintiles. Analysis of these factors is presented as part of the Discussion, below. This information is important for allowing local authorities to develop more targeted approaches to reducing housing insecurity overall.
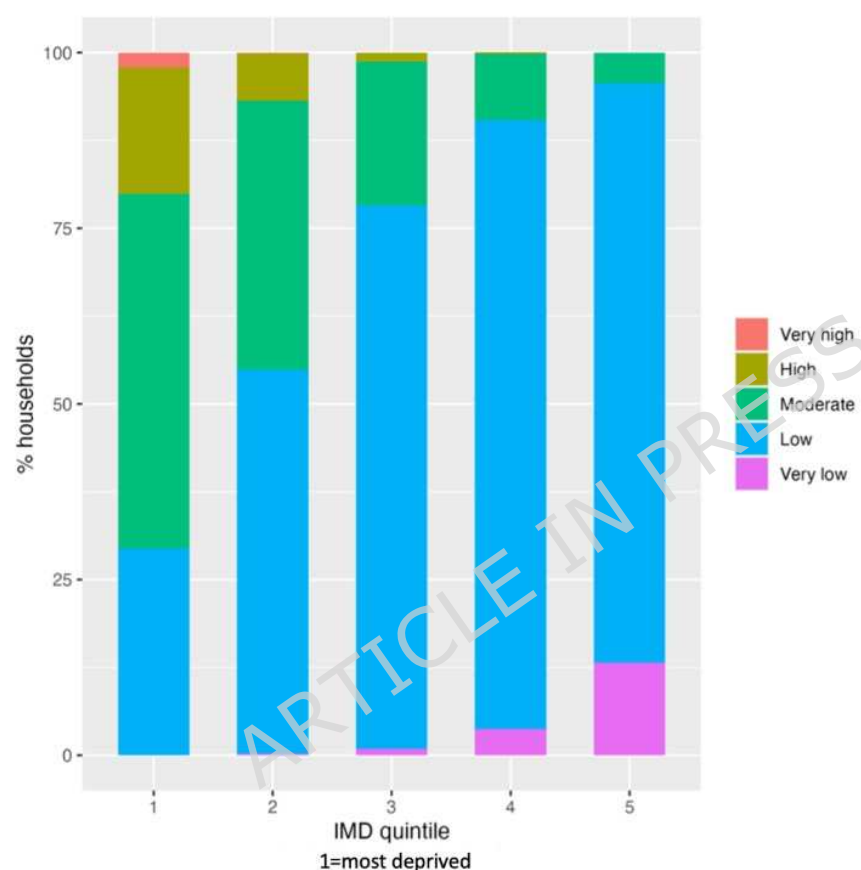

Figure 2. Estimated percentage of households in areas of relative risk of housing insecurity by Index of Multiple Deprivation quintiles (1=most deprived).

Discussion

Our research set out to answer the following question: Can we develop an evidence-based risk index of housing insecurity affecting families with dependent children that might help practitioners to locate areas, at the smallest scale possible, where risk is greatest? The

research outlined in this paper led to the successful creation of the Families at Risk of

Housing Insecurity Index (FRoHII), for estimating the proportions of families with dependent

children at risk of housing insecurity. The index was created at the small area scale using

English public data, including relevant and timely datasets.

Working with public datasets has served to create an index that is inter-operable between a

range of housing and homelessness domains, including local authority services, charitable

organisations, or academic researchers. The drivers are not dependent on domain-specific

surveys and have been informed by evidence from the housing insecurity literature. The

metrics were validated by a practitioner panel, which were ranked and weighted for the risk

score calculation. This weighting process meant that the metrics contribute to the index in

proportion to their importance.

The FRoHII adds to an expanding body of work seeking to better capture the complex and

multidimensional nature of housing insecurity. Recent literature has highlighted how

traditional deprivation measures fail to capture key stressors such as tenure instability,

housing quality, and mental health (Leopold et al., 2016; Mansour et al., 2022; Hock et al.,

2024). The FRoHII advances this agenda by integrating these dimensions at a small area

scale, demonstrating that housing insecurity is not confined to areas of highest deprivation

but may also be shaped by specific structural and spatial factors, such as concentrations of

pre-1919 housing stock. This aligns with Murdoch et al. (2023) and Jessiman et al. (2021),

who argued for the need to develop indices that reflect the relational and place-based

determinants of health. The finding that risk is also elevated in relatively affluent regions

aligns with international evidence that local housing markets and physical infrastructure can

amplify vulnerability, even in otherwise prosperous contexts (Ndaba et al., 2024; Richard et al., 2023).

