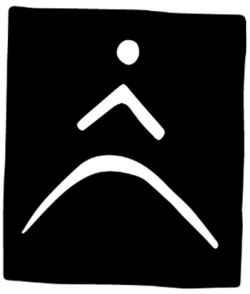
National Strategy for Food Security in Remote First Nations Communities

Submission by Healthabitat

11 August 2024



HEALTHABITAT

Housing for health

Contents

1. Purpose of this paper

Healthabitat has produced this short discussion paper to contribute to the evidence base regarding the living environment's impact on food security in remote First Nations communities. In response to the Australian Government's development of a national strategy for food security, we believe current Housing for Health data can offer valuable insights into the development of the strategy, in particular Housing for Health (HfH) data on HLP4: the ability to store, prepare, and cook food across the Northern Territory (NT) and Australia.

This discussion focuses on one of the eight strategy areas outlined in the National Strategy for Food Security in Remote First Nations Communities—housing. While the discussion broadens to the entire living environment, we use the 9 Healthy Living Practices (9HLPs) as the framework, and HLP4 for this discussion.

We recognise the expertise of many organisations in Aboriginal housing but emphasise there is a critical need for evidence-based data collection on house function and targeted, ongoing repairs and maintenance programs linked to health priorities.

Focus Areas							
Country First Nations people are supported to increase participation in local food sourcing, production, distribution, and knowledge sharing (CtG Outcomes 15, 16)	Health First Nations people living in remote communities have equitable access to the nutrition needed for healthy lives (CtG Outcomes 1, 2, 4).	Housing Remote Housing is sufficient for remote community residents to meet their food security needs (CtG Outcome 9).	Families and Communities First Nations families and communities have infrastructure, resources, and skills to safely and reliably store, prepare and consume nutritious food.	Stores Remote stores provide quality, affordable nutritious foods and other essentials in store environments that encourage healthy purchases.	Supply Chains Supply chains are improved to provide more direct, cost-efficient, and resilient supply runs to remote communities.	Healthy Economies First Nations people in remote communities have the same economic opportunities for food security as non-remote communities (CtG Outcome 8).	Policies, Practice and Governance Initiatives are considered holistically in ways that support First Nations people living in remote communities to attain healthy lives and outcomes.

Housing Remote Housing is sufficient for remote community residents to meet their food security needs (CtG Outcome 9).	Remote housing policies and programs deliver remote housing that is appropriately designed, built, renovated, and repaired in line with remote community food security and health needs.
	Remote community housing has the appropriate level of food preparation and cleaning equipment to maintain food security and food hygiene.
	Remote household access to reliable and affordable power and safe water is prioritised.

Figure 1: *Excerpts from National Strategy for Food Security in Remote First Nations Communities Focus Areas and Intended Outcomes – Housing highlighted for basis of discussion for this paper.*

2. What is 'Housing for Health' (HfH)

Housing and infrastructure have long been identified as major environmental factors affecting the health of people. Inadequate or poorly maintained housing and the absence of functioning infrastructure can pose serious health risks. In Australia, Aboriginal people are more likely to live in crowded dwellings and poor-quality housing, which can lead to the spread of infectious diseases.[1]

The HfH program is based on principles from the 1987 "Uwankara Palyanku Kanyintjaku" (UPK) report (a plan to stop people getting sick) published in 1987. HfH is a survey and fix process initially tested on houses in a community in the APY Lands of Central Australia. This method puts at the center the person and their health, then connects them to the parts of their living environment needed to stay healthy.

HfH involves surveying around 250 critical safety and health items in each house and surrounding yard, followed by immediate repairs of any urgent issues identified. Projects only commence when all necessary resources are in place, including community agreement, employment of local Indigenous staff, available funds for repairs to begin on day one of the project, tradespeople ready for work, and tools on-site.

For more information and complete data sets, visit "Housing for Health: The Guide," a national resource for improving health through the living environment.

Housing for Health (HfH) data collection

HfH prioritises all work using evidence-based criteria called healthy living practices.[2] In NSW, those who received the *Housing for Health* intervention had a significantly reduced rate of hospital separations for infectious diseases – 40 % less than the hospital separation rate for the rest of the Rural NSW Aboriginal population without the *Housing for Health* interventions.[3]

House function is documented through the survey-fix process. Initial surveys (Survey-Fix 1, or SF1) determine the necessary improvements to the house to enhance health. After repairs, a follow-up survey (Survey-Fix 2, or SF2) measures the impact of the work and identifies any remaining issues not able to be addressed by the project to package up as recommendations for the housing provider.

This paper references data from both SF1 and SF2 surveys, where House function scores are communicated as All OK (100%), High Functioning (70-100%), Medium Functioning (30-70%), and Low Functioning (0-30%).

[1] https://www.health.nsw.gov.au/environment/aboriginal/Pages/housing health.aspx#:~:text=Summary,householders%20to%20practice%20healthy%20living.
[2] Ibid
[3] Ibid

3. The 9 Healthy Living Practices (9HLPs)

The 9 Healthy Living Practices (9HLP's)

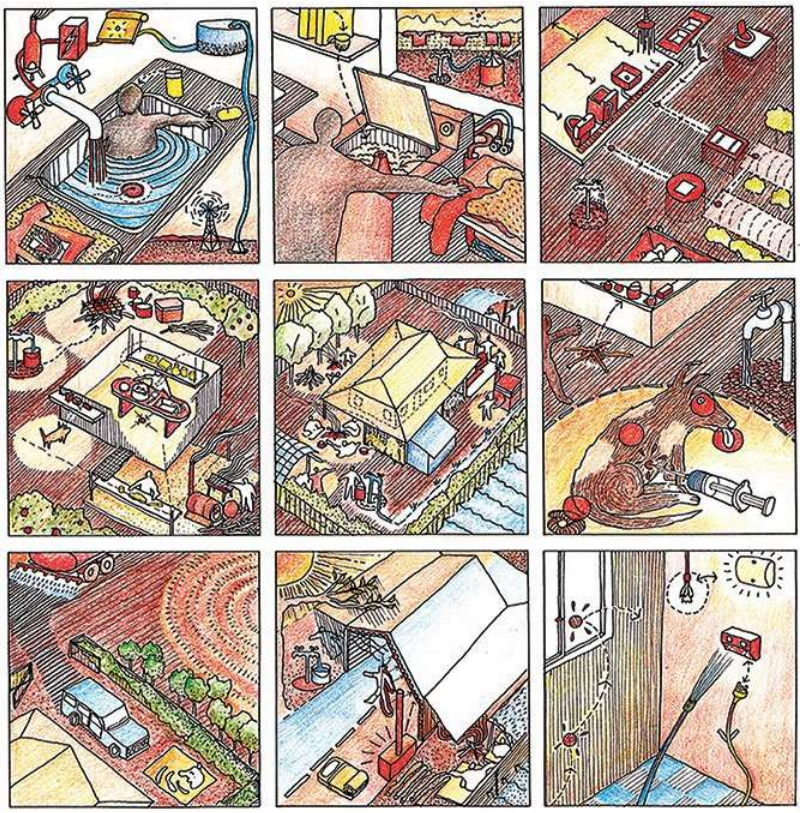


Figure 2: *Image of Healthabitat's 9HLP's in priority order from top left, Washing people, Washing clothes and bedding, Removing wastewater safely, Improving nutrition, Reducing the impact of crowding, Reducing the impact of animals, insects and vermin, Reducing the impact of dust, Improved temperature control, Reducing minor trauma.*

