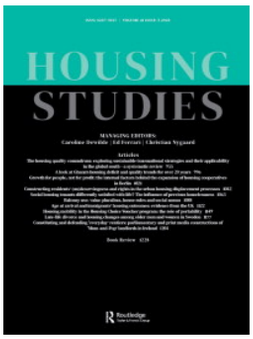

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Transforming social housing: moving beyond tenant blame to address systemic indoor environmental quality (IEQ) challenges for healthy homes in Ireland

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ABSTRACT

Social housing in Ireland often struggles with pervasive mould, dampness, and condensation, which severely impact tenant health and well-being due to compromised Indoor Environment Quality (IEQ). This study examines the IEQ landscape in social homes, analyzing stakeholder perspectives on how infrastructural deficiencies, maintenance challenges, and tenant experiences are interconnected. Findings indicate that issues stem from systemic failures, including outdated infrastructure, reactive maintenance, and fragmented policy frameworks, rather than solely tenant lifestyles, which challenges the prevalent tenant-blaming narrative. The research shows how historical policy legacies and current operational gaps perpetuate environmental injustice. It does so by empirically demonstrating the limitations of behaviour-focused approaches and underscoring the need for collaborative, multi-level interventions to achieve fair, safe and healthy housing. More specifically, we demonstrate how mould is a visible manifestation of broken policy loops, offering a new understanding of systemic environmental injustice in social housing. To address these challenges and create healthy homes, the research advocates for a collaborative and proactive approach involving housing bodies, policymakers, and residents, focusing on robust maintenance strategies, enhanced inter-agency collaboration, and meaningful tenant engagement.

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Social housing; Indoor Environment Quality (IEQ); tenants; maintenance; policy feedback theory; environmental justice

1. Introduction

Living in social housing is frequently associated with poorer health outcomes (Patino & Siegel, 2018). In Ireland, moisture-related problems, including mould proliferation and dampness, are significant challenges within the Irish social housing sector (Brennan & Halloran, 2024). Research shows that surface condensation and mould growth are often caused by inadequate ventilation, high moisture levels, and cold

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surfaces due to poor insulation (Little, 2021), alongside other housing deficiencies linked to recognized housing hazards (Eurofound *et al.*, 2016). Although prevailing narratives often centre on tenant behaviours, attention is turning toward the interplay of underlying systemic factors, including infrastructure and maintenance regimes (Irish Human Rights and Equality Commission (IHREC), 2020; Nicol *et al.*, 2016).

Studies consistently demonstrate the detrimental impacts of indoor dampness and mould on respiratory health (Manzo & Grove, 2023). Following the 2020 death of Awaab Ishak in a mould-infested social home, the UK's Housing Ombudsman investigated 142 landlords to address systemic failures (eClinicalMedicine, 2022; Housing Ombudsman Service, 2021). While the precise role of tenants in poor IAQ remains contested, recent findings identify a concerning trend: maintenance protocols often reflect a blame-centric narrative that disproportionately assigns fault for mould build-up to occupants (Cullen, 2023; eClinicalMedicine, 2022; Hennessy, 2016; Housing Ombudsman Service, 2021). But social housing tenants cannot be expected to reduce moisture levels if they are constrained by the inherent limitations of their homes (Ministry of Housing Communities & Local Government 2024). In Ireland, a similar shift in understanding and policy wording has yet to take root. For example, persistent mould and dampness in numerous Local Authority (LA) homes in Sallynoggin, County Dublin have caused worsening respiratory and mental health, resulting in bronchiolitis, school absenteeism, and fire safety hazards (Conneely, 2025). Despite calls from the Health Service Ireland (HSE) to Dún Laoghaire-Rathdown County Council, redevelopment has not materialised. These conditions reflect broader criticisms by the European Committee of Social Rights (ECSR) decision in 2017, which found that the government has neglected housing standards since 2002. Without coherent regeneration timelines, many residents remain trapped in substandard conditions (Brennan & Halloran, 2024).

Against this background, this study investigates the relative contributions of infrastructure, maintenance, and tenant behaviour to IEQ challenges in Irish social housing. Specifically, it seeks to move beyond the narrative that holds tenant lifestyle solely responsible for issues like mould and dampness. To achieve this, we apply policy feedback theory within a housing and environmental justice framework to analyze tenant-blaming narratives in Irish social housing. The study argues that blaming tenants, to the exclusion of other factors, is a disservice that obscures structural and maintenance solutions. By highlighting the manifold nature of these challenges, the research demonstrates that while tenant behaviour is a factor, the primary drivers are infrastructural deficiencies and practices.

This study uses IEQ as the overarching framework for housing quality while focusing on IAQ to address the specific health risks of mould and moisture. Here we note that Indoor Air Quality (IAQ) and Indoor Environmental Quality (IEQ) are related, but while IAQ focuses specifically on the quality of the air within a building (e.g. Particulate Matter (PM), Carbon Monoxide (CO), etc.), IEQ encompasses a broader range of factors affecting the indoor environment, such as thermal comfort, lighting, acoustics, and other aspects of the built environment.

The paper is organized as follows. The next section outlines the contemporary challenges in Irish social housing regarding IAQ and IEQ, and dissects the prevailing tenant-blaming narrative. This is followed by the theoretical framework underpinning

this study, which draws upon policy feedback theory and environmental justice principles. The methodology section outlines the qualitative methodology, while the results section presents the key findings from the study. The final section provides a discussion of these findings and proposes directions for future research.

2. Contemporary IAQ, IEQ, and health challenges in Irish social housing

Despite mandates like the 2023 Irish Clean Air Strategy, Ireland is not on track to meet 2026 WHO (World Health Organization 2021) air quality targets (Environmental Protection Agency (EPA), 2024). This is concerning as Particulate Matter (PM) contributes to about 1,600 annual premature deaths, and poor ventilation or faulty appliances pose a risk of fatal carbon monoxide poisoning (Nicol *et al.*, 2016).

Environmental factors significantly drive home deterioration. Homes near water, with leaks or improper materials, allow moisture accumulation and mould (Heseltine & Rosen, 2009). Healthy Homes Ireland (HHI) (2023) indicates 24% of households experience dampness due to leaks and insufficient insulation. This trend is pronounced in social housing, where 57% of households face poverty risks (Central Statistics Office (CSO), 2025; Russell *et al.*, 2021). For example, Dolphin Housing reported *Aspergillus fumigatus* infestations (Thomas, 2011), poor water quality (Rialto Rights in Action Group (RRIAG), 2010), and overcrowding affecting mental health (Hunt, 2024).

