

**How Much of Too Much?
What Inspections Data say about Residential Clutter as a Housing
Problem**

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ABSTRACT

How big of a housing problem is residential clutter? In this paper, we draw upon inspections data in Vancouver to both estimate the size of the problem and detail how it is observed and constituted through municipal regulatory processes. We contrast the inspections approach to residential clutter with the mental health approach, which focuses on hoarding disorder. Inspections data indicate the problem of residential clutter is potentially larger than might be expected by the epidemiology of hoarding disorder, and also point toward the many risks associated with clutter. Using our best estimate, approximately 7% of low-income, dense, single-room occupancy (SRO) housing units inspected were identified by inspectors as problematically cluttered, indicating a sizable problem. Larger buildings and those managed as social housing were more likely than other buildings to have many units identified as problematically cluttered. Strikingly, for given buildings, estimates of problematic clutter tended to remain relatively stable across time, inspector, and inspection method.

Keywords: Housing Policy, Property Condition, Homelessness, Clutter, Hazards, Hoarding

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Introduction

In 2010, a massive fire in Toronto began in a severely cluttered apartment belonging to a purported “hoarder” living within a social housing complex. It caused over \$1 million in damage and displacement of 1,200 residents (Vincent, 2011). Some 600 tenants were later awarded \$4.85 million in compensation for lost property and injuries (Powell, 2013). Subsequent inspection of the building involved in the fire revealed 19 of the 712 units were “overcrowded with belongings,” prompting the city of Toronto to critically examine and alter its enforcement coordination (Reinhart, 2010; Teotonio, 2011).

The Toronto fire helps frame a number of questions about residential clutter relevant to housing research more broadly. Is 19 of 712 units (2.7%) an abnormally high proportion of housing units cluttered in a problematic fashion? Does it indicate problems with enforcement or with management of social housing? How many problematically cluttered units should we expect? How often do inspections reveal clutter and/or construct clutter as a legal problem for tenants and landlords? Just how big of a problem is residential clutter?

To date the literature yields few decent answers to these pressing questions of housing policy and practice. By and large, the only available estimates of how large a problem clutter might be come from studies of hoarding as a mental health disorder within an epidemiological or population health framework. For a variety of reasons, which we discuss below, these estimates may not reflect the broader prevalence of residential clutter, or the associated risks to public health, including fire. Similarly, the data available fail to establish how often tenants risk displacement due to inspections identifying their living units as problematically cluttered.

Rather than adopting an epidemiological framework rooted in mental health categorizations, we work directly with inspections categorizations, linking clutter explicitly to associated risks and by-laws meant to counter those

risks. Inspections data provide insight into when and where clutter becomes identified as problematic from a municipal perspective. Regardless of their basis for assigning “problem” status to clutter, inspections regimes have the ability to make residential clutter a problem for both tenants and their landlords by imposing monetary and other penalties for non-compliance with directives. Furthermore, the perception of problematic residential clutter by either authorities or landlords can result in eviction of tenants, increasing risks of homelessness. Through inspections regimes, municipalities create housing problems through their observation of potential risks.

After detailing both the epidemiological literature’s approach and our own, we describe our work with an inspections regime to track how often they identify residential clutter as a problem. This enables us to estimate the prevalence of problematic residential clutter as identified across an important subset of low-rent, high density housing in the City of Vancouver. Our work proceeded in two stages. We first examined archival data from pre-existing inspections regimes, hence tied to sanctions identifying clutter as a problem. Next we gathered more systematic ratings data collected by inspectors with research team input, hence less tied to sanctions but more amenable to reliably estimating prevalence of risk. As in many other cities, the housing stock studied, Single Room Occupancy (SRO) housing, plays an important role in Vancouver’s attempts to combat homelessness. At the same time, this housing stock, typically old, dense, and cramped for space, is also especially prone to the fire and related public health risks commonly associated with residential clutter.

Defining Residential Clutter as a Problem: Mental Health and Inspection Regimes

Residential Clutter and Hoarding Disorder

Most of what is known about residential clutter within the academic literature is derived from research into hoarding disorder, though there remains a much smaller separate line of inquiry within the social sciences, especially consumer and material culture studies. Though a subject of clinical study for about 20 years, hoarding disorder was only recently recognized as a psychiatric diagnosis in the 5th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013). The hallmark diagnostic symptom of this disorder is persistent difficulty discarding (or donating, selling, recycling) possessions,

regardless of their objective value. The difficulty discarding involves a perceived need to save the items and great distress associated with parting with them. As a result of the difficulty discarding as well as, in many cases, excessive acquiring, possessions accumulate to a degree that substantially compromises the use of active living areas. The clutter, defined as a large group of unrelated (or marginally related) objects piled together in a disorganized fashion in spaces designed for other purposes (Steketee & Frost, 2003), can make it difficult to prepare food in the kitchen, sleep on the bed, bathe, or use the home to socialize.

Researchers have established tools for assessing problematic residential clutter as part of the diagnosis of hoarding, including the Savings Inventory-Revised self-report measure (Frost, Steketee, & Grisham, 2004), the Clutter Image Rating scale and the HOMES Multidisciplinary Hoarding Risk Assessment (Bratiotis, Sorrentino Schmalisch, & Steketee, 2011; Frost, Steketee, Tolin, & Renaud, 2008). At least some of these tools are amenable to independent observation, but they have not yet been applied as part of a broader effort to establish the prevalence and severity of residential clutter.

As hoarding has gained increasing attention from popular media and public officials as well as housing advocates, it has become tempting to consider all cases of residential clutter to be hoarding-related in a clinical sense. Many cases of residential clutter identified by inspections regimes, however, defy such labeling. Non-hoarding psychological and physical problems can also result in excessive clutter that accumulates more passively, due to low motivation or ability to discard items rather than the intentional saving that characterizes hoarding. For example, depression and dementia can involve such apathy about one's personal context that substantial clutter can develop (Rodriguez, Simpson, Liu, Levinson, & Blanco, 2013). A person with a physical disability, especially in the context of a sudden onset and few adaptive supports, can quickly accumulate a large volume of items most people would discard – such as newspapers or used food containers. Physical challenges can also complicate any desire to organize the home, as objects must be lifted and moved in order to accomplish organizing.

