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Lessons from the first round of mandatory housing needs reporting in British Columbia, Canada

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Abstract
Mirroring global trends, housing is a growing issue in urban Canada. To address the looming crisis, housing needs reports (HNRs) have recently gained traction with the promise to improve policy through data. While literature and practice have yet to coalesce around appropriate definitions and methods, the federal government is set to make HNRs national policy in 2025. In this study, we analyze a sample of 126 municipal HNRs produced by 2022 through a British Columbia mandate. Asking about the data reporting outcomes and policy lessons, we find high levels of compliance, achieved largely by relying on external consultants and private data. Lack of methodological guidance and uneven data availability particularly affect reporting on population projections and housing stock (changes). We call for capacity building and iterative evaluations to enhance the effectiveness of HNRs and increase policy alignment with the National Housing Strategy.

Keywords: housing need, policy evaluation, capacity building, British Columbia Provincial Mandate

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Résumé
À l'image des tendances mondiales, le logement est devenu une problématique urgente dans les zones urbaines du Canada. Face à une crise imminente, les rapports sur les besoins en matière de logement (RBL) ont récemment gagné du terrain avec la promesse d'améliorer les politiques grâce aux données. Malgré le manque de concordance entre la recherche et la pratique sur la définitions des objectifs et des méthodes appropriées, le gouvernement fédéral s'apprête à élaborer une politique nationale sur les RBL en 2025. Dans cette étude, nous analysons un échantillon de 126 RBL municipaux publiés avant 2022 dans le cadre d'un mandat de la Colombie-Britannique. Nous interrogeons les résultats et les enseignements politiques compris dans ces rapports, produits avec l'appui de consultants externes et de données privées, et nous observons un fort niveau de conformité. Le manque d'orientations méthodologiques et la disponibilité inégale des données affectent particulièrement les projections démographiques et relatives au parc immobiliers relatés dans les rapports. Nous appelons au renforcement des capacités et à des évaluations itératives pour améliorer l'efficacité des RBL et accroître l'alignement des politiques avec la Stratégie nationale sur le logement.

Mots-clés : besoins en matière de logement, évaluation des politiques, renforcement des capacités, mandat provincial de la Colombie-Britannique

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Introduction

Canada is facing a housing crisis: an estimated 250,000 Canadians are homeless and 1 in 10 households are experiencing housing distress (Dionne et al. 2023; Canadian Human Rights Commission 2023). At the same time, housing is a cornerstone of wealth-building and retirement planning for many Canadians. Real estate represents approximately 55% of overall household wealth and as an industry contributes a staggering 20% to Canada's GDP (Statistics Canada 2024). Some of Canada's largest metropolitan regions have seen housing prices soar so high so fast that they may have entered housing bubble territory (UBS 2024). In sum, while some struggle to put a roof over their heads, others fear for the future of their lifetime investments and the stability of the economy (Global News 2023).

With the stakes so high, it is not surprising then that debates on the root causes of this crisis and the appropriate measures to counter it are fierce. Housing policy has been on the ballot in every major election since 2015; the issue of supply—how much and what kind is needed—has become particularly polarizing (Mei 2023). While some argue that more supply—any supply—is needed and fast (e.g., Canada Mortgage and Housing Corporation 2023; Furman 2015), others argue for careful deliberations on what kind of housing should be produced where and for whom (e.g., Been et al. 2019; Burda and Chapple 2024; Zhu et al. 2022; Rodriguez-Pose and Storper, 2020).

Discussions have turned political not only because of the significance of housing but also (1) because good data on housing need is lacking and (2) because the federal government has been calling for greater government involvement (Fallis 2010; Pomeroy 2021). After years of effectively leaving housing provision to the private and nonprofit sector, in 2017, the federal government announced Canada's first National Housing Strategy (NHS). The NHS signifies a tidal shift in Canadian housing policy and implicates all levels of government. Together with commitments to progressively realize housing as a human right and completely revising housing and infrastructure funding structures, the NHS outlines significant efforts to increase the collection of and access to better data about housing. In total, CAD 550 million has been pledged towards funding housing data collection and research (CMHC 2024).

The promise is that better data leads to better decision-making (Howlett and Craft 2013). Towards this end, in 2017, housing needs reports (HNRs) were identified as a policy instrument with the potential to address the issue of appropriate housing supply through data. Better, more consistent, and reliable reporting on evolving housing needs —so the rationale—would facilitate better estimates of future housing demand and in turn more effective government interventions through increased transparency, targeted funding, as well as data-informed permitting and zoning changes, among others (The Government of British Columbia 2024).

Now, HNRs are scheduled to become mandatory for recipients of federal funding starting in 2025. The federal government has already begun integrating HNRs into major funding mechanisms such as the Canada Community

Building Fund and the Green Infrastructure Stream. How this mandate is implemented and received is thus hugely important, potentially having wide-ranging implications for local governments and housing markets across the country. Yet, to date, rigorous guidance on what should be measured and how is lacking (Housing, Infrastructure and Communities Canada 2024).

This study addresses this gap by shining a light on the province of British Columbia's (BC) experience with mandating HNRs at the municipal level. BC has been an early adopter of HNRs. Regulations requiring local governments in BC to produce HNRs were established as early as 2019 with the first round of mandatory HNRs due in April 2022 (The Government of British Columbia 2024). With HNRs about to become national policy, understanding the challenges of implementing this mandate in BC offers early lessons that can inform a successful rollout on the national stage. Hence, in this paper, we ask: (1) What are the data reporting outcomes of mandating HNRs in the first reporting wave in BC? and (2) What lessons can be learned from the BC experience? Towards this end, we analyze a sample of HNRs covering 126 municipalities, published and available online by August 2022. Using descriptive statistics, bivariate regression and qualitative variance analysis, we assess these reports in terms of completeness and consistency of reporting in relation to the mandate. We also investigate what HNRs reveal about capacity and data access and ask to what degree they report on the housing needs of vulnerable populations, identified as "priority groups" in the NHS.

We find that most municipalities reported most of the required information. The relatively high level of compliance, however, was achieved largely with the help of external consultants and private data sources. We find evidence that lack of methodological guidance and uneven availability of data particularly affect reporting on population and household projections, as well as housing value and housing stock (change). Although not required, most municipalities chose to include most NHS-identified priority groups in their HNRs, signaling an opportunity to refocus HNRs toward prioritizing the most vulnerable Canadians.

The rest of the article is structured as follows. First, we review the literature on housing needs assessments (HNA)[1], both in their relationship to evidence-based policymaking and the evolution of housing policy in BC and Canada more broadly. Then, we detail our data collection, processing, and methods of analysis, followed by a presentation of our findings. Before we conclude, we consider these findings against the broader literature and discuss the insights in light of the current state as well as the future of HNRs in BC and Canada.

What are housing needs assessments?

Housing need

Searching the term "housing need" in popular research databases yields thousands of results. Yet, a clear, commonly shared definition of *what housing need is*, is surprisingly hard to come by. Housing need has been defined, for instance, as the number and type of dwelling units required to accommodate a given population at an accepted standard (Landis and LeGates 2000), the number of households that require some form of assistance to avoid a position of rental stress (Rowley et al. 2017), or the number of households within the bottom four income deciles paying more than 25% of their income in rent or more than 30% of their income in mortgage payments (Beer and Baker 2007).

Why do some definitions only consider renters, some consider structural adequacy regardless of tenure, and some explicitly reference vulnerable populations? The answer lies in the inherent complexity and value-ladenness of housing. When defining housing need, it matters whether housing is viewed primarily as a private investment, a (public) consumption good, or a human right (Clarke 2012; Leitjen and De Bell 2020; Myers et al. 2002). Housing vulnerability—that is being at risk for undesirable housing outcomes, which may include inadequate access, unaffordability, health and safety concerns due to unsuitable conditions as well as displacement, and dispossession—too, varies with context and that variation is consequential. Both environmental factors and socio-economic characteristics amplify housing vulnerability and individual housing strategies carry different risk profiles, too (Harten 2024). Relatedly, living in housing precarity typically means experiencing a state of uncertainty regarding the security of one's home but that uncertainty is socially constructed and contextual (Beer et al. 2016; Clair et al. 2019; Debrunner et al. 2024; Lombard 2021).

With definitions of housing, housing vulnerability, and precarity all having implications for what types of populations, units, and tenures are considered when defining housing need it is perhaps unsurprising that the literature has proposed a wide-ranging variety of housing need definitions. Despite this diversity, however, most definitions share two common features: (1) they recognize housing need as multidimensional, and (2) they touch on housing

deficiencies in some or all of the following areas: affordability, availability, adequacy (habitability) and suitability (crowding) (Bogdon et al. 1993; Clarke 2012; Myers et al. 2002; Palm and Whitzman 2020; Wilson 2020). Those that are explicit in recognizing that some populations are more vulnerable to housing need than others also clearly identify and include references to vulnerable groups (Myers et al. 2002).