Mould is a dangerous pollutant and inhalation of its toxic spores poses significant health risks. In Oliver Bond flats, doctors have linked residents' health conditions to significant damp and mould (McAuley, 2024). Consequently, prioritising IAQ is vital; 14% of childhood asthma cases have been attributed to such pollutants (Holden *et al.*, 2023). The death of Awaab Ishak in the UK highlights risks faced by vulnerable populations due to poor conditions. Manzo & Grove (2023, p.5) describe these situations as 'slow violence,' illustrating how deteriorating housing creates long-term well-being issues.

Housing quality often correlates with construction date; the 2016 census classified 8% of homes as poor quality (Nicol *et al.*, 2016). In the 1930s-era Emmet Buildings, residents reported poor maintenance and outdated upgrades, with 90% experiencing mould and 65% suffering respiratory problems like COPD (Tubridy *et al.*, 2025). Furthermore, half of those residents cannot afford energy bills or maintain their homes to prevent mould. Ineffective landlord responses leave residents trapped in deteriorating conditions, exacerbating health decline.

In Ireland, 61% of LA properties are over 20 years old (Clarke *et al.*, 2021). Ageing complexes like Dolphin Housing, Oliver Bond, and Emmet Buildings demonstrate how older infrastructures contribute to poor health. These buildings require high-quality maintenance to meet environmental standards, yet often suffer from poor air circulation, inadequate insulation, and insufficient ventilation (Hunt, 2024; Community Action Network (CAN), 2017). Vulnerable residents are particularly at risk, as the housing-health link becomes more pronounced with age (Oswald *et al.*, 2007). Climate factors further exacerbate these challenges (García-León *et al.*, 2024). In Ireland, winter cold snaps increase lung infection risks and elderly mortality (Kavanagh, 2025). During colder months, many turn to wood-burning for warmth,

introducing dangerous particulate matter. While pollutant-free air filtration systems offer solutions, they are rarely incorporated into older stock. Recent studies also reveal that rising temperatures are contributing to increased annual mortality rates in Ireland (García-León *et al.*, 2024). Addressing infrastructure issues requires political will. Healthy Homes Ireland (HHI) (2023) estimates the government must spend €1.25 billion annually to address health problems caused by poor housing and the associated distress experienced by residents.

2.1. Tenant blaming narrative

Scholars have found evidence that tenants are unfairly held responsible for problems related to mould, damp, and condensation, despite being the most affected by poor IEQ and IAQ (Housing Ombudsman Service, 2021; Felipo & Charpin, 2022). In this context, Koch's (2018, p. 222) argues that placing 'a moral economy of blame at its core (…) further undermines the understanding of such environmental suffering as part and parcel of broader redistributive struggles' holds. Reasons for this tendency include focus on warmth access rather than addressing mould (Bonderup & Middlemiss, 2023), and refusal to acknowledge poverty as a driver, and socio-spatial polarization where residents are blamed for neighbourhood problems (Hastings, 2004).

For example, in 2016, Tyrone Place, a social housing complex in Dublin, a family reported mould three months after occupying a freshly painted apartment. When the Dublin City Council was notified, they claimed that repairs relating to condensation were the tenants' responsibility. An architect later investigated and identified significant infrastructural issues beyond the new tenants' control, including poor thermal insulation and inadequate ventilation, which led to heat loss and subsequent dampness. The expert also noted that previous mould outbreaks had not been adequately cleaned, corroborating complaints from former residents (Hennessy, 2016).

After Awaab Ishak's tragic death from severe respiratory issues caused by mould in his family's social housing flat in Rochdale in December 2020, multiple UK assessments and official responses explicitly addressed and condemned the practice of tenant blaming by landlords. The tragedy highlighted systemic failures, with the responsible housing association, Rochdale Boroughwide Housing (RBH), found to have a 'dismissive and discriminatory attitude' toward residents (Housing Ombudsman Service, 2023, p. 9). The Housing Ombudsman Service (2021) recognized that damp and mould disproportionately affect vulnerable, socioeconomically disadvantaged groups, including ethnic minorities, who face reporting barriers due to fear and a lack of rights awareness. The 2024 guidelines from the Ministry of Housing (2024) note that some landlords wrongly assign responsibility for dampness, condensation, and mould to tenants, ignoring property defects. This practice, which the guidance now acknowledges as stemming from building issues, poor ventilation, or cold, contrasts with its emphasis on landlord responsibility and tenant partnership.

Inefficiencies in policies and their implementation in Ireland can significantly contribute to the issue. For instance, current maintenance policies that imply tenants are responsible for condensation-related issues. This is evident in the Cork County Council's tenant handbook (Cork County Council 2022, p. 30), which states: 'The Council cannot take responsibility for condensation and damage caused by

condensation in your home, but we are available for advice on prevention and cure if you need it.' This framing of personal responsibility overlooks profound socio-economic inequalities and environmental struggles (Koch, 2018). Conversely, the UK's Awaab's Law now clearly defines landlord responsibilities. This legislation is supported by new communication guidelines that emphasize empathy, eliminate lifestyle language, and prioritize building relationships with tenants (Benton, 2024).

In Ireland, several factors explain why a similar shift has not yet occurred. A major issue is the low priority assigned to IAQ and IEQ practices, compounded by a lack of political will and a clear definition of minimum standards (Lima *et al.*, 2025). Critically, major national housing strategies, including Housing for All (2021) and Delivering Homes, Building Communities (Government of Ireland, 2025) omit to mention IAQ or IEQ. This omission is problematic as it signals that these quality standards are not a strategic priority.

Furthermore, while Ireland has a Code of Practice for Indoor Air Quality, there are currently no explicit, legally binding minimum standards for IAQ and IEQ covering all building types. As a Code of Practice, it provides practical guidance rather than strict mandatory numerical limits for all scenarios. The current framework relies on a combination of regulations and non-mandatory guidance. The focus in new builds and retrofits has been on energy efficiency and airtightness, which can inadvertently compromise IAQ if not balanced with appropriate ventilation. The following sections outline our rationale for promoting a more comprehensive approach to addressing issues related to poor IAQ.

3. Theoretical framework

Public policies are not created in a vacuum and do not only solve problems; they create new political realities, as part of the reciprocal relationship between policy and politics (Campbell, 2012). As Pierson (1993) noted, policy feedback describes how established policies in one period define the political dynamics and provide the basis for the development of later policies. Originally focused on elite entities in the 1930s, the literature now examines how policies produce unequal feedback effects across marginalized and ethnic communities, reinforcing new forms of inequality (Michener, 2019; Weaver & Lerman, 2010), to understand their lived experiences with policies and how feedback mechanisms operate (SoRelle & Michener, 2022). Modern scholarship uses qualitative methods to uncover the nuanced ways policies shape lived experiences, perceptions, and behaviours, increasingly intersecting with the literature on systemic inequality (Hood, 2005; SoRelle & Michener, 2022; Soss *et al.*, 2007). Despite the lack of a common conceptual framework preventing full engagement with other fields (Patashnik & Zelizer, 2009), it is possible to understand how policy decisions interact with existing housing policies, as this is especially relevant to understand lived experiences of social housing tenants facing mould and dampness in their homes.

