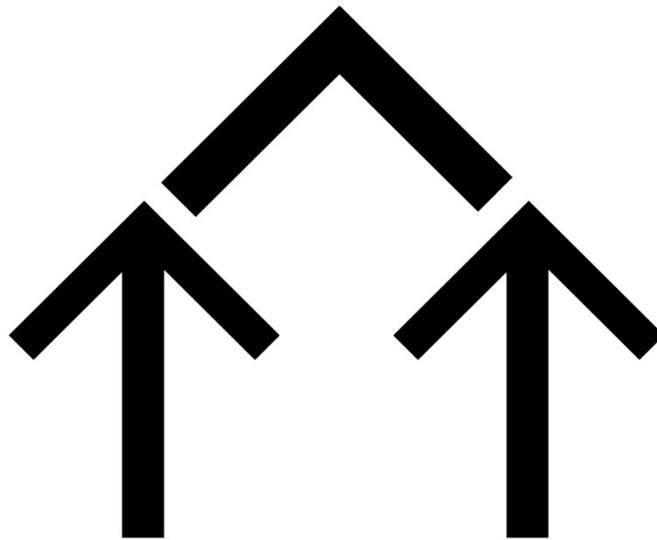


Housing for Health Incubator

Housing Policy and Infrastructural Inequality in Indigenous Australia and Beyond



Issues Paper | May 2018

Tess Lea, Liam Grealy, Christen Cornell

Published by the Housing for Health Incubator, The University of Sydney 2018

The Housing for Health Incubator at The University of Sydney, Australia, is funded by the Henry Halloran Trust, the University of Sydney Faculty of Arts and Social Sciences, the University of Sydney Medical School, the Marie Bashir Institute for Infectious Diseases and Biosecurity, and The Fred Hollows Foundation. Established in 2018, the Incubator involves a partnership with Healthabitat, a not-for-profit company focused on improvements in the material conditions of housing for Indigenous and other disadvantaged groups, and depends on the contributions of various collaborators affiliated with Housing for Health work. Drawing on this network, the Incubator is an independent source of innovative research, analysis, and recommendation related to housing and infrastructure policy under settler colonial and other unequal social arrangements.

Acknowledgement of Country

As authors, we would like to acknowledge the Gadigal people of the Eora Nation, whose land was never ceded or sold and upon which the University of Sydney now sits, and pay our respects to Aboriginal and Torres Strait Islander people past, present, and emerging.

Acknowledgement

We would also like to acknowledge Kunmanara Lester from the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands and the late Paul Pholeros, whose visionary work is part of the legacy on which we are building.

Our acknowledgements extend to the many others who are affected by good, bad, and indifferent infrastructural legacies within the production of settler space.

Copyright: Australian copyright law applies. For permission to reproduce, please contact the authors. © Housing for Health Incubator, The University of Sydney.

Please cite this report as:

Lea, T., Grealy, L, and Cornell, C. (2018). Housing Policy and Infrastructural Inequality in Indigenous Australia and Beyond, *Housing for Health Incubator: Issues Paper – May 2018*. The University of Sydney, Sydney.

Disclaimer

The views expressed in this report do not necessarily represent the views of the Henry Halloran Trust, the University of Sydney, additional Incubator sponsors, or Incubator collaborators. The report reflects the views of Chief Investigator Tess Lea, Postdoctoral Research Fellow Liam Grealy, and Research Officer Christen Cornell.

Website: <http://hfhincubator.org>

Facebook: <https://www.facebook.com/HfHIncubator/>

Twitter: @hfhincubator

Logo: The Design Embassy

Contact: sophi.hfhincubator@sydney.edu.au



Marie Bashir Institute
"making solutions, locally and globally"



Contents

1. Executive Summary.....	4
2. Introduction.....	5
3. Incubator Background.....	9
4. Research Aims.....	14
5. Infrastructural Inequality, Wicked Politics, and Policy In/attention: The Present Situation and the Literature.....	15
6. Key Research Strands and Activities.....	22
7. Works Cited.....	26

1. Executive Summary

The Housing for Health Incubator aims to research and critically intervene in housing and infrastructure policies that contribute to unjust housing and health outcomes for Indigenous and other marginalised people, in Australia and elsewhere. Taking policy worlds, rather than householders, as its central object of analysis, the Incubator investigates the political and policy obstacles to instituting systemic change in housing provision. In partnership with Healthabitat, a not-for-profit company focused on improvements in the material conditions of housing for Indigenous and other disadvantaged groups, the Incubator is committed to increasing the quantity, quality, and accessibility of secure housing as a human right, through working on practical improvements in housing fix-work and exploring wider contributors and potential solutions to infrastructural inequality.

Located at the University of Sydney, the Incubator is funded by the Henry Halloran Trust, the University of Sydney Faculty of Arts and Social Sciences, the University of Sydney Medical School, the Marie Bashir Institute for Infectious Diseases and Biosecurity, and The Fred Hollows Foundation. This Issues Paper describes the political and policy context in which the Incubator has been established and outlines its planned program of research.

2. Introduction

At the recent Northern Territory Aboriginal Housing Forum, Indigenous elders and Aboriginal organisations expressed their desires to both control community housing models and be supported to access their homelands.¹ They also articulated their frustration at the ongoing inadequate support from perennially new bureaucrats and government officials, whom they are required to continually educate on which policies have and have not worked in the past, and why. Haunting all conversations at that Forum was the fact that the Commonwealth Government had not committed to renewing funding for remote community housing (Everingham 2018a); a decision which was later amended. The 2018 Australian Federal Budget failed to renew funding for remote housing in Queensland, South Australia, and Western Australia (Smee 2018). The Commonwealth offered partial support for Aboriginal housing in the Northern Territory, immediately prior to the Northern Territory government agreeing to lift its moratorium on fracking (Sorensen 2018, 4).

The two decisions are connected. Competing visions over the economic and geographical horizons of Indigenous housing provision – homelands, remote communities, town and city centres – signal incongruous understandings of rights, state responsibilities, and budget priorities (Moreton-Robinson 2015). These distinctions further complicate the already complex issues of what such housing should actually look like, what functions it should perform, and how it can be effectively designed, constructed, and maintained.

A stand-off over funding between state or territory and federal governments is as Australian as *The Castle* (Sitch 1997). However, it contrasts with the (increasingly fantastic) settler-colonial aspiration of owning one's home (and perhaps an investment property, or two), which otherwise dominates much contemporary politics. Media coverage of the inter-generational effects of negative gearing, straining urban infrastructure, and entrepreneurial young property investors in cities, sits alongside de- and re-contextualised images of dilapidation, degradation, and despair in regional and remote Indigenous communities. The presentation of such distinct media discourses obscures the historical and ongoing national economic imbrication of the worlds they represent. In contemporary policy, remote Indigenous communities and metropolitan centres in Australia are multiply connected, including by the attempt to reinforce home ownership as an aspirational norm. This not only obscures other possible models of social housing; it works to individualise responsibility for infrastructural inequalities. If disadvantaged people are not within view of the home ownership aspiration, it is deemed their own fault.

For many Indigenous and public housing tenants, a rhetoric of economic austerity aims to explain images of substandard housing through tenant damage and budgetary constraints. This is in spite of evidence demonstrating that the major causes of housing

¹ NT Aboriginal Housing Forum, *Home Is Where the Heart Is*, Darwin, 7-9 March 2018.

dysfunction are attributable to inadequate repair and maintenance services and poor original construction (Healthabitat 2018a). Regular repair and maintenance work is an economical solution to sustaining public housing stock. The grim realities of securing funding and effective policy delivery loom behind a recent national review's recommendations on the need for additional remote community housing and consistent repairs and maintenance programs (Commonwealth Government 2017; also Section 5 below); along with some version of the contingent demand for Aboriginal people to move to regional centres (Department of Housing and Community Development 2017). Yet, beyond the frame of mediated visual clichés of Indigenous disadvantage exists one exception to the Australian application of austerity logics: the infrastructure of government-subsidised multi-national extractive industries (here including mining and industrial agriculture), which redirect profit overseas to reduce tax payments, answerable first to shareholders, second to citizens-as-tax-payers, and later to Indigenous residents most geographically proximate to the 'negative externalities' of primary industry capital accumulation (Bardon 2014). The most recent instance of this chain is the NT Government lifting its moratorium on hydraulic fracturing for the onshore shale gas industry, as the suspected price for necessary housing (Howey 2018; Coffey 2018).

This is not simply a story about remote communities. How housing inequality is expressed and experienced differs according to context. There might be different pressures on housing supply, such as higher demand increasing market rental rates; gentrification, including increasing investment to use houses as short-term rental properties; or restrictive building codes and insufficient construction to meet population growth. Other issues might be shared. Low-income housing is more likely to suffer from inadequate investment in quality urban infrastructures such as accessible public transport systems, reliable energy grids, healthy food provision, and municipal services; or to have experienced under-investment in such infrastructures over time in a protracted process of state abandonment. Such housing is also more likely to be co-located with infrastructures that are undesirable for residential property values and variously toxic to householders, such as proximity to water and waste treatment facilities, electricity plants, land-fills, freeways, flight paths, swamps, and industrial zones. The political geography of affordable or insecure housing also often overlaps with the geography of exposure to climate risk such as heat stress and flood events. Though rarely a central focus of affordable housing policy, or of health advocacy, this Incubator advocates for greater consideration of climate change and geo-location in housing policy, planning, and design.