Safety and the 9 Healthy Living Practices (HLPs) are in order of priority and link the living environment and its contribution to poor health. They are based on best-practice public health knowledge and apply globally. Life-threatening issues have the highest priority followed by washing people, especially children 0-5.

The development of Safety and the 9 Healthy Living Practices (HLPs) is a substantive attempt to detail the elements of the living environment that contribute to poor health, based on an understanding of health problems they are likely to cause, and how they might be corrected.

All Healthabitat work is based on the HLPs. With never enough money to fix everything prioritised health goals guide work to have the highest likely impact on improving people's health.

These nine healthy living practices are ranked from one (most important) to nine with life-threatening electrical, gas, fire, and structural safety issues treated as the highest priority, followed by the first four healthy living practices. These are considered **critical** for people to be able to practice healthy living.

The 9HLP's in priority order are:

1. *Washing people*
   Ensuring there is adequate hot and cold water, taps and drainage.
2. *Washing clothes and bedding*
   Ensuring the laundry tub is functional with provision for a washing machine.

3. *Removing wastewater safely*
   Ensuring toilets and all drains are working.
4. *Improving nutrition through the ability to store, prepare and cook food*
   Ensuring the sink, taps and stove work.
5. *Reducing the negative impacts of crowding*
   Ensuring health hardware (e.g. hot water and septic systems) can cope with the number of people living in the house.
6. *Reducing the negative effects of animals, vermin or insects*
   Ensuring adequate insect screening.
7. *Reducing the health impacts of dust*
   Introducing ways to limit the movement of dust to reduce the risk of respiratory illness.
8. *Controlling the temperature of the living environment*
   Looking at the use of insulation and passive design to reduce health risks, particularly to small children, the sick, and elderly.
9. *Reducing hazards that cause trauma*
   Considering aspects of housing that can cause non-life-threatening injury.

HLP4: The ability to store, prepare and cook food and the living environment

Australian Aboriginal and Torres Strait Islander communities face high rates of obesity, diabetes, cardiovascular disease, and renal disease, primarily due to poor diet and lack of exercise. Poor nutrition is also a key factor in infectious diseases among children. In remote areas, adopting a healthy diet is challenging due to low household income, high food costs, local store management practices, and difficulties in the ability to store, prepare, and cook food at home.

A reliable water supply is critical for improving nutrition. Drinking water is essential for life and potable water is also required for preparing food, cleaning food utensils and cooking equipment, and maintaining dental hygiene.[4]

HLP4, which focuses on improving nutrition through the ability to store, prepare, and cook food, includes 15 criteria. These criteria cover aspects such as fridge and freezer temperatures, which are critical for safe food storage, as well as adequate bench space and storage. While the project will address plumbing issues (sinks, drainage, and taps) and ensure stoves and ovens are functional, the provision of refrigeration is considered a tenant responsibility and falls outside the scope of the program. Similarly, upgrading kitchen benches and storage (above 900mm) often exceeds the program's budget. To pass HLP4, all 15 criteria must be met.[5]

There are other important elements in the 'formal' living space, not captured in the 15 critical criteria of HLP4 (they are covered in other HLP's) that should be mentioned as they also inform people's ability to store, prepare, and cook food healthily and safely. Some of these include:

- availability of a reliable water supply to the house
- availability of reliable electricity to the house with an ability to re-connect the house quickly after disconnection
- functioning smoke detectors installed to electrical codes to ensure tenant safety in cooking areas
- availability of functioning PowerPoints in the kitchen space
- ability to obtain, wash, and store cooking and eating utensils e.g. pots, pans, knives, forks, plates and cups.

[4] https://www.housingforhealth.com/the-guide/health-housing/improving-nutrition-the-ability-to-store-prepare-and-cook-food/
[5] https://www.health.nsw.gov.au/environment/aboriginal/Pages/housing health.aspx#:~:text=Summary,householders%20to%20practice%20healthy%20living.

- Functioning operable windows and functioning mechanical extractor fans at the points of cooking to remove cooking smoke quickly
- An adequate and accessible bin i.e. sturdy and large enough for the number of people in the house, with a lid to stop kids and dogs from accessing the waste

It must be noted beyond the 'formal' kitchen, there are also many informal aspects of the living environment which should be noted as important. Some of these include:

- outside cooking areas for yard food preparation
- functional outside yard taps located at convenient areas of the yard i.e. not down in the back corner of the yard with high grass
- functional weather-rated outside PowerPoints (GPOs) to allow tenants and visitors to cook outside with electrical appliances
- an adequate municipal house waste collection program i.e. an appropriate size bin that does not allow dogs, horses, or pigs to knock over and is emptied regularly from the house.

5. HLP4 Kitchen Scores

National Data Story

The Australian national survey data shows that only about 10 percent of 6,000 houses tested between 2007 and 2024 at Survey-Fix 1 have all the functioning health hardware needed to perform the fundamental healthy living practice of improving nutrition by being able to store, prepare and cook food.

This 10% figure, recently updated from 6%, reflects a shift in project locations from remote areas to predominantly NSW regional areas, where requests for additional project funds are more frequently granted. The impact of ARIA+ can be seen in the chapter below 'National Data Story – by ARIA+'.