In a more direct challenge to connecting all residential clutter to hoarding, many researchers note that people can use residential spaces for storage of objects in ways deemed problematic by inspectors without demonstrating the key diagnostic criterion of hoarding disorder, which is intentional saving due to difficulty and distress in discarding (Cwerner & Metcalfe, 2003; Maycroft, 2009). Even some people who do experience distress in discarding

self-identify as critics of disposable consumerism, or “custodians” of things rather than “clinical” hoarders (Cherrier, 2010). Overall, despite attempts to better define diagnostic criteria for hoarding, critics of psychiatric definitions assert that many cases remain necessarily ambiguous (Maycroft, 2009). Hoarding and clutter must be understood as socially constructed problems that reflect, in part, the culturally negotiated meanings of home and tidiness (Cherrier & Ponnor, 2010; Dion, Sabri, & Guillard, 2014; Miller, 2008, 2011; Young, 2002).

Estimating the Prevalence of Hoarding Disorder

Keeping these cautions in mind, the study of hoarding offers at least a starting ground for estimating just how often inspections regimes are likely to identify residential clutter as a problem. In one of the first community-based epidemiological studies of its kind, Samuels and colleagues (2008) asked respondents whether they “find it almost impossible to throw out worn-out or worthless things...even when they don’t have sentimental value,” and whether the behaviour was causing problems for the respondent or others. Based on responses to these questions, Samuels et al. estimated the weighted population prevalence of hoarding to be 5.3%. The authors also found results suggesting the prevalence of hoarding rose with age and declined with income, with men being more likely to hoard than women. A series of subsequent studies have used similar measures across diverse populations to report prevalence estimates of 2% to 5.8% (Iervolino, et al, 2009; Ivanov, et al, 2013; Lopez-Sola, et al, 2014; Mueller, et al, 2009; Timpano, et al, 2011).

Prevalence estimates of hoarding drawn from self-report studies provide a starting point for estimating how many living units inspectors might be expected to define as problematically cluttered, but a number of shortcomings remain. First, these hoarding prevalence estimates relate to people, rather than living units, and seek specifically to identify people who have problems with compulsive hoarding rather than the broader aim of detailing the presence of problematic residential clutter. Insofar as excessive clutter does occur in relation to problems other than hoarding, and those who hoard may have access to multiple living units, many cases of problematic residential clutter are likely to be overlooked. Second, and perhaps more troublesome, all of the estimates above rely upon self-reporting of a stigmatized and little-understood problem. This can lead to both over and underestimation. Residents could view their homes as problematically cluttered even though inspections regimes would identify

few problems. On the other hand, residents with hoarding disorder often lack insight into their condition or how cluttered their homes might appear to an inspector (Tolin, Fitch, Frost & Steketee, 2010).

We are aware of only one research group that has estimated prevalence of hoarding problems with direct observation of clutter within the home. Dong, Simon, Mosqueda, and Evans (2012) assessed hazards, including hoarding and “unsanitary conditions”, in the homes of 4,627 community-living older (65+) adults in Chicago. In their youngest participants (65-74 years old), the estimated prevalence of hoarding was 5.0% for women and 5.4% for men, with estimated prevalence diminishing for older adults (85+). In another paper on the same sample, Dong, Simon, and Evans (2012) found some support within their sample for the earlier Samuels et al. (2008) finding that more disadvantaged men (here with lower education) demonstrate higher levels of hoarding. A subsequent study using a different sample of 3,159 community-dwelling older (60+) adults who identified as Chinese provided further nuanced estimates (Dong, 2014). Based on face-to-face interviews in the respondent’s preferred language and dialect, researchers found 14.9% had at least mild levels of accumulated possessions, most commonly of paper items such as newspapers or magazines. Conditions described as moderate-to-severe hoarding were observed in 3.5% of homes.

Residential Clutter as an Inspections Problem

Of note, clutter described as problematic by hoarding researchers may or may not correspond to conditions viewed as problematic by inspectors. Identifying clutter as problematic involves using somewhat ambiguous and subjective criteria, whether the judgment is made by a mental health professional (Maycroft, 2009) or a housing inspector. Nevertheless, the social construction of clutter corresponding to inspections-related definitions remains grounded within legal foundations in the perceived social and public health risks (prominently including fire risks) associated with clutter (Ligatti, 2013). These may or may not remain quite stable as bases for defining clutter as problems. Momentarily setting aside these risks implicitly associated with levels of accumulation, the authority of inspectors fundamentally serves to *make* clutter an explicit problem. Even without municipal inspection regimes in place, landlords and apartment managers may evict tenants perceived as failing to take adequate care of their units. When municipal inspections are added to management inspections, a wide variety of tenants may be placed at risk of eviction.

Here we attempt to better frame how clutter becomes a social problem through regulatory labeling, which reflects, at least in part, real underlying fire and health risks. While data on problem clutter are broadly lacking, we argue that an evidence-based understanding of the nature and prevalence of problem clutter has especially important implications for those living in the most marginalized of housing circumstances. Their weak claims to property leave them most at risk of eviction, displacement, and homelessness. They are also frequently left to the densest, most poorly maintained, and least desirable sectors of the urban housing stock. For these reasons, any clutter-associated risks of fire or related public health problems are likely strongest for those on the margins of the housing market.

As residential clutter moves into the realm of regulation, more specific definitions of problems often take shape. To be certain, some definitions remain vague. Authorities may be called to act upon public nuisances and adjudicate landlord-tenant disputes. But many regulatory bodies, especially municipal fire inspectors and building or property use inspectors, are empowered to muster the authority of local by-laws in defining residential clutter as problematic (Bratiotis et al., 2011; Dinning, 2006; Ligatti, 2013).