Figure 1: Left, solar hot water system, Wellington, New South Wales (Image Tess Lea); Right, backyard and freeway in Central City, New Orleans (Image Liam Grealy)

Nor is this simply an Australian story. The contribution of housing to entrenched poverty, poor health, and social marginalisation is an outcome of the geography of market demand; and part of a complex legal and policy landscape that works to poor people's detriment across the so-called first world. The United States Federal Emergency Management Authority's (FEMA) recent buyouts of repeatedly flooded properties in Houston, Texas (Hunt and Zaveri 2017), alongside new building regulations accommodating the 500-year floodplain (Fox 2018), signal the need to think ecologically about housing policy. Such visible pressures and spectacular events like hurricanes need to be considered alongside less impressive policy contributors. Tenancy laws, zoning, building codes, insurance exclusions, contracts for deeds, waiting lists, fines, credit ratings, risk algorithms, and criminal records establish the conditions for administrative violence executed through a thousand paper cuts (NAAJA 2016; Simpson 2016). Such documentary ecologies contribute to the exclusion of vulnerable people from adequate housing, and to increasing their dependence on the expertise and labour of legal aid and social work professionals who are themselves increasingly subject to both the administrative and audit demands of grants that sustain their employment and the threat of public funding withdrawal. This situation is most evident in the increasingly banal (but no less tragic) events of default and eviction (Desmond 2016).

Is better research and policy, more closely attuned to evidence, the answer? It is certainly a worthy response. However, Australia has no shortage of well-researched reports and policy papers on Indigenous housing and related issues, each with their own series of recommendations. Despite different forms of attention to such issues as procurement (Davidson et al., 2011), tenancy regulation (Nethercote 2015a, 2015b; Rosenman and Clunies-Ross 2011), local employment on builds (Moran 2004), and householder tutelage (Baillie et al. 2006), Indigenous housing policy has been an intractable failure in Australia for more than half a century. Significant government investments have resulted in many houses that are in need of major repair or replacement; are overcrowded; and lack

adequate water supplies, washing facilities, food preparation, and sewerage (collectively termed 'health hardware') to be functional.

More critical attention needs to be directed, first, to why certain evidence-based and low-cost policy recommendations (such as for cyclical repair and maintenance programs) are not taken up by governments; and, second, to why, even when such recommendations are incorporated by diligent public servants into housing policy strategies, this has not produced acceptable housing outcomes. Rather than directing our attention to the contributions of Indigenous and other householders to this situation, these are questions that require analysis of adjacent political and policy worlds. By policy worlds, the Incubator means both the carpet-lands of government bureaucracies (and attendant research networks) that define, support, and depend on Indigenous housing provision; and the dispersed networks of actors and effects brought into being by policy programs and their implementation. We mean the ecologies of environments, histories, industrial capital, and documents, which co-create infrastructural inequality.

In short, this Incubator critically examines the political and policy obstacles to instituting systemic change in housing provision and it works on practical improvements in housing fix-work (Section Three), while exploring wider contributors to infrastructural inequality.

3. Incubator Background

The Housing for Health (HfH) intervention, as designed by the not-for-profit company Healthabitat, provides a partial correction to substandard Indigenous housing. As a methodology, it increases the supply of habitable housing in Indigenous and other communities by testing, fixing, and upgrading the available health hardware within existing stock. In doing so, it helps to restore householder abilities to exercise the daily living practices that are essential for their health and wellbeing (Pholeros et al. 2000; Pholeros 2004; see also www.healthabitat.com).

These daily living practices are also known as ‘Healthy Living Practices’ (HLPs)² within the Housing for Health approach. Together, they constitute the practices which, if enabled, contribute most directly to maintaining healthy families and healthy homes, listed in the order of their most likely impact on child health:

1. Washing people
2. Washing clothes and bedding
3. Removing wastewater safely
4. Improving nutrition, the ability to store and prepare and cook food
5. Reducing the negative impacts of overcrowding
6. Reducing the negative effects of animals, insects and vermin
7. Reducing the health impacts of dust
8. Controlling the temperature of the living environment
9. Reducing hazards that cause injury

The Housing for Health (HfH) process surveys and fixes the critical ‘health hardware’ items that underpin the successful execution of daily living practices. Health hardware includes potable and hot water systems, taps, toilets, drains, showers, and electrical fittings. Trained local teams survey the function of these health hardware items, fixing as many things as can be fixed at the time of this initial survey (Survey Fix One); supervise the work of external trades for more complicated problems as this is required; and follow it all up with a further survey six months later to measure the improvement in functionality of health hardware, again fixing items as they go (Survey Fix Two).

The survey and fix method follows Fred Hollows’ injunction that there should be ‘no survey without service.’

² See <http://www.healthabitat.com/the-healthy-living-practices>

Post survey data from 8,466 houses where Housing for Health works had been undertaken shows:	
<ul style="list-style-type: none"> • 87 per cent of showers were functioning, increasing from 37 per cent before the fix ^{[[1]]}_{[[SEP]]} • 81 per cent of houses were electrically safe, increasing from 10 per cent ^{[[1]]}_{[[SEP]]} • 91 per cent had a working toilet, increasing from 59 per cent, and • 24 per cent had a working kitchen, increasing from six per cent 	<ul style="list-style-type: none"> • In 66 per cent of cases, a lack of programmed maintenance caused the problems, not tenant abuse or neglect • In 25 per cent of cases, the cause of problems was poor specifications or faulty workmanship <p style="text-align: right;">Healthabitat (2018b)</p>

Applied in almost 9000 Indigenous houses across Australia and piloted in other countries around the world since its invention in 1986, much has been learned about how to do this HfH test-and-fix work economically, with maximal local involvement, and with measurable health gains. An independent evaluation of the program conducted by the NSW Department of Health (2010), using longitudinal comparative data over a ten-year period, revealed a 40 per cent reduction in hospital separations for key environmental health related illnesses (acute respiratory, gut, skin, and ear infections), compared to households without the program.

Given it has assembled the largest database on housing hardware faults in Australia, the program has also established the leading causes of house decay. In a nutshell, the primary culprits are:

- poor quality initial housing design and construction;
- substandard specification for health hardware items; and
- irregularly programmed and sporadically funded maintenance regimes

(Torzillo et al. 2008; Commonwealth of Australia 2017).

However, much less is known about how to arrest the systemic policy and practice issues which oversee the reproduction of poor quality building stock and health hardware amenities; or how to ensure that regular and appropriately funded maintenance and repair are secured. These might be considered wicked policy problems in the context of wicked politics (McConnell 2018). They might also be considered as part of the infrastructural inequalities that are reshaping communities around the world.



Figure 2: Left, Bathroom sink, Town Camp, Northern Territory (Image Tess Lea); Right, Working stove, Town Camp, Northern Territory (Image Tess Lea)

This Incubator seeks to turn this ignorance around. It builds on an alliance with Healthabitat, and strategic policy collaborations with NSW Health and the Office of Environment and Heritage. In doing so, we are collaborating, respectively, with the designers of the Housing for Health program, the single Australian government department that continues to implement this program, and a team of researchers interested in the role of climate change in contributing to heat stress for vulnerable tenants – itself an issue that Healthabitat is examining in its current review of the Healthy Living Principles and *Housing for Health: The Guide*.³

The Incubator is also undertaking international comparative work to investigate similarities and differences in challenges related to affordable housing and policy responses elsewhere. Specifically, research situated in New Orleans, Louisiana, and sponsored by the Department of Political Science at Louisiana State University in Baton Rouge, will introduce the analogous work of local not-for-profits and activist groups to the HfH Incubator network.

Southern Louisiana provides a valuable comparative site for Northern Australia especially, in relation to: similar climates and related housing design and maintenance challenges; geographically peripheral but politically significant relationships with federal housing policy; high rates of racialised disadvantage in housing outcomes; and major events (Hurricane Katrina in 2005 and the Northern Territory Emergency Response [‘The Intervention’] in 2007) determining significant shifts in housing governance and politics. As within the communities in which our Australian partners work, New Orleans’ housing also tends to offer inadequate health hardware to social housing tenants and much stock is in need of repair and maintenance work (New Orleans Health Department 2013).

³ *The Guide* is the only compendium of recommendations for attending to health hardware in the absence of relevant national building codes. It is produced by Healthabitat and will be updated as part of the work of this Incubator (see Section 6 below).

However, the destruction of significant public housing stock following Katrina and the relative shift to the provision of 'affordable' housing by the private market, subsidised by the government through a voucher system, establishes a different dynamic regarding the politics of advocating for repair and maintenance solutions. Where eviction is not an anomaly but rather a strategy for both maintaining vulnerable tenants' precarity and freeing up housing to meet investor demand for short-term rentals (Desmond 2016; Jane Place 2018), 'making houses great again' necessarily demands consideration of 'for whom?' At the most basic level, Louisiana demonstrates the importance of (at least) maintaining public housing stock to address a housing affordability crisis, while prompting questions about the contexts of policy shifts, their ongoing effects, and effective activist responses.