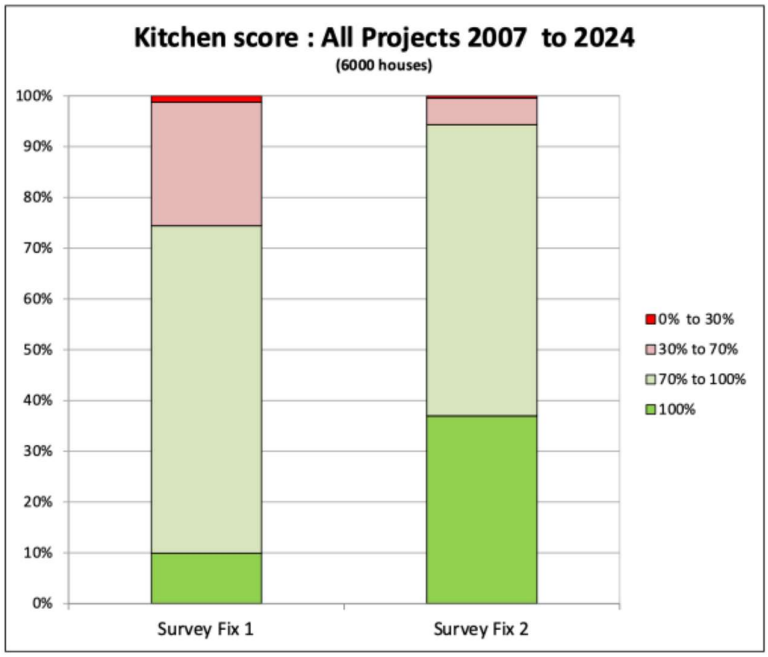


Figure 3: *Graph showing the HLP4 house function score for all projects across Australia 2007 to 2024 from survey-fix 1 (SF1) vs Survey-fix 2 (SF2).*

Northern Territory (NT) Data Story

To analyse changes over time in the NT, we have used two data sets here for discussion – 2007-2024 (17 years) we refer to as 'historical', and 2019-2024 (5 years) which we refer to as 'contemporary'.

The recent NT projects (2019-2024) were an integral part of the Healthy Homes Program - a new approach to housing maintenance that incorporates cyclical and preventive approaches and prioritises supporting residents to undertake 'healthy living practices'. An independent Monitoring and Evaluation report carried out and released by Menzies in September 2023 details the extent of the impact of Housing for Health projects across the selected communities.

Comparing the two data sets, there is a noticeable difference in the improved SF2 scores for the contemporary set. Improved processing techniques in the HfH methodology have influenced the increased SF2 house function levels shown in this contemporary data vs the historical data, but despite this influence, project findings reveal additional possible reasons for the improved initial scores at SF1 and the improved impact from the HfH work (SF2). These include:

- there have been a lot of new houses built in the latter period along with many major upgrades, as a part of programs such as Room to Breathe, therefore housing function scores should be higher at SF1 with less work required to improve the function

- enhanced quality and specification of hardware.

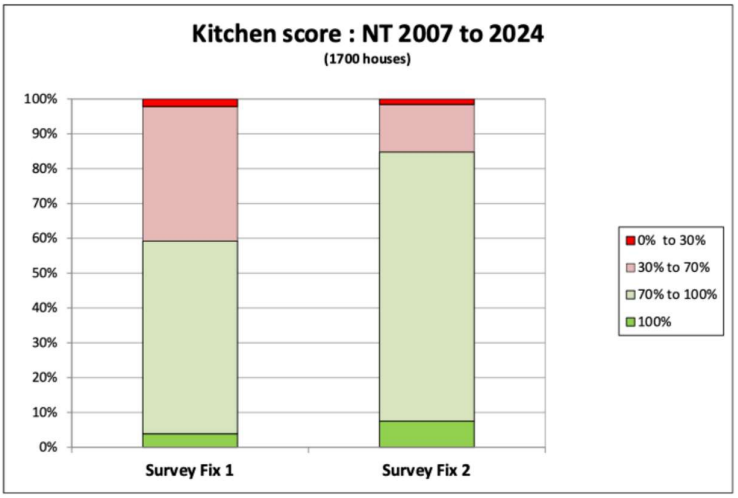


Figure 4: *Graph showing the HLP4 house function score for NT projects only, from 2007 to 2024 (17 years) for survey-fix 1 (SF1) vs Survey-fix 2 (SF2).*

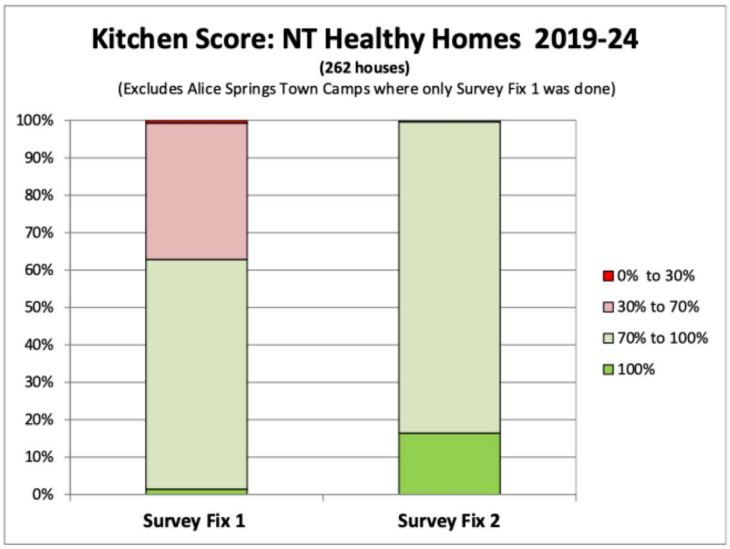


Figure 5: *Graph showing the HLP4 house function score for NT projects only, a part of the NT Healthy Homes Program from 2019 to 2024 (5 years) for survey-fix 1 (SF1) vs Survey-fix 2 (SF2).*

	NT HfH 2007 to 2024		***NT Healthy Homes 2019 to 2024***	
House Function	***SF1***	***SF2***	***SF1***	***SF2***
100%	4%	7.5%	1.5%	16.5%
70-100%	55.5%	77.5%	61.5%	83%
30-70%	38.5%	13.5%	36.5%	0.5%
0-30%	2%	1.5%	0.5%	0%

Figure 6: *Table showing the HLP4 house function score from Figures 4 & 5 for houses with 100% function scores (NB all figures rounded up to nearest 0.5 for communication purposed in this discussion)*

National Data Story – by ARIA+

National survey data categorised by ARIA+ (Accessibility/Remoteness Index of Australia Plus) shows that house function levels vary with remoteness, i.e. the more remote the project, the lower functioning the house scores at both SF1 and after SF2.

Only about 16% of urban houses and 5% of very remote houses out of 6,000 tested between 2007 and 2024 at Survey-Fix 1 have all the functioning health hardware needed to perform the fundamental healthy living practice of improving nutrition by being able to store, prepare and cook food. The data shows that 'Low-Functioning' houses are absent in urban areas at both SF1 and SF2. Despite the overall benefits of the Housing for Health project across all ARIA's, remote and very remote areas still struggle to achieve high scores compared to Urban, Urban Fringe, and Regional areas.

