

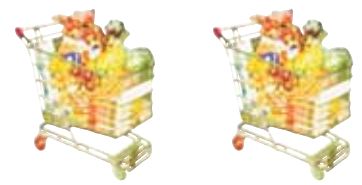
Key findings and recommendations

- In 2010 the mean cost of the Healthy Food Access Basket (HFAB) in Queensland, which feeds a family of six for two weeks, was \$501.54. If cheaper generic items were selected this cost reduced by 22.5% (\$112.96).
- The cost of the 2010 HFAB in *very remote* areas was significantly higher than in *major cities* (26.0% or \$128.19). The cost was higher still in *very remote* areas more than 2,000 kilometres from Brisbane (31.2% or \$153.57).
- The cost of fruit, vegetables and legumes in the HFAB in *very remote areas* was 34.8% (\$62.68) higher than in *major cities*. The cost was higher still in *very remote* areas greater than 2,000 km from Brisbane (38.2% or \$68.81).
- The cost of the HFAB in Queensland increased significantly by 9.7% (\$44.06) from 2006 to 2010, whilst the cost of the fruit, vegetables and legumes in the basket decreased by 11.3% (\$23.05) due mainly to recovery of the banana supply after Cyclone Larry in 2006. The cost of fruit, vegetables and legumes decreased in all remoteness categories except in *very remote* areas, where it increased by 7.0% (\$16.32).
- The issue of increasing food prices is of great importance to the community and is an emerging policy issue for Australia. It is also a determinant of dietary-related chronic diseases and therefore an increasingly important public health concern.
- Strategies to improve the supply and affordability of healthy food in *very remote* areas are essential to close the gap in health inequalities between Aboriginal and Torres Strait Islander people and other Queenslanders.



Figure 1 : The 2010 Healthy Food Access Basket (HFAB) contents

HFAB survey



Introduction

The 2010 Healthy Food Access Basket (HFAB) survey is the sixth statewide cross-sectional survey of the cost and availability of a standard basket of basic healthy food items throughout Queensland since 1998. The range and types of foods included in the HFAB (Figure 1) represent commonly available and nutritious foods consistent with the Australian Guide to Healthy Eating,¹ and provide at least 70% of the nutritional requirements and 95% of the estimated energy requirements of a hypothetical family of six people for a two-week period.

Methods

Sample selection

The towns^a included in the 2010 HFAB survey were the same towns selected for the 2006 survey, which were randomly selected based on their population size. The Australian Bureau of Statistics (ABS) Urban Centre/ Locality list was used to obtain a distribution of towns with a population of 200 people or more. The towns were stratified by remoteness category using the ABS ARIA+ definition of remoteness (Figure 2). The remoteness categories include *major cities*, *inner regional*, *outer regional*, *remote* and *very remote*. Stratification was utilised to enable over-sampling in *remote* and *very remote* areas and to limit the number of islands that were selected to control for survey costs. The sample sizes were chosen so that differences of 10% between remoteness categories could be detected at $p < 0.05$ and 90% power. Through this process a total of 78 towns were selected. One store for each town was then selected based on where most people would be likely to shop. An additional 11 towns were also surveyed in 2006 and 2010 to increase the sample size for cost comparisons with previous HFAB surveys.

^a In this report all urban centres and localities are referred to as towns.

Data collection

In 2010, the HFAB survey was conducted by the Office of Economic and Statistical Research, Queensland Treasury, while completing a broader survey of regional retail prices of goods and services. Stores were not advised of the specific date of surveys so that results are more likely to reflect usual availability and cost for consumers. The survey was conducted at the same time of the year (May) as previous surveys to control for seasonality.

The price of the cheapest brand product available for 44 HFAB food items, five less nutritious food items (soft drink, meat pie, cream-filled biscuits, milk chocolate, potato crisps) and two tobacco items was collected. The price of the cheapest generic product was also collected where available for the 44 HFAB items. The five less nutritious food items and the two tobacco items are referred to as “unhealthy” items in this report. The number of missing HFAB food items, the availability of 15 commonly consumed fresh vegetables and fruit and the availability of “better nutrition choices” items were also collected (Table 1).

Methods, including the complete list of the HFAB foods, are detailed in the 2000 HFAB Survey Full Report.²

Data analysis

Results were analysed using Microsoft Access, Microsoft Excel and SPSS.

For missing items, the mean cost for that item across other stores from the same remoteness category was used as the default cost in the HFAB.

To calculate the cheapest HFAB cost, the recorded generic price was used, or the recorded brand price if a generic was not available. For missing items, the default cost was used as described above for the HFAB basket. This is the first time a cheapest HFAB cost has been calculated.

The differences in mean costs across remoteness categories were assessed by one-way analysis of variance (ANOVA). The differences in mean costs over time were assessed with reference to the upper and lower bounds of the 95% confidence



interval of the mean. A 95% confidence interval of the mean is interpreted as a 95% chance that the confidence interval contains the true population mean. If confidence intervals do not overlap then the observed means are significantly different at the 95% confidence level.

Weights were applied when calculating costs for Queensland overall and were proportional to the population size for each remoteness category. Weights for the 2000, 2001 and 2004 surveys were based on population figures from the 2001 Census. Weights for the 2006 and 2010 surveys were based on population figures from the 2006 Census.^b

Cost comparisons

The mean cost of the HFAB, the cheapest HFAB, the fruit, vegetables and legumes in the basket, the “unhealthy” items and the healthy food groups^c were compared by remoteness category for the 78 stores surveyed in 2010.

The definition of cabbage and ham changed after the 1998 HFAB survey, therefore data from that year was excluded from the analysis that compares price changes in the HFAB, the fruit, vegetables and legumes in the basket, and the healthy food groups over time. Only the towns surveyed continuously from 2000 to 2010 (2000, 2001, 2004, 2006, and 2010) were included in this analysis, resulting in a sample size of 47.

The change in the HFAB cost over time was also converted to an annualised percent cost change to control for the different time intervals between surveys. Only the towns surveyed continuously from 1998 to 2010 (1998, 2000, 2001, 2004, 2006 and 2010) were included in this analysis, resulting in a sample size of 36. The 1998 HFAB survey was retained for this analysis to show the impact on food prices after the introduction of the New Tax System in 2000; however, cabbage and ham were

excluded from the analysis due to changes in their definitions as noted above. HFAB cost changes were benchmarked against annualised percent cost changes in the CPI for food in Brisbane.^{d,3}

Findings

HFAB costs in 2010

In 2010, the cost of the HFAB in Queensland was \$501.54 and ranged from \$492.52 in *major cities* to \$620.71 in *very remote* areas (Table 2).

In *very remote* areas the cost of the HFAB was 26.0% (\$128.19) higher and the cost of fruit, vegetables and legumes in the basket was 34.8% (\$62.68) higher than in *major cities* (Table 2). In *very remote* areas greater than 2,000 km from Brisbane the cost of the HFAB was 31.2% (\$153.57) higher and the cost of fruit, vegetables and legumes was 38.2% (\$68.81) higher than in *major cities* (Figure 3a and 3b).

In Queensland, the cost of the cheapest HFAB was \$388.58 a fortnight, 22.5% (\$112.96) cheaper than the HFAB (Figure 3c, Table 2). In *major cities* the cheapest HFAB cost 23.5% (\$115.67) less than the HFAB, and in *very remote* areas the cheapest HFAB cost 9.4% (\$58.43) less than the HFAB.

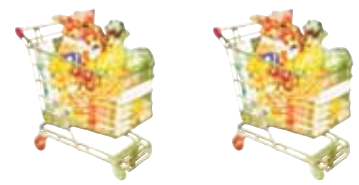
The costs for bread and cereals, fruit, vegetables and legumes and dairy foods were significantly higher in *very remote* areas than in all other areas. The cost for the meat and alternative food group in *very remote* areas was significantly higher than all areas except outer regional (Figure 4 and Table 2).

The cost disparity across remoteness categories for the “unhealthy” items surveyed was only about half that of the HFAB, with the costs for the “unhealthy” items in the *very remote* category being 13.9% higher than in the *major cities* category (Table 3). By contrast, the cost of the HFAB in *very remote* areas was 26.0% higher than in *major cities*. Both of these differences were statistically significant.

^d The CPI for food is based on a wide range of commonly purchased items including healthy and less healthy foods. All CPI figures, including price data for individual foods used to calculate the CPI, are available from the ABS for capital cities only.