Four regulatory issues, in particular, bear upon the construction of residential clutter as a problem, including the assurance of adequate egress; the accumulation of combustibles; interference with other aspects of public safety and health; and, finally, aesthetics. Residential clutter is judged to be a problem when it hinders egress, which involves enabling easy passage into, through, and out of residential spaces via doors, windows, hallways and other passages. The focus on egress stems mostly from fire safety concerns which are perhaps more directly addressed by defining clutter as problematic when it involves the dense accumulation of combustibles such as stacks of print material or clothing items (Bwalya, Lougheed, Kashef, & Saber, 2011). Clutter also becomes a regulatory problem when it interferes with other aspects of fire safety, including impeding the proper functioning of features like sprinklers or storage of flammable items near stoves or heat sources (Richardson, 2001). From a pragmatic public health perspective, clutter can also produce habitat for pests and complicate pest control efforts. Similarly, some kinds of clutter can exceed the weight load prescribed for floors and building supports, precipitating collapse. In addition to these real safety issues, aesthetic concerns also make their way into regulations governing the tidiness of residential premises, particularly when the clutter flows into common areas or spaces that are visible to neighbors.

Municipal inspectors and related authorities are enabled to order penalties and remediation involving actions such as fines on property owners, forcing owners to pay the cost of remediation, condemning properties, and evicting or barring entry to residents. Often municipalities pursue policies that require landlord responses, which in turn must be articulated through existing landlord-tenant contracts. Large housing providers, especially providers of public or social housing, may develop their own regulations and inspections regimes as part of their compliance efforts.

Residential Clutter and Eviction

The specter of eviction illustrates how the problem of residential clutter crosses public and private sectors and is frequently complicated by tenancy arrangements. In cases where problematic clutter develops within rented dwellings, landlords are often the first and sometimes the only point of contact for authorities. At the very least, residential tenancy laws create an additional layer of bureaucracy to negotiate. Due to the mental and physical health issues discussed above, many tenants within a cluttered unit may find it difficult or impossible to comply with requests to clear the clutter, even when the conditions of their home violate their lease agreement. More troubling for those interested in preventing homelessness, landlords often use the presence of excessive clutter as grounds for evicting tenants (Glover & Moss, 2010).

Clutter may be much more prevalent in eviction cases than is commonly assumed. In a New York City non-profit housing advocacy organization, researchers assessed the prevalence of hoarding problems among those seeking help with housing-related problems, most typically eviction (Rodriguez et al., 2012). Clients who agreed to participate in the study were assessed with interview and self-report measures of hoarding symptoms. Of 115 participants, an astounding 22% met criteria for hoarding disorder on the basis of interview (and 23% on the basis of self-report questionnaire). Within a sample of individuals who self-identified as having problems with hoarding, Tolin et al. (2008) reported 8-12% of hoarding participants had been evicted or threatened with eviction. On the whole, the regulatory context in which housing rights are established has important implications for how residential clutter is handled within a city. Those with the most marginal attachments to property are also most at risk for displacement and homelessness due to problems with clutter.

At the risk of eviction, the diagnosis of hoarding or related conditions as mental health disorders can become relevant in determining housing outcomes, bringing mental health regimes and inspection regimes together again. Though it varies from place to place, a degree of accommodation for those with disabilities is demanded by law across most legal regimes. Laws ostensibly protecting public health (as well as the property rights of landlords) are often balanced against laws demanding accommodation and protection from discrimination for the disabled (Ligatti, 2013).

The legal and ethical issues cities face in sorting through residential clutter cases are often further complicated by challenges in coordinating the responses of diverse enforcement, mental health, and outreach agencies. Cities have begun to create specific task forces devoted to dealing with clutter or hoarding cases in an integrated way (Bratiotis, 2012). In many cases, such task forces have been instituted following highly visible tragedies, including deaths, injuries, and fires.

The case for devoting attention to residential clutter as a pressing housing problem rests, in part, on providing answers to some basic questions establishing the size of the problem. How often do normal inspections create or warn of a clutter-related legal problem for tenants and landlords? How well does this process reflect underlying levels of clutter? How do assessments of clutter vary by building factors like size and management? How stable are assessments of clutter across time, differing types of inspections, and different inspectors?

Drawing upon two phases of inspections of a particular set of dense, low-income housing in Vancouver, we attempt to address these questions. We do not suggest that the answers we provide will generalize across all other cases – indeed, quite the opposite. Different regulatory and inspection regimes will result in different constructions and assessments of the problem of residential clutter. Nevertheless, establishing answers to how big a problem residential clutter might be within one important context should help inform the case for making substantial investments in diverse community-based solutions and can provide context for cases such as the Toronto fire described earlier.

Vancouver as a Case Study

Vancouver is a medium-sized city located at the heart of the third largest metropolitan area in Canada and approximately the twenty-fifth largest in

North America.⁵ Vancouver is known for being a very livable city with very expensive real estate. The lack of affordable housing lies behind the persistence of homelessness as a highly visible problem for the City. The most recent homeless count undertaken in the City estimated 1,803 residents were homeless, a sharp and unwelcome 13% rise from the previous (2011) count's figure of 1,581 ((GVRSCH), 2014).

Housing remains a potent political issue within Vancouver. The winner of the most recent Vancouver mayoral campaign had declared a goal to end street homelessness by 2015 – a goal that was not met. The City has been hesitant to enter into the construction and maintenance of affordable social housing, which has mostly been left to the provincial (British Columbia) government, working in conjunction with the non-profit sector. Instead, a large part of the City's strategy to combat homelessness has included municipal regulation to preserve what remains of the City's dense, low-income housing stock, especially its Single-Room Occupancy (SRO), or "residential hotel" housing. Inspections regimes were instituted to insure the SRO stock was maintained to support tenancy. Much of this housing stock is privately held and bound by restrictions on redevelopment, with the rest managed by various non-profit organizations.

SRO hotels have low barriers to tenancy and are often the only alternative to homelessness, in Vancouver as well as many other cities. As such, SRO hotels are an important part of the housing stock to study. In a recent study of Vancouver's SRO residents, 67% had been homeless at some point in the past (Vila-Rodriguez et al., 2013). This type of accommodation generally involves a small room (less than 320 square feet) with a sink and possibly a hotplate and small refrigerator. The small size of SRO units means they can quickly fill up with things. Toilet and shower facilities, shared by 10-15 residents, are typically located at the end of a common hallway. Figure 1 shows a relatively standard layout for an SRO unit.