Private home ownership, often promoted as the solution to Indigenous housing (Davidson and Wahlquist 2017), is also tested here. Katrina devastated neighbourhoods which boasted some of the highest rates of black American home ownership; owners who have since been displaced by a different class of residents who have been (policy) enabled to take up new and restored housing (Griffin 2018). This displacement was facilitated by practices of insurance under-valuation and responded to with temporary accommodation solutions shown to have made people ill (Shapiro 2014). The question arises: why is private home ownership still suggested, given the lack of appetite for it in much of regional and remote Indigenous Australia, and the lack of evidence for it elsewhere? Why is community-controlled housing still denigrated as a solution and government resubstituted as landlords, even as private capital is vaunted? Whose interests are being served?



Figure 3: Left, a renovated house in the Upper Ninth Ward (or 'Bywater') has retained the post-Katrina FEMA 'X'; Right, infrastructural edges in the Lower Ninth Ward (Images Liam Grealy)

Such questions drive our present research agenda. While, as in Australia, climate change looms spectrally but is rarely a central consideration of affordable housing policy, its effects in New Orleans, as in neighbouring Houston, will increasingly appear in plain sight. Through comparative analysis, the Incubator aims to bring climate change into housing policy conversations, as an issue of design and social justice, and within analysis that also considers the wider material and economic issues driving housing and infrastructure design, supply, and maintenance.

The remainder of this Issues Paper further describes the necessity of this Incubator program, listing the program's research aims, what existing research reveals, and our intended activities.⁴ As discussed below, the Incubator's program of work is commencing at a time when the insecurity of funding for Indigenous housing is a pressing issue, with the Federal Government suggesting that it will cease much of its funding of remote housing altogether. This is also a time when the relationships between climate change vulnerability and housing are increasingly clear (Barnett et al. 2013; Gabriel et al. 2010; Instone et al. 2015; Moloney and Goodman 2012); and where questions regarding the adaptive capacity of those living in remote, Indigenous, and precarious housing in urban settings are ever more urgent (Azpitarte et al. 2015; Brotherhood of St Laurence, 2012; Victorian Council of Social Service [VCOSS] 2013).

The Incubator's comparative lens, applied both analytically and empirically, will enable perspective on these inter/national dilemmas, reframing questions of Australian housing policy, climate adaptation, and Indigenous housing and health as those of broader infrastructural inequalities.

⁴ See also *Housing for Health Incubator Progress Report – May 2018* (Lea, Grealy and Cornell 2018) for more details; available at <https://www.hfhincubator.org/>

4. Research Aims

In the context of seeking to revitalise Indigenous health and housing policy while exploring ecologies of housing failure, this research Incubator has dual goals: improving on HfH, and interrogating the root causes of ongoing infrastructural inequalities.

First, it builds on the gains made by Healthabitat to date by revitalising the Housing for Health method from the inside out and outside in. HfH is a proven approach, but can it be improved? Are the likely impacts of climate change sufficiently accounted for in HfH's definition of healthy living practice priorities and associated health hardware requirements? Is there new health evidence that should be incorporated in prioritising what to supply and what to fix? Are there new product or existing design solutions to endemic health hardware failures that can be identified and trialled for systematic use?

Important as pursuing such questions is for the Incubator program in its partnership with Healthabitat, enhancing the HfH intervention is not sufficient. Such a focus does not address the original causes of housing and infrastructure failure. HfH remains a downstream repair program, intervening to fix health hardware which would not be in such poor condition had HfH lessons been materially inscribed into Indigenous housing design, construction, product choice, and maintenance programs in the first instance, nor if housing disadvantage was not embedded within under-analysed ecologies of infrastructural inequality.

This supposition informs the second, foundational line of inquiry driving this Incubator.

What would it take to systemically inscribe the requirements for better health function into Indigenous housing policy? Would more evidence of its impact give the program greater policy traction? Or is yet more evidence irrelevant for policy uptake? How might Indigenous housing policy be reformed if evidence is not what drives action? What forms of policy influence matter? And what sorts of activism can be effective? Viewed more broadly, what are the ecological drivers of poor housing and substandard infrastructure supply in disadvantaged regions? How might we understand the drivers of non-decision making, neglect, and abandonment?

The research will seek to identify the constitutive factors for Indigenous housing policy failure and infrastructural inequalities more broadly conceived; and interrogate models for having such analyses taken up in housing policy discourse and practice through critical analyses of Australian and analogous international case studies.

5. Infrastructural Inequality, Wicked Politics, and Policy In/attention: The Present Situation and the Literature

In late 2017, the Department of the Prime Minister and Cabinet published a comprehensive review of remote housing in Australia, *A Review of the National Partnership Agreement on Remote Indigenous Housing and the Remote Housing Strategy (2008-2018)* (Commonwealth of Australia 2017). The National Partnership Agreement is more commonly known by its initials, NPARIH, a \$5.4 billion Indigenous remote housing scheme established shortly following the Northern Territory Intervention. NPARIH aimed to address overcrowding, poor housing conditions, and severe housing shortages in Indigenous communities, sometimes with additional community development objectives within the mix, such as increased local employment and training.

The Review delivered an interesting verdict. It suggested that while there were problems with the funding scheme – listing lack of transparency, poor governance, wasted funds, and constantly changing policy goals among the problems – the NPARIH approach was on the right track. It had delivered new housing and improved the condition of existing stock, at a sufficient level to dent national overcrowding statistics. But more needs to be done. Accounting for population growth, the Review estimated some additional 5,500 houses are still needed, with almost half this additional need located in the Northern Territory, the jurisdiction with the least ability to generate sufficient funds independently of Commonwealth revenues.

Houses deteriorate quickly without ongoing repair and maintenance, the Review also notes (Commonwealth of Australia 2017, 2, 16). Federal, state, and territory governments should be seeking to protect their investments and increase the durability of their housing stock by also emphasising planned, cyclical maintenance – with a focus on health hardware. This last is a direct reference to the effectiveness of Housing for Health frameworks for improving living conditions in the name of health and wellbeing.

The Review's conclusions confirm existing research on the necessity of quality materials and sustained, detailed repair and maintenance programs (NSW Health 2010; Phibbs and Thompson 2011; Pholeros and Phibbs 2012), given the ways substandard housing design, precarious tenure, and sporadic maintenance erode the potential health-benefits of housing (Torzillo et al. 2008; Chapman et al. 2009; Mallett et al. 2011; Anderson et al. 2016). In turn, inadequate shelter and poor health impedes other public policy objectives, from child development (Dockery et al. 2010) and regular school attendance (Svilburn 2014), to debt management and employment prospects (King et al. 2009; Phibbs and Thompson 2011). Inadequate housing and associated utilities is a major stress factor that contributes to domestic violence within and between families and in turn the inter-

generational trauma evident in many Indigenous communities (Krieg 2010; Bombay et al. 2009).

Despite the Review's positive assessment of the importance of sustained investment in building new and maintaining existing housing, in late 2017 the Commonwealth suggested that Australia-wide funding for Aboriginal Housing programs through NPARIH would cease, and further, that responsibility for Indigenous housing will be shifted to the states and territories, or to as-yet-undefined third party organisations. This represents a significant change in the landscape. The Commonwealth has been the dominant financier of Indigenous housing since the era of self-determination replaced missions and compounds in the 1960s and 1970s (Indigenous housing policy was arguably neglected at the national level until the 1960s (Habibis et al. 2013). This seismic shift remains opaque in terms of key details, such as if and how it will be implemented. The Northern Territory is the only jurisdiction that has received funding for remote community housing in the 2018 Australian Federal Budget. The Commonwealth has agreed to a small, five year funding program, in exchange for an agreement that hydraulic fracturing for the onshore shale gas industry will be allowed (Howey 2018; Coffey 2018; Sorensen 2018).

All this represents another instance of how policy and politics are inseparable from explanations of the inadequacies of Indigenous housing. Yet close analysis of the contribution of policy making cultures, conceived in intersectional and ecological terms, especially but not only in relation to erratic public housing provision and substandard maintenance regimes, is rare. Critics assume that either 'the government' (considered categorically) or 'the resident' must take greater responsibility; and proceed to recommend such solutions as the greater involvement of Indigenous people as builder-occupiers; reforms to tenancy regulation, housing management, and local governance; whole relocations of communities; or changes to procurement and project management to enable more effective delivery of new building programs.

The literature here is wide-ranging and usefully summarised by Long et al. (2007), who highlight that a majority of Australian Indigenous housing research has focused on remote and very remote locations, underpinning 'a failure to adequately engage with other settlement types such as major cities that have substantial Indigenous populations' as well as 'self-built camps' (3). They note the potential contribution of ethnographic and phenomenological approaches to establishing a theoretical basis to Indigenous housing research, which might inform 'macro-issues' analyses of funding, sustainability, management, planning, de/centralisation, and so on (4). For indicative analyses of procurement issues, see Davidson et al. (2011); tenancy and land tenure reforms (Terrill 2016); on the need for greater consultation (Lee and Morris 2005); the need for more householder education (Bailie 2006); the problems of local governance (DFCSIA 2006); on ways to secure greater private ownership and anticipated challenges (Moran et al. 2002; Sanders 2005; O'Brien 2011); and for a case study report which uses many of these diagnostic types, see Fien and Charlesworth (2012).