Drawing on this theoretical perspective, we examine interplay between policy, individual agency, and structural constraints in addressing environmental challenges, with particular focus on the social housing context. Specifically, it integrates policy feedback theory with the principles of environmental justice to analyze the persistent

issues of moisture-related problems, such as mould build-up, dampness, and condensation that significantly impact resident health and well-being (Benton, 2024; Gochfeld & Burger, 2011; Woods *et al.*, 2014). While initial understandings may have disproportionately attributed these issues to tenant behaviours, more recent research has increasingly focused on addressing systemic housing structural issues (Felipo & Charpin, 2022) and mitigation strategies for reducing the impacts of identified risk factors (Wimalasena *et al.*, 2021).

In housing, the current policy and political landscape is heavily shaped by pre-existing policies that structure contemporary housing agenda by highlighting persistent problems demanding attention (Adler & Wilkerson, 2012). These policies affect government operations by establishing resource commitments and constraints, defining the focus of governing efforts, and providing conceptual tools for interpreting emerging issues and standard procedures (Mettler & SoRelle, 2023). Crucially, policies emphasizing tenant responsibility can create a negative policy feedback loop where focusing on individual behaviour obscures systemic failures. This can diminish pressure on housing authorities to address underlying structural issues (inadequate maintenance, poor design, etc.). To understand why these issues persist, we must look beyond the building fabric to what Star (1999) defines as the invisibility of infrastructure. Infrastructure, both physical and policy-based, is frequently taken for granted until it fails. In social housing, the social infrastructure, organizational systems and the human networks that facilitate maintenance and communication are often the first to erode under budget constraints. When these social systems fail to address structural defects (physical infrastructure), the resulting mould is not just a biological issue; it is a visible manifestation of a broken policy feedback loop where the infrastructure only becomes visible through its failure. Consequently, future policies may disproportionately focus on tenant behaviour, maintaining a cycle that fails to address the root causes of mould, dampness, and condensation.

Understanding this cycle of policy feedback, particularly its tendency to disadvantage social housing populations, necessitates considering the principles of environmental justice. This framework is concerned with disproportionate and unequal environmental burdens that particular communities face (Taylor & Torres, 2020). It highlights how marginalized communities often bear a disproportionate share of environmental risks (Beretta, 2012; European Environment Agency, 2018; Pellow, 2017), such as exposure to poor IEQ, including among social housing tenants (Benton, 2024; Boomsma *et al.*, 2017; Lima *et al.*, 2025; Tubridy *et al.*, 2025).

Studies show that low-income housing and marginalized communities disproportionately experience substandard housing, leading to adverse health outcomes and continuing social inequalities (Mehdipanah, 2023; Swope & Hernández, 2019). Low-income communities and minority ethnic groups often face higher exposure to environmental harms such as mould, dampness, poor ventilation, pests, and lead pipes. This is frequently linked to historical discriminatory policies, such as redlining (in the US, the systematic denial of services to residents of specific neighbourhoods, often low-income or minority communities, marked as high risk on investment maps), and ongoing systemic inequities in housing markets and a lack of enforcement of housing standards (Breakey *et al.*, 2024). Marginalized communities frequently defined by overlapping factors of race, ethnicity, and socioeconomic status,

often experience systemic underinvestment (Miles *et al.*, 2025), resulting in geographically concentrated areas with significantly fewer resources and are less resilient to the impacts of climate change. These adverse effects of climate change are amplified in densely built-up areas, limited green spaces and old building constructions (Gochfeld & Burger, 2011; Norbäck et al., 2017). In the Irish and UK social housing sectors, this vulnerability is specifically tied to housing stock degradation caused by weathering and insufficient maintenance (Wimalasena *et al.,* 2021).

Research is increasingly focusing on IEQ as a critical aspect of social and environmental justice (Manzo & Grove, 2023; O'Neill *et al.*, 2022; Patino & Siegel, 2018). In Ireland, several surveys and reports from academics community groups and state agencies have found a direct link the substandard housing conditions to adverse physical and mental health outcomes for the residents (Conneely, 2015; Creane *et al.*, 2024; Laurence et al., 2024; Manzo & Grove, 2023; Tubridy *et al.*, 2025). This demonstrates how environmental factors (in this case, the built environment) contribute to health inequities, a central tenet of environmental justice. From this perspective, the prevalence of issues such as mould, damp and condensation in social housing can be understood as an environmental hazard. The disproportionate exposure that social housing tenants often face constitutes a clear form of environmental injustice. Addressing this complex problem requires an approach that extends beyond technical fixes, one that incorporates policy interventions focused on improving housing and health outcomes, as well as promoting social justice.

In connection with the policy feedback literature, there appears to be a tendency to focus on tenant responsibility rather than systemic issues, effectively obscuring the environmental injustice inherent in unequal exposure to poor IEQ. This can result in continued under-resourcing of necessary structural improvements and mitigation strategies, leaving residents to cope with unhealthy living conditions and exacerbating health inequities. Taken together, these two theoretical frameworks clarify that the mould and dampness in social housing are not merely technical issues, but a manifestation of environmental injustice perpetuated, in part, by policy feedback mechanisms that fail to address systemic failures and instead focus on individual responsibility.

4. Methodology

This study is part of the project 'Sustainable Homes Integrating Non-intrusive Environmental Sensors (SHINE), which examined housing sustainability in Ireland. It aimed to explore how technological approaches can address these environmental and housing challenges. A key aspect of this research is the integration of environmental sensors to monitor and improve IEQ and IAQ, making it essential for us to understand the stakeholders' perspectives on issues such as mould, dampness, and condensation. We employed a qualitative design, as advocated by Kopec (2025), who emphasizes this approach's efficiency for analyzing housing and policy issues through policy feedback theory. While quantitative data captures the scale of environmental issues, a qualitative method was selected to capture the mechanisms of feedback—specifically, how policy designs influence the attitudes and actions of those within the system. By facilitating in-depth conversations, we uncover how policy

characteristics shape perceptions of resources, government, and political engagement (ibid). This alignment moves the study beyond merely identifying mould as a problem to understanding how policy structures, such as maintenance protocols, create the social dynamics that sustain it.