[Figure 1 About Here]

A diverse set of services, including City and Provincial agencies and assorted non-profit organizations, provide support for Vancouver's low-income residents, with limited coordination between them. In 2010, an effort to better coordinate services among health agencies and City agencies produced

⁵ The most recent (2011) census recorded 603,502 residents in the City of Vancouver, and 2,313,328 residents in the Greater Vancouver Regional District.

a report on compulsive hoarding as an area of joint interest. The Carnegie Outreach Program from the City of Vancouver conducted a survey to assess the prevalence, costs, and severity of problems associated with hoarding in the city, particularly focusing on one low-income neighbourhood, the Downtown Eastside. They interviewed residence managers and tenant support workers in single-room-occupancy (SRO) hotels as well as City of Vancouver property use staff and mental health professionals serving the neighbourhood. An informal and limited survey suggested 10-15% of tenants of SRO buildings in the Downtown Eastside exhibited hoarding behaviour, vastly exceeding prior prevalence estimates (Glover & Moss, 2010).

To give an idea of the volume of clutter, the report described one case involving a 300 square foot bachelor suite that had enough material to fill a one-tonne truck four times. A more modest, but nevertheless problematic, illustration of residential clutter within an SRO unit is provided in Figure 2 (provided with the consent of the resident). Almost all of the building operators in the Carnegie Outreach Program survey reported having had current or past tenants with fairly severe problems with clutter. They described cases where the room was so full that the door could not be opened, and the tenant was sleeping in a chair or on the floor because the bed was inaccessible or had been removed. Most building operators indicated present or past tenants whose rooms could only be accessed via small paths in the clutter, sometimes with standing room only (no ability to walk around). The items tenants collected were typically hoarded items such as clothes, food, and reading material. About half of the cases also involved collections of items like electronics, small appliances, or bicycles that the tenant hoped to sell.

The Carnegie Outreach Program report (2010) continued to note that eviction was a common outcome, even among those building operators with an established process for responding to hoarding. Building operators used threats of eviction to communicate the severity of the situation and motivate the tenant to make changes. Private building operators reported a 50-100% eviction rate for tenants who exhibited hoarding behaviour and did not respond to warnings. Even operators with a “no eviction” policy sometimes resorted to eviction, often because the hoarding created such friction in the landlord-tenant relationship that discussions about hoarding behaviour led to anger and (rarely) violence. More typically, evictions were carried out on the basis of Breach of Tenancy under the Residential Tenancy Act, which requires tenants to “maintain reasonable health, cleanliness, and sanitary

standards” (Section 10(2)). Pest infestations, fire hazards, or unsanitary conditions are common in hoarded situations and would all violate tenant obligations under the Act. Landlords estimated that the average cost of dealing with “hoarding tenants” ran to \$4,500 per case.

[Figure 2 About Here]

Data and Methodology

The present study of how often problematic clutter was recorded in SRO units was undertaken with the close assistance of the City of Vancouver Property Use Inspections team. In Vancouver, inspectors from the Property Use Branch complete annual inspection reports of SRO units to ensure they are being maintained for rental, and specifically to see that health, fire, and building safety requirements outlined in the City of Vancouver’s Standards of Maintenance By-law No. 5462 are met. Working at the room level (here encompassing the entire living unit), aggregated within buildings, we compare across two sets of inspections from these municipal inspectors. Analyzing the first set of inspections, recorded by three property use inspectors⁶ from 2009-2012, we retrospectively examined archived inspector reports with a focus on documenting free-form comments related to clutter across 83 buildings. Some buildings were inspected more than once, resulting in a total of 117 different inspections and a total of 4,312 occupied room inspections.

Comments from reports noted a variety of infractions and instructions to management. With respect to identifying clutter as a problem, comments included official orders (i.e., “Clean Up Room Notice”) issued and less formal written warnings about “clutter,” “large amount of rubbish,” or the labeling of residents as “Hoarder.” We coded all of these comments as identifying problem “clutter.” More ambiguous notes, indicating debris, items blocking doors or on the floor, and specific items (e.g. “books”) needing to be removed were coded as possibly indicating clutter. Where possible, personal communication with inspectors was also used to identify when their notes referred to warnings about clutter and when they did not. On the whole, this set of inspections effectively demonstrates how often consistent inspections tended to identify residential clutter as a problem, attached to potential and actionable legal consequences and possible risks of eviction.

⁶ Reports from these three property use inspectors were used because they were identified as being conscientious and consistent in their reporting by their superiors, raising the issue that inspectors may vary in their performance.

For the second set of inspections, occurring from 2012-2013, we worked with inspectors to establish a clearer means of assessing clutter, providing a singular scale of severity. Inspectors requested a rating system that would fit on their inspection form, rather than the separate Clutter Image Rating materials commonly used in hoarding research. They also requested simplified categories, so we worked with them to produce a 0 to 3 scale of severity, whereby inspectors were asked to choose between: 0 = “no checkmark, clutter (if any) is within normal limits, no hazards noted”; 1 = “manageable level of clutter, interferes with optimal use of room but no difficulty navigating, clutter creates mild/temporary hazards”; 2 = “clutter impedes free movement in the room, functional use of room is impaired, clutter creates moderate hazards”; or 3 = “clutter is severe, navigation is difficult, use of the room is nearly impossible, serious hazards due to clutter.” The room depicted in Figure 2 was rated as “2” by the inspector. The rating system provided a more systematic way of identifying problematic clutter that did not necessarily imply enforcement warnings or official notices, potentially disentangled enforcement from observation. This was important insofar as inspectors generally described wording their observations to management in a way that would not place tenants at undue risk, meaning their enforcement actions might not always line up with their observations. A total of 109 buildings were each inspected once in Phase II, for a total of 4,460 occupied room inspections.⁷

Of note, due to normal staff turnover, there was no overlap in the 3 inspectors from whom data were gathered in Phase I and the 7 inspectors involved in Phase II. However, 63 buildings were inspected in both phases, with an additional set of the buildings from Phase I receiving multiple inspections during that phase. The overlap in inspections across buildings enables comparisons in the identification of the degree of problematic residential clutter across time, inspector, and inspection method. Though these factors cannot be fully separated, within building comparisons across inspections help establish the overall stability of recorded clutter levels.⁸

In both phases of data collection, the total number of units in a building, the number of occupied units inspected, and the management type of the building were recorded. Figures for total number of units in the building and number of occupied units inspected were obtained from inspections reports.