Most recently, Deloitte's *Living on the Edge: Northern Territory Town Camps Review*, commissioned by the Department of Housing and Community Development (2017), examined a range of issues affecting the NT's 43 town camps.⁵ The Review recommended additional investment in public housing; but also echoed the politics of abandonment evident elsewhere, such as in Western Australia's attempted closures of remote communities (cf. Povinelli 2011), through its claim that continued support for town camps would equate to 'investing in continued disadvantage' (DHDC 2017, 10). While the NT Housing Minister Gerry McCarthy has stated that 'The Government doesn't have a policy to shut down the camps', the NT Government has also stated it will take an additional twelve months to develop a town camps policy, as part of a ten-year plan for 'generational change' (Everingham 2018b). This period well exceeds the term of the current administration, juxtaposing the temporalities of political and policy worlds with householders' immediate realities and precarious tenures.

In other words, a rich understanding of many key issues already exists: holistically-conceived, well-designed, and well-maintained Indigenous housing contributes to health, restorative justice, and education outcomes. Yet just as clearly, it seems that implementing this knowledge can be easily thwarted by politics, funding, and the politics of funding; and forms of critical analysis that bypass ecologies of inequality in favour of single issue recommendations. At best, policies continue to be aimed at reducing the short-term capital costs of affordable and public housing. Every cost reduction in turn risks: increasing the running and maintenance costs for residents; accelerating premature housing failure; reducing householder capacities for attenuating the effects of water, heat, and cold; and delivering direct and negative consequences for the health and well-being of householders.

Despite copious evidence, best practice case studies, expert advice, and issue familiarity, Indigenous housing policies aimed at integrated and holistic outcomes are difficult to sustain (Fien and Charlesworth 2012). Researchers have explored issues surrounding the creation of a viable Indigenous housing market (Crabtree et al. 2015) and the service delivery challenges posed by overcrowding (Memmott et al. 2012), housing and tenancy management (Habibis et al. 2016; Moran et al. 2016), housing governance (Jardine-Orr 2004), and questions of mainstream (urban) housing access (Flatau et al. 2005; Milligan et al. 2011). For Indigenous organisations seeking to develop social housing on their reclaimed lands, the where and how of delivery can be further compromised by such issues as title, tenure, property regulations, and zoning laws (Crabtree 2013; Terrill 2016) – that is, by what we have above called paper infrastructures and forms of administrative violence.

⁵ The Town Camps Review was completed in May 2017 but not released to the public until April 2018.

The issue, then, is not that the requirements are unknown; but rather, why putting best practice into place and sustaining this is so hard. What are the most strategic ways to transcend policy intransigence or inaction? Considering this question through a cross-country analysis of policy change targeting public health inequalities at the structural and not just the individual consumer level, Nathanson (2007) found certain 'stars' have to be in alignment. Public health action comes about through 'some combination of three ingredients: perceived peril to the nation or to the accepted social order, state interest and capacity, and advocacy group pressure' (Nathanson 2007, 248-249). The Intervention, which authorised expenditure for the Strategic Indigenous Housing and Infrastructure Program (SIHIP) and its successor program, the National Partnership Agreement on Remote Indigenous Housing (NPARIH) are arguably examples of projected peril (Steyer 2012; Lea 2012; Lea 2017).

But this suite of drivers is insufficient. Such social or ecological crises can just as easily provide the circumstances for dramatic shifts in housing policy to the detriment of public housing tenants, such as the demolition of 'the big four' housing projects in New Orleans following Hurricane Katrina (Webb and Holub 2007). What prompts 'state interest and capacity' in the face of an apparent indifference to existing evidence, if perceived threats to the nation or accepted social order are insufficient? What explains the contradictions within policy? Why commit to normalising services in town camps against the recommendation to move residents to town centres, in one case, and reform the relative roles played by public housing and vouchers for private rentals, in another? What kind of advocacy group pressure – and related communication techniques – might ensure evidenced approaches, not more policy-on-the-run and policy-as-neglect? Should domestic and international coalitions be mobilised for sustainable housing and infrastructure reform? If so, what kinds?

The literature is quieter on these issues. When policy does come into focus, the emphasis is on influencing decision-making using existing research-to-policy transmission logics. Questions of how cultures of policy making might also help create the problem of poor housing, or what to do in the case of clear indifference to amassed evidence on what to do, tend to be side-lined (Lea 2008). In other words, in appealing to policy's greater authority, government processes and contexts are usually left off the hook.

The effective provision of Indigenous housing, and public housing in general, is easily framed as a 'wicked problem', or one that appears 'relentless and unassailable' because of its complex causes, contradictory information related to potential policy impacts, and disagreements over best responses (McConnell 2018, 165). The situation we have described features a set of interlinked challenges related to housing design, construction, maintenance, and management, with successful outcomes dependent on a range of manufacturing, procurement, labour, cost, and environmental factors. This is undeniably complex and hard to tackle. Nonetheless, the failure of government to widely incorporate the proven efficacy of the HfH methodology into social housing provision signals that

wicked problems are clearly also political problems. That is, examining the traction or likely success of any policy also requires consideration of how it might be perceived to perform in opinion polls, whether it is likely to drain agenda time, and how it corresponds to or compromises wider governmental ideologies (169-170).

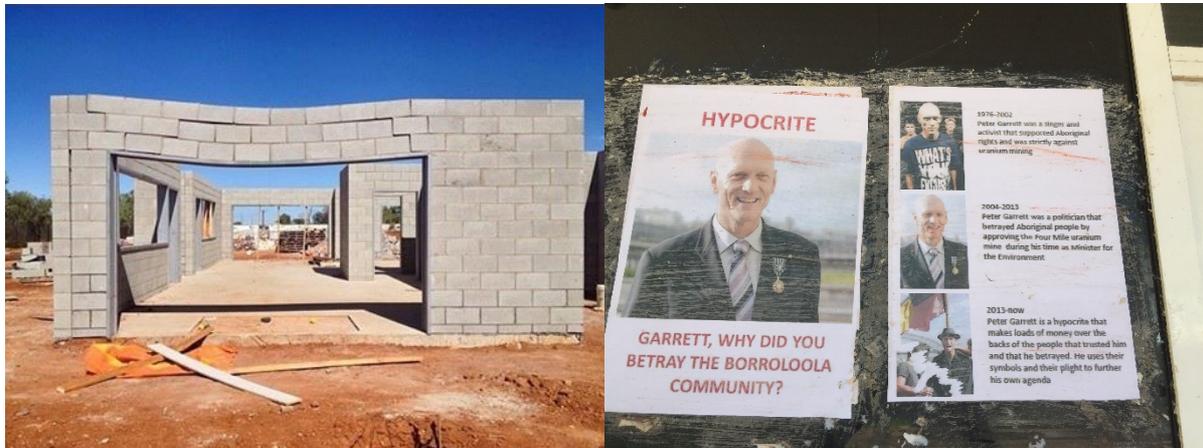


Figure 4: Left, new house build by Alice Springs contractors working in Yuendumu (Image Liam Campbell); Right, a poster in Alice Springs expresses disappointment in former Labour politician Peter Garrett (Image Liam Grealy)

To begin to draw this out, the Incubator will engage with this policy studies literature, with specific focus on the history of NPARIH and on key moments of policy success and failure for the HfH methodology. The Incubator also aims to further develop this conceptual framework by adding insights gleaned from the anthropology of the state and policy making and through empirical case studies. Ethnographic approaches tend to refuse an analytical distinction between policy and politics and allow for a broader definition of policy that incorporates both the debate and design of governmental intervention and its implementation. In other words, an expanded approach explores how conceptions of ‘unintended policy consequences’ are complicit in cordoning off the work of policy design and recommendation from its enactment beyond the carpet-lands of bureaucracy, and how we might understand regimes of responsibility for policy failure.

The Australian situation demands that the terms for analysing policy success and failure be broadened and provides a provocative basis for international learning. The issue of poor housing is in no way uniquely experienced by Indigenous people in Australia: consider ghettos and barrios, slums and project blocks, blighted suburbs and abandoned districts worldwide. But we would argue that race-based inequalities in Indigenous housing are not simply a function of the kind of concentrated poverty which flows from loss of agriculture followed by radical deindustrialisation (Davis 2004; Dewar et al. 2014; Fennell 2016). In Australia, substandard housing is just as often supplied and maintained by wealthy governments in situations where manufacturing was never the basis for neighbourhood economies in the first instance. Other factors contribute to this outcome, including extractive industry interests in Aboriginal resources within a wider milieu of intensified maltreatment of nearly all people requiring social housing.

For existing and prospective householders, are there better ways to understand the relationships between vulnerability, security of tenure, and the destabilising effects of state, bureaucratic, and algorithmic systems, and the associated labour of workers charged with social support and surveillance? The material turn in cultural studies and anthropology is now well established (Bennett and Joyce 2010), alongside the anthropology of the state and more specifically of policy making (Shore and Wright 1997). These fields are increasingly interested in 'infrastructure': material systems that facilitate and impede social action and networks (Larkin 2013). Drawing on Grealy's (2017) work on 'paperless arrests' in the Northern Territory, the Incubator aims to develop a conception of 'paper infrastructure' under the contention that the value of quality affordable housing can only depend on individuals' ability to access it as householders.