4.1. Data collection and participants

To answer our research question, we conducted individual interviews with 28 stakeholders from January to August 2024, each lasting between 50 and 100 min. Participants were strategically selected using purposive sampling to ensure a diverse range of perspectives across three key groups within the social housing sector: residents (social housing tenants), housing providers and managers, and policy and industry stakeholders, with residents forming a central component of the study's primary focus. These included residents (social housing tenants), representatives from the social housing sector, comprising AHBs or Housing Associations (private housing bodies), LAs (government housing bodies), governmental organizations, private entities, non-profits, advocacy groups, and construction professionals. The rationale for this diverse sample was to capture a comprehensive understanding of the issue from various vantage points within the sector. A more detailed profile of the participants, outlining their organizational affiliation and roles, is provided in Table 1.

Interviews were conducted online and were audio-recorded with participant consent. An interview guide was developed to ensure consistency while allowing for the emergence of novel themes. The questioning strategy was designed to explore the root causes of IEQ issues in social housing. Broadly, the questions covered: (a) perceptions of current systemic issues in social housing, specifically focusing on maintenance protocols, asset management, and dispute resolution; (b) the priority assigned to IAQ within current regulatory frameworks and the perceived link between building standards and tenant health, and (c) the ethical and practical feasibility of integrating sensor-based monitoring systems into existing housing management strategies.

4.2. Data analysis

Interviews were transcribed and analyzed using NVivo software following the Reflexive Thematic Analysis (RTA) methods (Braun & Clarke, 2006). This approach was selected to prioritize researcher reflexivity, acknowledging that themes are generated through active data engagement rather than passively discovered. Consequently, we did not seek statistical inter-coder reliability or use a rigid codebook; instead, we focused on depth of engagement and collaborative reflexivity to ensure rigour.

The analysis proceeded through phases, beginning with the qualitative team immersing themselves in the data to note initial observations. This was followed by systematic coding using NVivo, preserving original meaning while minimizing bias across multiple rounds. Codes were then clustered into provisional categories, such as stakeholder needs and organizational analyses, reviewed against the full dataset to ensure a coherent story. This culminated in refined categories such as Initial

Table 1. Interviewed stakeholders.

Participant ID	Category	Organization type	Role/Expertise
Resident 1	Residents	AHB	Tenant
Resident 2		AHB	Tenant
Resident 3		AHB	Tenant
Resident 4		AHB	Tenant
Resident 5		Local Authority	Tenant
Manager 1	Housing management	AHB	Senior Management
Manager 2		AHB (specific needs)	Senior Management
Manager 3		AHB (specific needs)	Management
Manager 4		AHB (specific needs)	Senior Management
Manager 5		Government Housing Org	Senior Management
Manager 6		AHB	Senior Management (Policy Focus)
Manager 7		AHB	Senior Management
Manager 8		AHB	Senior Management
Manager 9		AHB	Senior Management
Manager 10		AHB	Senior Management
Manager 11		AHB (specific needs)	Senior Management
Manager 12		Local Housing Authority	Senior Management
Policy Rep 1	Policy and strategy	Government/AHB Assoc.	Policy Lead
Policy Rep 2		AHB	Policy Lead
Policy Rep 3		Government Policy Org	Policy Lead
Tech Expert 1	Technical and Environmental	AHB Association	Environmental Sustainability
Tech Expert 2		Private sector	Environment & IAQ Consultant
Tech Expert 3		Non-profit	Home Performance Index
Tech Expert 4		Private sector	Surveyor / Construction
Tech Expert 5		Non-profit	Environment & IAQ Management
Social Worker 1	Support and Advocacy	Non-profit advocacy	Social Worker
Support Rep 1		Government	Homeless Health Project Mgmt
Support Rep 2		AHB	Diversity, Equity, Inclusion

Note: AHB: Approved Housing Body; LA: Local Authority.

Analysis, Second Analysis for organizations, Second Analysis for residents, and Needs Statements by stakeholders. Within these categories, we identified subcodes ranging from organizational profiles and existing challenges to recommendations and future strategies. Finally, the analysis concluded with the synthesis of key themes to present the research results (Bazeley, 2006; Braun & Clarke, 2006).

The complexities surrounding the origins of mould, dampness, and condensation issues in social homes are examined in the next section through three themes that emerged during this analysis: infrastructure, maintenance, and tenant-related matters.

5. Results: mould, dampness, and condensation: is it really a lifestyle issue?

The thematic analysis of the interview data identified three primary factors contributing to the persistence of mould, dampness, and condensation in Irish social housing. These factors are categorized into three core themes: (1) Infrastructural deficiencies, (2) Maintenance regimes, and (3) Occupant lifestyle and behaviour. While prevalent narratives have leaned towards blaming tenants, a form of implicit negative policy feedback, there is a growing recognition among stakeholders that

the sector must evolve toward a collective effort and a proactive, solution-oriented paradigm.

5.1. Theme 1 – an infrastructure issue

This theme examines how the physical conditions and the legacy of outdated building regulations and past policy failures predisposes buildings to chronic moisture issues. Interviewees identified that infrastructural defects, such as cold bridging and poor ventilation design, create environments where mould persists regardless of tenant actions.

The enduring moisture problems in social homes and buildings in Ireland are immediate concerns, as many older houses with outdated designs are not equipped to endure current and future environmental challenges. Social Worker 1, from a non-profit advocacy housing organization, explains that 1950s social homes originally included built-in fireplaces. However, 2014 new building regulations banned open fires to comply with the European Union's energy performance and building directives (Birdthistle, 2018), requiring these fireplaces to be sealed. Social Worker 1 noted that this regulation led to significant moisture accumulation, a problem exacerbated by modern appliances like dishwashers. The legacy of sealed fireplaces and light-touch Celtic Tiger regulations demonstrates Star's (1999) concept of infrastructure sinking into the background. These policy decisions were invisible to residents for a time until they broke in the form of chronic moisture. By framing these defects as mere lifestyle issues, the state maintains the invisibility of its own policy failures. This creates a negative policy feedback loop where the infrastructure is only acknowledged when it can be blamed on the individual, rather than being recognized as a systemic design failure (Adler & Wilkerson, 2012).

Beyond historical design, the lack of contemporary data further complicates the issue. Tech Expert 5, who works for a private and non-profit environmental organization, points out the absence of a national survey of housing quality to help the sector continuously maintain infrastructure up to the highest standards. The latest survey, conducted in 2002, is now over two decades old (see Watson & Williams, 2003). Tech Expert 5 argues a national survey would provide an updated comprehensive view of housing quality, helping to anticipate problems and assess the effectiveness of energy retrofit upgrades. This data could also serve as critical data in situations that are, according to Tech Expert 5, 'blindingly obvious' (e.g. mould presence and occupiers' indoor habits) to catalyze information dissemination regarding the importance of home indoor air quality during building design, building upgrade, and tenant occupancy. The absence of such a survey is hindering the social housing sector's ability to address resident exposure to poor housing standards.