⁷ Data from an additional building was dropped from this phase due to missing protocol.

⁸ The factors were not fully crossed, preventing identification of unique contributions of any one of these factors to prevalence estimates.

Where absent on reports, or written as lower than units inspected, the figure for the number of units inspected was used instead. Total number of units in the building was treated as a means of differentiating larger buildings, where management might find more challenges in keeping track of individual room conditions, from smaller buildings, hypothesized to be more manageable. Although total number of occupied units inspected correlated strongly with total number of units in a building, these figures sometimes differed insofar as not all units were occupied or accessible during inspections. With occupied units identified as cluttered as the numerator, total number of occupied units inspected was used as the denominator for establishing problematic clutter prevalence estimates, both overall, and within building. Management type of building was differentiated by market and non-market status. Non-market buildings were run either by government bodies or non-profit corporations (typically with government assistance), often with a mandate to support tenants and preserve tenancies where possible. These settings might be expected to tolerate more clutter. Using the data gathered, we turn to addressing our research questions relating to residential clutter.

How often does the labeling involved in normal inspections create or warn of a clutter-related legal problem?

Using Phase I data, we provide two measurements of how often normal inspections create or warn of a clutter-related legal problem. These reflect our remaining uncertainty over whether some notes from inspections reports should always be viewed as indicating a clutter-related problem. Using our more conservative “definite” clutter measure, we estimate that about 6.1% of rooms inspected were labeled as problematically cluttered. Using a more expansive definition of clutter boosted this estimate to 6.7% of rooms. Of units identified as problematically cluttered, approximately one in ten (28 cases) were marked as receiving formal “clean up room” notices attached to their doors. The problematic status of these and other rooms was further communicated to management in summary inspection reporting.

Of note, the average prevalence of clutter labeling across buildings (5.0%-5.6%) was lower than across all rooms, suggesting a positive correlation between building size and clutter prevalence to be re-examined below. The modal building inspection labeled no rooms as problematically cluttered, but in some buildings nearly one in every three or four units was considered problematically cluttered.

[Table 1 about here]

The literature would suggest that residents of units labeled as cluttered through inspections regimes face a greater likelihood of eviction (Rodriguez, et al, 2012; Tolin, et al, 2008). We have no data on how many evictions resulted from the inspections we studied, but based on the literature some 263 tenants (i.e., those living in units labeled as problematically cluttered) in Phase I of the study appear to be at elevated risk of eviction. Considering their marginal positions, once evicted, former residents would likely encounter difficulties finding new tenancies and maintaining possession of their things. Of note, the inspectors we worked with described their concern over threatening the tenancies of residents within buildings, which may have downwardly biased their labeling of units as problematically cluttered in Phase I, especially where tenants were less likely to receive support. These concerns influenced the unobtrusive rating scheme used in Phase II.

How often do inspections providing targeted ratings of clutter reveal problematic levels?

In Phase II, we worked with inspectors to provide a less immediately threatening and more informative way of recording residential clutter for research purposes. As described above, inspectors provided a 0-3 rating corresponding to the level of clutter, ranging from none (0) to severe problem (3). Using this method, approximately 2.4% of units had a severe clutter problem, while 7% had a problematically or severely problematic (2+) rating. An additional 5.3% of units had a notable amount of clutter.

On the whole, it seems that units with a clutter rating of 2+ seem similar to those units that would have previously (in Phase I) been provided a warning or notice about their level of clutter, especially employing the “probable clutter” criteria. This provides support for the notion that different modes of inspection provide roughly similar estimates of the underlying prevalence of clutter that would be considered problematic from the standpoint of the local regulatory regime.

Averages across buildings in Phase II, as in Phase I, are slightly lower than averages across all rooms. Similar to Phase I results, buildings at the high end of the range had up to one third of units severely cluttered (rating of 3). Of note, the average building level of clutter labeled as severely problematic in Vancouver SROs (2.4%) approximates the post-fire level of clutter found through investigation of the building involved in Toronto’s fire (2.7%). But in the wider terms of all units labeled problematic through both phases of the inspection process (probable clutter or rating 2+) the average level of clutter

was much higher in Vancouver SROs (6.7%-7.0%), reaching more than twice the level found in Toronto.

How do assessments of problematic clutter vary by building size and management?

The Toronto fire occurred in a very large building (712 units) that was also managed as social, or non-market, housing. How does building size and form of management influence how many units get labeled as problematically cluttered? Across both Phase I and Phase II data, non-market housing units tended to have a significantly higher proportion of units that either received clutter-related warnings or clutter ratings of 2+.⁹ This difference may relate to the more supportive environments of non-market SROs, at least some of which maintain formal “no evictions” policies. Tenants who accumulate clutter may be less likely to face eviction, and clutter levels may remain high. For similar reasons, inspectors concerned about threatening the tenancies of residents may underreport problem clutter in market housing. That results remained similar across phases, even though the measurement of problem clutter was less immediately threatening or label-oriented in Phase II relative to Phase I, suggests inspector concerns were not greatly biasing their reporting of clutter.

[Table 2 about here]

Building size could also influence the proportion of units labeled as problematically cluttered. As shown in Table 2, dividing buildings into those with more 50 units or more and those with less than 50 units helps reveal the extent of the correlation between building size and clutter prevalence. Larger buildings tend to have disproportionately more units labeled as cluttered in both phases of the study, though the relationship appears slightly stronger in Phase II. Treating variables continuously, the correlation between number of units in the building and problem clutter prevalence is $r=0.15$ in Phase I and $r=0.29$ in Phase II.¹⁰

Further contextualizing the case in Toronto, a large building managed as non-market housing in Vancouver would be expected to face an even higher than average prevalence of clutter. If only 2.7% of the Toronto buildings units were problematically cluttered, this would seem to reflect lower than expected prevalence.

⁹ T-tests for building differences equal zero across management: Phase I $Pr=0.02$, Phase II $Pr=0.03$

¹⁰ In both cases, significant at $p<0.001$ across rooms.

How reliable and stable are assessments of clutter within buildings across inspectors, time, and different reporting schemes?