In other words, how do documents that are both individual (contracts for deeds, fines, credit histories, etc.) and collective (building codes, land tenure leaseholds, maps, etc.) bear on issues of housing access? Such documents confer rights and responsibilities, produce interdependent social networks including social welfare and real estate industry professionals, and consolidate the legitimacy and necessity of external regimes of policy making, implementation, audit, and policing (Hull 2012; Eubanks 2017). Through their application and restricted circulation, especially for tenants with limited linguistic and/or financial literacies, such documents can also perpetuate infrastructural violence (Rodgers and O'Neill 2012). This is equally evident where such individual case files and records are collectively scaled up into data bases that employ algorithms to determine relative need for social services (Eubanks 2017).

Thinking in terms of infrastructure also works against a tendency to conceive of housing as made up of discrete units, measurable as enumerated deliverables on construction or fix-work projects. Housing as health-hardware is rather one node in wider networks and ecologies that manifest differentiated health outcomes for householders. What do houses let in, and what gets into the bodies of householders within such material arrangements? What infrastructures facilitate flows, exchanges, and modes of incorporation that trouble neat distinctions between the inside and outside of housing? For example, toxic air enters homes as a result of: increased particulate matter as an outcome of extractive industries such as coal mining (Lodge 2016); formaldehyde used in low-cost emergency trailer homes with inadequate ventilation (Shapiro 2014); lead dust following the demolition of nearby blighted housing (The Center for Investigative Reporting 2018); and contaminated water as a result of extractive industry.

As Healthabitat (2018b) has shown over a number of decades, challenges related to water contamination, waste water treatment, and hygiene-related issues are common in Indigenous housing as health-hardware (Hall et al. 2017). Most recently in Australia, Indigenous communities in the Gulf region have had drinking water trucked in after being advised that the local supply is contaminated by lead (Hoosan 2018). Other communities, such as Ngukurr, have experienced the issue of insufficient water supply, with safe

drinking water replaced by alternate sources requiring boiling as a precautionary measure (Department of Health 2017). In Western Australia, a suspicion has emerged that mining-contaminated bore water explains the escalation of kidney disease (McMullen 2017). Beyond Australia, the Inspector General of New Orleans has cited an urgent need for the Sewerage and Water Board to better ensure the protection of residents from lead present in old pipes, as it undertakes significant infrastructure development in the coming years (Adelson 2017). While the question of a protective roof over one's head is understandably a focal point in housing advocacy, there is a need to also conceive of housing as a mode of containing and directing harms at residents, via infrastructures that coalesce inside a shelter's walls.

Relationships between vulnerability and security of tenure also bear upon climate change impacts and the ways these impacts are differentiated across the population. For tenants, of either social or privately rented housing, the capacity to modify one's home to adapt to extreme climate events is comparatively limited, and the provision of climate appropriate housing depends on landlords and the housing bureaucracy – agents that may or may not choose to respond (Gabriel et al. 2010; Instone et al. 2015). People living in insecure, inadequate, or marginal forms of housing – such as caravans, granny flats, shelters, or in situations of overcrowding – are also more vulnerable to extreme weather events by virtue of their dwelling location and design. A recent study by the Victorian Council of Social Services (2013) described 'public housing properties, rooming houses and caravans' as "'hot boxes" [for residents] who had no access to cooling or cool areas' (5). Further research has indicated that poor thermal performance of dwellings and the energy costs of cooling affect lower income Australians disproportionately (ACOSS 2013; St Vincent de Paul and Alvis Consulting 2016; Azpitarte, et al. 2015), while more still suggests a positive correlation between socio-economic disadvantage and urban hot spots in a number of Australian and North American cities (Harlan et al. 2006; Schwartz et al. 2015; Barnett et al. 2013).

With its focus on housing and health, this Incubator seeks to contribute to this nascent yet critical research area, investigating the intersections between precarious housing and climate change vulnerability with reference to tenure, dwelling type, household demographics, and geographical and neighbourhood characteristics. In doing so, it also considers precarious housing situations in relation to the infrastructures that can compound or alleviate climate related harms, such as reliable electrical grids and water supply. This work will assess strategies for intervention, such as informing potential policy responses and the provision of information to community groups. Importantly, it will also inform the evolution of the HfH methodology, enabling it to remain up-to-date with transforming environmental, social, and health conditions.

6. Key Research Strands and Activities

Strand One: Policy critique and reform

The key goals of this Incubator are to examine and evaluate the lessons learnt from Housing for Health (HfH) work and to more effectively penetrate housing and infrastructure approaches for marginalised populations in Australia and beyond. This strand begins by examining the impact of HfH work on Indigenous housing policy discourse and practice. This examination will be documented in a multi-media e-book as the base for asking why this impact is insufficient to fundamentally shift Indigenous housing and infrastructure. Asked differently, how can high quality initial design and construction, plus robust health hardware and material choice, combined with regularly programmed and funded maintenance, be secured within housing policy?

These primary questions are embedded within a wider program of critical inquiry, drawing on scholars, practitioners, and renowned policy influencers. Chief Investigator Tess Lea will coordinate this policy inquiry with Postdoctoral Research Fellow Dr Liam Grealy, Partner Investigator Professor Allan McConnell (a senior political scientist with international expertise in the critical analysis of policy success and failure [McConnell 2010; Howlett, McConnell et al. 2016]), housing and health researcher Dr Christen Cornell, and the wider HfH practitioner community. Tasks include documenting Healthhabitat's history in relation to its policy impacts into the present and probing what these impacts reveal about policy's role in perpetuating poor Indigenous housing. A series of interviews, focus groups, and ethnographic case studies will produce a rich set of audio, textual, and visual material addressed to HfH policy impacts, to be released as a high production values e-book, with financial support from the Fred Hollows Foundation.

The policy team will also coordinate a series of inquiries pursuing the broader question of policy traction through a critical analysis of relevant literature, through reading groups, public events, and academic symposia. The first of these, a reading group under the title 'Infrastructural Inequalities' is scheduled to commence in May 2018, organised in relation to provisional themes including infrastructure, architecture, wires, water, waste, and words. Among other relationships, this group consolidates a new collaboration with artist-academics Dr Astrid Lorange and Dr Andrew Brooks (UNSW Art and Design), collectively known as Snack Syndicate.⁶

The reading group will contribute to the social and intellectual scaffold for another, larger event in October 2018, collaboratively curated by the Incubator and Snack Syndicate at Artspace in Woolloomooloo. This event will take the form of a two-day public program in which artist, practitioner, activist, and scholarly talks, together with interactive sensory

⁶ See <https://snacksyndicate.net/>

(visual, aural, haptic) installations, will combine to encourage participants to expose themselves to the issues we are otherwise exploring through our empirical investigations. By combining abstract, material, and practical dimensions we aim to rethink what infrastructural inequality is, and experiment with ways of making such interrogations accessible to diverse audiences. That is, what we are imagining has both conceptual and interactive dimensions; of being thought-provoking while introducing creative dimensions.

In turn, this will inform the first of two policy roundtables with key policy influencers, scholars, and industry representatives, to be held in January 2019. These roundtable discussions will be invigorated by draft policy discussion papers, summarising research issues and findings to date. These ongoing analyses will culminate in a major international event hosted at the University of Sydney at the end of the Incubator program (see Lea, Grealy, and Cornell 2018).

Strand Two: Surveys and service

Given the ongoing demand for the HfH methodology in Australia and increasingly overseas,⁷ it is important to ensure that HfH resources and even the Healthy Living Practices are premised on contemporary evidence and best practice. Within the umbrella of the Incubator, there is much to reassess. Housing for Health is a proven approach but is it as flexible as it could be for adoption by groups in radically different development contexts? Is the approach still based on the best and most up-to-date evidence? Do the current HLPs and their prioritisation require modification given current health science knowledge about living environments and health?

Under the supervision of Dr Paul Torzillo, founding Healthabitat Director and Clinical Professor, Sydney Medical Program and Royal Prince Alfred Hospital, with contributions from the Sydney Medical Program (SMP) and the Marie Bashir Institute for Infectious Diseases and Biosecurity (MBI) at the University of Sydney, the evidence for the HLPs will be assessed and any new evidence which may alter their prioritisation or emphases incorporated. This includes assessing, for instance, whether new information on the risks of mosquito borne and other animal-transmitted diseases warrants shifting the position of HLP 6 (Reducing negative impact of animals, insects or vermin), higher or lower in the list of healthy living priorities. In addition, do the exacerbated ecological effects of climate change warrant the higher prioritisation of HLP 8 (Controlling the Temperature of the

⁷ Projects drawing on Housing for Health principles have been trialled in Nepal, New York City, and Johannesburg. Community Solutions has also expressed interest in implementing the program in Northeast Hartford, Connecticut, under the Northeast Hartford Partnership.

Living Environment), including through further attention given to temperature control design and technologies?