In contrast, AHBs are required to conduct annual stock surveys. This suggests a much better capacity for resource management. Some stakeholders within the AHB sector are aware of existing infrastructure defects in their housing stocks, whether known or hidden. Manager 10, from the AHB sector, acknowledges persistent, known defects in their properties, particularly those constructed under 'poor building legislation in the past,' during the Celtic Tiger era, where housing supply increased

rapidly to meet the high demand, often at the expense of housing quality, due to light-touch regulations and planning flexibilization (Lima, 2018; Norris, 2016). Manager 10 specifically identifies cold bridging, thermal weak spots in a building's envelope causing up to 50% heat loss (Filonenko *et al.*, 2020). These are legacies of past policy failures in building standards and oversight, and a direct source of environmental burden for residents, as occupants will continue to face mould challenges, regardless of proper ventilation and cleanliness, until their landlords resolve these fundamental problems.

This infrastructural reality is often obscured by an organizational focus on tenant behaviour. Also from the AHB sector, Manager 9 acknowledges that their organization has identified existing issues with mould, dampness, and condensation in their properties via their historical information, multiple tenant reports, and annual stock condition surveys. However, they have yet to determine the root causes of these issues – whether they stem from environmental factors, lifestyle choices, or inadequate ventilation. Furthermore, their current policy on damp, mould, and condensation primarily places the responsibility on residents, providing only advisory services. In their words:

> I won't hide behind the fact that up until that happened (Rochdale death incident), we typically would have gone, 'Clean it down,' 'Get an antifungal wash,' … 'Open your windows,' 'Stop drying your washing on the radiators,' 'cover your pots with lids when you're cooking,' (…) So, it was a lifestyle issue. 'You were causing the problem.' 'Don't have furniture up against walls.' 'Have big drapes,' 'put blinds up instead of curtains.' So, we would have been very much focused on the tenant behaviour that was causing the problem. Rochdale showed us that you cannot take that approach.

Following this realization, Manager 9's organization is piloting a study to identify structural causes of mould in existing properties and avoid future issues in new and upgraded buildings. This marks for Manager 9, a slow but growing recognition within the Irish AHB sector of the various factors causing mould, a shift from tenant-blaming towards prevention. That was an interesting reflection as it acknowledged the practice of blaming tenants, shaping how the problem was understood and addressed (or not addressed). This type of approach in the sector directly contributed to environmental injustice by masking systemic issues. The intention to shift their approach indicates a potential learning and might indicate a change in policy feedback.

However, even when structural issues are identified, administrative fragmentation remains a barrier. From the LA perspective, Manager 12, a Local Housing Authority Senior housing manager, highlights significant issues with damp and mould in their properties, particularly in those built during an era when 'ventilation was not prioritized.' Their energy efficiency division currently focus on addressing ventilation and upgrading insulation in single-family homes as a solution to the problem. However, this program does not cover the entire social housing infrastructure of Manager 12's LA because apartment-style homes, individual flats, or complexes are separately managed by the Planned Maintenance department. This fragmented policy and management structure is challenging as bureaucratic measures within Manager 12's organization slow down the energy efficiency efforts for their entire housing

stock. They believe the problem extends beyond just bureaucratic obstacles and requires more comprehensive solutions:

> The final solution, which once again is handled by a separate department or city architects… they're very slow in doing them, but they're responsible for regenerating [housing] complexes. So, when you assess a [housing] complex, you really have two options: you have to do a deep retrofit, which probably means decanting the whole complex, which is challenging. Or you demolish and rebuild. But they're big projects that will take a number of years to come to fruition.

The clear consensus among participants is that a robust and updated maintenance policy is essential to address infrastructural defects, which is critical for ensuring tenants' quality of life in social housing. However, stakeholders generally believe achieving this is complex, as detailed in the following section.

5.2. Theme 2 – a maintenance issue

This theme explores the systemic barriers in resource allocation and maintenance implementation. It outlines the disparity between reactive and proactive maintenance models and examines how budget constraints and fragmented policies result in unequal protection for residents across different housing providers.

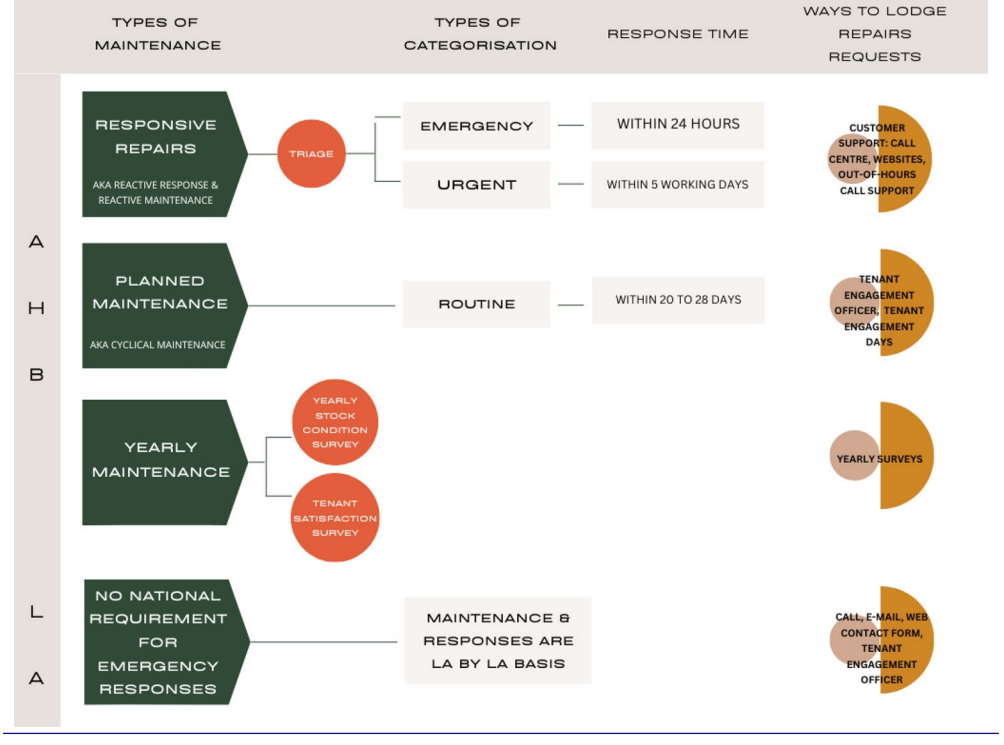
The primary mechanism of maintenance is governed by funding and regulatory disparity. Maintenance issues arise from various challenges at local and national levels, such as systemic issues, funding, and policy. Their implementations are key mechanisms through which resources are allocated to address environmental hazards. For example, Manager 4 from the AHB sector, noted that rent payments are inadequate to cover property maintenance costs. This AHB serves residents with specific needs, many of whom live alone and rely on pension incomes that often fall below the poverty line. This financial strain is supported by the 2024 survey on income and living conditions, which reveals a higher risk of poverty among individuals living alone, especially those aged 65 and older (Central Statistics Office (CSO), 2025).