^b The method of weighting has been updated since the 2006 HFAB report, so that weights for each survey are based on the Census data closest to the time of that survey. Due to this update, figures may differ slightly from those previously published.

^c The healthy food groups for the purposes of the HFAB are: dairy foods; meat and alternatives; vegetables and legumes; fruit; breads and cereals.



Cost changes over time

The HFAB cost in Queensland in the 47 towns surveyed between 2000 and 2010 increased by 63.3% (\$192.36) (Table 4a). Between 2006 and 2010, the cost of the HFAB in Queensland increased by 9.7% (\$44.06), with the greatest cost increase occurring in *very remote* areas (14.8%, \$82.52) (Figure 5a and Table 4a).

The fruit, vegetables and legumes in the basket increased by 60.6% (\$68.56) between 2000 and 2010 (Table 4b). However, between 2006 and 2010 the Queensland cost of the fruit, vegetables and legumes in the basket decreased by 11.3% (\$23.05), and decreased in all remoteness categories except *very remote*, where the cost increased by 7.0% (Figure 5b and Table 4b).

Between 2006 and 2010, price increases were greatest for the bread and cereals group (40.2%, \$39.78) and dairy foods (21.5%, \$12.32), but fruit decreased by 27.7% (\$34.33) (Figure 6).

Annualised percent cost changes in the HFAB and the fruit, vegetables and legumes in the basket for the 36 towns surveyed from 1998 to 2010 are shown in Figures 7a and 7b. The annualised percent cost change between 2006 and 2010 for both baskets was considerably lower across all remoteness categories than previous survey periods. It also appears that the annualised increase in the cost of the HFAB from 2006 to 2010 in all remoteness categories except *very remote* was less than the CPI increase, although the statistical significance of this difference cannot be verified, due to lack of access to confidence intervals for the CPI data.

Availability

Availability data are illustrated in Figures 8a, 8b, 9a, 9b and 10. In 2010 the average number of missing HFAB items continued to be high among stores in the *remote* and *very remote* categories (Figure 8a), with almost nine percent of HFAB food items not available for purchase in stores from the *very remote* category. Figure 8b shows the percentage of stores in each remoteness category that have a missing item. The most frequently missing HFAB items were wholemeal plain flour,

tinned ham, cabbage, and powdered reduced fat milk.

Fewer varieties of fruit and vegetables were available in all remoteness categories compared to the *major cities* category, but this was most pronounced in *very remote* areas (Figure 9a and 9b). Overall there was a wider variety of vegetables available compared to fruit. Availability of “better nutrition choices” declined with remoteness (Figure 10). The most frequently missing “better nutrition choices” were 100% orange juice, diet cordial and wholemeal bread.

Discussion and implications of findings

In 2010, Queenslanders were paying \$44.06 more a fortnight (or \$1,145.56 a year) for the same basket of healthy foods than they were in 2006. The increasing cost of healthy food is a significant community concern, so much so that in 2008 the Commonwealth Government set up an Australian Competition and Consumer Commission (ACCC) inquiry to investigate grocery prices. In addition, the Prime Minister’s Science, Engineering and Innovation Council report on *Australia and Food Security in a Changing World*²⁸ links the food price crisis of 2008 to the elevation of food security as a high priority on the international policy agenda. The Queensland Council of Social Services recently highlighted how much the cost of food, as well as other essentials, had increased above the overall CPI increase.⁴

Socio-economically disadvantaged groups cite high food costs as a barrier to healthy eating,⁵ contributing to inequalities in diet-related diseases.⁶ High food costs also increase the risk of food insecurity in vulnerable groups. Food insecurity is defined as the limited or uncertain availability of nutritionally adequate and safe foods, or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.⁷ In 2009, nearly six per cent of Queensland adults reported running out of food on at least one occasion in the past year and not being able to purchase more.⁸ Other available data indicates a higher rate among Aboriginal and Torres Strait



Islander people (up to 30%),⁹ the unemployed (11.3%) and those paying rent or board (15.8%),¹⁰ with one report finding food insecurity in 22% of households in disadvantaged communities.¹¹

High prices for healthy foods and limited incomes have been linked to reduced consumption of healthy fresh foods,¹² limited food variety,¹³ and greater consumption of readily-available, cheap and filling foods that are more energy-dense and nutrient-poor,^{14,15,16} creating barriers to achieving dietary recommendations.¹⁷ The impact of high food prices is a significant public health concern as poor nutrition is a major determinant of excess morbidity and mortality among Australians and is estimated to account for 16% of the total burden of disease in Queensland, about double the burden due to smoking.¹⁸

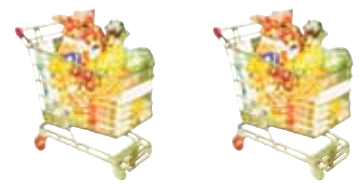
Although this survey did not examine food prices by socio-economic indicators, the 2010 results highlight the significant additional expenditure needed by people living in *very remote* areas to purchase healthy foods, where the HFAB annual cost was \$3,332.94 higher than in *major cities*. The significantly higher cost of healthy food in *very remote* areas and lower availability of healthy food choices is contributing to a 2.6 times greater death rate from preventable conditions compared to *major cities*.¹⁹ The increasing cost of food with remoteness has also been reported in Western Australia and Northern Territory,^{20,21} and reflects the higher cost of freight, infrastructure, maintenance and other costs in *very remote* areas.²²

Among Aboriginal and Torres Strait Islander people poor nutrition is responsible for up to 19% of the national Indigenous health gap,²³ and contributes to a death rate from preventable conditions 3.3 times greater than for other Australians.¹⁹ Nearly all of the stores surveyed more than 2,000 kilometres from Brisbane, where the HFAB was most expensive, were Aboriginal and Torres Strait Islander communities. Therefore, the impact of high food prices in *very remote* locations is having a disproportionate negative impact on the food choices of Aboriginal and Torres Strait Islander people and is a barrier to improving nutritional

status and achieving Closing the Gap targets to improve Indigenous health outcomes. Aboriginal and Torres Strait Islander people living in *remote* areas experience greater health disadvantage and account for 40% of the health gap between Aboriginal and Torres Strait Islander people and other Australians.²⁴ Therefore, strategies to improve the supply and affordability of healthy food in *very remote* areas are essential to close the gap in health inequalities.

The decrease in the price of fruit, vegetables and legumes from 2006 to 2010 was due to a reduction in the cost of fruit, mainly driven by recovery of the banana supply after Cyclone Larry in 2006. Price variability in fruit and vegetables is normal as indicated by CPI data (Table 5). However, it is disturbing that prices in *very remote* areas continued to increase despite decreases elsewhere in Queensland. This finding indicates that addressing the broad range of unique underlying factors contributing to food costs in *very remote* areas is needed to improve the affordability of healthy foods.

The cost of fruit, vegetables and legumes in *very remote* areas more than 2,000 kilometres from Brisbane, was higher than the cost in *very remote* areas less than 2,000 kilometres from Brisbane, but the difference was not significant. This result could be due to some *very remote* stores in Aboriginal and Torres Strait Islander communities more than 2,000 kilometres from Brisbane implementing pricing strategies to make fresh fruit and vegetables more affordable, such as price benchmarking against larger regional centres or not passing on the full freight costs.²⁵ Increasing fruit and vegetable consumption is a key nutrition priority, which is not likely to increase in *very remote* communities unless the affordability and availability issues are addressed. Examples of initiatives being progressed in Queensland to improve food supply in *very remote* communities include dissemination of the Remote Indigenous Stores and Takeaways resources, and Queensland Health funding and support for nutritionists in two *very remote* store groups to increase healthy food demand and supply.



There was a more pronounced upward trend in the cost of the cheapest HFAB as remoteness increased, with the cost in *very remote* areas significantly more than all other areas. Residents of *major cities* could potentially reduce the HFAB cost by 23.5% (\$115.67) a fortnight by buying cheaper generic items, whereas residents of *very remote* areas could only save around half of this amount (9.4% or \$58.43). *Remote* and *very remote* stores are more likely to be independently owned or belong to chains with smaller buying power and stock a smaller range of generic products. This analysis indicates that people living in *very remote* areas are further disadvantaged compared to other Queenslanders in affording a healthy diet.

