

INTRODUCTION

The 2001 Healthy Food Access Basket (HFAB) survey is the third Statewide cross-sectional survey of the costs and availability of a standard basket of basic healthy food items throughout Queensland (Figure 1). The range and types of foods included in the HFAB represent commonly available and popular foods chosen to provide 70% of the nutritional requirements and 95% of the estimated energy requirements of a hypothetical family of six people for a two-week period.

The variation in costs and availability of food is described by Accessibility/Remoteness Index of Australia (ARIA) categories¹ (Figure 2). ARIA defines remoteness in terms of geographical location and access to services.

The 2001 survey was conducted in April, May and June in 88 stores in different ARIA categories across Queensland. Changes in costs and availability of foods since the 2000 HFAB survey (and the introduction of the new tax system) have been presented. This report also includes comparisons of food prices in the 59 stores that were surveyed in 1998, 2000 and 2001. Results of a survey administered to store managers are also reported.

METHODS

There is no database of stores throughout Queensland from which to randomly select stores and local knowledge was required to identify stores to be included in the survey. In each category, the largest food store in the largest town(s) in each Queensland Health District was selected. Over sampling in the *very remote* ARIA category occurred because local health services requested specific locations to be included and some were part of food supply intervention projects. To adjust this situation, the analysis was performed using weighted averages with weighting proportional to population size in each ARIA category.

RESULTS

Costs in 2001

The results of the 2001 HFAB survey confirm that people living in rural and remote areas pay more for basic healthy food than those living in more urban and metropolitan centres. The cost of the HFAB was 24% higher in the *very remote* ARIA category than the *highly accessible* ARIA category (Figure 3).



Healthy Food Access Basket 2001 contents

HFAB survey



When the HFAB was separated into food groups, the price of the meat and alternatives ($F_{4,87}=82.8$, $p<0.001$) and dairy food groups ($F_{4,87}=66.8$, $p<0.001$) were most associated with accessibility/remoteness and the fruit ($F_{4,87}=25.0$, $p<0.001$) and vegetable and legumes groups ($F_{4,87}=19.7$, $p<0.001$) were least associated (Figure 4). The costs of tobacco and take-away snack items were less associated with ARIA category than basic healthy food, with costs in the *very remote* ARIA category being only 11% higher than in the *highly accessible* ARIA category.

Cost increases since 2000

Across the state as a whole, the price of the HFAB increased 10.6% from \$315.79 to \$349.21 in the period from April/May 2000 to April/May 2001.

There was a marked increase in the price of basic healthy food in the 87 stores that were surveyed in both 2000 and 2001 (Table 1 and Figure 5). In real terms, the cost of HFAB increased by \$33.80 in the *highly accessible* ARIA, \$27.49 in the *accessible* ARIA, \$43.67 in the *moderately accessible* ARIA, \$28.40 in the *remote* ARIA and \$25.33 in the *very remote* ARIA categories. Contrary to expectations, price rises tended to be greatest in the three most accessible ARIA categories, and costs appear to have been relatively absorbed in the *remote* and *very remote* ARIA categories, resulting in a decrease or “flattening” of the difference in price of healthy food across ARIA categories throughout the state (Figure 5, Table 1). Price increases were greatest in vegetables and legumes, bread and cereals and fruit groups (Figure 6). Fruit, vegetable and legume prices increased by nearly 26% in the *moderately accessible* ARIA category (Table 1).

The high price increases in the *accessible* ARIA categories are of concern and raise issues about food

security in vulnerable groups in more urban areas, regional centres and larger towns. Further possible price absorption in the remote ARIA categories may impact on the sustainability of small retail services in rural and remote areas of Queensland.

The mean percent annual change in price of the HFAB from 1998 to 2001 was compared with the change in the Australian Bureau of Statistic’s Consumer Price Index (CPI)^{2,3,4} for food over the same period (Figure 7). The introduction of the new tax system may have been one factor contributing to the increase in CPI (food) for Australia during this time.⁵ The HFAB cost increased more than the CPI from 2000 to 2001. A likely explanation for this discrepancy is the difference between the items included in the CPI and HFAB surveys. The CPI (food) is based on commonly purchased items (including soft drinks, cakes, biscuits, confectionary, take away and fast food) whereas the HFAB contains basic food required to support and maintain health. The tax changes had different impacts on these foods due to previously existing differences in wholesale sales tax applicable to a range of items like soft drinks and confectionary.