This funding gap is compounded by a lack of a standardized mandate for Local Authorities. As noted earlier, AHBs are required to provide regular repair and maintenance services to their residents, whereas LAs are not subject to the same mandate. Manager 5 emphasized that LA maintenance practices tend to be reactive and vary between authorities (See House of the Oireachtas, 2019). While LAs have legal obligations to maintain housing stock, there is no centralized mandate requiring them to offer standardized emergency repair services to residents, unlike AHBs, which operate under a formal regulatory framework concerning turnaround times for maintenance. Consequently, support for addressing mould problems, whether caused by infrastructural defects or not, is often unavailable for LA residents. Supporting this notion, Support Rep 1, who works for a Government-based homeless health team, notes that the LAs in their jurisdiction have shown little interest in pursuing home improvements, such as building upgrades, primarily due to budget constraints and a lack of funding sources for these initiatives. This absence of a standardized emergency response and the reactive approach are policy deficiencies in resource allocation and prioritization, resulting in unequal protection within the sector.

Table 2 shows the process and the types of maintenance, which involve varying timelines and steps once a maintenance report is submitted to the landlords. This visual representation illustrates the divergent paths the process takes depending on the protocol activated. Upon the tenant's submission of a repair request, the staff will assess the problem and allocate it based on the following criteria: emergency (requiring a 24-h response), urgent (resolved within five working days), and routine repairs (completed within 20 to 28 working days). This type of maintenance is called 'responsive repairs.' The other two types of maintenance are 'planned maintenance,' to ensure regulatory compliance as landlords by inspecting and maintaining gas boiler servicing, fire alarms, and lifts, certifying the lifts are functional, emergency lighting etc., and 'yearly maintenance' through yearly stock condition survey and tenant satisfaction surveys, conducted by the landlord and an external AHB Regulatory Authority respectively.

The limitations of the maintenance response approach are highlighted by the lived experiences of residents. While maintenance services are viewed as beneficial, the disadvantage of the responsive maintenance approach is that problems will only be recognized once reported, which could lead to further deterioration before any action is taken. For example, Resident 4, who has lived in an AHB home for ten years, developed chronic respiratory infections due to persistent mould. Despite taking extreme precautions, including leaving doors and windows open all day at the risk of being 'robbed', the mould persisted because of an infrastructural fault in the building's basement. Resident 4 highlights the landlord's prior awareness and

Table 2. Maintenance protocols identified showing distinct resource allocation workflows between local authorities (top) and approved housing bodies (contracted services, bottom).



the subsequent health toll, noting that an engineer admitted, 'we know about all the problems up here,' yet repairs remained superficial. This neglect resulted in severe physical and emotional distress; as the resident recalls: 'It's just the dampness and the moulds… choking and running, the panic attacks, run into the toilet thinking I was gonna die.' Resident 4's experience serves as a powerful illustration of environmental injustice, where a reactive maintenance model fails to address root causes, leaving vulnerable tenants to shoulder the burden of systemic neglect.

This lack of proactive maintenance is further hindered by a monitoring bias. Current AHB maintenance plans allow for continuous improvement in management strategies. Yet, concerns remain about the lack of similar protocols in other housing areas. For instance, Tech Expert 4, from the construction and property sector, noted that a 2023 random inspection covered between 44,000 and 65,000 private and social housing units; however, it was unclear what percentage of these units involved social housing. This uncertainty led Tech Expert 4 to believe the focus was mainly on private properties, raising alarms since poor health outcomes from poorly maintained homes tend to affect social housing more significantly. This perceived lack of focus on social housing inspections represents a policy bias in resource monitoring, potentially overlooking environmental indoor problems. Random inspections of private properties are essential, particularly in the context of Ireland's rapidly expanding private rental sector, which grew from 63,500 in 2023 to 80,000 in 2024 (White, 2024). These random inspections, conducted by LAs, cover a wide range of private properties, including those managed by AHBs and those under the Rental Accommodation Scheme (RAS) and Housing Assistance Payment (HAP) (South Dublin County Council, 2023). This indicates that Irish housing bodies are addressing management issues across the sector, albeit to a certain extent. Additionally, the 2024 report cited that 44,699 inspected private properties failed to meet minimum standards, including ventilation, fire safety, and heating (White, 2024), highlighting that the private sector faces challenges similar to those in social housing. One proposed solution from LA staff is to implement a certification system post-inspection to improve compliance among private landlords, as the current strategy relies heavily on random inspections without sufficient tracking of compliance (White, 2024).

Tech Expert 3′s (building industry) echoes the 2023 report concerns by raising alarms regarding newly constructed buildings, which often lack post-assessment strategy. Despite their high-quality design and construction, these structures may face similar problems to those encountered in homes built during the Celtic Tiger period due to the absence of an effective asset management strategy. Tech Expert 3 fears that without proper maintenance plans, properties will remain trapped in a decades-long cycle of neglect.

For example, Norris and Fahey (2011) analyzed Irish social housing from the early 1900s through the Celtic Tiger era, highlighting poor infrastructure quality and the lack of management emphasis. They argue a pivotal change shifted social housing from asset-based welfare (promoting homeownership) to welfare housing as a response to economic crises and rising government spending. Consequently, policies prioritized private ownership over social initiatives, delivering mixed results. While a late 2000s trend emerged toward enhancing local management, historical under-resourcing remains a policy legacy contributing to current poor maintenance.

They identified key reasons for this neglect, including the absence of 'a clear career path, a professional body, or training for social housing managers,' as well as efforts to maintain a small sector to lessen management burdens (p. 467).

In the current landscape, a significant change seems likely. While earlier problems were primarily rooted in economic difficulties, contemporary issues in the sector are driven by environmental concerns, including pollution and climate change. These concerns, along with the Rochdale death incident, were strongly observed, prompting them to start thinking about changing their asset management approach: shifting their maintenance policies from reactive to proactive. For example, Manager 6 shares that their AHB has decided to take a proactive approach to prevent mould problems, by adopting a proactive assessment strategy that involves tenants in the process. In 2024, they released an updated tenant handbook including more accessible information on damp, mould, and condensation. A significant change is evident at the end of the document (seen by the authors), where the AHB instructs tenants to report any signs of mould and assures them that assistance will be provided. This shift in language reflects a change from blaming tenants to creating a partnership between tenants and landlords in addressing IEQ concerns, where learning from past issues and external pressures (like the Rochdale case) suggests a potential positive policy feedback loop that could mitigate environmental injustices.