The FRoHII offers an advantage over other indices of housing insecurity risk, outlined in the review section of this paper. The FRoHII is composed from public data available at the national level and collated systematically through census or consumer index means. The index is mapped to the small area scale for England and can be searched and analysed at different geographic scales. Composing FRoHII has not relied on costly and domain-specific qualitative research. Additionally, applying the index to analyse the risk of housing insecurity affecting families with children has improved our understanding of the varied distributions of risk across England.

A further strength of this work is that we aggregated the index at the local authority and regional levels to provide insight into the structural drivers of housing insecurity. This indicated, for instance, that Greater London features a slightly lower proportion of households at very high risk (2%), compared with the West Midlands (3%). One explanation for this is that the cost-of-living in and around the capital city means that households experiencing severe pressures are forced out of the region, and into regions with comparatively lower costs-of-living.

Furthermore, we compared the FRoHII to the Index of Multiple Deprivation for England and found that the risk of housing insecurity increased broadly in line with the increase in deprivation (Figure 2). We noted, however, how some less deprived areas also feature higher risk of housing insecurity. We conducted analysis of the underlying factors that drive

housing insecurity in these areas; we compared metrics in higher risk but lower deprivation areas, to all other areas of higher risk. We found that, while most metrics had similar values when compared, there was also a far higher density (75-100%) of pre-1919 dwellings, which are more likely to be of substandard quality. This older housing stock appears to increase the risk of housing insecurity, even in less deprived areas.

We focused on England as a test bed for developing the index, in collaboration with our English local authority partners. However, the index could be extended to other UK nations, which would present both opportunities and challenges. The basic structure of the index is transferable, as Wales, Scotland, and Northern Ireland collect broadly comparable small area datasets through census and administrative systems. However, the specific drivers and weights would need recalibration to reflect differing housing markets, tenure regimes, and policy contexts. For example, Scotland's abolition of 'no-fault' evictions and stronger social housing sector may shift the relative importance of insecurity and affordability indicators, while Northern Ireland's legacy of segregated housing and rural deprivation would require context-specific adaptation. A strength of extending the index is that it would enable cross-nation comparison and support the devolved governments' shared ambitions for housing equity. A challenge would be to ensure data consistency and practitioner engagement in the weighting exercises to preserve the participatory integrity of the index design.

Similarly, the index design could also be applied to international settings. Housing insecurity has increasingly been recognised as a global public health and social equity issue. The World Health Organization (WHO) and Organisation for Economic Co-operation and Development (OECD) have both emphasised the interlinkages between housing affordability, adequacy,

and wellbeing, calling for comparable indicators across nations (OECD, 2023a; WHO, 2025). The FRoHII contributes to this international agenda by offering a replicable framework for measuring multidimensional housing insecurity risk using public data. Its emphasis on small area granularity and practitioner-informed weighting provides a model that could inform international efforts to monitor progress toward the United Nations' Sustainable Development Goals (SDG), particularly SDG 11 on 'Sustainable Cities and Communities'.

Time sensitivity

The FRoHII was compiled from time sensitive metrics, derived for instance from Census 2021 data, and annual schools and longitudinal data. FRoHII's time sensitivity means that the index could be compiled for Census 2011 data, and other metrics from that year. Comparing current trends with those of previous years would allow analysis of the impact of austerity or the COVID-19 pandemic on housing insecurity. Time-sensitivity also means that FRoHII would require an updated compilation when the next census data become available (in 2031 by the current schedule).

Policy implications

The FRoHII findings have direct relevance for ongoing UK housing policy debates. Firstly, they reinforce the need for targeted responses to housing insecurity that extend beyond income-based deprivation measures. The identification of risk in less deprived but older housing areas suggests that policy instruments such as the English Housing Survey and the Decent Homes Standard may under-recognise geographically dispersed forms of insecurity. In this respect, the FRoHII can support more nuanced local housing strategies, guiding the

allocation of housing retrofit and regeneration funds toward neighbourhoods where historical housing conditions compound family vulnerability.