Measuring housing need

The first step towards measuring housing need is translating theoretical conceptualization into practical metrics. However, just as with definitions of housing need, measuring it, too, is highly contested. Operationalizations of housing need for the purpose of measuring it thus vary greatly across and even within countries (see Palm and Whitzman 2020 for a review).

In Canada, housing need is operationalized as 'core housing need,' a two-stage, multidimensional indicator. According to the Canada Mortgage and Housing Corporation (CMHC), the federal crown corporation that acts as Canada's housing agency, households are considered to be in core housing need if (1) they are below one or more of the affordability, adequacy, and suitability standards, and (2) would have to spend 30% or more of their before-tax income to access alternative local housing that meets all three standards (CMHC 2019).

Affordability relates housing costs to income. Often considered the greatest source of housing stress, affordability is occasionally used as a standalone proxy to measure housing need (Beer and Baker 2007). A standard affordability metric declares housing unaffordable for a given resident household if this household spends more than 30% of its income to cover housing costs. The literature remains unresolved about appropriate thresholds, whether or not a household's position in the distribution of incomes should be considered, and whether local cost of living needs to be factored in (Stone 2006). While CMHC recommends measuring affordability via the 30% income threshold, the lack of consensus about appropriate methodology has produced a variety of implementations, even within Canada (City of Vancouver 2022; CMHC 2019).

Adequate housing in its broadest conception means housing that meets the physiological, psychological, health, and security needs of its occupants (Gan et al. 2019). Within the core housing need framework, adequacy is essentially operationalized as habitability: Adequate housing is reported by its residents as not requiring any major repairs (CMHC 2019). Adequacy refers to a minimum quality standard (HUD 2021). Suitability, on the other hand, focuses not on functional integrity but on residential crowding (CMHC 2019). Overcrowding has been linked to a number of adverse physical and mental health outcomes, with detrimental effects on the well-being of children in particular (e.g., Campagna 2016). In Canada, for the purpose of measuring core housing need, CMHC applies maximum occupancy standards and designates housing as suitable or not depending on the number of bedrooms relative to household size and make-up (CMHC 2022).

Finally, core housing need sits within a larger housing need framework that articulates prioritizing the most vulnerable Canadians. As outlined above, certain demographic and socioeconomic characteristics are known to amplify housing vulnerability (Zhu et al. 2021). The NHS identifies 12 populations as priority groups, most vulnerable to experiencing housing need. When estimating housing need, disaggregating housing data by vulnerable subpopulations can help capture their needs (CMHC 2022).

Why measure housing need?

Conceptually, HNAs can be traced to the evidence-based policy-making paradigm (Government of Canada 2022). Evidence-based policymaking advocates for policy decisions grounded in, or influenced by, rigorously established "objective evidence" (Nutley et al. 2007; Pawson et al. 2006; Sanderson 2006). Its animating premise is that incorporating the best available evidence will lead to better decisions, avoid policy failures, increase government accountability, and identify areas in need of further improvement. Enhancing the information basis for decision-making, so the rationale, will improve the results flowing from them, while iterative monitoring and evaluations will allow for continuous betterment (Howlett and Craft 2013; Stanhope and Dunn 2011).

In housing policy, HNRs are one way to establish "objective evidence" about the state of current and future housing need. Following the evidence-based policy-making playbook, HNRs are intended to produce information on housing need, which can then be used to identify where current and planned housing supply falls short to inform the choice and design of housing policy measures to address it (Housing Needs Reports Amendments Act 2018; Liu and Takagi 2021; Manase and Siamuzwe, 2019; Ministry of Municipal Affairs and Housing 2020). Although

the assumed link between data and policy decisions is not without question, HNAs are common practice in the UK, Scotland, Australia, California, and Northern Europe (Palm and Whitzman 2019; Manase and Siamuzwe 2019). Finland stands out as an example of how HNRs can be critical to efforts to eliminate homelessness. There, HNRs have been shown to help establish shared definitions, explicitly articulate the housing needs of vulnerable people, and facilitate multisectoral planning and target-based agreements across different levels of government (Kaakinen 2019; Whitzman et al. 2021).

Common criticism of housing needs reporting

Despite enthusiastic support from (some) theorists and employment across diverse settings, HNRs have also been subject to critique. Much of this mirrors criticism levied against evidence-based policymaking more generally; other critiques are specific to HNRs.

The increased strain on already tight budgets is perhaps the most common grievance. Producing evidence for policymaking requires time, resources, and skill. Frequently, there is a glaring mismatch between the responsibility to produce and the capacity to produce (Howlett and Craft 2013). In the case of HNRs, access to both adequately trained staff and the necessary data is often lacking, which in turn frequently results in the hiring of external consultants as technical experts at significant costs (Liu and Takagi 2021; Manase and Siamuzwe 2019; Palm and Whitzman 2020).

In addition, what constitutes "best evidence" is unclear. The evidence-based policymaking paradigm clearly prefers technical analysis over experiential knowledge but in the case of HNAs, there is no universally agreed-upon directive for what is considered appropriate methodology and data (Howlett and Craft 2013; Palm and Whitzman 2020). As discussed earlier, some of the decisions about what to measure and how are value-based and context-dependent; Others are constrained by material limitations, in particular on time, resources, and skills, with potentially uneven implications across local governments of different sizes (Palm and Whitzman 2020). Because there are few examples of evaluations of HNAs, there are no established best practices (Manase and Siamuzwe 2019), this makes it difficult to know not only how to produce a "good" HNA, but also what it is that HNRs bring to the table. In particular, there are to date, no comprehensive studies on the effect of HNRs on the housing stock, as the identification of housing need will not necessarily lead to investments to meet those needs (Cole and Goodchild 1995).

This lack of clarity with regard to definitions, data, and methods is a double-edged sword. On the one hand, it provides an easy target to challenge HNRs, which calls into question their effectiveness as a policy tool. It also increases the workload for government bodies because every housing need reporting process must start with deliberations on what should be measured and how. This ambiguity, on the other hand, opens up room for strategic maneuvering. Where HNRs lack clear methodological guidance, vagueness can be leveraged to make strategic choices about data sources and methods (Clare 2019; Ferrari et al. 2011; Liu and Takagi 2021).

This last point highlights the inherent political nature of HNRs. As with all policy tools and policymaking, HNRs, too, are prone to being used strategically and for political gain. HNRs are political objects because they shape understanding of the housing supply problem (Jacobs et al. 2003; Liu and Takagi 2021). By defining the problem and the parameters of the analysis, HNRs steer the search for solutions: That which is not measured cannot be addressed (Palm and Whitzman 2020). Additionally, HNRs may be instrumentalized to serve ex-ante-defined goals. By strategically producing or ignoring information, HNRs can be made to buttress preset agendas while at the same time legitimizing them through the veneer of scientific grounding. As Palm and Whitzman (2020) point out, affordable housing advocates may employ a gap analysis to highlight where existing housing needs are greatest, whereas industry bodies may focus on aggregate supply, bereft of income targets, in order to argue for cutting bureaucratic red tape. Finally, insisting on empirical evidence raises the barriers to participation in the discussion of housing need. Given the aforementioned resource requirements associated with producing and understanding HNRs, where HNRs are introduced as the basis for policy decisions, they may effectively work to exclude non-profit and civic actors who lack technical skills from the political discourse (Clarke 2012).

Lastly, most policy decisions are fundamentally political, but evidence-based policymaking, and HNAs, to some degree, espouse denying this reality. Underlying evidence-based policymaking is the assumption that social problems can be fully understood and addressed through scientific, positivist study. This approach focuses on simplifying the complexities of human experiences into measurable constructs, facilitating the "objective" assessment of evidence and solutions (Stanhope and Dunn 2011). Housing, however, is deeply complex. Purely quantitative analysis may not be

enough to adequately capture the intricate experiences of individuals facing housing challenges (Seelig and Phibbs 2006).

In sum, the debate on what housing need is and how to measure it is far from settled, and operationalization in practice varies by contexts and social norms. Although HNRs have been widely regarded as a promising tool to provide evidence to capture housing shortfalls and inform policy, critiques of HNRs are almost as prevalent. Importantly, much of these debates are removed from practice and few evaluations of actually implemented HNRs exist. By investigating the housing outcomes of mandatory province-wide HNRs in BC, this paper addresses the gap.