As illustrated in Figures 1 and 2, the taglines 'As your landlord, we're here to help you keep your home healthy and safe' and 'We're here to help' represent a shift in communication regarding IEQ and IAQ issues in the UK social housing sector that is already noticeable in the Irish social housing sector, as demonstrated by

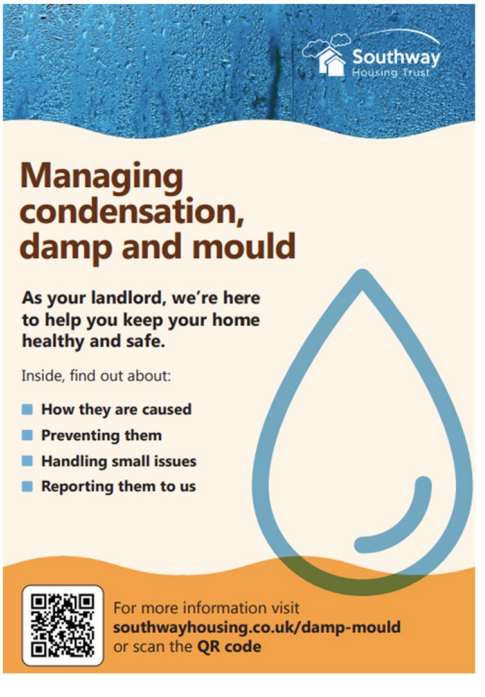


Figure 1. (left) UK's Southway Housing Trust's Managing Condensation, Damp, and Mould Tenant Leaflet (n.d.).

Figure 2. (right) Westminster City Council's post on their X account (2023) about here.

Manager 6's AHB. While the intention is praiseworthy, success is contingent upon tenant participation. To facilitate their involvement, it is essential to acknowledge the diverse habits and needs. Furthermore, addressing the potential for communication breakdown between landlords and tenants is crucial to creating a more effective and collaborative relationship between them.

5.3. Theme 3 - a lifestyle issue

This theme addresses the tension between management's expectations for tenant engagement and the lived realities of residents, particularly those with limited physical capacity or technical knowledge

Standard household practices can trigger mould growth in Irish social homes. While tenant behaviour plays a role, it is often shaped by the housing environment, a product of policy and restricted access to resources and information. For instance, inadequate ventilation habits, such as blocking airflow, accumulating condensation from cooking or showering, and drying clothes on radiators, are prevalent. These practices are understandable given the typically cold and rainy Irish climate, as they can block the maintenance of a healthy indoor environment that is free from dampness, mould, mildew, and condensation. The weak maintenance policy can either exacerbate or mitigate potential environmental indoor challenges related to tenant behaviour.

5.3.1. The engagement disconnect: management perspectives

Stakeholders indicate that tenants' lifestyles and behaviours contribute to the formation and persistence of mould-related problems. AHBs consistently remind their tenants about various maintenance and security protocols through regular newsletters, engagement initiatives, and both online and in-person events. However, many interviewees perceive that these messages do not reach tenants effectively. For instance,

Manager 10 discloses low participation from tenants during the tenant engagement days organized by their AHB:

> There's a rise in a sort of lack of engagement with landlords and their residents. We work very hard at trying to engage with our residents, but we would get very little uptake and response to that request for engagement. So we've got 27,000 people in our homes, and we would get maybe 100, at maximum (…) Less than a quarter of residents showing up for tenant engagement days or anything like that.

This lack of engagement is often interpreted by management as tenant apathy, yet residents describe it as a systemic erosion of trust and accessibility. Resident 1 counters the management perspective, explaining that communication changes affected the more personal communication that once existed:

> The last meeting… it seems that we've been forgotten about. We used to have a community officer… if you had problems, you could go and talk to them. But now it's gone. Real business-orientated where, when ye ring, it's a certain department… you can't get a hold of them. You have to leave a message. (…) [At the meeting] people were complaining about the coldness… she says 'I'll be back in touch with you.' But nothing. Nothing at all.

When the personal link between landlord and tenant is severed, the system becomes rigid represents a collapse of what Klinenberg (2018) calls 'social infrastructure.' As Resident 1 noted, the loss of the community officer removed the human element that facilitated repair and trust. This erosion of social infrastructure directly enables the lifestyle narrative; without a healthy social infrastructure to facilitate dialogue, landlords default to blame-centric communications (Benton, 2024), discouraging tenants to ask for help.

Constant and proactive engagement with tenants is crucial, especially when housing maintenance is involved (Wainwright & Marandet, 2017), as AHB residents vary from those with general needs (non-disabled individuals) to those with specific needs (older adults, people with disabilities, etc.). For example, Resident 2 is a resident of an AHB that mainly caters to older individuals. This person often struggles to upkeep their housing due to health challenges and related issues. Given the limited capacity of their tenants, Manager 3 (AHB sector) acknowledges that, with proper support and technology, tenants can be involved in promoting a healthy indoor living environment. Technology plays a key role in Manager 3′s AHB, as it currently aids their tenants in managing their daily routines and lives efficiently, despite limited physical mobility, which appears to be a more reasonable and inclusive approach. Manager 11 shares this view, highlighting older generation are becoming increasingly proficient in using technology, making it a valuable strategy for preventing mould build-up in social housing.

However, implementing technological solutions is insufficient, as stakeholders have raised concerns about the limited availability of information on indoor practices and environmental quality, particularly regarding proper ventilation. Tech Expert 3 (building and construction sector) shares a concerning lack of information about Mechanical Ventilation (MV) systems, such as Demand Control Ventilation (DCV) and Heat

Recovery (MVHR). These systems manage humidity by circulating fresh air without relying on open windows; MVHR specifically captures heat from stale air to preheat incoming supplies. While building airtightness is beneficial for reducing heat loss, it exposes structures to moisture defects and mould if air is not circulated systematically (Little, 2021). Tech Expert 3 observes that this critical information is not being communicated effectively to residents, in addition to stating that these ventilators require regular maintenance, which both tenants and their landlords can conduct:

> Do homeowners realize that the mechanical ventilation unit needs to be maintained, and that's providing you with fresh air? (…) I think what's happening is people are told, 'don't worry about it,' like, don't. They're just saying, 'Oh, that looks after itself. You don't have to do anything….' There isn't any feedback or knowledge of how to moderate those complicated heating systems. And I don't think people are being educated on how to use those properly.