Secondly, the index provides a tool for informing prevention-focused interventions under the Homelessness Reduction Act (2017) and the updated Homelessness Code of Guidance (MHCLG, 2024). Local authorities could use FRoHII outputs to anticipate pressure points where families may be at heightened risk of involuntary moves or homelessness, particularly in areas of high residential churn. This aligns with the government's wider levelling-up agenda, enabling geographically tailored responses that strengthen family stability and reduce long-term public health costs. The index thus offers a valuable tool to complement both housing and health policy frameworks, encouraging cross-sectoral collaboration between housing, public health, and education services to address housing insecurity as a determinant of wellbeing.

Recommendations: application of the index

The Families at Risk of Housing Insecurity Index (FRoHII) is available via the Place-based Longitudinal Data Resource (PLDR) for any users wishing to identify the estimated level of risk for any small area in England. As outlined above, we envisage that the index would be particularly useful for any practitioners seeking to understand where families with children might be at risk of housing insecurity. We caution against using the index to identify individual households at risk, which was not the intended application for the index. Instead, the index is best used to estimate the likely level of risk faced by family households based on their neighbourhood, or localized, characteristics.

We anticipate that using the risk index in this way will help practitioners to fulfil key aspects of their services. For instance, the index may help local social and health care teams in providing support to those experiencing housing insecurity. For example, Integrated Neighbourhood Teams (INTs) collaborating in the United Kingdom include GP leads, health, social, and wellbeing practitioners, to holistically address the comprehensive needs of community members. Working with the index would help INTs to become aware of housing insecurity risk levels within their catchments and facilitate them to be proactive in implementing preventative measures.

Future areas for research

Our analysis revealed how dwelling age is a persistent factor in housing insecurity as properties built before 1919 fail to meet the Decent Homes Standard, relating to quality thresholds for facilities, insulation, and floor space. The government's £13.2 billion suite of housing retrofit programmes (ESNZC, 2025) could be enhanced through integration with small area risk data, allowing local authorities to align carbon reduction and health equity objectives. The FRoHII could play a vital role in ensuring these funds are appropriately targeted. An important focus for future research is therefore to assess the extent to which these housing retrofit funds address some of the drivers of housing insecurity and reduce risk levels. Utilising the index in this way provides a valuable resource for longitudinal research into the social determinants of health, supporting evidence-based interventions that advance housing quality as a key component of the public health agenda.

Appendix 1. The statements presented to the practitioner panel, response rates, research interpretations and rankings (high, medium, or low).

Statement	Responses	Interpretation	Rank
Fuel poverty is a key driver of housing insecurity as residents who are able move to more fuel-efficient homes.	64% disagree 32% not sure 4% agree	Households that experience fuel poverty do not have the means to move to fuel-efficient housing.	Low
The percentage of primary school children eligible for free school meals tells us about household cost-of-living difficulties in the local area.	50% agree 29% not sure 21% disagree	Eligibility for free school meals is indicative of household cost-of-living pressures.	Medium
Black or Asian families are more likely than their White British peers to experience housing insecurity.	46% agree 32% disagree 22% not sure	Black or Asian households are more likely than their white peers to experience housing insecurity.	Medium
A couple with young children who separate go on to find suitable housing as lone parents.	63% disagree 18.5% not sure 18.5% agree	Relationship breakdown, reflected in proportions of lone parent households, is strongly associated with housing insecurity.	High
The frequencies at which properties change hands can show us those places where there might be housing insecurity.	46% not sure 40% agree 14% disagree	Residential churn is indicative of housing insecurity but requires additional evidence to develop a risk index	Medium
Rental properties that are over one hundred years old provide suitable housing for families.	39% disagree 32% agree 29% not sure	The age of property might be indicative of its overall quality and suitability for families.	Low
Families living in rental properties often have to move	88.5% agree	Families living in private rented properties are at greatest risk overall	Highest

residence when they don't want to.	8% not sure 3.5% disagree	of housing insecurity.	
Most people experiencing mental health problem would also struggle to deal with housing problems.	39% disagree 17% agree 44% not sure	Some people experiencing mental health problems might struggle to deal with certain aspects of housing problems.	Low

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

The final index, along with the data that were compiled to produce it, are available to view

and download from the Place-Based Longitudinal Data Resource website:

https://pldr.org/dataset/2o6lg/families-at-risk-of-housing-insecurity-index-frohii

Competing interests

Not applicable

Authors' contributions

JO'B undertook the data analysis and prepared the first draft of the manuscript. EC provided critical feedback on the research methods and results. EH and NW recruited the local authority advisory group from which the practitioner panel was recruited. HF, SR, A-MB conceived and led the study design. All authors read, edited, and approved the final manuscript.

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