Exploring the prevalence of clutter labeling by inspector reveals substantial variation in both phases. In Phase I, the proportion of units labeled as problematically cluttered by Inspectors A and C was much higher than for Inspector B. In Phase II, the proportion of units labeled as problematically cluttered (2+) by Inspector D, who carried out nearly half of the inspections, was approximately three times the average across other inspectors.¹¹ The substantial variation in average estimates of problem clutter across inspectors could be indicative of subjectivity in determining what degree and type of clutter constitutes a problem. Alternatively, the variation could reflect differences in the patrols assigned to different inspectors, with some (especially inspectors A, C, and D) assigned more problematic routes than others. In order to better assess what accounts for variation across inspectors, it is helpful to identify the sub-sample of buildings inspected in both phases of data collection.

We analyzed data from the 63 buildings that were inspected in both Phase I and Phase II data collection periods. Multiple inspections of these buildings enabled an assessment of the overall stability of labeling of problem clutter over time. In order to assess stability, and provide further insight into the relationships to building characteristics and inspectors identified above, we ran building-level OLS regression models of the proportion of units receiving a clutter rating of 2+ (problem), weighted by occupied units inspected within each building.

In Model 1, we regressed clutter rating of a building in Phase II on the proportion of units in the building given a clutter warning in Phase I.¹² Clutter warnings in Phase I accounted for about one-third of the variation in Clutter Ratings in Phase II. The strong underlying correlation between prevalence estimates across phases ($r=0.58$) indicates a striking degree of stability in clutter labeling, both over time and across divergent measurements.

[Table 3 about here]

¹¹ There were inspectors within the “Other Inspectors” category who did not perform many SRO inspections, but had similarly high prevalence estimates of problem clutter within those units they did inspect.

¹² Averaged across inspections for buildings with multiple inspections in Phase I.

Model 2 provides estimates of the joint effects of building size (measured here as the log of the total number of units in the building in order to normalize the variable) and non-market management. As expected from examination of Table 2, both the size of the building and its management as non-market housing had significant and positive effects on the estimated proportion of units labeled problematically cluttered.

In Model 3, inspector effects were modeled for Phase II data. Using Inspector D, who labeled the most units as problematic, as the reference, we explored the effects of Inspector E and Other Inspectors on estimates.¹³ Inspector E's inspections yielded significantly fewer units as problematically cluttered relative to Inspector D. The estimates from Other Inspectors were not significantly different from Inspector D.

In Model 4, inspector effects were checked against baseline building characteristics in terms of size and management. Accounting for size and management, both of which remain significant in the model, the effects of inspectors no longer significantly predicted prevalence of clutter. This analysis suggests differences in inspector ratings may be accounted for by the building characteristics of differing patrols.

Model 5 returns the proportion of units receiving clutter warnings in Phase I to the model. As before, Phase I warnings significantly predict Phase II ratings of clutter independently of other variables. Accounting for the underlying stability in clutter, as measured by independent inspectors across differing reporting methods, there remain no inspector effects at all. The effect of a building being managed as non-market housing also mostly disappears, which is not surprising since this effect should already have been accounted for in Phase I estimates. Interestingly, the effect of building size remains positive net of Phase I estimates of clutter, meaning that larger buildings were more likely to get higher prevalence ratings in Phase II relative to Phase I. This effect may reflect inspectors' reluctance to single out residents of larger buildings, which they felt would occur in relation to the informal warnings used in Phase I inspections but not with the checkbox-style ratings used in Phase II inspections.

That inspector effects diminish to zero with the inclusion of building characteristics and previous clutter warnings (issued by different inspectors) provides substantial support for the interpretation that building

¹³ Inspector F did not inspect any of the 63 buildings for which there were repeat inspections.

characteristics pertaining to different patrols, rather than subjective elements pertaining to different inspector judgments, account for most of the variation in labeling clutter problematic across inspectors.

In Figure 3, we exploit the repeated measurements of SRO buildings in the sample, including only buildings that received at least three separate inspections from different inspectors in Phase I and also had data for Phase II. In order to improve the readability of the comparison, we excluded two buildings that had no units labeled as cluttered in their inspections. Hence, blank spaces in the chart should be interpreted as non-inspections for the purposes of comparison.

[Figure 3 About Here]

The chart demonstrates the remarkable stability of many – but not all – buildings in terms of the warnings for clutter and clutter ratings they received across multiple inspections with different inspectors using different reporting formats (in Phase I vs. Phase II). Buildings 1, 3, and 5, in particular, remained fairly consistent for clutter ratings across all of four inspections involving three separate inspectors. Other buildings, like buildings 2 and 4, showed more variability depending upon the inspection. Nevertheless, even for these buildings, the biggest variation tended to occur across repeated inspections by the same inspector, rather than across differing inspectors.

Some variation over time on the part of buildings would be expected – especially if managers responded vigilantly to warnings and notices issued by inspectors. On the whole, however, analysis of cases with the most repeated inspections supports two notions: 1) underlying levels of clutter often seem to remain quite stable, and 2) differing inspectors and inspection methods do little to undermine stability in underlying levels of clutter.

Discussion

Focused on the densest and cheapest housing stock, represented in Vancouver by SRO housing, the evidence gathered here provides a starting point for establishing the size of the problem posed to cities by residential clutter. For marginal housing serving the most needy of households, residential clutter is quite frequently identified as a problem. In our best estimate, drawn from Phase II data, about one in fourteen living units (7%) were judged to contain hazardous or otherwise problematic levels of clutter. Of note, this estimate provides a context for the results of the post-fire

inspections of a Toronto social housing building, which found 2.7% of units to be problematically cluttered. Moreover, our study of these very small units for housing tenants on very low incomes provides an estimate of the prevalence of clutter that exceeds all published public health studies estimating the prevalence of hoarding as a disorder (2% - 5.8%).

The proportion of units identified as problematically cluttered varied widely across buildings. The modal building had no cluttered rooms, but the range of problem clutter extended up to one third of occupied units inspected. Under a normal inspections regime (Phase I), the average housing provider would receive notice that 5.0-5.6% of their residential units were problematically cluttered. In conversation with inspectors, we learned that they were sometimes reluctant to provide this written notice if they were concerned about the impact on the tenant (e.g., a housing provider known to be easily provoked to evict tenants). Accordingly, in Phase II, inspectors and researchers collaborated on a new procedure to be able to track the prevalence of problematic clutter without so obviously signalling grounds for a possible eviction. This revised procedure also permitted some distinction about severity of the clutter. Taking a rating of 2 (problematic) or 3 (severe) as indicators, the prevalence rates were quite similar to those observed in Phase I (to the inspectors' surprise, we might add).