Housing policy and needs reporting in Canada and British Columbia

Mandatory HNRs in BC need to be understood in the broader context of federal and provincial housing policy. The federal government first entered housing policy in significant ways with the establishment of what is now known as CMHC in the aftermath of World War II (McAfee 2013). Federal involvement in housing policy and investments in non-market housing reached its high point from the early 1960s until the early 1990s, after which all responsibility for new non-market housing policy and provision was downloaded to the provinces (Suttor 2016). There was considerable divergence in how provinces chose to respond. Under successive governments, BC has continually taken on the role of a national leader in housing (Smith 2024). Following the election of left-leaning parties at the federal and provincial levels in 2015 and 2017, respectively, housing policy at both levels of government has seen a substantial overhaul. The introduction of the NHS in 2017 and the NHS Act in 2019 are generally regarded as hallmarks of the government's renewed commitment to housing. The NHS lays out the obligation to progressively realize the right to adequate housing for everyone in Canada and allocates substantial funds (CMHC 2017). Crucially, since its launch, CMHC has committed over $33 billion to support the construction and repair of hundreds of thousands of housing units and in BC a whole new host of policies and programs have been introduced to encourage more housing supply (Government of British Columbia 2023; Government of Canada 2024).

Mandatory HNRs for all BC municipalities are among these measures. Taking effect in 2019, a mandate requires all BC municipalities to submit HNRs to their respective city councils, with the first round of HNRs due by April 2022. The mandate further stipulates that city councils receive an HNR at least once every five years thereafter and that local governments incorporate HNRs in official community plans and regional growth strategies (Housing Needs Reports Amendments Act, 2018; Government of British Columbia 2024). Importantly, while the mandate came with technical briefs to specify reporting formats and recommended data sources, these technical briefs were mostly devoid of methodological guidance. In 2023 the provincial government announced a mandatory interim HNR due by January 1st, 2025. In contrast to the first round, this time, local governments were given a standardized methodology to produce estimates for the number of new housing units needed over a 5- and 20-year period, with 2021 as the base year (Government of British Columbia 2024).

Still, fulfilling the provincial mandate meant significant investments in time and money, which proved particularly burdensome for smaller municipalities (Government of British Columbia 2021). Hence, in 2024, the CMHC-funded Housing Assessment Resource Tools (HART) project[2] proposed a tool, which could automate the BC HNR methodology, relying only on government-provided data. The BC Ministry of Housing accepted the proposal and is now officially recommending the tool. Called the "BC HNR Calculator," the tool is now live online, free, and in use to produce mandate-compliant housing need estimates (HART 2024; Government of British Columbia 2024).

Methods

In this study, we contribute to the knowledge on HNAs by investigating the reporting outcomes of mandatory HNRs in the Province of British Columbia, Canada. To address this question, we use an implementation and outcomes evaluation framework. Policy implementation and outcome evaluation defines key dimensions to assess whether a particular policy has had its intended impact when implemented (e.g., OECD 2020; Whitsel et al. 2024). Here we consider five key dimensions: Compliance, Data Quality, Resource Adequacy, External Resource Use, and Policy Alignment. First, we ask to what extent municipalities reported the data they were required to report (Compliance). Given the ad hoc nature of implementation and the lack of clear methodological guidance, we expect some gaps in reporting, despite the mandate. Second, we ask: To the extent that non-reporting exists, which data was most

frequently missing (Data Quality)? We hypothesize that certain required variables are structurally more challenging to report and are thus frequently missing. Third, we investigate inconsistent reporting and ask about the most common types of inconsistency and their likely drivers (Data Quality). We hypothesize that very granular reporting requirements and imprecise prompting breed inconsistent reporting in specific formats, variables, and topic areas. Next, we ask about Resource Adequacy. We ask whether there is a relationship between the size of municipalities and the completeness of reporting. We hypothesize that larger municipalities have both more staff capacity and access to better data and thus will have fewer reporting gaps as compared to smaller ones. Then, we ask to what degree municipalities go beyond government-provided resources to fulfill the mandate (External Resource Use). In particular, we ask how often municipalities rely on outside consultants and private data sources for housing needs reporting. Again, given the ad hoc nature of implementation and the lack of clear methodological guidance, we expect that both are common. Finally, we ask how the first wave of mandatory HNR measures up against the nationally articulated focus on the most vulnerable Canadians (Policy Alignment). In particular, we ask whether BC HNRs report on the needs of vulnerable populations, identified as priority groups in the NHS. Given that reporting on vulnerable groups was not required, but discourse on housing vulnerability factors features centrally in governmental housing discourses, we expect some reporting but expect this reporting to be incomplete.

Data

In this study, we examine housing needs reporting in BC by analyzing a sample of HNRs covering 126 BC municipalities. Although the mandate required that all municipalities make their HNRs publicly available by April 2022, not all did (BC Laws 2019). Between April 2022 and August 2022, the BC Non-Profit Housing Association, a partner organization for this research, manually scanned government websites to collect all HNRs publicly available at that time. This scan yielded HNRs covering 126 out of 161 BC municipalities (78% coverage).

Alongside the mandate, the BC Provincial Government provided municipalities with a technical brief, a template of required and recommended reporting variables, and a summary form for reporting required data points. These materials distinguish between (i) variables, which municipalities were required to both collect and report, and (ii) variables, which municipalities were only required to collect but not report. The government-provided material includes definitions, specifies data formats (i.e., whether a variable should be reported in absolute or percent terms),

Table 1
Required data by topic area

Topic	Required Reporting
Location	Information on neighboring municipalities and First Nations
Population	• Individual and household demographics such as average age and household size • 5-year population and household projections, including projections for seniors • Population by tenure: the share of owner versus renter households
Income	Median income by tenure (owner and renter households)
Economy	• Labor force participation and unemployment rates • Major local industries
Housing	• Housing assessed values and sale prices • Monthly rents and rental vacancy rates • Total number of housing units and number of subsidized housing units • New housing construction, and unmet housing needs • Estimated number of housing units needed in 5 years by bedroom size • Number of households in core housing need • Number of households in extreme core housing need

Source: Adapted from housing needs reports regulation by authors (BC Laws 2019)

and references likely government data sources but only gives minimal methodological guidance (Ministry of Municipal Affairs and Housing 2020).

Table 1 summarizes the key variables that municipalities were required to report via the summary form. In addition, the summary form also required statements on (i) relevant policies and community consultations, and (ii) current and anticipated needs for affordable, rental, special needs, seniors, and family housing, as well as housing for people experiencing or at-risk for homelessness (Ministry of Municipal Affairs and Housing 2020).

Beyond the summary form, municipalities were required to collect – but not report – on a number of (additional) variables related to population, households, anticipated population and households, household income for owners and renters, economic sectors and labor force, number of housing units, change in the housing stock, housing values and prices, as well as core housing need. There was some overlap between these and those required on the summary form, but the data that only needed to be collected was generally more detailed.[3]

Overall, 34 variables needed to be reported; a total of 71 variables needed to be collected. In addition to these quantitative items, the summary form also asked for narrative items in nine places (BC Laws 2019). Although only reporting via the summary form was required, actually published HNRs often included the summary form but went beyond it. A typical HNR also included reporting on variables only required to be collected, discussions on methodology for projections, data sources used as inputs, as well as indicating work done by outside consultants, where applicable (see for example Abbotsford BC, 2021; Calibrate Housing, 2022; Township of Langley, 2020).

Pre-processing

We assess housing needs reporting along five dimensions: (1) Compliance, (2) Data Quality, (3) Resource Adequacy, (4) External Resource Use, and (5) Policy Alignment.

To facilitate the analysis of compliance and data quality, we manually evaluated each of the 71 quantitative variables and nine narrative items in each of the HNRs gathered for completeness and consistency (Figure 1). We applied a "0" to all variables for which no reference could be found in the HNR and a "1" whenever the variable was reported exactly as expected. For incomplete reporting, we distinguished broadly between two scenarios: we assigned a "2" to variables that were reported in an unexpected format, such as a nominal value when a percentage value was expected, and a "3" when a variable did not include all data, for instance when multi-year data was expected but data for some years were missing.

Under the BC HNR mandate, municipalities were not required to report on any of the priority groups identified by the NHS, except for seniors (see Table 1). Hence, to be able to analyze the extent to which municipalities still engaged in vulnerable population-specific housing needs reporting, we conducted keyword searches. Keyword searches allowed us to count instances of housing needs reporting for each of the NHS-identified priority groups. The list of keywords was compiled through in-depth reading of a random sample of 20 HNRs. As the presence of a keyword did not always signify that housing needs data for the population in question was reported, we took care not to count mere references, such as when an HNR included vulnerable groups in the definitions list or in relation to future tasks. Importantly, we identified 15 demographics directly collected via the Census that correspond to the 12 NHS-identified priority groups. Table 2 lists the search terms by vulnerable group.