As noted, HfH data not only tracks its fix effects, it also reveals recurrent faults. Over time, this has generated valuable information about maintenance procedures and material choices. This information has in turn been collated into a highly valued resource for builders, project managers, and maintenance teams, formerly known as the *National Indigenous Housing Guide*, now as simply *Housing for Health: The Guide*.⁸ This will also be updated in line with Incubator findings, ensuring greater practical impact.

To further this applied outcome, industry partner David Donald will draw on the updated evidence base and run applied workshops to fold new scholarship into practical resources and tools for practitioners. Drawing on the Healthabitat network and an alliance with the Environmental Health Division of NSW Health, Donald will facilitate a program of work to:

- Revise HfH tools and guidelines to ensure their continued usability in the many Australian contexts – remote, rural, urban, and metropolitan – where demand for the program and its lessons has been steadily growing;
- Design a protocol for how the HfH methodology might be safely amended for use with different populations and settings;
- Update the current *Housing for Health: The Guide*, incorporating the overall lessons of the Incubator program.

Strand Three: Systematising good product/health hardware function

Strand Three targets outstanding research and development tasks addressing recurrent deficiencies in health hardware – that is, the physical equipment necessary for enacting healthy, hygienic living practices. Here again, critical analysis combines with practical work. The Incubator will link with a complementary program of work coordinated by industrial design expert Dr Christian Tietz, of UNSW's Built Environment Faculty, Industrial Design stream, in collaboration with Professor Michael Tawa, at the Faculty of Architecture, Design and Planning, University of Sydney.

While this program of work depends on attracting additional funding by PIs Tawa and Tietz, components can be achieved through desk-top work. For instance, previous research indicates that it is entirely possible to design fit-for-purpose products and to identify off-the-shelf commercial products which meet Indigenous health hardware

⁸ See <http://www.housingforhealth.com/>

needs (Tietz 2009; 2013). However, the 'event chains' that embed poor performing products as the norm also needs to be considered and challenged.

The second phase aims to extend this work into principles for the design, manufacture, and installation of health hardware that is robust, fit for purpose, and sustainable over the long-term. Ideally, pilot projects will be undertaken with student cohorts at UNSW and USyd to apply and test those design principles and performance criteria. We will attempt to devise service learning or experiential learning projects for students to address actual problems with well-defined parameters that can deliver achievable outcomes in the available time frame and resources.

Strand Four: Expanding applied Indigenous housing research capacity

A key problem lies in the widespread misunderstanding of what causes poor Indigenous living conditions. Principally, material degradation is interpreted as a manifestation of cultural difference, and thus, as something in need of cultural solutions.⁹ Such an interpretation foregrounds individual householder characteristics, making structural and policy issues a lesser consideration. Yet a key device which would help surface some of the common denominators within health hardware failures beyond the focus on householder attributes – namely the rich HfH database, the largest longitudinal database on health hardware in Australia – is not easily accessible.

We hope to share the HfH database with students and researchers, to enable the kinds of open interrogation which would help re-route the discourse about Indigenous housing and health. By curating HfH data to enable more open access, the aim is to encourage multidisciplinary research initiatives and additionally ensure that data are able to be mined for ongoing design and hardware specification lessons, while training new generations of graduates in the intricacies of Indigenous data analysis and representation (Lea and Torzillo 2016).

⁹ For an anthropological analysis of such displacement effects, see Harvey et al. (2017) and also Lea and Pholeros (2010).

7. Works Cited

- Adelson, J. 2017. "Lead in New Orleans Pipes? IG's Office Sounds Off on 'extremely serious' Concerns Amid Planned Work." *The Advocate*. 19 July.
- Anderson, M., Williamson, A. B., et al. (2016). "There's a housing crisis going on in Sydney for Aboriginal people': focus group accounts of housing and perceived associations with health." *BioMed Central Public Health*. 16(1): 429.
- Australian Council of Social Service (ACOSS). (2013). *Energy Efficiency and People on Low Incomes*. Strawberry Hills, NSW.
- Azpitarte, F., Johnson, V., & Sullivan, D. (2015). *Fuel Poverty, Household Income and Energy Spending: An empirical analysis for Australia using HILDA data*. Fitzroy, Victoria.
- AIHW (2014). *Housing assistance for Indigenous Australians*. Cat. no. IHW 131. Australian Institute of Health and Welfare, Canberra.
- Bailie, R. S. (2006). "Housing and health in Indigenous communities: Key issues for housing and health improvement in remote Aboriginal and Torres Strait Islander communities." *Australian Journal of Rural Health* 14(5): 178.
- Baker, E., Bentley, R., Keys, D., Kolar, V., Krnjacki, L., Mallet, S. and Mason, K. (2011). *Precarious Housing and Health Inequalities: What Are The Links?*. Hanover Welfare Services, University of Melbourne, University of Adelaide, Melbourne City Mission, Australia.
- Bardon, J. (2014). "McArthur River Mine's Burning Waste Rock Pile Sparks Health, Environmental Concerns among Gulf of Carpentaria Aboriginal Groups." *ABC*. 27 June.
- Barnett, G., Beaty, M., Chen, D., McFalla, S., Meyers, J., Nguyen, M., Ren, Z., Spinks, A., and Wang, X. (2013). *Pathways to climate adapted and healthy low income housing*. National Climate Adaptation Research Facility, Gold Coast.
- Bennett, T. & Joyce, P. (eds). (2010). *Material Powers: Cultural Studies, History and the Material turn*, Routledge: London & New York.
- Bombay, A., Matheson, K., and Anisman, H. (2009). "Intergenerational Trauma: Convergence of Multiple Processes among First Nations peoples in Canada." *Journal of Aboriginal Health*. 5(3): 6-47.
- Brotherhood of St Laurence. (2012). *Barriers to effective climate change adaptation: submission to the Productivity Commission inquiry*. Fitzroy, Victoria.
- Chapman, R., Howden-Chapman, P., Viggers, H., O'dea, D., and Kennedy, M. (2009). "Retrofitting houses with insulation: a cost-benefit analysis of a randomised community trial." *Journal of Epidemiology & Community Health* 63(4): 271-277.
- Coffey Services Australia (2018). *Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory*. Accessed on 20 April at: <https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286>
- Commonwealth of Australia (2017). *Remote Housing Review: A review of the National Partnership Agreement on Remote Indigenous Housing and the Remote Housing Strategy (2008-2018)*. Department of the Prime Minister and Cabinet, Canberra.
- Crabtree, L. (2013). "Decolonising property: exploring ethics, land, and time, through housing interventions in contemporary Australia." *Environment and Planning D: Society and Space* 31(1): 99-115.
- Crabtree, L., Moore, N., Phibbs, P., Blunden, H. and Sappideen, C. (2015). *Community Land Trusts and Indigenous communities: from strategies to outcomes* AHURI Final Report No. 239. Australian Housing and Urban Research Institute Limited, Melbourne.
- Davidson, H. and Wahlquist, C. (2017). "Indigenous minister under fire over funding for remote housing." *The Guardian*. 21 December.
- Davidson, J., P. Memmott, C. Go-Sam and E. Grant (2011). *Remote Indigenous housing procurement: a comparative study* AHURI Final Report No.167. Australian Housing and Urban Research Institute Limited, Melbourne.

- Davis, Mike. (2004). "Planet of Slums." *New Left Review* 26, March-April. Accessed on 20 April at <https://newleftreview.org/11/26/mike-davis-planet-of-slums>
- Department of Health (2017). "Precautionary Advice for Drinking Water (Water Boil Alert)." 20 December. Northern Territory Government.
- Department of Housing and Community Development (2017). *Living on the Edge: Northern Territory Town Camps Review*. May, Deloitte. Northern Territory Government.
- Desmond, Matthew. (2016). *Evicted: Poverty and Profit in the American City*. Crown Publishing Group, New York.
- Dewar, M., E. Seymour, and Druță, O. (2014). "Disinvesting in the City: The Role of Tax Foreclosure in Detroit." *Urban Affairs Review* 51(5): 587-615
- Dockery, A. M., Kendall, G., Li, J., Mahendran, A., Ong, R., and Strazdins, L. (2010). *Housing and children's development and wellbeing: a scoping study*. AHURI Final Report No. 149. Australian Housing and Urban Research Institute Limited, Melbourne.
- DFCSIA (2006). *The Best Way Forward: Delivering housing and infrastructure to Indigenous Australians*. Department of Families, Commonwealth Government of Australia, Canberra.
- Eades, D. (2013). *Aboriginal Ways of Using English*. Aboriginal Studies Press, Canberra.
- Eubanks, V. (2017). *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. St. Martin's Press, New York.
- Everingham, S. (2018a). "NT Indigenous Housing Funding Fuels Political Standoff, as Remote Communities Face 'Major Uncertainty.'" *ABC*. 11 April.
- Everingham, S. (2018b). "NT Town Camp Review Released After Two Years, but Policy Another Year Away." *ABC*. 13 April.
- Fien, J. and Charlesworth, E. (2012). "Why isn't it solved?: Factors affecting improvements in housing outcomes in remote Indigenous communities in Australia." *Habitat International* 36(1): 20-25.
- Flatau, P., Cooper, L., McGrath, N., Edwards, D., Hart, A., Morris, Mary, Lacroix, C., Adam, M., Marinova, D., Beer, A., Tually, S., and Traee, C. (2005) *Indigenous access to mainstream public and community housing*, AHURI Final Report No. 85. Australian Housing and Urban Research Institute Limited, Melbourne.
- Fox, K. (2018). "On Close Vote, Council Approves New Rules for Building in Floodplains." *ABC Eyewitness News*. 4 April.
- Gabriel, M., Watson, P., Ong, R., Wood, G., and Wulff, M. (2010). *The environmental sustainability of Australia's private rental housing stock*, AHURI Final Report No. 159. Australian Housing and Urban Research Institute Limited, Melbourne.
- Grealy, L. (2017). "Paperless Arrests as Preventive Detention: Motion and Documentation in the Governance of Indigenous Peoples of Australia." *Sites*. 14(1): 80-105.
- Griffith, S. M. (2018). "Displaced New Orleans." Accessed on 20 April at: <http://www.displacedneworleans.com/>
- Habibis, D., Memmott, P., Phillips, R., Go-Sam, C., Keys, C. and Moran, M. (2013). *Housing conditionality, Indigenous lifeworlds and policy outcomes: Towards a model for culturally responsive housing provision*, AHURI Final Report No.212. Australian Housing and Urban Research Institute Limited, Melbourne.
- Hall, N., Barbosa, M. C., Currie, D., Dean, A. J., Head, B., Hill, P. S., Naylor, S., Reid, S., Selvey, L. and Willis, J. (2017). "Water, Sanitation and Hygiene in Remote Indigenous Australian Communities: A Scan of Priorities", *Global Change Institute Discussion Paper: Water for Equity and Wellbeing Series*. The University of Queensland, Brisbane.
- Harlan, S. L., Brazel, A. J., Prashad, L., Stefanov, W. L., and Larsen, L. (2006). "Neighborhood microclimates and vulnerability to heat stress." *Social Science & Medicine* 63(11): 2847-2863.
- Harvey, P., Jensen, C. B., and Morita, A. (2017). "Introduction: Infrastructural Complications". In P. Harvey, C. B. Jensen and A. Morita (eds) *Infrastructures and Social Complexity: A companion*, (1-22). Routledge, London and New York.
- Healthabitat (2018a). "Why the Houses Need Fixing". Accessed on 20 April at:

- <http://www.healthhabitat.com/what-we-do/what-the-housing-data-reveals/why-the-houses-need-fixing>
- Healthhabitat (2018b). "What the Housing Data Reveals". Accessed on 20 April at: <http://www.healthhabitat.com/what-we-do/what-the-housing-data-reveals/how-the-houses-perform>
- Hoosan, Gadrian (2018). "When Water is Death". *IndigenousX*. 22 April.
- Howlett, M., McConnell, A., and Perl, A. (2016). "Weaving the Fabric of Public Policies: Comparing and Integrating Contemporary Frameworks for the Study of Policy Processes." *Journal of Comparative Policy Analysis: Research and Practice* 18(3): 273-289.
- Howey, K. (2018). "Cement: Materialities and Temporalities of Fracking in Northern Australia." 20 April. Sydney Environment Institute.
- Hull, M. (2012). "Documents and Bureaucracy", *Annual Review of Anthropology*. 41: 251-267.
- Hunt, D. and Zaveri, M. (2017). "FEMA Wants to Speeds Purchases of Houston Homes Hit by Repeat Floods." *Houston Chronicle*. 7 September.
- Instone, L., Mee, K. J., Palmer, J., Williams, M., and Vaughan, N. (2015). "Climate change adaptation in the rental sector". In J. P. Palutikof, S. L. Boulter, J. Barnett, and D. Rissik (eds) *Applied Studies in Climate Adaptation*, (372-379). Wiley-Blackwell, Hoboken.
- Jane Place Neighborhood Sustainability Initiative. (2018). *Short-term Rentals, Long-term Impacts: The Corrosion of Housing Access and Affordability in New Orleans*. New Orleans.
- Jardine-Orr, A., Spring, F., and Anda, M. (2004) *Indigenous housing and governance: case studies from remote communities in WA and NT*, AHURI Final Report No. 66. Australian Housing and Urban Research Institute Limited, Melbourne.
- Kamien, M. (1976). "Housing and Health in an Aboriginal Community in Bourke, New South Wales." *Australian Journal of Social Issues* 11(3): 187-200.
- King, M., Smith, A., and Gracey, M. (2009). "Indigenous Health Part 2: The underlying causes of the health gap." *Lancet* 374 (July 4 2009): 76-85.
- Krieg, A. (2010). "The Experience of Collective Trauma in Australian Indigenous Communities." *Australian Psychiatry*. 17(1): S28-S32.
- Larkin, B. (2013). "The Politics and Poetics of Infrastructure." *Annual Review Of Anthropology* 42: 327- 343.
- Lea, T. (2008). *Bureaucrats and Bleeding Hearts: Indigenous Health in Northern Australia*. UNSW Press, Sydney.
- Lea, T. (2008). "Housing for Health in Indigenous Australia: driving change when research and policy are part of the problem." *Human Organization* 67(1): 77-85.
- Lea, T. (2012) "Ecologies of Development on Groote Eylandt." *Australian Humanities Review* 53: 1-11.
- Lea, T. (2012). "When looking for anarchy, look to the state: Fantasies of regulation in forcing disorder within the Australian Indigenous estate." *Critique of Anthropology* 32(2): 109-124.
- Lea, T. (2014) "'From Little Things, Big Things Grow': The unfurling of wild policy." *e-flux journal* 58, Accessed on 20 April at: <http://www.e-flux.com/journal/58/61174/from-little-things-big-things-grow-the-unfurling-of-wild-policy/>
- Lea, T. (2015). "What's water got to do with it? Indigenous public housing and Australian settler colonial relations." *Settler Colonial Studies* 5(4): 375-386.
- Lea, T. (2017). "Infrastructure reform in Indigenous Australia: from mud to mining to military empires." In P. Harvey, C. B. Jensen, and A. Morita (eds) *Infrastructures and Social Complexity: A Companion*, (62-75). Routledge, London and New York.
- Lea, T. and Pholeros, P. (2010). "This is not a pipe: the treacheries of Indigenous housing." *Public Culture* 22(1): 187-209.
- Lea, T. and Torzillo, P. (2016). "The Cunning of Data in Indigenous Housing and Health." *Journal of Prevention and Intervention in the Community* 44(4): 272-282.
- Lea, T., Greal, L., and Cornell, C. (2018) *Housing for Health Incubator Progress Report – May 2018*. University of Sydney, Sydney.
- Lee, G. and Morris, D. (2005). *Best practice models for effective consultation: towards improving built environment outcomes for remote Indigenous communities*, AHURI Final Report No. 76. Australian Housing and Urban

- Research Institute Limited, Melbourne.
- Lieberman, K. (1980). "Ambiguity and Gratuitous Concurrence in Inter-cultural Communication." *Human Studies* 3(1): 65-85.
- Lodge, J. (2016). "Central Queensland Mining Communities at Risk Due to 'Next to no monitoring' of Toxic Pollution: Expert". ABC. 14 January.
- Long, S., Memmott, P., and Seelig, T., (2007). *An Audit and Review of Australian Indigenous Housing Research*, AHURI Final Report No. 102. Australian Housing and Urban Research Institute Limited, Melbourne.
- Marmot, M., Goldblack, P., Allen, J. et al. (2010). *Fair Society, Healthy Lives (The Marmot Review): Strategic Review of Health Inequalities in England in 2010*. Institute of Health and Equity, London.
- Marmot, M. and Bartley, M. (2001). "Social Class and Coronary Heart Disease." In . S. Stansfield and M. Marmot (eds) *Stress and the Heart: Psychosocial Pathways to Coronary Heart Disease*. BMJ Books, Wiley, London.
- McConnell, A. (2010). "Policy Success, Policy Failure and Grey Areas In-Between." *Journal of Public Policy* 30(3): 345-362.
- McConnell, A. (2010). *Understanding Policy Success: Rethinking Public Policy*. Palgrave Macmillan, Houndsmills.
- McConnell, A. (2018). "Rethinking Wicked Problems as Political Problems and Policy Problems." *Policy and Politics* 46(1): 165-180.
- McMullen, J. (2017). "The Poisoned Chalice: Breakthrough WA Study Shines A Light On Global Water Contamination." *The New Matilda* 28 June 2017. Available at: <https://newmatilda.com/2017/06/28/the-poisoned-chalice-breakthrough-wa-study-shines-a-light-on-global-water-contamination/>
- Memmott, P., Birdsall-Jones, C., and Greenop, K. (2012). *Australian Indigenous house crowding*, AHURI Final Report no. 194. Australian Housing and Urban Research Institute Limited, Melbourne.
- Milligan, V. and Tiernan, A. (2011). "No home for housing: The situation of the commonwealth's housing policy advisory function." *Australian Journal of Public Administration*, 70(4), 391-407.
- Minnery, J., Manicaros, M., and Lindfield, M. (2000). "Remote Area Indigenous Housing: Towards a Model of Best Practice." *Housing Studies* 15(2): 237-258.
- Moloney, S. and Goodman, R. (2013). "Rethinking housing affordability and provision in the context of climate change." In N. Gurran, P. Phibbs, and S. Thompson (eds) *Proceedings of the 10th International Urban Planning and Environment Symposium*, (628-640). Sydney, Australia, 24-27 July 2012.
- Moran, M. (2004). "The Practice of Participatory Planning at Mapoon Aboriginal Settlement: Towards Community Control, Ownership and Autonomy." *Australian Geographical Studies* 42(3): 339-355.
- Moran, M., Memmott, P., Nash, D., Birdsall-Jones, C., Fantin, S., Phillips, R., and Habibis, D. (2016). *Indigenous Lifeworlds, Conditionality and Housing Outcomes*, AHURI Final Report no. 260, Australian Housing and Urban Research Institute Limited, Melbourne.
- Moran, M., P. Memmott, Long, S., Stacy, R., Holt, J. (2002). "Indigenous Home Ownership and Community Title Land: A Preliminary Household Survey." *Urban Policy and Research* 20(4): 357-370.
- Moreton-Robinson, Aileen. (2015). *The White Possessive: Property, Power and Indigenous Sovereignty*. University of Minnesota Press, Minneapolis and London.
- NAAJA. (2016). "Northern Territory Housing Issues Paper and Response to the Housing Strategy Consultation Draft." February. North Australian Aboriginal Justice Agency, Darwin.
- Nathanson, C. (2007). *Disease prevention as social change: The state, society, and public health in the United States, France, Great Britain, and Canada*. Russell Sage Foundation, New York.
- Nethercote, M. (2015a). "Neoliberal Welfare, Minorities and Tenancy Support." *Social Policy and Society* 16(1): 15-32.
- Nethercote, M. (2015b). "Operationalizing a Responsibility Agenda in Australia's Indigenous Communities: Confused, Doubtful and Subversive Public Housing Tenants." *Housing, Theory and Society* 32(2): 171-195.
- New Orleans Health Department. (2013). *New Orleans Community Health Improvement Report: Community Health Profile and Community Health Improvement Plan*.
- Nganampa Health (1987). *Uwankara Palyanyku Kanyintjaku (The UPK Report)*, South Australian Committee of Review on Environmental and Public Health within the Anangu Pitjantjatjara Lands in South Australia 1987.
- NSW Health (2010). *Closing the Gap: 10 Years of Housing for Health in NSW*. J. Standen. NSW Department of