Since the May 2010 HFAB survey, the price of fresh fruit and vegetables has increased. CPI data for food in Brisbane indicates that in the March 2011 quarter, fruit increased by 16.0% and vegetables by 24.6% due to the effects of floods in Queensland and interstate and Cyclone Yasi during December 2010 and early 2011.²⁶ However, prices should reduce as supply recovers, as experienced after Cyclone Larry in March 2006.²⁷

Conclusion

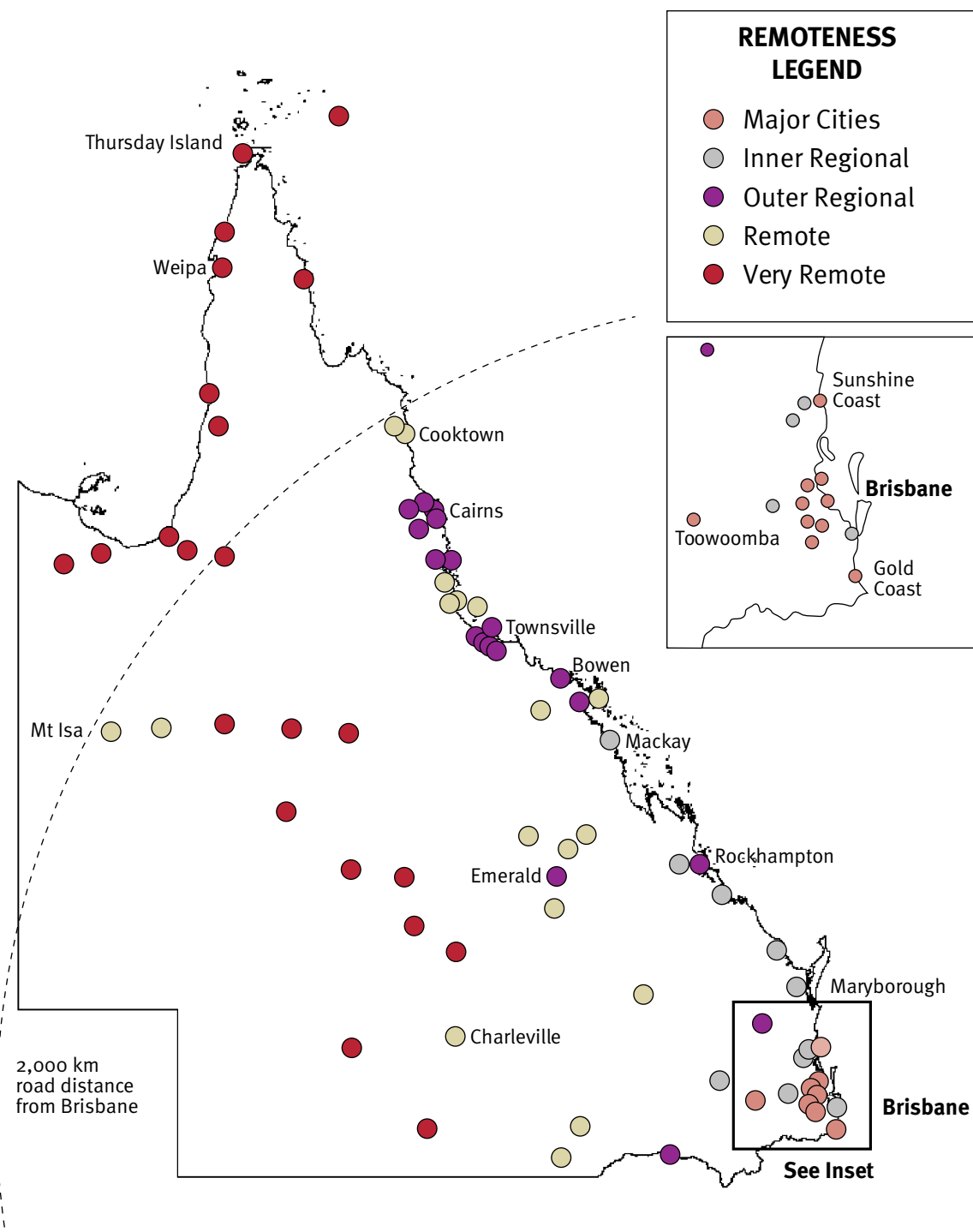
Increasing healthy food prices is a significant and increasingly important issue for all Australians. It increases the risk of food insecurity and the development of diet related chronic diseases, particularly in low income groups.

This report highlights that the cost of food is highest in *very remote* areas and that people living in these areas do not have the same opportunity as other Queenslanders to reduce food costs by purchasing cheaper options. Urgent, ongoing and sustained action to improve the demand for, and the availability, accessibility and affordability of healthy food in *very remote* areas is needed to achieve Closing the Gap targets on Indigenous health outcomes.

Locations



Figure 2: Location and ABS remoteness classifications for the 78 stores in the 2010 HFAB survey



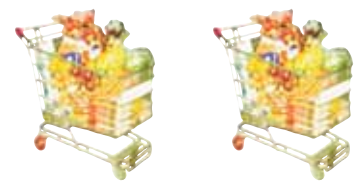
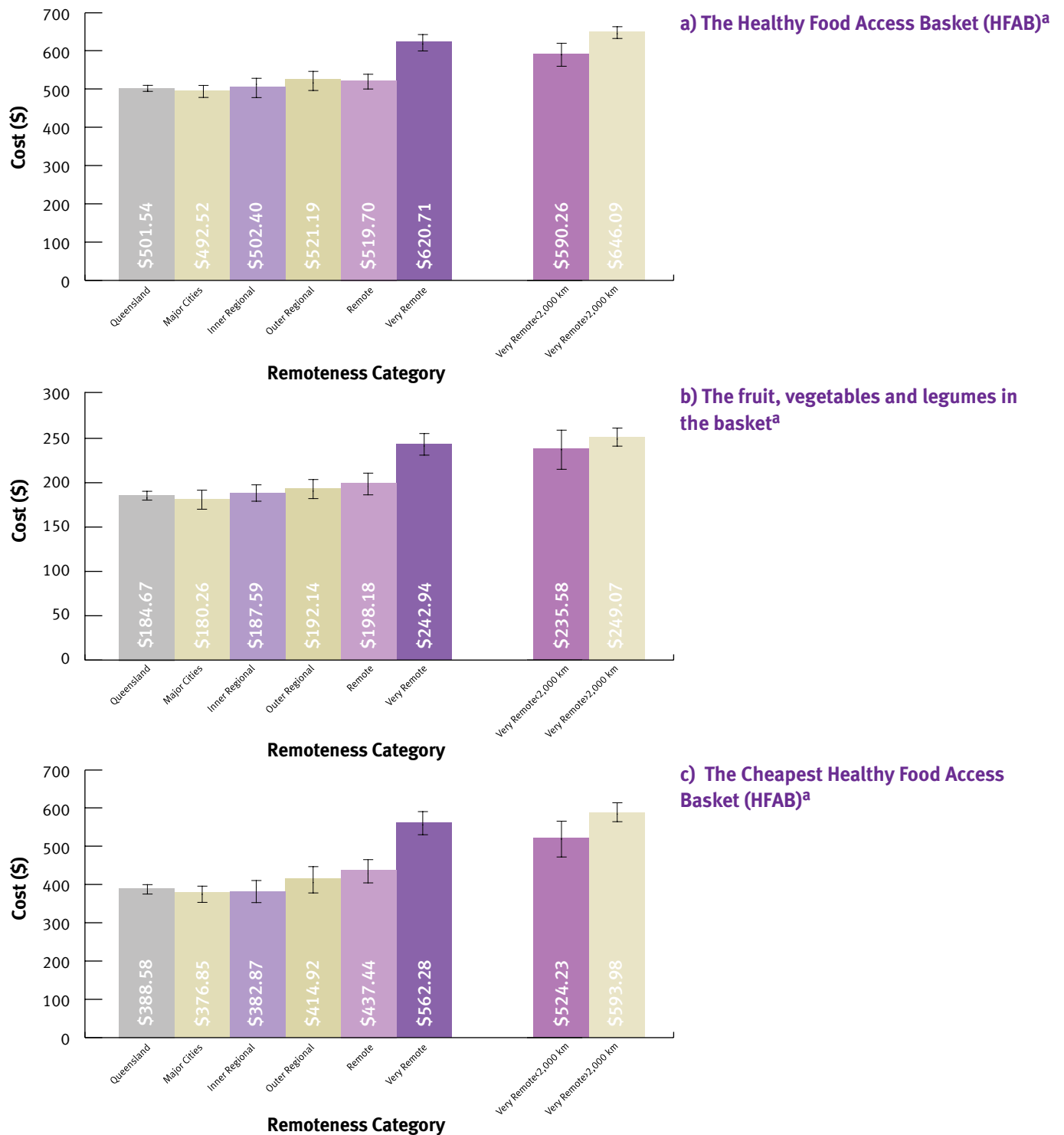


Figure 3: Mean cost (95% CI) of baskets in 2010 – 78 stores



Footnote:

a) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.