Methods of analysis

Assessment of compliance. We measure compliance by calculating the rate of non-reporting by counting all "0" values and dividing them by the number of total expected entries. We calculate the rate of non-reporting by municipality and variable, distinguishing between variables that needed to be reported and those that only needed to be collected. To help identify patterns that could be associated with the incomplete reporting of variables, we visualize the reporting of required variables with a color-coded matrix, sorting municipalities by population size, and variables by theme.

Assessment of data quality. We start by computing descriptive statistics on the rate of reporting by variable and type of (inconsistent) reporting (see Figure 1). Next, we compute the Index of Qualitative Variation (IQV), a measure of the variability of nominal variables for reported variables only (Agresti & Agresti, 1978). The IQV is based on the ratio

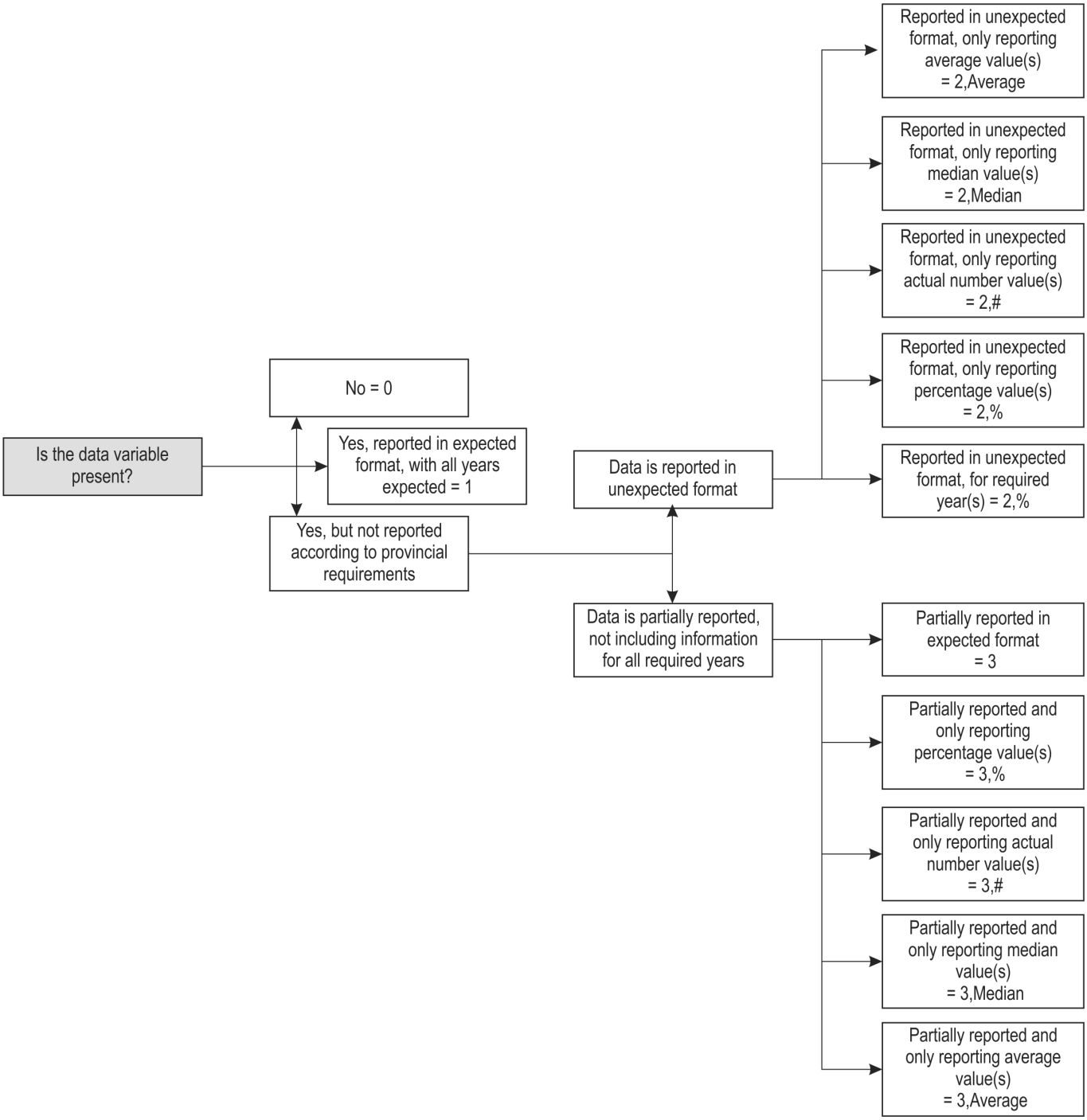

Figure 1
Decision tree for labeling completeness and inconsistency of required HNR variables
Source: Authors

Table 2
NHS-identified vulnerable populations disaggregated by corresponding census variables and lists of keywords by vulnerable population

Vulnerable Groups	Keyword Search Terms
Female heads of households	women; women-led; female; female-led; woman
Single mothers	single mother; single parent; lone mother; lone parent; women-led; mother
Indigenous peoples	Indigenous; First Nations; Métis; Aboriginal; Inuit
Racialized people	visible minority; racial*; Latin America*; Arab; Asian; Indigenous; Black; Métis; Aboriginal; Inuit; ethnicity; of colour; of color
Black-led households	Black; *of colour; of color; BIPOC
Recent immigrants	immigrant; newcomer; refugee; recent immigrant; new migrant
Refugees	refugee; asylum
Young Adults (Household heads under 25 years)	young adult; young people; youth; *under 25
Seniors	older adult; senior; 65+; *over 65; 85+; *over 85
People with physical disabilities	disabilit*; accessib*; mobility; activity limitation; physical; health; adaptab*
People with intellectual and psychosocial disabilities	disabilit*; developmental disabilit*; intellectual impairment; activity limitation; mental; health; addiction; cognitive
Veterans	veteran
Women and children fleeing domestic violence	domestic; abus*; violen*; flee; survivor
People experiencing homelessness	homeles*; unhoused

of (i) the total number of differences in the distribution and (ii) the maximum number of possible differences in the same distribution. The formula to compute IQV is

$$IQV_I = \frac{K(1 - \sum Pct_i{}^2)}{1(K-1)}$$

where K is the number of categories in the distribution and ΣPcti2 is the sum of all squared percentages in the distribution. Values for IQV range from zero to one. The IQV takes on a value of zero when all of the cases of the distribution are concentrated in one category, that is when there is no variation. In contrast, when the cases in a distribution are distributed evenly across all categories, then there is maximum variation and the IQV takes on the value of one. Here, we consider three categories for the three types of reporting: (1) complete=1, (2) different than expected=2, and (3) partial=3. IQV values closer to one indicate a variety of different reporting types. Values closer to 0 indicate concentration in one of the three types of reporting.

Assessment of resource adequacy and use of external resources. We manually scan all HNR reports for any mention of outside consultant work and private data sources and take count. We use reliance on outside consultant work as a proxy for capacity at the municipal level and the use of private data sources as a proxy for data access, where higher frequency of outside consultant work indicates limited capacity and high use of private data sources indicates inadequate data access. Additionally, we perform bivariate regression analyses to assess the relationship between the size of municipalities and rates of non-reporting and inconsistent reporting.

Assessment of policy alignment. Analogous to assessing completeness for required variables, we calculate the rate of non-reporting on vulnerable groups by counting all "0" values and dividing them by the number of total expected entries. We calculate the rate of non-reporting by municipality and vulnerable group.

Findings

Compliance

Overall, most municipalities fulfilled the mandate by reporting on most, if not all required variables. Focusing on the 34 required quantitative variables listed in the summary form, we find that the vast majority of HNRs (71%) reported 80% or more of the required variables. Less than one-third (29%), or 36 out of the 126 municipalities covered, reported less than 80% of the required variables. Notably, 10% of HNRs contained less than half, another 10% reported all of the required variables. Additionally, almost three-quarters (72%) of municipalities reported all nine of the required narrative items. Only 15 municipalities missed more than two of these items. Furthermore, HNRs often included data that municipalities were only required to collect. Almost half of the HNR (47%) reported 60% or more of variables that only needed to be collected.