- Health, Sydney.
- O'Brien, D. (2011). "Home to Own: Potential for Indigenous Housing by Indigenous People." *Australian Aboriginal Studies* 1: 65-80.
- Phibbs, P. and Thompson, S. (2011). *The Health Impacts of Housing: Toward a Policy-Relevant Research Agenda*, AHURI Final Report no. 173. Australian Housing and Urban Research Institute Limited, Melbourne.
- Pholeros, P. (2004). "Housing for Health and Fixing Houses for Better Health: a brief background". *Health Habitat*. 1.
- Pholeros, P., Lea, T., Rainow, S., Sowerbutts, T., Torzillo, P. J. (2013). "Improving the state of health hardware in Australian Indigenous housing: Building more houses is not the only answer." *International Journal of Circumpolar Health* 72: 435-440.
- Pholeros, P. and Phibbs, P. (2012). *Constructing and maintaining houses*. Resource sheet no. 13. Closing the Gap Clearinghouse.
- Pholeros, P., Rainow, S. and Torzillo, P. (1993). *Housing for Health: Towards a Healthy Living Environment for Aboriginal Australia*. Healthhabitat, Newport Beach.
- Pholeros, P., Torzillo, P., and Rainow, S. (2000). "Housing for Health: Principles and Projects, South Australia, Northern Territory and Queensland, 1985-97." In P. Read (ed.) *Settlement: A History of Australian Indigenous Housing*, (199-208). Aboriginal Studies Press, Canberra.
- Pholeros, P., P. Torzillo, Rainow, S. (2004). *Healthhabitat: A brief history*. Newport Beach, Sydney, Healthhabitat.
- Povinelli, E. (2011). *Economies of Abandonment: Social Belonging and Endurance in Late Liberalism*. Duke University Press, Durham.
- Rodgers, D. and O'Neill, B. (2012). "Infrastructural violence: Introduction to the special issue", *Ethnography* 13(4): 401-412.
- Rosenman, N. and Clunies-Ross, A. (2011) "The New Tenancy Framework for Remote Aboriginal Communities in the Northern Territory." *Indigenous Law Bulletin* 7(24): 11-16.
- Sanders, W. (2005). *Housing tenure and Indigenous Australians in remote and settled areas*. Discussion Paper No. 275/2005. Centre for Aboriginal Economic Policy Research, Canberra.
- Schwarz, K., Fragkias, M., Boone, C. G., Zhou, W., McHale, M., Grove, J. M. O'Neil-Dunne, J., McFadden, J. P., Buckley, G. L., Childers, D., Ogden, L., Pincetl, S., Pataki, D., Whitmer, A., Cadenasso, M. L. (2015). "Trees Grow on Money: Urban Tree Canopy Cover and Environmental Justice". *PLoS One*, 10(4). Accessed on 20 April at: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0122051>
- Shapiro, N. (2014). "Un-knowing Exposure: Toxic Emergency Housing, Strategic Inconclusivity and Governance in the US Gulf South." In E. Cloatre and M. Pickersgill (eds) *Knowledge, Technology, and the Law*, (189-205). Routledge, London and New York.
- Shore, C. and Wright, S. (eds). (1997). *Anthropology of Policy: Critical Perspectives on Governance and Power*. Routledge, London and New York.
- Simpson, A. (2016). "Consent's Revenge". *Cultural Anthropology* 31(3): 326-333.
- Sitch, R. (1997). *The Castle*. Produced by Debra Choate, Distributed by Village Roadshow and Miramax Films.
- Smee, Ben. (2018). "Indigenous leaders say remote housing in jeopardy after 'devastating' budget cut." *The Guardian*. 10 May.
- Sorensen, H. (2018). "Pollies jostle over fracking". *The Northern Territory News* [Darwin NT] 19 April 2018.
- St Vincent de Paul Society and Alvis Consulting. (2016). *Households in the dark. Mapping electricity disconnections in South Australia, Victoria, New South Wales and South East Queensland*. Accessed on 20 April at: <https://www.vinnies.org.au/content/Document/VIC/2016-June-Households-in-the-dark2.pdf>
- Steyer, M. A. (2012). "Planning Across Distance: Remote Housing and Government Intervention in Australia's Northern Territory (MA Thesis)". MIT, Cambridge, MA. Retrieved 18 July 2016.
- Svilburn, S., McKenzie, J., Guthridge, S., Li, L., and Li, S. Q. (2014). *Unpacking educational inequality in the Northern Territory. Australian Council of Education Research: Quality and Equality-what does the research tell us?* 2009-2016 ACER Research Conferences.
- Terrill, L. (2016). *Beyond Communal and Individual Ownership: Indigenous Land Reform in Australia*. Routledge, Abingdon and New York.

- The Center for Investigative Reporting. (2018). "Poisoned, Ignored, and Evicted: The Perils of Living with Lead." *Reveal*. 31 March. Accessed on 20 April at: <https://www.revealnews.org/episodes/poisoned-ignored-and-evicted-the-perils-of-living-with-lead/>
- Thomson, H., Thomas, S., Sellstrom, E., Petticrew, M. (2013). "Housing improvements for health and associated socio- economic outcomes." *Cochrane Database of Systematic Reviews*. Accessed on 20 April at: <https://www.ncbi.nlm.nih.gov/pubmed/23450585>
- Tietz, C. (2014). *Health Hardware Design: A Design Research Journey Towards a Healthier Australian Indigenous Living Environment*. Design Lab Oceania, Blackheath.
- Tietz, C. R.-M (2009). "Stirring appetites in design: A user centered product design approach to improve environmental health in remote Indigenous communities in Australia." *Design Principles and Practices: An International Journal* 3(5): 105-119.
- Tietz, C. R.-M. (2013). "The Secret Lives of Stoves in Remote Australian Indigenous Communities." *fusion-journal* 1. Accessed on 20 April at: <http://www.fusion-journal.com/issue/001-fusion/the-secret-lives-of-stoves-in-remote-australian-indigenous-communities/>
- Torzillo, P. J. and Pholeros, P. (2002). "Household infrastructure in Aboriginal communities and the implications for health improvement." *Medical Journal of Australia* 176(10): 502-503 (letters).
- Torzillo, P. J., Pholeros, P., Rainow S., Barker, G., Sowerbutts, T., Short, T., Irvine, A. (2008). "The State of Health Hardware in Aboriginal Communities in Rural and Remote Australia". *Australian and New Zealand Journal of Public Health* 32(1): 7-11.
- Victorian Council of Social Services (VCOSS). (2013). *Feeling the Heat: Heatwaves and Social Vulnerability in Victoria*. Melbourne.
- Webb, Broderick and Holub, E. (2007). *Cut Off*. Independent release.
- Welke, A. C., Hill, J. et al. (1978). *Influences in Regional Architecture*. University of Adelaide, Adelaide.
- Wilkinson, R. G. and Marmot, M. G. Eds. (2003). *Social Determinants of Health: The Solid Facts*. World Health Organization, Geneva.

Want to know more? <https://www.hfhincubator.org/>