An even more surprising finding than stability in overall levels of clutter was our discovery that within buildings, levels of clutter tended to remain relatively stable – through time, across multiple inspectors, and using different inspection methods. This suggests that underlying levels of clutter tend to persist in “problem” buildings independently of the subjective judgments of inspectors. Indeed, when we controlled for the levels of problem clutter observed within the first inspection, we found no independent effect on clutter estimates pertaining to specific inspectors on subsequent inspections.

The persistence of clutter also likely speaks to differences in building management styles. Non-profits attempting to run social housing in such a way to provide supportive environments often pursue evictions as a last resort. As a result, they likely retain more residents who accumulate residential clutter, behaviour that, in private settings, would more likely lead to eviction. Such providers, in turn, often offer the last refuge to individuals who would otherwise end up homeless. In this sense, residential clutter may pose a special and persistent problem for non-profit housing providers. A number of other buildings also demonstrate persistent clutter – especially,

but not only, large buildings containing many living units. To the extent that managers pay less attention to their residents, whether due to size or laissez-faire policies, they may enable more clutter to accumulate. Though documenting management responses to the identification of problem clutter lies beyond the scope of the current study, this may be a fruitful avenue for future research.

The stability of clutter at the building level is also probably related to the intractability of hoarding as a disorder at the individual level (Steketee & Frost, 2003). In directly examining living units rather than people, the data here complement and expand upon population-based estimates of the prevalence of hoarding. Importantly, examining Vancouver's SRO living units reveals an estimate of problematic clutter prevalence exceeding most hoarding prevalence estimates. Discrepancies in results may reflect a number of possibilities.

First, clutter can arise and become deemed problematic for reasons beyond hoarding disorder (Cherrier, 2010; Cwerner & Metcalfe, 2003; Maycroft, 2009). We might fruitfully consider hoarding-related clutter a subset of the full range of problematic clutter. Second, clutter accumulated by a single person, whether hoarding-related or not, may extend across multiple residences. Third, population health methods of establishing the prevalence of hoarding may bias best guesses of the prevalence of problem clutter. In part this may arise from the social construction of what about clutter constitutes a problem, which even in a legalistic sense will vary across by-laws pertaining to different municipalities. Underlying risks will also vary depending upon use and the physical characteristics of the clutter and housing stock. The social construction of what constitutes a problem necessarily also varies across epidemiological studies of hoarding, especially insofar as many studies rely on self-report. Use of this method may under- or overestimate the prevalence of problem clutter because respondents may not appreciate either the relevance of local by-laws, the nature of various risks, or the full possible range of clutter as they rate their own household clutter. In contrast, studies that use in-home interview and observational methods may underestimate the prevalence of problematic clutter – even if they can settle upon a working definition of the concept - due to selection bias. Due to the stigma associated with clutter, many respondents with excessive clutter may decline to participate in research involving a home visit, but, depending on the type of housing, such individuals may have a harder time avoiding inspections regimes.

Anecdotal evidence can also overestimate problem prevalence, sometimes while conflating hoarding with clutter. In particular, the Carnegie Report's informal survey of SRO housing providers (working in the same neighbourhood as reported on here) resulted in an estimate of 10-15% of tenants displaying "hoarding behaviours," primarily on the basis of clutter observed (Glover & Moss, 2010). While this estimate resonates with our 12.5% estimate of the prevalence of clutter when defined in such a way to include "manageable" levels of clutter (scored "1") as well as more problematic levels ("2" and "3"), this seems like an overly inclusive definition of problematic residential clutter. That a survey of housing providers would overestimate the prevalence of problematic clutter relative to inspectors may in part reflect the circumstances they face (recall that building variation in prevalence ranged all the way up to one third of units cluttered) and may also reflect selection bias in that housing provider interest in participating in the survey may be driven by their exposure to hoarding cases.

Finally, both clutter and hoarding, for a variety of complicated reasons, may be more common amongst people who end up in low-income, marginalized housing. This could be due to features of the housing itself (i.e., the same amount of clutter more quickly becomes problematic in a 300 square foot home than elsewhere) or consequences of mental illness (i.e., job loss due to interference from symptoms). Furthermore, those in low-income housing may also find themselves more generally lacking the means to manage discrepancies between the amount of stuff they accumulate and the limited space they can afford. On the other hand, the frequent surveillance of low-income housing and more regular displacement amongst the poor may prevent problematic clutter from accumulating, with the result that it could actually be more common elsewhere. Until more research establishes how clutter becomes identified as problematic across a more diverse housing stock, we cannot be certain.

Ideally, future research would also be able to track household characteristics like income, and inspection outcomes through time, rather than simply focusing on room inspections aggregated at the building level. But this is both ethically and practically challenging. Regardless of the reason we find a higher estimate of the prevalence of problematic residential clutter than might be expected by projecting from the hoarding literature, clutter can clearly arise from hoarding behavior. Moreover, the general similarity and stability in estimates makes it reasonable (though by no means certain) to infer that most residential clutter has a basis in hoarding behavior.

So how big a problem is residential clutter as observed and created by inspections regimes? As demonstrated by the fire in Toronto together with the available literature (Bwalya et al., 2011; Richardson, 2001), accumulations of clutter can lead to elevated fire and public health risks with or without inspection regime intervention. Where available, inspections provide some insight into how many units might be attached to elevated risk. In the case of Vancouver's low-income, dense SRO housing stock (further increasing public health and fire risks), this encompasses a substantial portion of units.