Non-reporting is concentrated in a few topic areas. The top five variables with the highest rate of non-reporting are all related to population projections or housing stock changes. They are (in descending order): (1) Registered new homes - purpose-built rental, (2) Anticipated age - Age group distribution, (3) Registered new homes - overall, (4) Rental vacancy rate - overall and for each type of unit, (5) Anticipated age - median age. Figure 2 illustrates patterns of non-reporting by visualizing the labeling for completeness and consistency through color-coding: white indicates non-reporting, shades of gray indicate inconsistent reporting and black signifies variables reported as expected. Figure 2 highlights a concentration of non-reporting in the housing stock change variables, with additional "hot spots" in housing value, detailed housing stock[4], and population projection variables.

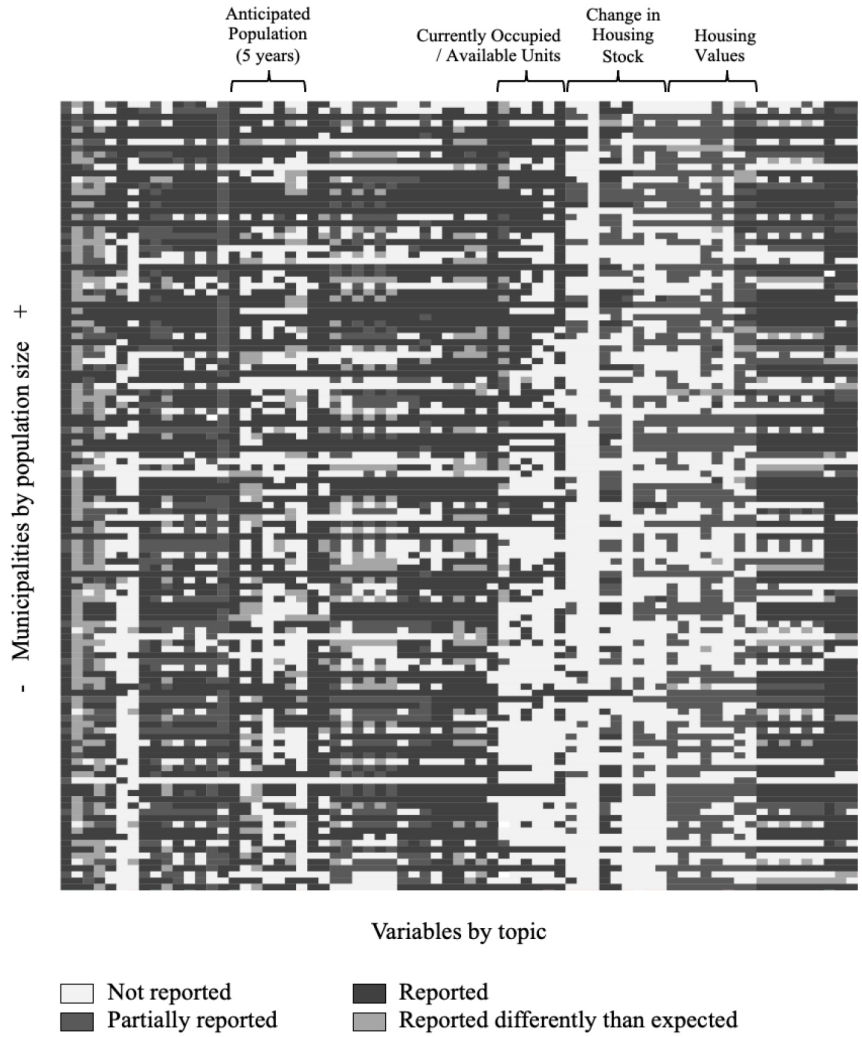

Figure 2
Reporting on variables required for collection grouped by theme across municipalities
Source: Authors' visualization based on analysis of 71 quantitative variables in 126 BC HNRs

Data quality

Inconsistent reporting is a common problem. For more than half of municipalities (53%), inconsistent reporting affects up to 30% of the 34 variables required to be reported; another 37% reports 30-50% of required variables inconsistently. Reporting data in an unexpected format, e.g., reporting % when nominal value was asked for, is less of a concern: We did not find any inconsistent reporting of this type in 16 out of 126 HNRs; another 67 (53%) showed issues of this type in less than 3 of the 34 required variables.

Rather, the overall rate of inconsistent reporting by municipality is driven by incomplete reporting, e.g., when data points for multiple years needed to be reported. The vast majority of municipalities (88%) failed to report all the data points for up to one-third of the required variables. Interestingly, the top 5 variables with unexpected data formats all relate to disaggregate population data or population projections while the top 5 variables with incomplete data all relate to housing value and disaggregate stock data.

IQV pattern analysis offers insight into likely drivers of inconsistent reporting. We find that requiring multiple data formats for the same variable as part of the same line item frequently leads to both inconsistent and incomplete reporting. Eight of the ten variables with the highest IQVs required reporting on a pairing of data formats for the same variable in the same line item. For example, "Age – Average and Median age" has the highest IQV with 0.97 while the variable "Anticipated age" required the reporting of median and average age in separate line items, which led to much more consistent reporting, with IQVs of 0.24 and 0 respectively. In addition, both incomplete and inconsistent reporting are also commonly associated with uneven data availability. Among the top 10 least consistently reported variables, two examples illustrate this well. Data on "Rental vacancy rate - overall and for each type of unit" and "Substantially completed - overall" is only available through government sources for municipalities with populations above 10,000. Additionally, vacancy rates for purpose-built rental apartments are regularly suppressed due to small sample sizes, especially when the data is disaggregated by number of bedrooms.

Resource adequacy

We do not find sufficient evidence for the hypothesized link between the size of a municipality and its reporting. Visual inspection of Figure 2 gives the first indication that there appears to be no relationship between size and completeness and consistency of reporting, except for very little non-reporting at the top of the size distribution. Bivariate regression analyses did not reveal any statistically significant linear relationship between population size and rates of non- and inconsistent reporting.

External resource use

We find that 80% of HNRs, or 101 out of 126 municipalities, reported that they were prepared with the help of external consultants. Some HNRs further indicate where external consultants were part of producing certain subsections: 18% of HNRs identify population projections and 15% identify changes in housing stock. To produce HNRs, the vast majority of municipalities (78%) indicate relying on additional private data sources. The most referenced data source was data from local real estate boards, identified in 78% of HNRs. Municipalities also frequently drew on data from Airbnb, either by doing an independent scan (13%) or using the Airbnb data provider AirDNA (61%). Some municipalities also documented using data from rental listing websites such as Craigslist (29%) or data from local universities (4%).

Policy alignment

Figure 3 illustrates the share of HNRs referencing vulnerable groups. Most vulnerable populations, that is 10 out of 15, were included in HNRs, most of the time (80% or more of HNRs). Note that the mandate required reporting on seniors, which we find are indeed included in all 126 HNRs inspected. Recent immigrants feature in more than half of all HNRs, but LGBTQ2S+, Refugees, and Black-led households can each be found in less than 20% of HNRs. Only two HNRs mention Veterans.

Discussion

This paper asked about the data reporting outcomes of the first round of mandatory HNRs in BC. Towards this end, we analyzed HNRs for 126 BC municipalities for completeness and consistency and examined them for information