Results

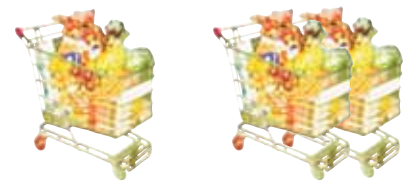


Figure 4: Mean cost (95% CI) of healthy food groups in 2010 – 78 stores

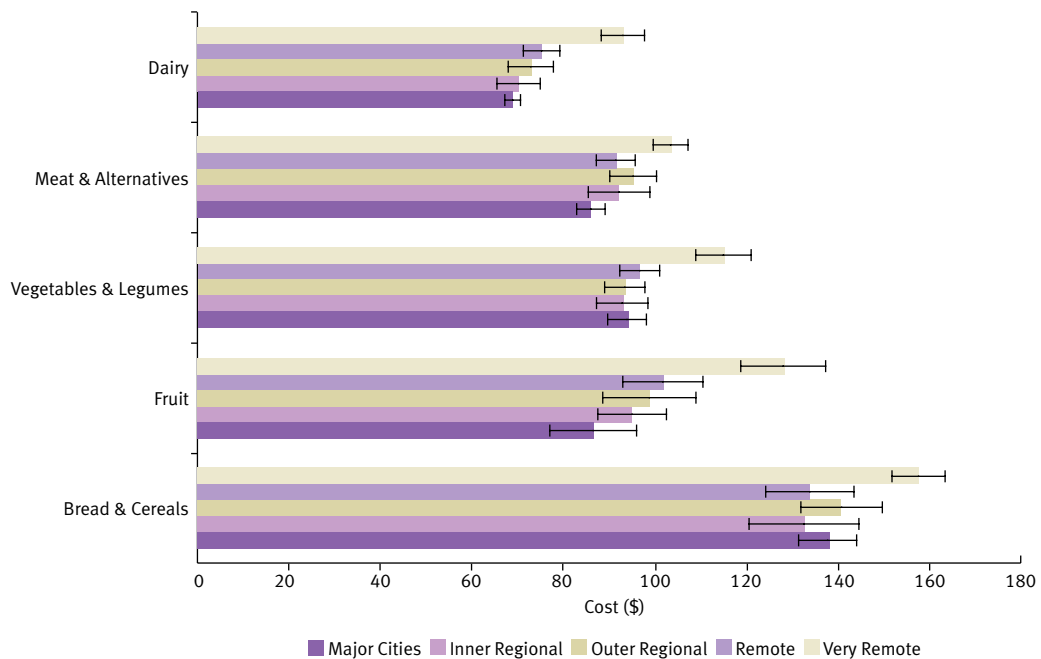


Figure 5: Mean cost of baskets since 2000 – 47 stores^{a,b,c}



a) The Healthy Food Access Basket (HFAB)

Footnotes:

- a) The 47 stores in this figure are from the towns that have had data collected from 2000 onwards.
- b) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.
- c) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

*No data collected in this year - trend line has been fitted

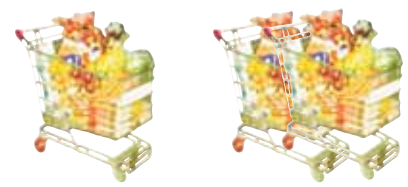


Figure 5: Mean cost of baskets since 2000 – 47 stores^{a,b,c}

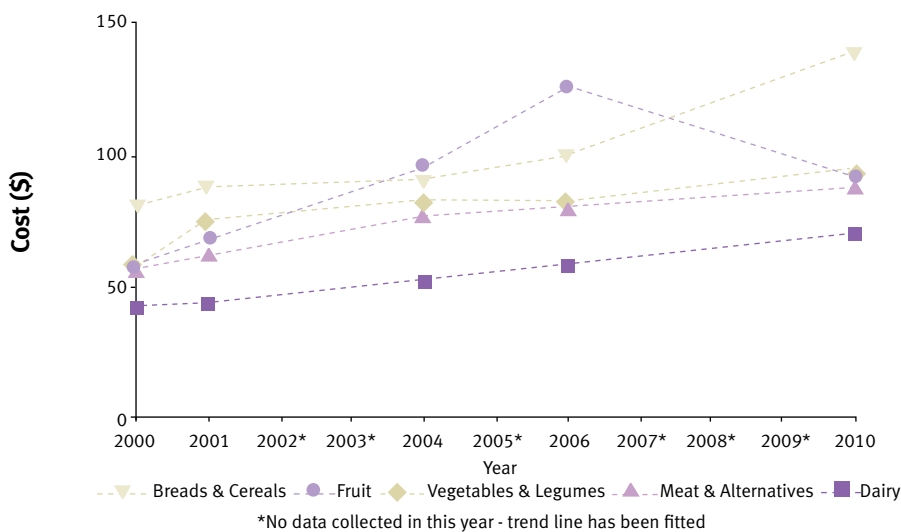


b) The fruit, vegetables and legumes in the basket

Footnotes:

- a) The 47 stores in this figure are from the towns that have had data collected from 2000 onwards.
- b) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.
- c) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

Figure 6: Mean cost of healthy food groups since 2000 – 47 stores^{a,b}



Footnotes:

- a) The 47 stores in this figure are from the towns that have had data collected from 2000 onwards.
- b) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

Results

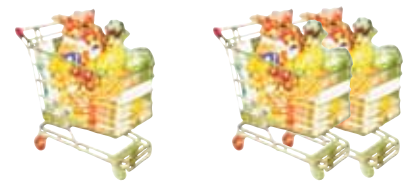
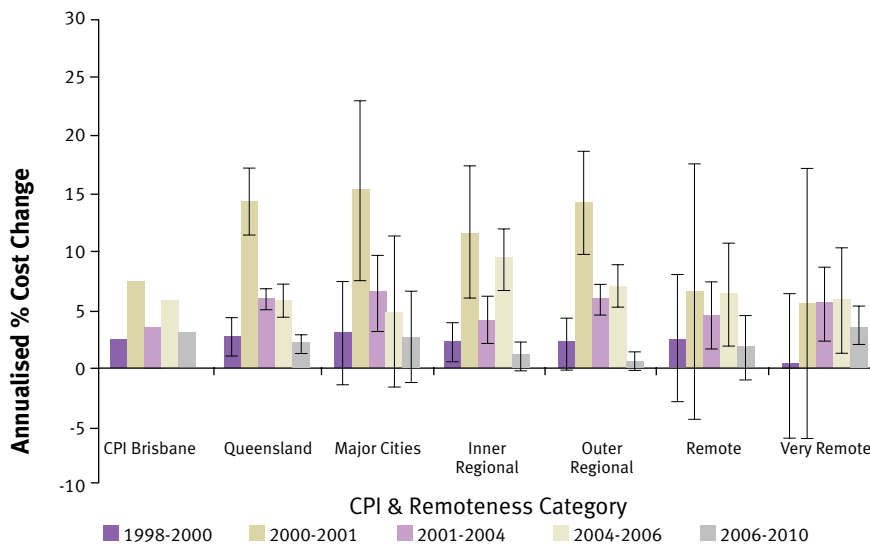


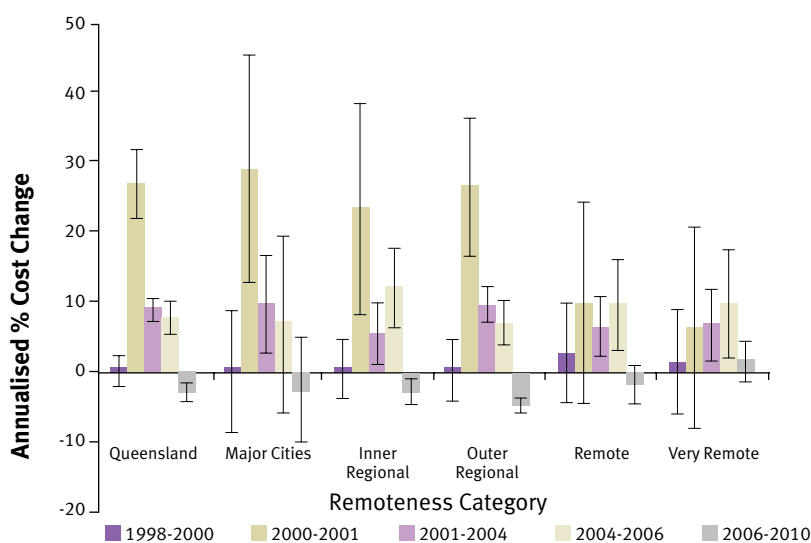
Figure 7: Annualised percentage change in costs since 1998 (95% CI) – 36 stores^{a,b,c,d}



a) The Healthy Food Access Basket compared to the CPI^e for food in Brisbane

Footnotes:

- a) Ham and cabbage excluded.
- b) The 36 stores in this figure are from the towns that have had data collected from 1998 onwards.
- c) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.
- d) Source: Healthy Food Access Basket Surveys 1998, 2000, 2001, 2004, 2006, 2010.
- e) Source: Australian Bureau of Statistics³



b) The fruit, vegetables and legumes in the basket

Footnotes:

- a) Ham and cabbage excluded.
- b) The 36 stores in this figure are from the towns that have had data collected from 1998 onwards.
- c) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.
- d) Source: Healthy Food Access Basket Surveys 1998, 2000, 2001, 2004, 2006, 2010.

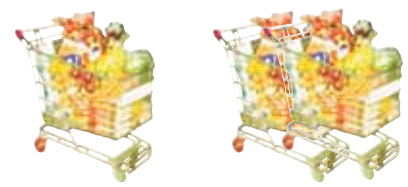
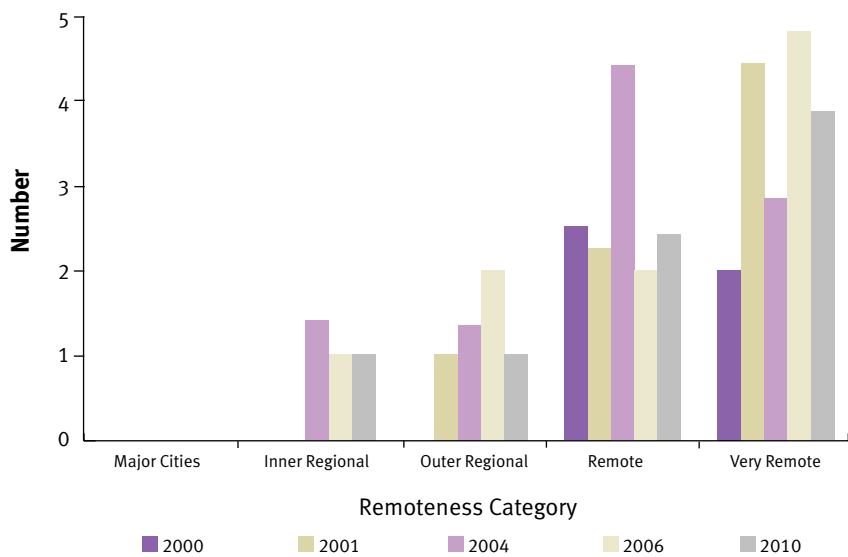


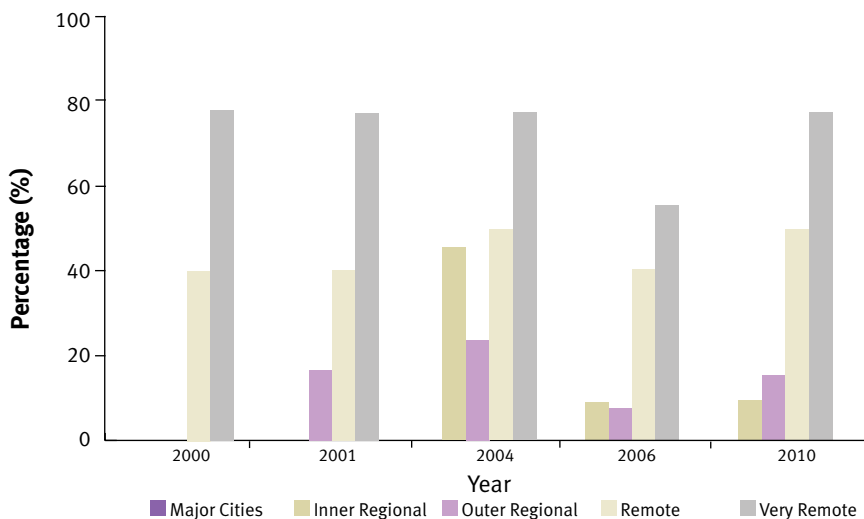
Figure 8a: Average number of missing items since 2000 in stores with at least one missing item^{a,b}



Footnotes:

- a) Averages for this figure have been calculated by dividing the number of missing items by the number of stores with at least one missing item. The number of stores therefore varies for each remoteness category and year.
- b) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

Figure 8b: Percentage of stores with missing items since 2000 – 47 stores^{a,b}



Footnotes:

- a) The 47 stores in this figure are from the towns that have had data collected from 2000 onwards.
- b) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

Results

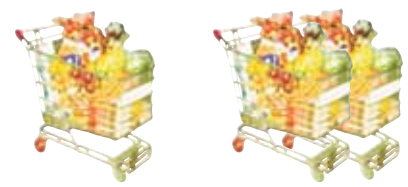
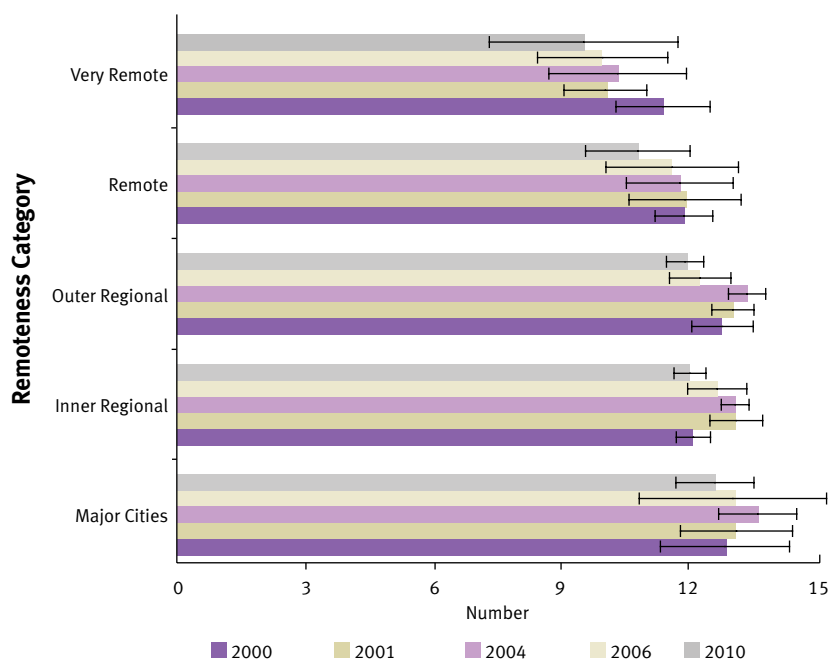
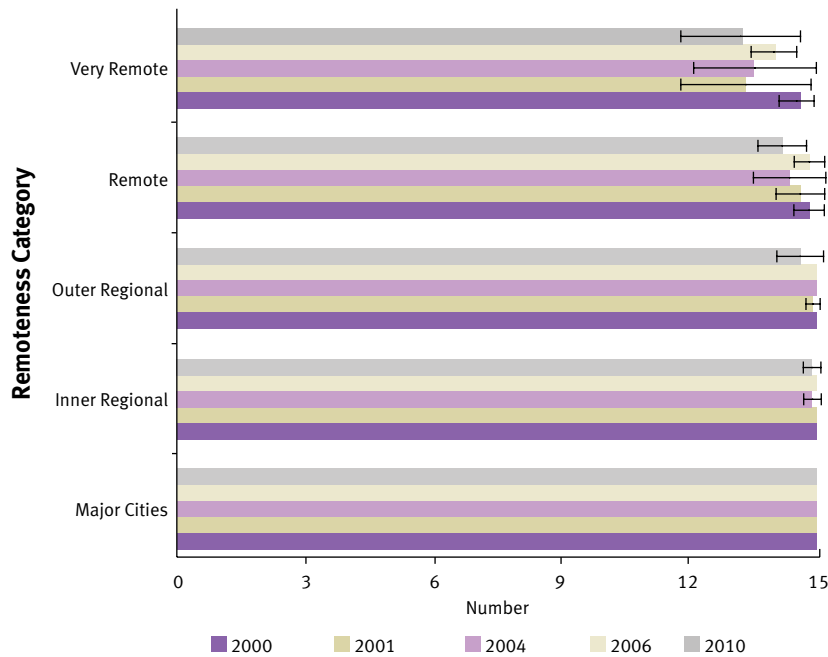