What of the risk of displacement involved in inspections? In Vancouver, SRO units remain a small but important part of the low-income housing stock. Those studied here house about two and one half times the number of people recently counted as homeless ((GVRSCH), 2014). If everyone living in *just the problematically cluttered SRO units* identified in Phase II of our study were evicted without finding a new place to live (at an estimated cost of over \$1.4 million to landlords), the homeless count would have risen by approximately 20%, indicating the potential size of the problem.¹⁴

On the whole, though we have focused on documenting problematic clutter in perhaps the most troubled portion of the housing stock, occupied by those residents most at risk for housing instability, the problems associated with excessive residential clutter, including displacement, are by no means limited to the poorest neighbourhoods. More research is needed to get a better sense of how clutter becomes identified as a problem across an array of regulatory settings, and the underlying risks attached to the problem across a wide range of housing stocks. As a starting point, we suggest that for Vancouver's dense, low-income housing stock, where the associated risks of residential clutter are at their most critical and inspections regimes at their most intense, the prevalence of problem residential clutter exceeds what one might expect from the hoarding literature.

Both the size of the problem posed by residential clutter, as estimated here, and its complicated and socially constructed nature suggest a need for more comprehensive responses. As noted in the work of Bratiotis (2012), hoarding task forces represent an important start, and at least 90 communities across Canada and the United States have begun assembling multi-disciplinary and multi-jurisdictional teams to deal with the multi-faceted nature of the problem. Beginning in 2011, Vancouver developed such

¹⁴ Using 2011 count results, which are closer to the time of inspections.

a task force, the Hoarding Action Response Team (HART), representing municipal fire and property use inspectors as well as provincial health outreach workers (Vancouver, 2013). The team drew its impetus, in no small part, from the formulation of Vancouver's Housing and Homelessness strategy. Unfortunately HART explicitly does not work in the neighborhood containing the most SRO housing (the Downtown Eastside). As a result, though many housing providers, regulators, and services concentrate within the Downtown Eastside, they remain largely uncoordinated in dealing with residential clutter. Both here, and across many other locales, the need for more comprehensive approaches to residential clutter remains pressing.

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Table 1. Clutter Prevalence Data Summary, Vancouver SRO Samples from Phase I and Phase II

| Clutter Evidence | Phase I % units given clutter warning | | | Phase II % units given clutter rating | | |
|---------------------|--|------------------|----------------|--|------------------|----------------|
| | All Rooms | Building Average | Building Range | All Rooms | Building Average | Building Range |
| Definite Warning | 6.1% | 5.0% | 0 - 23.1% | | | |
| Probable Warning | 6.7% | 5.6% | 0 - 30.8% | | | |
| Rating 3 (severe) | | | | 2.4% | 2.2% | 0 - 33.3% |
| Rating 2+ (problem) | | | | 7.0% | 6.2% | 0 - 33.3% |
| Rating 1+ (notable) | | | | 12.3% | 12.1% | 0 - 48.8% |
| N | 4,312 | 117 | | 4,448 | 109 | |

Table 2. Estimates of Clutter Prevalence by Building Characteristics and Inspector, Vancouver SRO Samples from Phase I and Phase II

| | Phase I | | Phase II | |
|-----------------------------|---------|---------------------------------|----------|----------------------|
| | N | % units probable warnings | N | % units 2+ rating |
| Non-Market | 986 | 10.3% | 1018 | 10.4% |
| Market | 3326 | 5.6% | 3430 | 6.0% |
| Large Buildings (50+ units) | 2838 | 7.2% | 2955 | 8.2% |
| Small Buildings (<50 units) | 1474 | 5.7% | 1493 | 4.6% |
| Inspector A | 1960 | 7.9% | | |
| Inspector B | 1203 | 2.5% | | |
| Inspector C | 1149 | 9.1% | | |
| Inspector D | | | 2203 | 10.8% |
| Inspector E | | | 1218 | 3.0% |
| Inspector F | | | 558 | 3.6% |
| Other Inspectors | | | 469 | 3.6% |

Table 3. Regression Models of the Proportion of Units Receiving a Clutter Rating 2+ (problematic) in Phase II data by Building Characteristics, Inspectors, and Phase I Clutter Data for All Buildings Appearing in Both Phase I and Phase II SRO Samples.

| | Phase II % units clutter rating of 2+ | | | | |
|---|--|---------------------|---------------------|--------------------|---------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
| % units clutter warning Phase I | 0.957*** (0.169) | | | | 0.819*** (0.186) |
| Building Size [log(# units)] | | 0.053*** (0.015) | | 0.044** (0.016) | 0.039** (0.014) |
| Non-market Housing (ref: market housing) | | 0.052* (0.023) | | 0.048 (0.024) | 0.017 (0.022) |
| Inspector E (ref: Inspector D) | | | -0.065* (0.025) | -0.035 (0.026) | -0.002 (0.024) |
| Other Inspectors (ref: Inspector D) | | | -0.052 (0.04) | -0.024 (0.039) | -0.003 (0.034) |
| _cons | 0.038** (0.013) | -0.137* (0.063) | 0.111*** (0.012) | -0.087 (0.072) | -0.117* (0.063) |
| N | 63 | 63 | 63 | 63 | 63 |
| R ² | 0.341 | 0.210 | 0.111 | 0.235 | 0.430 |
| adj. R ² | 0.330 | 0.184 | 0.081 | 0.182 | 0.380 |

Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Figure 1. Typical Layout For an SRO Unit

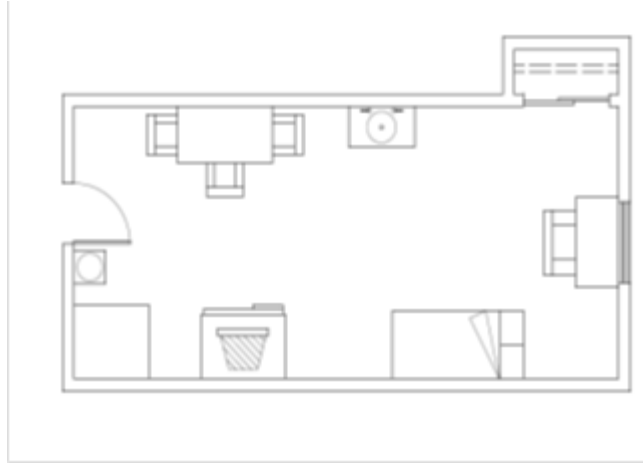


Figure 2. Residential Clutter Surrounding a TV Set and Covering a Sink Area (left) Within an SRO Unit



Figure 3. Proportion of Units Labeled as Problematically Cluttered in Buildings with Repeated Inspections, Identified by Inspector (Phase)