The reasons for this are broad and at times site-specific, however, some possible reasons for this include:

- difficulties and costs associated with recruiting and mobilising trades in Remote and Very Remote areas for ongoing and regular Repairs and Maintenance programs causing house function to degrade
- Indigenous households living in more remote areas are more likely to be living in crowded dwellings – 20% in Remote and 39% in Very Remote areas compared with 10% and 12% in other areas[6]. This increases the wear and tear on a house and its health hardware
- a higher prevalence of legacy housing stock.

Figure 7: *Graph showing the HLP4 house function score for all projects across Australia 2007 to 2024 from survey-fix 1 (SF1) vs Survey-fix 2 (SF2) by ARIA+.*

ARIA+ Location	*Houses with 100% Function at SF1*	*Houses with 100% Function after SF2*
Urban	16%	60%
Urban Fringe	14%	61%
Regional	14.5%	56%
Remote	10%	31%
Very Remote	5%	17%

Figure 8: *Table showing the HLP4 house function score from Figure 7 for houses with 100% function scores*

[6] https://www.aihw.gov.au/reports/indigenous-australians/housing-circumstances-of-indigenous-households/summary

6. HLP4 Kitchen Items Scores

Both the National and NT HLP4 Items Score data reveal that the Housing for Health project provides great benefits to improving house function, which reflects on the critical value of ongoing, regular preventative repairs and maintenance programs.

Despite the impact of Housing for Health though, some criteria still fail to reach maximum scores for HLP4 (15 out of 15 items). These items which consistently fail include:

- the kitchen bench material, cupboards, drawers and structure
- refrigerator unit function and when available, incorrect temperatures of refrigerators and freezers to store food safely
    - *Whilst the repair of refrigerators is beyond the scope of this program (as they are a tenant's responsibility), the program has found that in NSW around 95% of houses have a refrigerator (much higher than in the NT), but only half of those were found to be adjusted to the correct temperature to store food safely. This simple test provides an opportunity to discuss food safety and nutrition with the tenants, and for them to adjust the fridge thermostat.*[7]
- all parts of the stove and oven – these were generally electric with failed controls, elements and seals, including vermin damage
- a lack of high-level storage out of easy reach of children and animals (above 900mm above finished floor level).

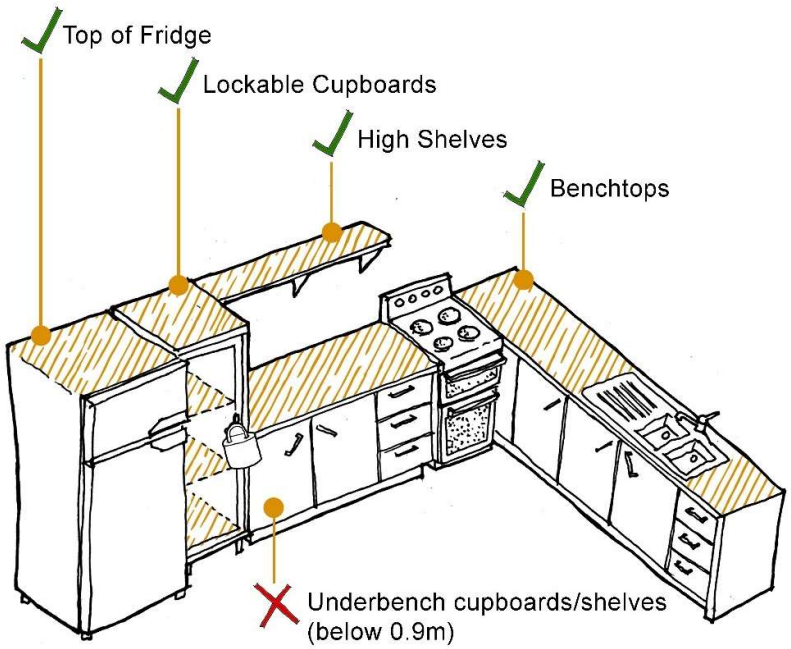


Figure 9: *Healthabitat diagram showing areas of the kitchen above 900mm eligible to be counted as 'storage'. The amount of storage should be relative to the size of the house, i.e. A house with 4 bedrooms (or more), should have greater than 5sqm of storage above 900mm to pass this criterion.*

[7] https://www.health.nsw.gov.au/environment/aboriginal/Pages/housing health.aspx#:~:text=Summary,householders%20to%20practice%20healthy%20living.

National HLP4 Items Score Data Story

The National data compared to the NT data shows more criteria out of the 15 items after Survey Fix 2, despite improvement, continue to fail to reach maximum scores.

Beyond the discussion above on failing items and the difference between National vs. NT data, Kitchen construction methods, for example, differ between NSW and NT, which reveals why other criteria, such as the splashback, in the National data set are failing.

In NSW, kitchen carcasses and kick boards are largely built from melamine-faced chipboard, laminate benchtops and a tiled splashback with a silicon join for waterproofing at the junction where the splashback butts into the top face of the bench. These materials are less durable and prone to water damage, particularly behind the sink where the silicone joint often deteriorates. The splashback is crucial as water can do significant damage to both kitchen elements, and structurally to the house. These areas are then more susceptible to become unhygienic, pest harbour points (cockroaches, ants, termites, spiders, vermin) and places for mould growth and wood rot, all of which negatively impact health, and structural and electrical safety. This method of kitchen construction makes these items hard and costly to repair, often requiring large-scale replacements which falls outside of Housing for Health budgets.

In contrast, NT kitchens are mainly prefabricated units made from integrated stainless-steel cabinets and benchtops with open space underneath. These units often include integrated stainless steel splashbacks, which are less susceptible to water damage. NT kitchens are usually sparser, with open shelving and limited under-bench drawers or cupboards. This design is more robust and durable, though repairs can still be challenging, often leading to entire unit replacements quite easily with standard prefabricated units.