Figure 9: Availability of vegetable and fruit varieties since 2000 – 47 stores^{a,b,c}



Footnotes:

- a) The 47 stores in this figure are from the towns that have had data collected from 2000 onwards.
- b) There was a maximum total of 15 items available.
- c) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

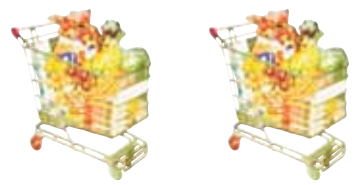
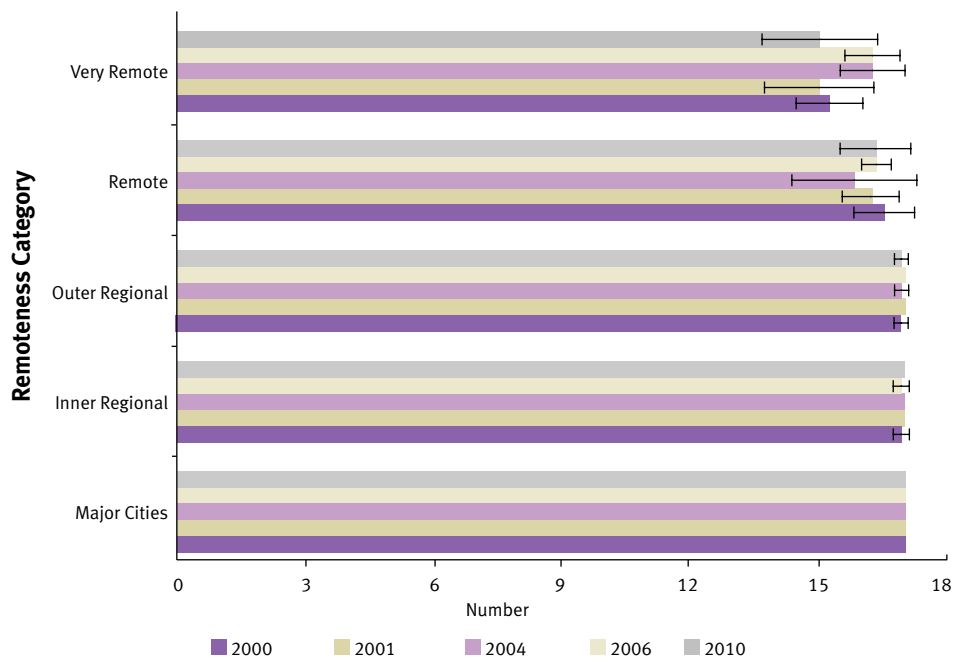


Figure 10: Availability of “better nutrition choices” since 2000 – 47 stores^{a,b,c,d}



Footnotes:

- a) The 47 stores in this figure are from the towns that have had data collected from 2000 onwards.
- b) There was a maximum total of 17 items available.
- c) For list of “better nutrition choices” refer to Table 1.
- d) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

Results



Table 1: Vegetable and fruit variety and “better nutrition choices” checklists^a

Vegetables	Fruit	“Better nutrition choices”
Broccoli	Apple	Wholemeal bread
Cabbage	Banana	Dried fruit
Capsicum	Grape	Dry biscuits, low fat ^b
Carrot	Kiwi fruit	Tinned fruit, in natural juice
Cauliflower	Mango	Monounsaturated oil like canola or olive
Cucumber	Orange	Fresh reduced fat milk
Green beans	Other citrus fruit	Yoghurt
Lettuce	Other stone fruit	Bottled water
Mushroom	Pawpaw	Baked beans
Onion	Peach	100% Orange juice
Potato	Pear	Diet cordial
Pumpkin	Pineapple	Diet soft drink
Sweet corn	Rock melon	Lean meat ^c
Sweet potato	Strawberry	Other dried legumes e.g. lentils, split peas, chickpeas
Tomato	Watermelon	Poly/mono-unsaturated margarine
		Red kidney beans
		Tinned bean mix

a) Source: Healthy Food Access Basket Survey 2000: Full Report²

b) Low fat dry biscuits are biscuits which have less than 10g of fat per 100g

c) Lean meat determined by visual inspection: lean meat if little visible fat

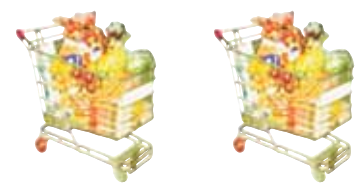


Table 2: Mean cost (95% CI) of baskets and basic healthy food groups in 2010 – 78 stores^{a,b,c}

	QLD (\$) (CI) n=78	Major cities (MC) (\$) (CI) n=10	Inner regional (IR) (\$) (CI) n=10	Outer regional (OR) (\$) (CI) n=18	Remote (R) (\$) (CI) n=18	Very remote (VR) (\$) (CI) n=22	% (\$) difference in mean cost from MC to VR	Statistically significant differences
Healthy Food Access Basket	501.54 (493.93- 509.14)	492.52 (477.53- 507.51)	502.40 (478.13- 526.66)	521.19 (497.60- 544.78)	519.70 (500.92- 538.48)	620.71 (600.78- 640.65)	26.0% (\$128.19)	VR higher than all other areas. VR >2,000 km higher than VR <2,000 km
Cheapest HFAB	388.58 (378.11- 399.04)	376.85 (356.16- 397.55)	382.87 (354.81- 410.94)	414.92 (382.58- 447.25)	437.44 (408.04- 466.85)	562.28 (531.62- 592.93)	49.2% (\$185.43)	VR higher than all other areas, R higher than MC
Fruit, vegetables and legumes	184.67 (180.73- 188.60)	180.26 (169.83- 190.69)	187.59 (179.20- 195.97)	192.14 (181.34- 202.94)	198.18 (186.60- 209.77)	242.94 (231.18- 254.70)	34.8% (\$62.68)	VR higher than all other areas.
Bread and cereals	137.73 (134.84- 140.61)	137.86 (131.49- 144.23)	132.43 (120.56- 144.30)	140.53 (131.57- 149.49)	133.72 (124.12- 143.31)	157.45 (151.76- 163.13)	14.2% (\$19.59)	VR higher than all other areas.
Dairy	70.14 (68.76- 71.51)	68.77 (67.25- 70.29)	70.08 (65.37- 74.79)	72.84 (67.91- 77.77)	75.04 (70.98- 79.10)	92.90 (88.18- 97.63)	35.1% (\$24.13)	VR higher than all other areas.
Meat and alternatives	88.85 (87.10- 90.60)	85.80 (82.78- 88.82)	91.86 (85.11- 98.61)	95.03 (90.09- 99.98)	91.27 (87.17- 95.37)	103.31 (99.59- 107.04)	20.4% (\$17.51)	VR higher than MC, IR and R
Fruit	90.86 (87.33- 94.39)	86.42 (77.11- 95.73)	94.86 (87.50- 102.22)	98.75 (88.57- 108.93)	101.64 (92.81- 110.47)	128.01 (118.85- 137.17)	48.1% (\$41.59)	VR higher than all other areas.
Vegetables and legumes	93.81 (92.24- 95.37)	93.84 (89.73- 97.95)	92.73 (87.27- 98.19)	93.39 (89.02- 97.76)	96.54 (92.05- 101.03)	114.93 (109.03- 120.83)	22.5% (\$21.09)	VR higher than all other areas.

a) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.

b) CI is the 95% confidence interval for the mean. A 95% confidence interval of the mean is interpreted as a 95% chance that the confidence interval contains the true population mean.

c) Source: Healthy Food Access Basket Survey 2010.