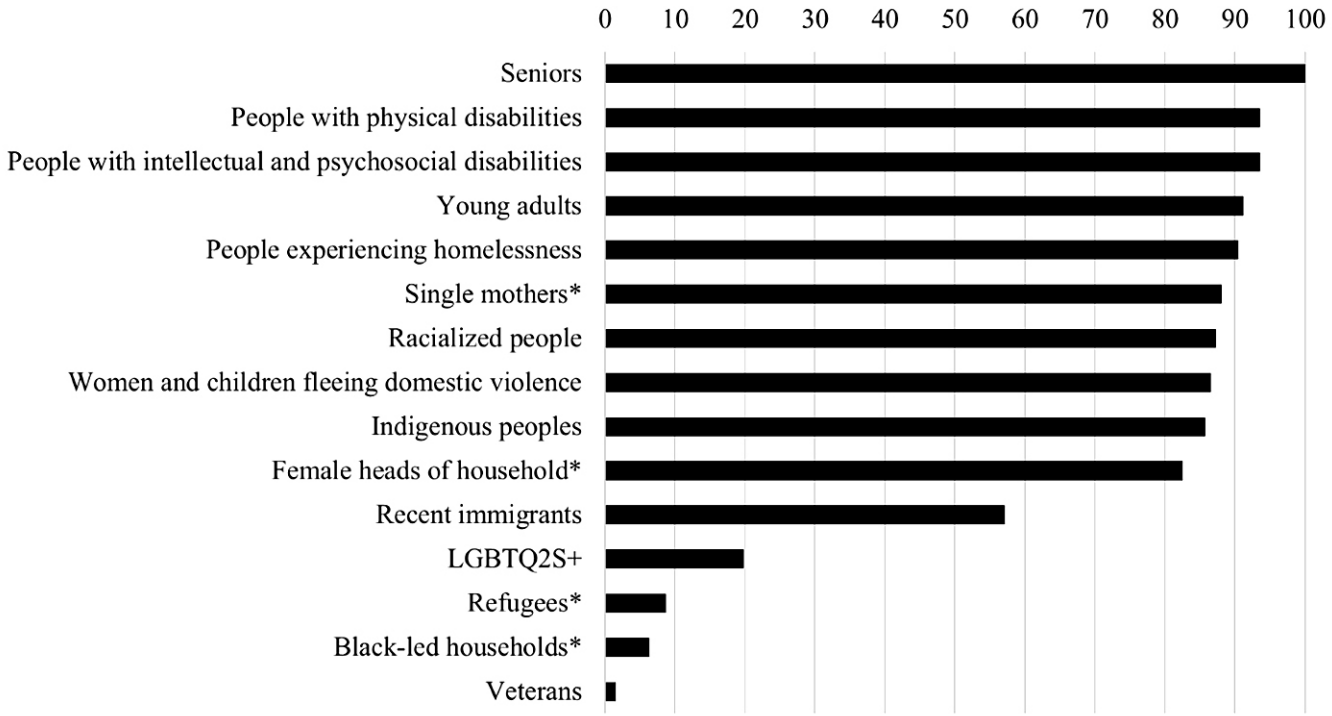

Figure 3
Share of HNRs (in %) referencing vulnerable populations
Source: Authors' calculations based on keyword search analysis of HNRs for 126 BC municipalities in 2022. Themes marked with * are not listed by the NHS as standalone priority groups. While NHS subsumes them in other vulnerable populations, Census data allows for a more disaggregated view

about capacity and access as well as vulnerable groups reporting. Overall, we find a high level of compliance: most municipalities reported most if not all required variables and narrative items. Non-reporting is mainly concentrated on variables about changes in housing stock and population projections, with additional areas of concern being housing values and stock by tenure. We find evidence of both reporting in unexpected formats and incomplete reporting, with the latter being a larger concern. Importantly, while both data quality issues appear to be driven by imprecise prompting and data availability, unexpected formats were more common in population and household projection variables, while incomplete reporting affected mostly housing value and stock variables. Additionally, we find that a at least 80% of HNRs were produced with the help of hired external consultants and that most HNRs drew on private data sources to meet the mandate. There appears to be no relationship between size and reporting patterns. Although not required, we find that most municipalities chose to include most NHS priority populations in their HNRs, with a handful of vulnerable populations being included by only a few.

These findings suggest some simple fixes to improve HNRs such as considering whether multiple formats are truly necessary or asking for them in separate line items. More importantly, however, they point to broader lessons. For one, compliance achieved in large parts by hiring consultants and using private data sources is problematic. From a resource perspective, if complying with the HNR mandate essentially requires hiring technical experts, this makes HNRs very expensive. In addition to inefficient use of government resources, this also means that there is no capacity building at the level of local governments. In addition, there are equity implications. For smaller municipalities, the cost of external consultants may be prohibitive, or at least disproportionate in relation to their overall budgets. The disadvantage is exacerbated by uneven data availability: private sources such as AirDNA or even real estate boards may not have enough informational coverage for smaller municipalities to yield reliable data inputs.

The revealed patterns of non-reporting as well as incomplete and inconsistent reporting further underscore the resource adequacy issue. Projections about populations and housing stock, as well as granular housing stock variables, were most often affected – variables that required detailed data and analysis. The results strongly suggest that methodological guidance and better data access would most certainly improve reporting outcomes.

Together, our findings implicate higher levels of government. Our results highlight that when assigning new responsibilities, ensuring that there are also new resources to build capacity and access to data to fulfill these responsi-

bilities is key for successful implementation and outcomes. For the first round of mandatory housing needs reporting in BC, this was clearly lacking.

There have, however, been significant changes since. As we outlined above, the BC HNR Calculator is free of charge and uses a standardized methodology to automatically calculate key variables needed to fulfill the mandate. Importantly, it only uses government-provided data. As such it saves resources[5], levels the playing field and reduces human error. It increases consistency, enables reproducibility, and removes the issue of missing data. It is also transparent about assumptions and method choices and includes a complete methodology guide, thus establishing a common baseline and laying the groundwork for shared terminology and knowledge production. As HNRs are incorporated into more government funding streams going forward, standardization and automation become only more valuable. If Canada were to commit to standardized and automated HNRs nationwide, this would not only offer additional opportunities to streamline government work by making HNRs useful for multiple purposes, but it would also enable comparisons across time and geographies, with the potential to yield additional insights into variegated housing market trends that can be used to improve policy.

Although recent developments in BC look promising, there is still much room for improvement. The BC HNR Calculator builds on HNA methodology that balances accuracy with accessibility. As such, it leaves out many important factors that can be critical to getting good housing need estimates in favor of having a method that can be used and understood by planning staff without specialized technical training and can be applied using only government-provided data. The aim is to level the playing field and enable democratic deliberation about housing need that does not exclude on the basis of technical expertise. The HART project which developed and hosts the BC HNR Calculator does offer educational material on ways to customize and improve estimates. Ultimately, however, the Calculator falls short of what is possible with regard to providing the most accurate and reliable estimates of housing need.

It is important to remember that HNRs in Canada in their current format have only been around since 2019. While there were housing action plans and housing statements, there have never been efforts to formalize reporting on housing needs, which also need to be submitted to Councils and regularly referenced in official community plans and updates to bylaws and land use policies. Hence, as BC governments undergo collective learning, HNRs will likely undergo an ongoing process of iterative refinement. If municipalities are given the time and resources to build capacity, this opens up room to increase methodological sophistication. Furthermore, finding that most HNRs already include vulnerable populations signals an opportunity to increase policy alignment with the NHS and center the people for whom housing need is most acute.

Finally, we need to be realistic about the impact of HNRs. At the end of the day, housing and housing need are value-shaped and political. HNRs can and will be used strategically and thus hold some risks. HNRs will also not automatically lead to better housing policy decisions and they do not define what makes for "good" policy. HNRs are only one piece in a complex political landscape. Our assessment of the BC case shows: If we want HNRs to play a meaningful part in this landscape, we need to build the capacity to produce them and work iteratively to refine them.

This study also creates several opportunities for future research. For one, we only cover 126 out of 161 BC municipalities. We have no way of knowing whether the 35 HNRs we were not able to include were missing entirely or whether there is something systematically different about them. Subsequent analysis that covers all BC municipalities may thus yield further insights. Moreover, much of our analysis is descriptive, which is inherently limited. While we do not find evidence of a size-reporting relationship, this relationship may very well not be linear or require more sophisticated modeling to capture. Additionally, given the ongoing changes to the conditions of mandatory HNRs in BC, longitudinal analysis —including both the interim HNR and future waves—- could investigate the evolution of HNRs and connect them to impact. Finally, interviews with local planners and city councils could further enrich our understanding of the practical meaning and effectiveness of HNRs. With increased interest in HNRs, we hope that this paper is only the beginning of more research into the matter.

Conclusion

As housing is quickly becoming an issue in municipalities nationwide, Canadian governments at all levels are clamoring for potential solutions. Recently, HNRs have gained political traction as one step towards establishing a common evidence base to inform design and choice for effective housing policy measures. Past literature has lamented a lack of agreement with regard to defining and measuring housing need but is largely devoid of systematic reviews

of HNRs. As the federal government is planning on making HNR national policy in 2025, this study examines the reporting outcomes of the first round of mandatory HNRs in the Province of British Columbia. Analyzing a sample of 126 BC municipal HNRs we find a relatively high level of compliance, achieved largely by relying on external consultants and supplementing with private data sources. We find further evidence that lack of methodological guidance and uneven availability of data particularly affect reporting on population and household projections, as well as housing value and stock (changes). Although not required, most municipalities chose to include most NHS priority groups in their HNRs, signaling an opportunity to refocus HNRs toward prioritizing the most vulnerable Canadians. Subsequent developments have addressed some of these concerns. Most notably the BC HNR Calculator provides a standardized tool to produce mandate-compliant housing need estimates – at no cost to municipalities and using only government-provided data. Yet, there is much room for improvement. We call for continued capacity building and iterative evaluations to further increase the usefulness of HNRs.