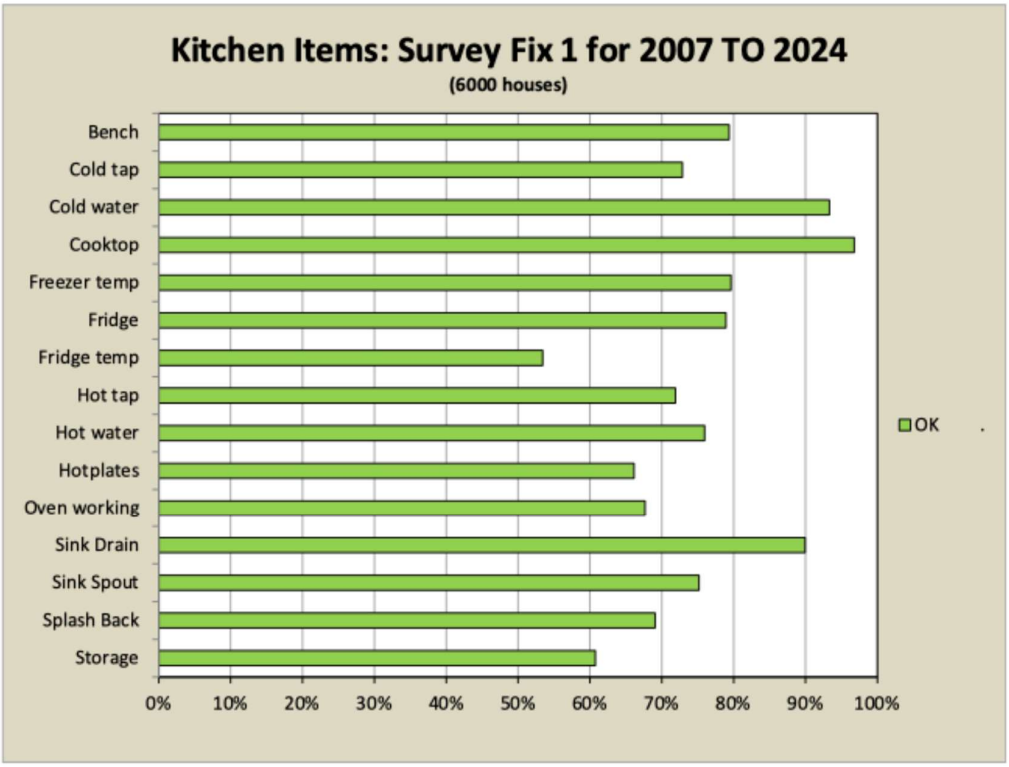


Figure 10: *Graph showing the HLP4 Items function score for all projects across Australia 2007 to 2024 (17 years) from survey-fix 1 (SF1)*

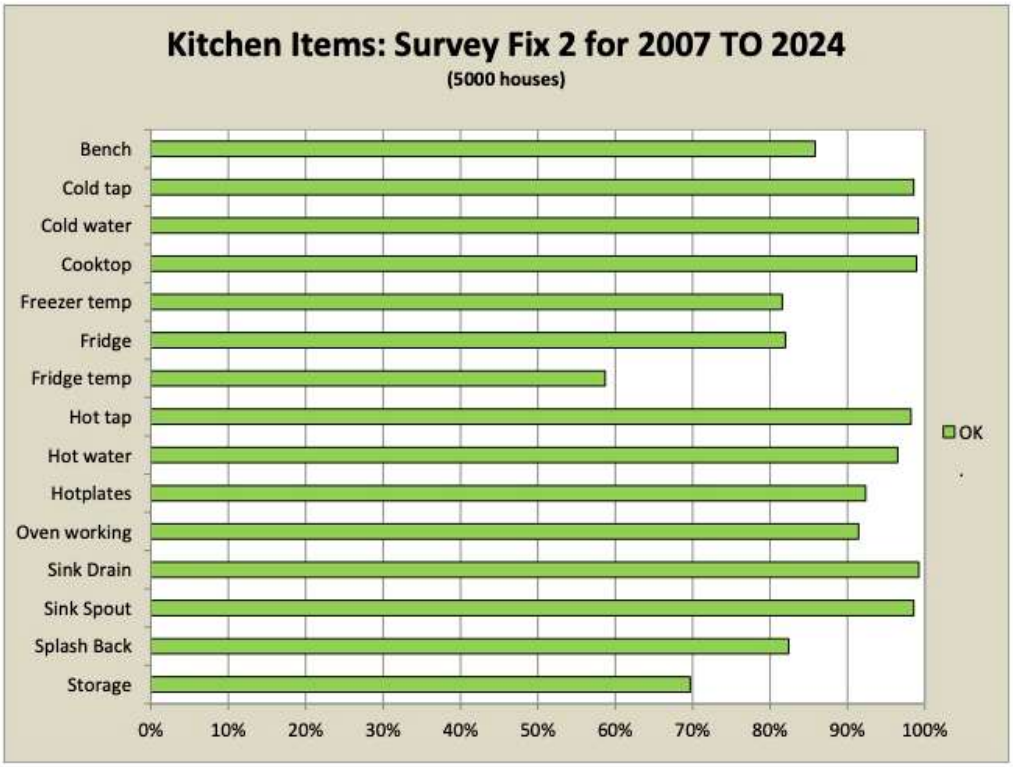


Figure 11: *Graph showing the HLP4 Items function score for all projects across Australia 2007 to 2024 (17 years) from Survey-fix 2 (SF2)*

Northern Territory (NT) Items Score Data Story

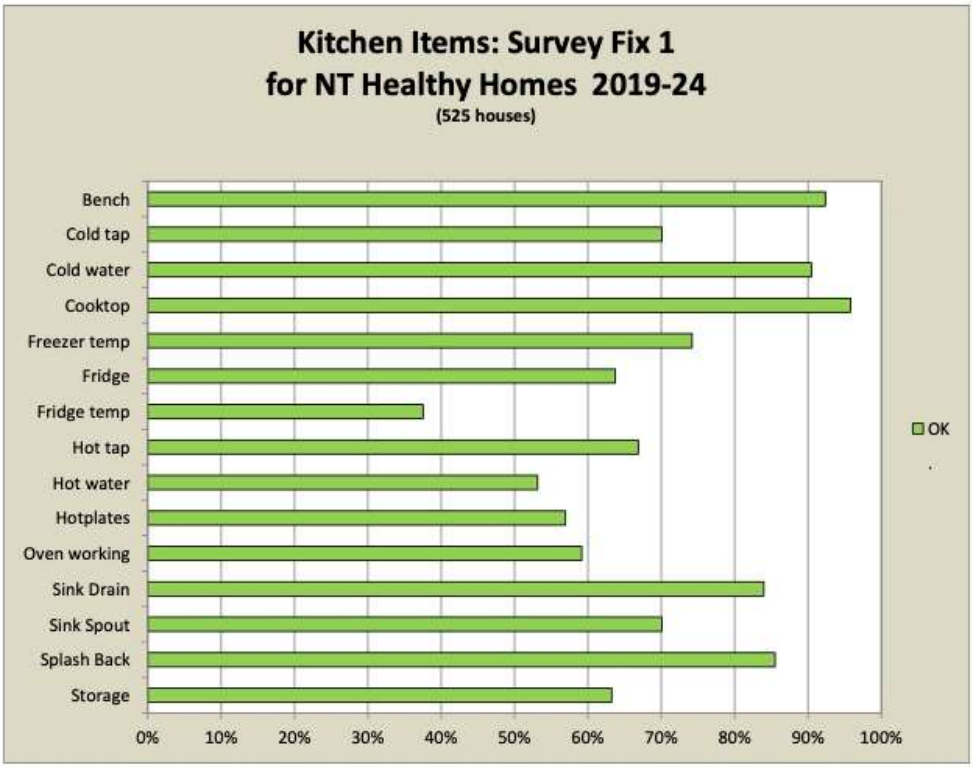


Figure 12: *Graph showing the HLP4 Items function score for NT projects only, a part of the NT Healthy Homes Program from 2019 to 2024 (5 years) for survey-fix 1 (SF1).*