Results



Table 3: Mean cost (95% CI) of the HFAB and the “unhealthy” items in 2010 – 78 stores^{a,b,c}

	QLD (\$) (CI) n=78	Major cities (MC) (\$) (CI) n=10	Inner regional (IR) (\$) (CI) n=10	Outer regional (OR) (\$) (CI) n=18	Remote (R) (\$) (CI) n=18	Very remote (VR) (\$) (CI) n=22	% (\$) difference in mean cost from MC to VR	Statistically significant differences
Healthy Food Access Basket	501.54 (493.93- 509.14)	492.52 (477.53- 507.51)	502.40 (478.13- 526.66)	521.19 (497.60- 544.78)	519.70 (500.92- 538.48)	620.71 (600.78- 640.65)	26.0% (\$128.19)	VR higher than all other areas. VR >2,000 km higher than VR <2,000 km
“Unhealthy” items	57.03 (56.50- 57.55)	56.36 (55.19- 57.54)	56.99 (55.13- 58.85)	58.54 (57.45- 59.63)	58.76 (56.15- 61.38)	64.18 (61.88- 66.49)	13.9% (\$7.82)	VR higher than all other areas. VR >2,000 km higher than VR <2,000 km

a) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.

b) CI is the 95% confidence interval for the mean. A 95% confidence interval of the mean is interpreted as a 95% chance that the confidence interval contains the true population mean.

c) Source: Healthy Food Access Basket Survey 2010.

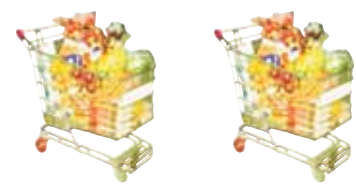


Table 4a: Change in mean cost of the Healthy Food Access Basket since 2000 in 47 stores^{a,b,c,d}

	QLD (\$ (CI) ^e n=47	Major cities (MC) (\$ (CI) n=4	Inner regional (IR) (\$ (CI) n=11	Outer regional (OR) (\$ (CI) n=13	Remote (R) (\$ (CI) n=10	Very remote (VR) (\$ (CI) n=9
Cost in 2000	304.01 (289.63- 309.38)	298.83 (277.82- 319.85)	309.59 (303.33- 315.85)	309.46 (301.85- 317.07)	347.29 (326.70- 367.88)	404.82 (373.14- 436.50)
Cost in 2001	344.04 (338.91- 349.18)	339.56 (321.84- 357.29)	345.17 (333.98- 356.36)	353.59 (341.66- 365.52)	377.58 (357.65 - 397.52)	425.29 (397.60- 452.98)
Annualised % (\$) change in mean 2000-2001	13.2%* (40.04)	13.6%* (40.73)	11.5%* (35.58)	14.3%* (44.13)	8.7% (30.29)	5.1% (20.47)
Cost in 2004	402.20 (395.32- 408.08)	398.28 (362.38- 434.17)	394.75 (382.93- 406.57)	417.24 (406.69- 427.80)	428.42 (416.28- 440.55)	504.36 (479.24- 529.48)
Annualised % (\$) change in mean 2001-2004	5.3%* (19.39)	5.5%* (19.57)	4.6%* (16.53)	5.7%* (21.22)	4.3%* (16.94)	5.8%* (26.36)
Cost in 2006	452.31 (444.75- 459.86)	443.00 (407.76- 478.24)	462.75 (451.96- 473.55)	478.27 (466.50- 490.03)	480.56 (456.18- 504.94)	556.40 (522.78- 590.02)
Annualised % (\$) change in mean 2004-2006	6.0%* (25.05)	5.5% (22.36)	8.3%* (34.00)	7.1%* (30.51)	5.9%* (26.07)	5.0% (26.02)
Cost in 2010	496.37 (488.55- 504.19)	494.50 (452.79- 536.20)	492.25 (477.09- 507.41)	498.65 (489.23- 508.06)	513.97 (480.79 - 547.14)	638.92 (617.57- 660.27)
Annualised % (\$) change in mean 2006-2010	2.4%* (11.02)	2.8% (12.87)	1.6%* (7.37)	1.0% (5.09)	1.7% (8.35)	3.5%* (20.63)
% (\$) change in mean 2006-2010	9.7%* (44.06)	11.6% (51.50)	6.4%* (29.50)	4.3%* (20.38)	7.0% (33.41)	14.8%* (82.52)
% (\$) change in mean 2000-2010	63.3%* (192.36)	65.5%* (195.66)	59.0%* (182.66)	61.1%* (189.18)	48.0%* (166.68)	57.8%* (234.10)

- a) The 47 stores in this figure are from the towns that have had data collected from 2000 onwards.
b) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.
c) The method of weighting has been updated since the 2006 HFAB report, so that weights for each survey are based on the Census data closest to the time of that survey. Due to this update, figures may differ slightly from those previously published.
d) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.
e) CI is the 95% confidence interval for the mean. A 95% confidence interval of the mean is interpreted as a 95% chance that the confidence interval contains the true population mean.

* Indicates that there has been a significant change over the specified time period. Significant differences were identified with reference to the upper and lower bounds of the 95% confidence interval of the mean. If confidence intervals do not overlap then the observed means are significantly different at the 95% confidence level.

Results



Table 4b: Change in mean cost of fruit, vegetables and legumes in basket since 2000 in 47 stores^{a,b,c,d}

	QLD (\$ (CI) ^e n=47	Major cities (MC) (\$ (CI) n=4	Inner regional (IR) (\$ (CI) n=11	Outer regional (OR) (\$ (CI) n=13	Remote (R) (\$ (CI) n=10	Very remote (VR) (\$ (CI) n=9
Cost of fruit, vegetables and legumes in 2000	113.11 (109.34- 116.87)	111.36 (89.13- 133.59)	114.24 (107.64- 120.83)	114.95 (108.26- 121.64)	130.43 (120.02- 140.84)	152.54 (138.99- 166.09)
Cost of fruit, vegetables and legumes in 2001	140.38 (137.32- 143.42)	138.15 (127.72- 148.58)	141.84 (132.00- 151.69)	146.65 (137.51- 155.80)	149.08 (138.13- 160.02)	162.59 (146.19- 178.99)
Annualised % (\$ change in mean 2000-2001	24.1%* (27.27)	24.1% (26.79)	24.2%* (27.61)	27.6%* (31.70)	14.3% (18.64)	6.6% (10.04)
Cost of fruit, vegetables and legumes in 2004	174.45 (169.06- 179.83)	172.54 (140.75- 204.33)	169.57 (159.24- 179.91)	186.65 (175.03- 198.27)	175.62 (162.61- 188.62)	197.62 (178.09- 217.16)
Annualised % (\$ change in mean 2001-2004	7.5%* (11.36)	7.7% (11.46)	6.1%* (9.24)	8.4%* (13.33)	5.6%* (8.85)	6.7% (11.68)
Cost of fruit, vegetables and legumes in 2006	204.71 (199.80- 209.63)	201.28 (173.10- 229.46)	205.10 (194.00- 216.21)	219.84 (212.81- 226.87)	207.97 (195.51- 220.43)	233.13 (211.09- 255.17)
Annualised % (\$ change in mean 2004-2006	8.3%* (15.13)	8.0% (14.37)	10.0%* (17.76)	8.5%* (16.60)	8.8%* (16.18)	8.6% (17.75)
Cost of fruit, vegetables and legumes in 2010	181.66 (175.87- 187.45)	179.15 (141.35- 216.95)	187.33 (180.44- 194.21)	182.36 (176.53- 188.18)	191.09 (177.36- 204.81)	249.45 (234.82- 264.08)
Annualised % (\$ change in mean 2006-2010	-2.9%* (-5.76)	-2.9% (-5.53)	-2.2%* (-4.44)	-4.6%* (-9.37)	-2.1% (-4.22)	1.7% (4.08)
% (\$ change in mean 2006-2010	-11.3%* (-23.05)	-11.0% (-22.13)	-8.7%* (-17.78)	-17.1%* (-37.48)	-8.1% (-16.88)	7.0% (16.32)
% (\$ change in mean 2000-2010	60.6%* (68.56)	60.9%* (67.79)	64.0%* (73.09)	58.6%* (67.40)	46.5%* (60.65)	63.5%* (96.91)

- a) The 47 stores in this figure are from the towns that have had data collected from 2000 onwards.
- b) Weighting for Queensland overall is proportional to the Queensland population for each remoteness category.
- c) The method of weighting has been updated since the 2006 HFAB report, so that weights for each survey are based on the Census data closest to the time of that survey. Due to this update, figures may differ slightly from those previously published.
- d) Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.
- e) CI is the 95% confidence interval for the mean. A 95% confidence interval of the mean is interpreted as a 95% chance that the confidence interval contains the true population mean.