Acknowledgments

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End notes

[1] Housing Needs Assessment is a general term for the process of measuring housing need, housing needs reports are the reporting outcomes of these assessments. In practice, the terms are largely interchangeable. In British Columbia "housing needs report" is used, whereas in the rest of Canada "housing needs assessment" is more common.
[2] Three of the authors are associated with the HART project.
[3] For example, whereas municipalities were required to report on the total number of housing units in their community, they were also required to collect but not report on more detailed data on the housing stock by year of construction.
[4] Housing stock is listed as "Currently Occupied/ Available Units" as a subheading in the technical brief. This includes detailed housing stock variables for instance by tenure, by date built, and by structural type (BC Laws, 2019).
[5] The BC Ministry of Housing puts the estimated savings for BC taxpayers in the order of hundreds of thousands (Sawchuk, 2024).

References

Agresti, A., and B. F. Agresti. 1978. Statistical analysis of qualitative variation. *Sociological Methodology* 9: 204–237. https://doi.org/10.2307/270810.

Baker, E., and A. Beer. 2007. Developing a workable model of housing need: Applying geographical concepts and techniques to a problem of public policy. *Applied Geography* 27(3–4): 165–180. https://doi.org/10.1016/j.apgeog.2007.07.005.

BC Laws. 2019. Housing needs reports report regulation. *The British Columbia Gazette, Part II* 62(8) 90/2019. https://www.bclaws.gov.bc.ca/civix/document/id/bcgaz2/bcgaz2/v62n08_090-2019.

Been, V., I. G. Ellen, and K. O'Regan. 2019. Supply skepticism: Housing supply and affordability. *Housing Policy Debate* 29(1): 25–40, https://doi.org/10.1080/10511482.2018.1476899.

Beer, A., R. Bentley, E. Baker, K. Mason, S. Mallett, A. Kavanagh, and T. LaMontagne. 2016. Neoliberalism, economic restructuring and policy change: Precarious housing and precarious employment in Australia. *Urban Studies* 53(8): 1542–1558. https://doi.org/10.1177/0042098015596922.

Bogdon, A., J. Silver, J., and M. A. Turner. 1993. *National Analysis of housing affordability, adequacy, and availability: A framework for local housing strategies*. U.S. Department of Housing and Urban Development.

Burda, C., and K. Chapple. 2024. *It's time to get serious about building the right housing supply in Canada*. Housing and Climate. https://housingandclimate.ca/2024/04/16/building-the-right-housing-supply/.

Calibrate Housing. 2022. *South Cariboo housing needs assessment*. BC Non-Profit Housing Association. https://bcnpha.ca/wp-content/uploads/2022/08/100-Mile-House.pdf.

Campagna, G. 2016. Linking crowding, housing inadequacy, and perceived housing stress. *Journal of Environmental Psychology* 45: 252–266.

Canadian Mortgage and Housing Corporation. 2017. *Canada's National Housing Strategy: A place to call home*. https://assets.cmhc-schl.gc.ca/sites/place-to-call-home/pdfs/canada-national-housing-strategy.pdf?rev=5f39d264-0d43-4da4-a86a-725176ebc7af.

——.2018. *Priority areas for action*. CMHC. https://www.cmhc-schl.gc.ca/nhs/guidepage-strategy/priority-areas-for-action.

——. 2019. *Identifying core housing need*. CMHC. https://www.cmhc-schl.gc.ca/professionals/housing-markets-data-and-research/housing-research/core-housing-need/identifying-core-housing-need.

——. 2022. *National Occupancy Standard*. CMHC. https://www.cmhc-schl.gc.ca/professionals/industry-innovation-and-leadership/industry-expertise/affordable-housing/provincial-territorial-agreements/investment-in-affordable-housing/national-occupancy-standard.

——. 2022. *Housing needs assessment (HNA) and evidence-based models of living (EBML)*. https://housing-infrastructure.canada.ca/housing-logement/hna-ebml/index-eng.html#.

——. 2022. *The National Housing Strategy Glossary of Common Terms*. CMHC. https://www.cmhc-schl.gc.ca/nhs/guidepage-strategy/glossary.

——.2023. *Housing shortages in Canada: Updating how much housing we need by 2030*. CMHC. https://assets.cmhc-schl.gc.ca/sites/cmhc/professional/housing-markets-data-and-research/housing-research/research-reports/2023/housing-shortages-canada-updating-how-much-we-need-by-2030-en.pdf?rev=3b66f87d-0bec-44d6-aa54-f8af71f9b2c4&_gl=1*9j00x8*_gcl_au*MTY4MDgzMTg0NS4xNzMwNDExMjg0*_ga*MjU0OTk4Mzg0L-jE2OTg3NzU3MTI.*_ga_CY7T7RT5C4*MTczMDQxMTI4NC4xMjYuMS4xNzMwNDExMzQ0L-jYwLjAuMA.

——. 2024. *Progress on the National Housing Strategy*. https://assets.cmhc-schl.gc.ca/sites/place-to-call-home/pdfs/progress/nhs-progress-quarterly-report-q2-2024-en.pdf.

——. 2023. *Advocating for change: The housing crisis in Canada*. Government of Canada. https://publications.gc.ca/collections/collection_2023/ccdp-chrc/CH1-44-2023-eng.pdf.

City of Vancouver. 2022. *City of Vancouver Housing Needs Report*: 1–88. https://vancouver.ca/files/cov/pds-housing-policy-housing-needs-report.pdf.

Clarke, A. 2012. Housing need in the United Kingdom. *International Encyclopedia of Housing and Home*: 538–543. https://doi.org/10.1016/b978-0-08-047163-1.00091-6.

Cole, I., and B. Goodchild. 1995. Local housing strategies in England: An assessment of their changing role and content. *Policy & Politics* 23(1): 49–60. https://doi.org/10.1332/030557395782227348.

Clair, A., A. Reeves, M. McKee, and D. Stuckler. 2019. Constructing a housing precariousness measure for Europe. *Journal of European Social Policy* 29(1); 13–28. https://doi.org/10.1177/0958928718768334.

Clare, J. 2019. Because housing is what? Fundamental. California's RHNA system as a tool for equitable housing growth. *Ecology Law Quarterly* 46(2). https://doi.org/https://doi.org/10.15779/Z385Q4RM5H.

Debrunner, G., K. Hofer, M. Wicki, F. Kauer, and D. Kaufmann. 2024. Housing precarity in six European and North American cities: Threatened by the loss of a safe, stable, and affordable home. *Journal of the American Planning Association* 90(4): 610–626. https://doi.org/10.1080/01944363.2023.2291148.

Dionne, M.-A., C. Laporte, J. Loeppky, J. and A. Miller. 2023. *A review of Canadian homelessness data, 2023* (Catalogue no. 75F0002M). Statistics Canada. https://www150.statcan.gc.ca/n1/pub/75f0002m/75f0002m2023004-eng.htm.

Fallis, G. 2010. Progressive housing policy in the 21st century: A contrarian view. *Journal of Sociology and Social Welfare* 37(4): 173–199.

Ferrari, E., D. L. Laughlin, and C. Watkins. 2011. Planning and the housing market: Reflections on strategic housing market assessment in England. *Town Planning Review* 82(4): 393–424. https://doi.org/10.3828/tpr.2011.24.

Furman, J. 2015. Barriers to shared growth: The case of land use regulation and economic rents. Washington, DC: Remarks to The Urban Institute. https://obamawhitehouse.archives.gov/sites/default/files/page/files/20151120_barriers_shared_growth_land_use_regulation_and_economic_rents.pdf.

Gan, X., J. Zuo, T. Wen, and Y. She. 2019. Exploring the adequacy of massive constructed public housing in China. *Sustainability* 11(7): 1949.

Global News. 2023. Canada's housing affordability sees significant 'deterioration,' report says. *Global News*, October 5. https://globalnews.ca/news/9573083/canada-housing-affordability-crisis/.

Government of British Columbia. 2021. *Province supports communities to assess housing needs*. https://news.gov.bc.ca/releases/2021MUNI0045-001600.

——. 2023. *Homes for people. Stronger BC.* https://strongerbc.gov.bc.ca/housing/.

——. 2024. *Housing needsreports*. https://www2.gov.bc.ca/gov/content/housing-tenancy/local-governments-and-housing/policy-and-planning-tools-for-housing/housing-needs-re.

Harten, J. G. 2024. Housing vulnerability, shared housing, informality, and crowding: The housing strategies of China's recent college graduates. *Housing, Theory and Society*: 1–20.