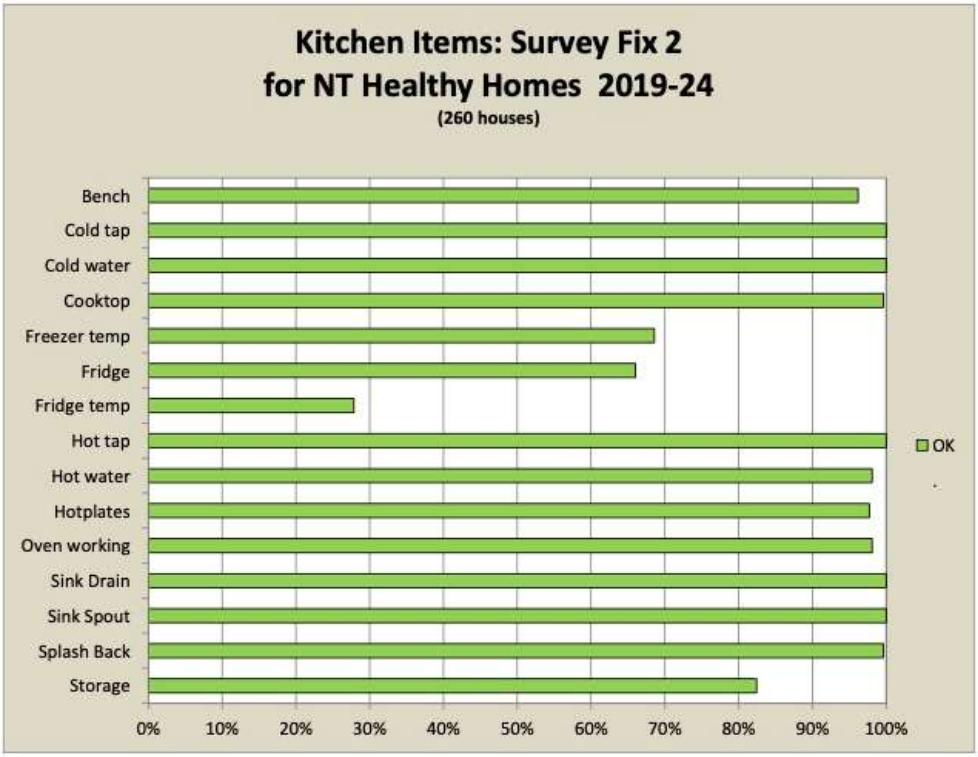


Figure 13: *Graph showing the HLP4 Items function score for NT projects only, a part of the NT Healthy Homes Program from 2019 to 2024 (5 years) for Survey-fix 2 (SF2).*

7. Conclusion

This discussion paper reveals the value of the collection of quantitative, evidence-based data on house function and hence how it can inform transparent, targeted, ongoing repairs and maintenance programs linked to health priorities.

Through the National and NT HLP4 Items Score, it is proven that Housing for Health projects provide great benefits to improving house function across all ARIA's, which reflects on the critical value of ongoing, regular preventative repairs and maintenance programs.

The data also reveals the divide in house function scores by ARIA and items which continue to fail all data sets. These items should be considered more closely as it is possible they reflect systematic barriers or gaps in tenant knowledge obstructing tenants achieving maximum house function scores and hence the upmost ability to store, prepare and cook food in the living environment.

As discussed in 'HLP4: The ability to store, prepare and cook food and the living environment' there are other important elements in the 'formal' and 'informal' living space of the house and yard not captured in the 15 critical criteria of HLP4 that should continue to be considered as a part of this conversation.

As stated in the UPK update summarising changes which occurred in the AP Lands during 1986-92 from the 1993 document 'Housing for Health: Towards a healthy living environment for Aboriginal Australia'[8], "Many different programs have been undertaken to improve nutrition". A nutrition program perhaps is only as good as people's ability to cook, store and prepare food in their homes and community. The data in this discussion suggests that beyond the crucial elements in the home, a more strategic look at how remote communities can get a balanced diet is required i.e. via community cafes and cooking spaces.

[8] https://catalogue.nla.gov.au/catalog/1684582

8. Recommendations

For further information on 'Design and Specification', 'Quality control' and 'References' recommendations on the below sub-sections of HLP4, visit Housing for Health: The Guide.

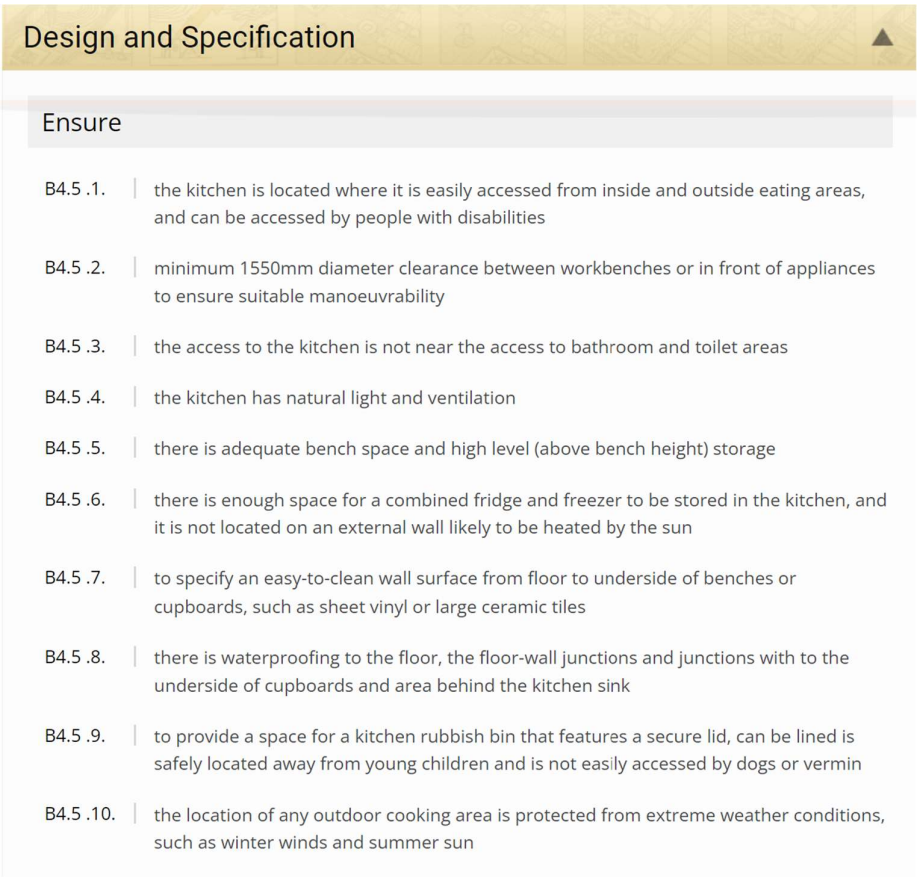
1. HLP4 in the Design and Specification of houses