* Indicates that there has been a significant change over the specified time period. Significant differences were identified with reference to the upper and lower bounds of the 95% confidence interval of the mean. If confidence intervals do not overlap then the observed means are significantly different at the 95% confidence level.



Table 5: Annual percentage price change for selected food items (June Quarter 1997 to June Quarter 2010) in Brisbane^a

Items	97-98 %	98-99 %	99-00 %	00-01 %	01-02 %	02-03 %	03-04 %	04-05 %	05-06 %	06-07 %	07-08 %	08-09 %	09-10 %	00-10 %	06-10 %
CPI for food	2.8	2.4	2.2	7.3	4.8	4.1	1.5	2.7	8.7	2.2	3.7	4.6	1.4	49.0	12.4
Bread	3.4	6.5	2.2	8.4	3.4	2.9	-6.6	1.4	7.5	7.0	6.3	5.6	4.2	46.9	25.2
Bread and cereal products	1.9	2.3	1.8	5.7	3.9	5.4	-1.6	0.4	5.1	4.2	9.3	2.5	4.2	46.4	21.7
Dairy and related product	2.2	3.9	8.0	-1.2	7.3	3.8	0.8	4.5	3.9	5.1	10.0	1.2	-0.5	40.3	16.4
Milk	2.2	3.4	11.5	-4.6	6.4	4.3	0.2	4.5	3.2	3.2	8.2	-4.0	0.5	23.2	7.6
Fruit and vegetables	3.3	6.0	-0.8	11.4	0.7	9.0	2.6	-2.6	38.7	-7.0	-13.6	10.2	-2.3	46.9	-13.4
Fruit	-8.1	25.8	-17.7	18.2	13.3	-8.6	10.2	-4.9	65.5	-18.2	-17.1	14.2	-5.2	55.8	-26.6
Vegetables	12.6	-8.4	15.9	6.5	-9.4	26.9	-3.0	-0.7	15.9	6.7	-10.2	6.7	0.3	40.3	2.7
Meat and seafoods	0.7	-0.1	4.5	8.4	10.7	0.7	1.9	6.0	2.8	-0.4	4.2	5.2	0.2	46.6	9.4
Soft drinks, water and juices	6.3	-1.5	-1.6	-1.3	1.4	0.2	0.6	4.9	3.0	10.1	6.8	4.4	3.6	38.5	27.2
Take-away and fast foods	3.0	3.1	3.6	11.1	3.7	3.7	3.0	3.2	3.8	3.7	9.1	3.5	2.3	58.0	19.9
Snacks and confectionery	4.2	5.0	1.8	5.5	5.7	4.9	2.0	3.7	6.2	3.4	4.9	3.6	3.4	52.6	16.2

a) Source: Australian Bureau of Statistics³



Appendix – significant differences

Figure 3: Mean cost (95% CI) of baskets in 2010 – 78 stores

a) The Healthy Food Access Basket (HFAB)

Cost for Very Remote (VR) > all other remoteness categories.

Cost for VR > 2,000 km > VR < 2,000 km.

b) The fruit, vegetables and legumes in the basket

Cost for Very Remote (VR) > all other remoteness categories.

c) The Cheapest Healthy Food Access Basket (HFAB)

Cost for Very Remote (VR) > all other remoteness categories.

Cost for Remote (R) > Major Cities.

Figure 4: Mean cost (95% CI) of healthy food groups in 2010 – 78 stores

Cost for all food groups in Very Remote > all other food groups in all other remoteness categories except Meat and Alternatives in Outer Regional.

Figure 5: Mean cost of baskets since 2000 – 47 stores

a) The Healthy Food Access Basket (HFAB)

Major Cities - 2010 > 2004, 2001 & 2000; 2006 > 2001 & 2000; 2004 > 2001 & 2000; 2001 > 2000.

Inner Regional - 2010 > all years; 2006 > 2004, 2001 & 2000; 2004 > 2001 & 2000; 2001 > 2000.

Outer Regional - 2010 > 2004, 2001 & 2000; 2006 > 2004, 2001 & 2000; 2004 > 2001 & 2000; 2001 > 2000.

Remote - 2010 > 2004, 2001 & 2000; 2006 > 2004, 2001 & 2000; 2004 > 2001 & 2000.

Very Remote - 2010 > all years; 2004 > 2001 & 2000.

Qld - 2010 > all years; 2006 > 2004, 2001 & 2000; 2001 > 2000; 2004 > 2001 & 2000.

Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

b) The fruit, vegetables and legumes in the basket

Major Cities - 2010 > 2000; 2006 > 2000 & 2001; 2004 > 2000.

Inner Regional - 2010 > 2004, 2001 & 2000; 2006 > 2004, 2001 & 2000; 2004 > 2001 & 2000; 2001 > 2000.

Outer Regional - 2010 > 2001 & 2000; 2006 > 2010, 2004, 2001 & 2000; 2004 > 2001 & 2000; 2001 > 2000.

Remote - 2010 > 2001 & 2000; 2006 > 2004, 2001 & 2000; 2004 > 2001 & 2000.

Very Remote - 2010 > 2004, 2001 & 2000; 2006 > 2001 & 2000.

Qld - 2010 > 2001 & 2000; 2006 > 2004,

2001 & 2000; 2004 > 2001 & 2000; 2001 > 2000.

Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

Figure 6: Mean cost of healthy food groups since 2000 – 47 stores

Dairy - 2010 > 2006, 2004, 2001 & 2000; 2006 > 2004, 2001 & 2000; 2004 > 2001 & 2000.

Meat & Alternatives - 2010 > all years; 2006 > 2004, 2001 & 2000; 2004 > 2001 & 2000; 2001 > 2000.

Vegetables & Legumes - 2010 > all years; 2006 > 2001 & 2000; 2004 > 2001 & 2000; 2001 > 2000.

Fruit - 2010 > 2001 & 2000; 2006 > all years including 2010; 2004 > 2001 & 2000; 2001 > 2000.

Breads & Cereals – 2010 > all years; 2006 > 2004, 2001 & 2000; 2004 > 2000; 2001 > 2000.

Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

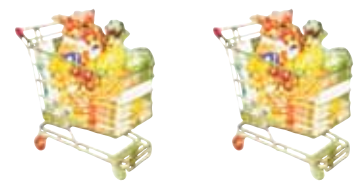


Figure 7: Annualised percentage change in costs since 1998 (95% CI) – 36 stores

a) The Healthy Food Access Basket compared to the CPI for food in Brisbane

Major Cities - annualised % change for 2000-2001>2006-2010 & 1998-2000.

Inner Regional - annualised % change for 2004-2006>2006-2010, 2001-2004 & 1998-2000; 2000-2001> 2006-2010 & 1998-2000.

Outer Regional - annualised % change for 2004-2006>2006-2010 & 1998-2000; 2001-2004>2006-2010 & 1998-2000; 2000-2001>all other years.

Remote – no significant differences.

Very Remote - no significant differences.

Qld – annualised % change for 2004-2006>2006-2010; 2001-2004>2006-2010 & 1998-2000; 2000-2001>all other years.

Source: Healthy Food Access Basket Surveys 1998, 2000, 2001, 2004, 2006, 2010.

b) The fruit, vegetables and legumes in basket

Major Cities - annualised % change for 2000-2001>2006-2010 & 1998-2000.

Inner Regional - annualised % change for 2004-2006>2006-2010 & 1998-2000; 2001-2004>2006-2010; 2000-2001>2006-2010 & 1998-2000.

Outer Regional - annualised % change for 2004-2006>2006-2010; 2001-2004>2006-2010 & 1998-2000; 2000-2001>all other years.

Remote – annualised % change for 2004-2006>2006-2010; 2001-2004>2006-2010.

Very Remote – no significant differences.

Qld – annualised % change for 2004-2006>2006-2010 & 1998-2000; 2001-2004>2006-2010 & 1998-2000; 2000-2001>all other years.

Source: Healthy Food Access Basket Surveys 1998, 2000, 2001, 2004, 2006, 2010.

Figure 9: Availability of vegetable and fruit varieties since 2000 – 47 stores

a) Vegetable varieties

There are no statistically significant differences over time.

Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

b) Fruit varieties

Inner Regional – 2004>2010; 2001>2010.

Outer Regional – 2004>2010; 2001>2010.

Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

Figure 10: Availability of “better nutrition choices” since 2000 – 47 stores

There are no statistically significant differences over time.

Source: Healthy Food Access Basket Surveys 2000, 2001, 2004, 2006, 2010.

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