HelpSeeker. 2021. *Abbotsford, BC: Housing report BC.* BC Non-Profit Housing Association. https://bcnpha.ca/wp-content/uploads/2022/08/Abbotsford.pdf.

Housing Needs Reports Amendment Act, S.B.C. c. 20. (2018).

Housing Assessment Resource Tools (HART). 2024. *HART housing need assessment tool: Methodology guide*. University of British Columbia. https://hart.ubc.ca/wp-content/uploads/2024/03/HNA-Methodology.pdf.

Housing, Infrastructure and Communities Canada. 2024. *Solving the housing crisis: Canada's housing plan*. Government of Canada. https://housing-infrastructure.canada.ca/housing-logement/housing-plan-report-rapport-plan-logement-eng.html.

Howlett, M., and J. Craft. 2013. Policy advisory systems and evidence-based policy: The location and content of evidentiary policy advice. In *Evidence-based policy-making in Canada*, ed. S. P. Young. Oxford University Press, 27–44.

Kaakinen, J. 2019. *Housing first: How Finland is ending homelessness*. OECD Observer. https://doi.org/10.1787/aa39e88f-en.

Landis, J. D., and R. T. LeGates. 2000. Housing planning and policy. In *The practice of local government planning*, eds. C. Hoch, L. Dalton, and F. So (Eds.). Washington, D.C.: International City and County Management Association, 227–264.

Leijten, I., and K. De Bel. 2020. Facing financialization in the housing sector: A human right to adequate housing for all. *Netherlands Quarterly of Human Rights* 38(2): 94–114.

Lombard, M. 2023. The experience of precarity: Low-paid economic migrants' housing in Manchester. *Housing Studies* 38(2): 307–326. https://doi.org/10.1080/02673037.2021.1882663.

Liu, Z., and S. Takagi. 2021. An analysis of strategic housing market assessment as an evidence for the UK local housing planning. *International Journal of Economic Policy Studies* 16(1): 1–26. https://doi.org/10.1007/s42495-021-00066-1.

Manase, D., and V. Siamuzwe. 2019. The effectiveness of the housing needs and demand. *International Journal of Housing Markets and Analysis* 13(2): 125–141. https://doi.org/10.1108/ijhma-12-2018-0103.

McAfee, A. 2013. Canada Mortgage and Housing Corporation. *The Canadian Encyclopedia*. https://www.thecanadianencyclopedia.ca/en/article/canada-mortgage-and-housing-corporation.

Mei, M. 2023. The economics and politics of Canada's housing supply issue. *Policy Magazine*. https://www.policymagazine.ca/the-economics-and-politics-of-canadas-housing-supply-issue/.

Ministry of Municipal Affairs and Housing. 2020. Housing Needs Report Guidelines. British Columbia 1–2. https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/local-governments/planning-land-use/housing_needs_report_guidelines.pdf.

Molotch, H., and J. Logan. 1984. Tensions in the growth machine: Overcoming resistance to value-free development. *Social Problems* 31(5): pp. 483–499.

Myers, D., J. Pitkin, and J. Park. 2002. Estimation of housing needs amid population growth and change. *Housing Policy Debate* 13(3): 567–596. https://doi.org/10.1080/10511482.2002.9521455.

Noll, P. F., W. O'Dell, M. T. Smith, and J. Sullivan. 1997. Florida's affordable housing needs assessment methodology. *Journal of the American Planning Association* 63(4): 495–508. https://doi.org/10.1080/01944369708975942.

Nutley, S., I. Walter, and H. T. O. Davies. 2007. *Using evidence: How research can inform public services*. Bristol, UK: Policy Press.

Organisation for Economic Co-operation and Development. 2020. Improving governance with policy evaluation: Lessons from country experiences. OECD Publishing. https://doi.org/10.1787/89b1577d-en.

Palm, M., and C. Whitzman. 2019. Housing need sssessments in San Francisco, Vancouver, and Melbourne: Normative science or neoliberal alchemy? *Housing Studies* 35(5): 771–794. https://doi.org/10.1080/02673037.2019.1636001.

Pawson, R., A. Boaz, L. Grayson, A. Long, and C. Barnes. 2003. *Types and quality of knowledge in social care*. Knowledge Review No. 3. Social Care Institute for Excellence. Policy Press.

Pendall, R., B. Theodos, and K. Franks. 2012. Vulnerable people, precarious housing, and regional resilience: An exploratory analysis. *Housing Policy Debate* 22(2): 271–296. https://doi.org/10.1080/10511482.2011.648208.

Pomeroy, S. 2021. *Background primer on Canada's housing system*. Canadian Housing Evidence Collaborative.https://chec-ccrl.ca/wp-content/uploads/2022/08/Background-Primer-on-Canadas-Housing-system-APRIL-20-2021.pdf.

Rodríguez-Pose, A., and M. Storper. 2020. Housing, urban growth and inequalities: The limits to deregulation and upzoning in reducing economic and spatial inequality. *Urban Studies* 57(2): 223–248.

Rowley, S., C. Leishman, E. Baker, R. Bentley, and L. Lester. 2017. Modelling housing need in Australia to 2025. *AHURI Final Report, 287*. https://doi.org/10.18408/ahuri-8106901.

Sawchuk, B. 2024. [Letter in support of the Housing Assessment Resource Tools] September 10. https://hart.ubc.ca/70190-adm-testimonial-letter-hnr-calculator/.

Sanderson, I. 2006. Complexity, 'practical rationality' and evidence-based policy making. *Policy and Politics* 34(1): 115–132.

Seelig, T., and P. Phibbs. 2006. Beyond the normative: Low income private renters' perspectives of housing affordability and need for housing assistance. *Urban Policy and Research* 24(1): 53–66. https://doi.org/10.1080/08111140600590858.

Smith, A. 2024. Housing policy in B.C. (No. 1): An overview of provincial policy. *School of Cities, University of Toronto*. https://schoolofcities.utoronto.ca/wp-content/uploads/2024/06/Housing-policy-in-B.C.-No.-1-An-overview-of-provincial-policy.pdf.

Statistics Canada. 2024. *Residential property values, 2023*. The Daily. https://www150.statcan.gc.ca/n1/daily-quotidien/240229/dq240229a-eng.htm.

Stanhope, V., and K. Dunn. 2011. The curious case of Housing First: The limits of evidence based policy. *International Journal of Law and Psychiatry* 34(4): 275–282. https://doi.org/10.1016/j.ijlp.2011.07.006.

Stone, M. E. 2006. What is housing affordability? The case for the residual income approach. *Housing Policy Debate* 17(1): 151–184. https://doi.org/10.1080/10511482.2006.9521564.

Suttor, G. 2016. Still renovating: *A history of Canadian social housing policy*. McGill-Queen's University Press.

Township of Langley. 2020. *Housing needs report: Township of Langley*. BC Non-Profit Housing Association. https://bcnpha.ca/wp-content/uploads/2022/08/Langley-DM.pdf.

UBS Group AG. 2024. *Global Real Estate Bubble Index 2024*. https://www.ubs.com/global/en/wealthmanagement/insights/2024/global-real-estate-bubble-index.html.

U.S. Department of Housing and Urban Development. 2021. Housing quality standards (HQS) inspection checklist and guidebook. HUD. https://www.hud.gov/sites/documents/DOC_35620.PDF.

Whitsel, L. P., S. Honeycutt, R. Radcliffe, J. Johnson, P. J. Chase, and P. Noyes. 2024. Policy implementation and outcome evaluation: Establishing a framework and expanding capacity for advocacy organizations to assess the impact of their work in public policy. *Health Research Policy and Systems* 22(1): 27. https://doi.org/10.1186/s12961-024-01110-0.

Whitzman, C., P. Gurstein, C. E. Jones, A. Flynn, M. Sawada, R. Stevers, and M. Tinsley. 2021. (rep.). *Housing assessment resource tools for Canada: prototype - City of Kelowna and findings of a National Survey*. Vancouver: University of British Columbia Housing Research Collaborative. https://hart.ubc.ca/wp-content/uploads/2023/03/HART-Prototype-Report-EN.pdf.

Wilson, S. 2020. The right to adequate housing. *Research Handbook on Economic, Social and Cultural Rights as Human Rights*: 180-201.

Zhu, Y., M. Holden, P. Han, and S. Kim. 2021. Toward a better understanding of housing vulnerability. *Community Housing Canada.* http://summit.sfu.ca/ item/21232.

Zhu, Y., D. Vaez Mahdavi, and M. Holden. 2022. *More housing supply isn't a cure-all for the housing crisis*. The Conversation. https://theconversation.com/more-housing-supply-isnt-a-cure-all-for-the-housing-crisis-188342.