When designing a house, consult residents about their cooking preferences:

- Consider the type of foods that are stocked in the local store and find out what foods might be gathered from gardens, the sea or the bush.
- Find out how many people are likely to use the house, whether these people belong to different family or generational groups, what traditions the family observe about the cooking and eating of food, and whether the kitchen might be used by people with disabilities.
- Ask about how food is prepared and what types of stoves, ovens, appliances and utensils are used for cooking.

This information indicates the ways that food might be stored, prepared and cooked in and around the house and is essential for the design of indoor and outdoor cooking places and kitchens that will suit the needs of residents. If houses are crowded there may be a need for many places to cook – inside the house, on verandah areas and outdoor cooking areas in the yard. Cooking preferences may differ between age groups, regions and the type of food available.

Whether the facilities are located in the house or in the surrounding yard area, all the component parts of the kitchen should support the storage, preparation and cooking of food to improve the nutrition available to all family members.



Design and Specification

Ensure

B4.5 .1.	the kitchen is located where it is easily accessed from inside and outside eating areas, and can be accessed by people with disabilities
B4.5 .2.	minimum 1550mm diameter clearance between workbenches or in front of appliances to ensure suitable manoeuvrability
B4.5 .3.	the access to the kitchen is not near the access to bathroom and toilet areas
B4.5 .4.	the kitchen has natural light and ventilation
B4.5 .5.	there is adequate bench space and high level (above bench height) storage
B4.5 .6.	there is enough space for a combined fridge and freezer to be stored in the kitchen, and it is not located on an external wall likely to be heated by the sun
B4.5 .7.	to specify an easy-to-clean wall surface from floor to underside of benches or cupboards, such as sheet vinyl or large ceramic tiles
B4.5 .8.	there is waterproofing to the floor, the floor-wall junctions and junctions with to the underside of cupboards and area behind the kitchen sink
B4.5 .9.	to provide a space for a kitchen rubbish bin that features a secure lid, can be lined is safely located away from young children and is not easily accessed by dogs or vermin
B4.5 .10.	the location of any outdoor cooking area is protected from extreme weather conditions, such as winter winds and summer sun

Figure 14: *Design and Specification suggestions as per Housing for Health: The Guide, 'B4.5 Kitchen Design (General)' For other considerations see link to The Guide.*

2. HLP4 in the Maintenance of houses

The five key discussion areas below are as per Housing for Health: The Guide.

B4.1 Quality of drinking water [9]

People living in communities in remote areas have different relationships to drinking water, than similar communities in Urban areas. In extreme circumstances, the water will not be safe to drink because it contains micro-biological contaminants that can cause acute gastric disease and other illnesses. When the water is safe to drink, it is called 'potable' water, but it still may taste 'bad'. Poor tasting water can have an impact on health, nutrition and household costs.

Although historically in communities due to limited access to drinking water, water tanks were a priority, it is not as common in remote communities today due to improved municipal infrastructure and hence water quality and health standards limiting the use of tank water as drinking water.

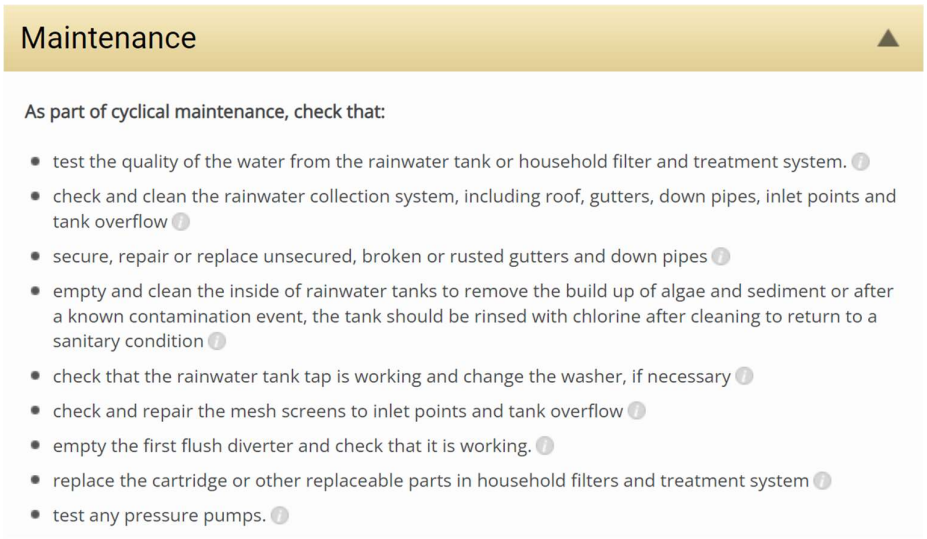


Figure 15: *Maintenance suggestions as per Housing for Health: The Guide, 'Quality Drinking Water' For trade responsibility and recommended timeframes, see link to The Guide.*

B4.2 Food storage [10]

The ability to store food safely and hygienically will reduce household costs because less food is wasted; more money is available for groceries, which improves the household's diet and nutrition. To store food, residents need storage that is cool, dry, well-ventilated and protected and sealed from dogs, rodents, insects and other pests.

A properly functioning refrigerator is also an essential item of health hardware for storage because it allows people to store meats and fish, fresh fruit and vegetables, dairy products and eggs, which are important for good nutrition. A poorly functioning refrigerator can spoil food, consume high amounts of energy use and reduce the household budget. Studies have shown that refrigerators of identical size can cost anywhere from 60 cents to $2 a day to run, depending on efficiency and the condition of door seals and ventilation[11].