However, even when residents are capable, sometimes the transfer of knowledge is often blocked by the stigma and poor communication styles of the staff hired to install these systems. Resident 2 describes a significant disconnect between the AHB's technical goals and the contractors' behaviours, noting that third-party workers often enter homes with the impression that tenants are 'scroungers' or 'living off the government.' Resident 2 reflects on this lack of collaborative education:

> They should never say to somebody 'you've got plenty of time on your hands'… [or] that they should be thankful they are getting these things for free. I would have done a better job myself, honestly.

As such, this is a critical point for a negative interpretive policy feedback. The failure to provide information on new technologies directly hinders tenants' ability to maintain healthy IAQ, potentially leading to poor IAQ problems in their homes by making them susceptible to issues that they do not fully understand how to prevent. Although promising, several of our stakeholders have also identified a problem in this area: the lack of knowledge about IEQ and IAQ, not only among tenants but also within the social housing sector.

Lastly, Managers 8 and 12 report tenant non-compliance regarding maintenance access to homes; however, Resident 2 suggests this is often a defensive response to poor work quality and stigma. Explaining their reluctance to grant access, Resident 2 states clarify that tenants avoid letting contractors in because:

> (…) we're not really happy with the quality of the work that they do? They damage things sometimes when they come and do some repairs, and honestly we could do a lot of the stuff ourselves. Like I asked them to fix something there, a door. The door was actually hung upside down. So it meant the pins kept dropping, and you'd have to, you know, put it up [yourself].

This erosion of trust, likely fuelled by negative past experiences, prevents collaborative engagement and risks the escalation of problems. Concluding this section, the data suggests that move beyond lifestyle blaming requires a collaborative partnership that acknowledges diverse tenant needs and addresses the systemic communication breakdowns and information gaps that currently mask infrastructural failings.

6. Discussion and conclusion

This study investigated the persistent challenges of mould, dampness, and condensation within Irish social housing, critically examining the prevailing narrative that often attributes these issues primarily to tenants' lifestyles. Drawing upon a comprehensive literature review and insightful stakeholder perspectives, this research sought to understand the multifaceted factors contributing to poor IEQ in this sector. The literature highlighted a concerning trend of tenant blaming, a form of negative policy feedback where systemic housing deficiencies are obscured by placing responsibility on residents (Bonderup & Middlemiss, 2023; Housing Ombudsman Service, 2021, 2023; Koch, 2018). This perspective often overlooks the significant impact of inadequate infrastructure, ineffective maintenance policies, and the broader socio-economic vulnerabilities of social housing tenants living in poor-quality homes. The central question guiding this study was whether mould, dampness, and condensation in Irish social homes are truly a consequence of tenant behaviour or indicative of more profound systemic failings, while seeking out ways the sector can move in a more collaborative response to address those issues.

One of the key findings was a growing recognition within the Irish social housing sector that addressing mould issues necessitates a collective effort, moving decisively away from a tenant-centric blame narrative. This acknowledgement aligns with recommendations from the UK's Housing Ombudsman Service (2021) and the Healthy Homes Ireland study (Healthy Homes Ireland (HHI), 2023), which advocate for a proactive approach to identifying and resolving the root causes of damp and mould. This shift in perspective represents a potentially positive change in the policy feedback loop, suggesting a learning process where the limitations and injustices of solely blaming tenants are becoming increasingly apparent.

Other findings highlighted the significant role of infrastructure. Stakeholders across various housing bodies identified the legacy of older buildings with outdated designs and construction practices as the primary contributors to moisture-related problems. The example of energy efficiency regulations implemented without adequate consideration for ventilation, combined with the absence of timely national housing quality surveys, illustrates how well-intentioned policies can inadvertently create new IAQ challenges, highlighting critical gaps in data collection and resource allocation, thereby delaying proactive maintenance and effective policy interventions. Importantly, this lack of comprehensive data perpetuates a reactive approach, failing to address the underlying structural issues that disproportionately affect residents of social housing. This also further underscores the infrastructural basis of these problems, demonstrating that even diligent tenant behaviour may be insufficient to combat inherent building flaws.

The findings also highlight the crucial role of maintenance policies and their effective implementation. The disparity in mandatory maintenance standards between AHBs and Local Authorities' social housing, suggests a potential source of unequal protection for tenants. The experience of social housing tenants suffering from respiratory problems due to unresolved infrastructural dampness, despite repeated reporting, exemplifies the environmental injustice arising from inadequate maintenance implementation. These findings imply that current maintenance policies, particularly in the

LA sector, may not be sufficiently proactive or adequately resourced to address the fundamental causes of mould and dampness, leaving tenants to bear the brunt of systemic failures. Moreover, while tenant behaviours can influence indoor environmental conditions, the findings suggest that these behaviours are often shaped by the housing environment itself and a lack of adequate information and support. This situation is likely hindering tenants' ability to effectively manage their indoor environment, making them susceptible to problems they are not equipped to prevent.

The implications of these findings are significant. The persistent focus on tenant blaming not only perpetuates environmental injustice by masking systemic issues but also hinders the development of effective, long-term solutions. By failing to address the root causes of infrastructure and maintenance issues, social housing bodies risk continuing to expose vulnerable residents to health hazards (Conneely, 2015; Creane *et al.*, 2024; Laurence *et al.*, 2024; Manzo & Grove, 2023; Tubridy *et al.*, 2025). The emerging shift towards a better understanding of the causes, costs and consequences and more proactive interventions within the sector offers a glimmer of hope for more recognition of the relevance of including IAQ considerations in policy design (see Lima *et al.*, 2025) and more specific regulation of policy maintenance in the social housing sector in Ireland. A good place to start is considering the recommendations offered by Healthy Homes Ireland (HHI) (2023), particularly those related to collaboration among national bodies to create long-lasting changes and integrating IEQ into building regulations for new homes. To be effective, this must be paired with the approach advocated by Ildefonso *et al.* (2026), where moving beyond traditional narratives requires a co-design process that includes more participation and treats residents as active partners in identifying structural failures rather than passive recipients of lifestyle advice.

Future work could focus on some key areas. It can potentially investigate and recommend standardised, proactive maintenance protocols across all social housing bodies, coupled with adequate funding mechanisms. New studies could explore practical strategies for tenant engagement and communication, including tailored approaches for diverse resident needs and clear guidance on the use and maintenance of new IAQ technologies. Finally, further research could examine the impact of specific policy interventions, such as revised building regulations and enhanced oversight mechanisms, on improving not only IAQ and IEQ in social housing but also on how these factors relate to sustainability and climate resilience. This shift indicates a growing institutional awareness that tenant-blaming masks environmental injustice.

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Author contributions

CRediT: **Valesca Lima**: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Resources, Validation, Writing – original draft, Writing – review

& editing; **Stephen Daniels**: Funding acquisition, Software, Supervision; **Joseph Mullally**: Software.

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