[9] https://www.housingforhealth.com/housing-guide/quality-of-drinking-water/
[10] https://www.housingforhealth.com/housing-guide/food-storage/
[11] Ibid

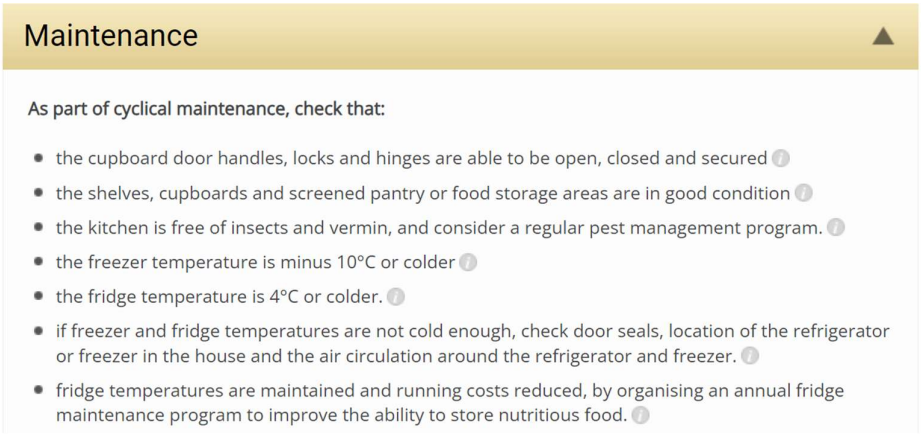


Figure 16: *Maintenance suggestions as per Housing for Health: The Guide, 'Food Storage'. For trade responsibility and recommended timeframes, see link to The Guide.*

B4.3 Preparing food – sinks and benches [12]

The ability of people to prepare food hygienically depends on the availability of well designed and constructed benches, a splash back that is easy to clean and helps with maintaining kitchen hygiene, and a functional sink, with running water and drainage, that is well sealed to the kitchen bench. Two critical items of health hardware essential for preparing food are, a working sink and kitchen bench.

Common problems with benches, splash backs and sinks include:

- rotting benches and cupboards due to water from the sink penetrating the bench material
- decayed wall structure behind the bench and sink because the splash back between the sink and wall has failed
- use of inferior bench top and splash back materials, which result in the work area becoming unhygienic because it is too hard to clean and/or it becomes infested with cockroaches and ants
- choosing bench materials that cannot tolerate hot items, sharp knives and that are not suitable for cutting up large items of food
- building benches that are too short or too narrow to store kitchen utensils safely or prepare food
- installing sinks that are too small to allow for cleaning large pots or frypans
- Select single drainer sinks with limited space to store both dirty and clean dishes.

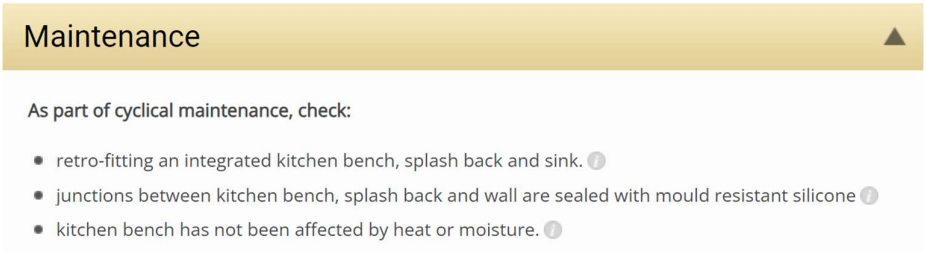


Figure 17: *Maintenance suggestions as per Housing for Health: The Guide, 'Preparing food – sinks and benches'. For trade responsibility and recommended timeframes, see link to The Guide.*

[12] https://www.housingforhealth.com/housing-guide/preparing-food-sinks-and-benches/

B4.4 Cooking [13]

Cooking preferences and needs vary between households. Some families will use a basic stove to cook, while others may use a range of cooking appliances, including microwave oven, rice cooker, deep fryer, electric frying pan, toaster and electric kettle. Some families might want to cook on a fire or barbeque area outside, while others will use a full outdoor kitchen with sink, bench and cooking facilities.

Whatever appliance is used, the ability to cook food is essential and will require functioning health hardware inside and / or outside the house.

It is important to select stoves that are designed to cater for regular use, are easy to clean and maintain, and can easily be removed for repairs or replacement. 'Off-the-shelf' upright stoves with a combined cooktop and oven are very common, but the cheaper models are often not designed to cater for the demands of a large family or harsh environmental conditions. Upright stoves provide nesting places for rodents and cockroaches in the many holes available in exposed areas at the back and on the bottom of these appliances, if they are not sealed appropriately with vermin kits.

When specifying the stove, discuss with the residents and housing managers:

- the type of stoves that have been previously used and the successes or failures experienced
- the benefits of standardising stoves across the locality or region to increase purchasing power and to rationalise spare parts and maintenance
- the benefits of electric versus gas cooking in terms of running costs, ability to refill gas bottles, availability of electricians or gas fitters for maintenance, and preferences for cooking with gas or with electricity
- the benefits of upright stoves versus cooktops and wall ovens, and the merits of using a separate cooktop and oven that can be fully sealed into a bench top versus the difficulty and expense of repairing and replacing these units
- the need to provide separate cooktops and wall ovens that can be accessed by people with disabilities.

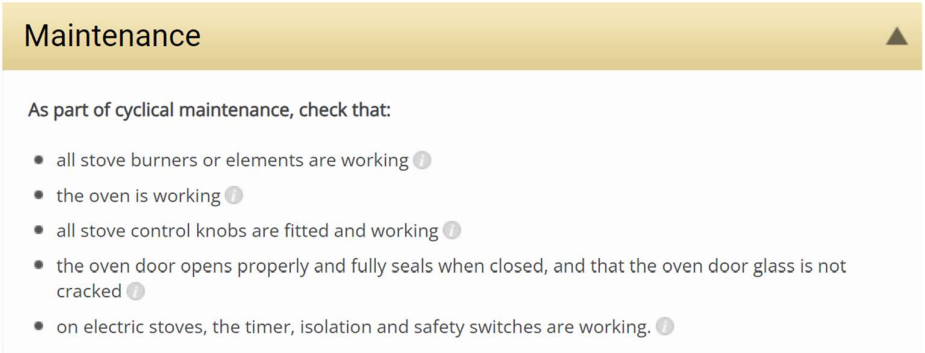


Figure 18: *Maintenance suggestions as per Housing for Health: The Guide, 'Cooking'. For trade responsibility and recommended timeframes, see link to The Guide.*

[13] https://www.housingforhealth.com/housing-guide/cooking/