Price data for individual foods used to calculate the CPI are available from the Australian Bureau of Statistics (ABS) for capital cities only. Annual price changes for selected food items in Brisbane for the June quarter from 1995 to 2001, suggest a higher relative increase in the price of most basic core foods (such as meat and bread) from 2000 to 2001 than during any other year since 1995 (Table 2). The prices of fruit and vegetables are particularly labile. Annual percentage price changes of individual foods suggest that some food items captured by the CPI have become relatively cheaper than the basic healthy food in the HFAB since June 2000 (Table 2).⁴

This is also supported by Australian Competition and Consumer Commission (ACCC) data.⁶ The ACCC



predicted a decrease in the price of several fresh/unprocessed foods in the first six months as an anticipated effect of the new tax system (NTS)⁶ (Table 3). However, this prediction was not supported by data from the ACCC survey conducted eight months after the introduction of the NTS (Table 3). During the first year after introduction of the NTS, the HFAB survey also measured substantial increases in costs of individual foods, including increases in the cost of bread (9.4%), canned fruit (6.6%), apples (20.9%), potatoes (51%), cheese (3.5%) and meat (8.1%). However, the ACCC predicted a *decrease* of 0.8% to 1.2% in the price of these foods for the six months following the introduction of the new tax system.⁶ In contrast, the prices for processed foods and beverages measured by ACCC in February 2001 and HFAB in June 2001 were only slightly higher than predicted by the ACCC.⁶

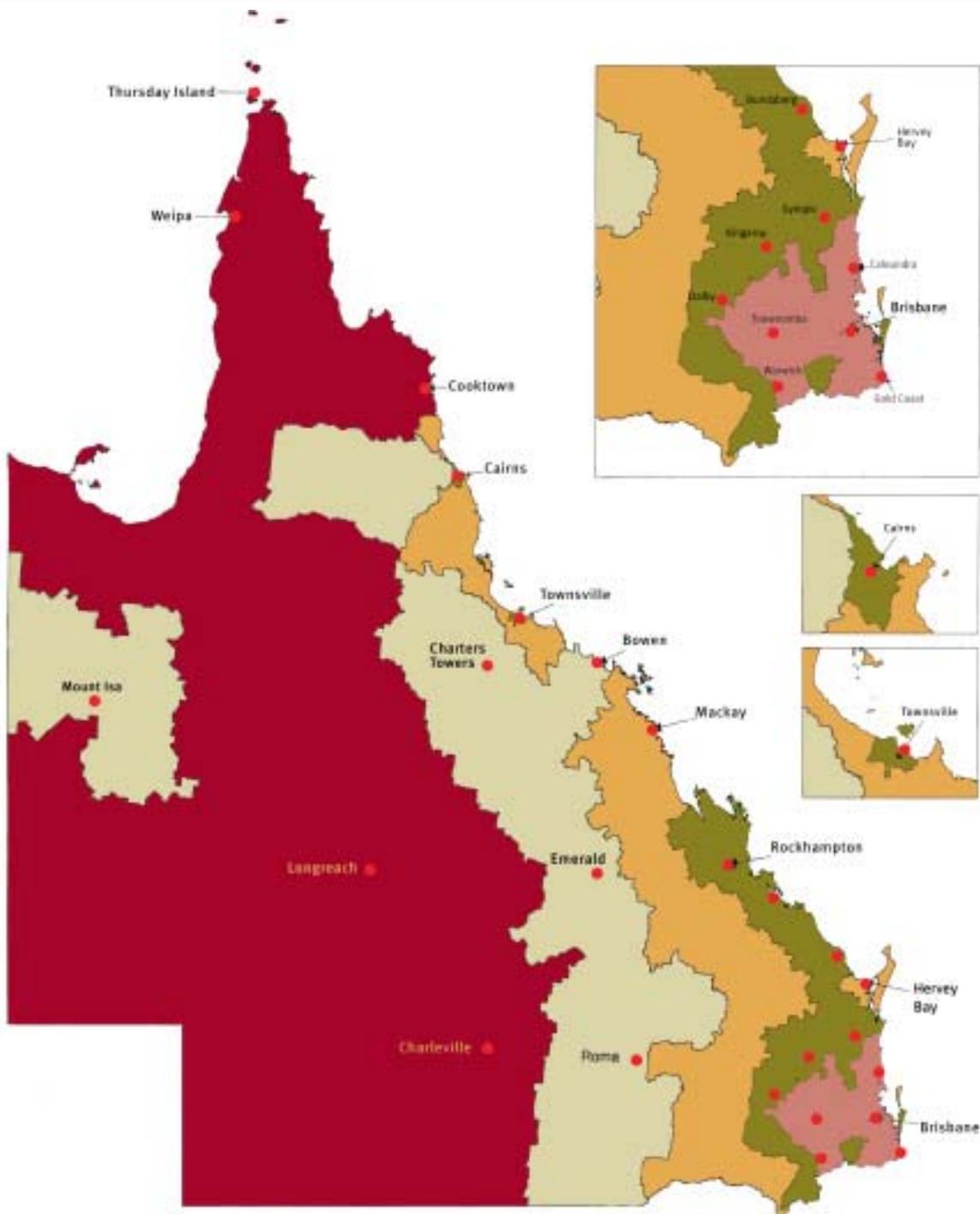
Twenty five percent of store managers interviewed during the HFAB survey said that differentiation between foods that did and did not attract the Goods and Services Tax (GST) had caused problems in their store since the introduction of the new tax system. Of those stores reporting difficulties, 77% were small independent operators. When asked about factors that may have contributed to potential 'follow-on' costs under the new tax system, store managers reported that increased transport (44%), maintenance (34%), wholesale food (25%), administrative (29%) and capital equipment costs (21%) had contributed to increased retail food prices in their stores.

There is debate about the reasons for the price increases reported here for the 2000 to 2001 period. The ACCC suggests cost increases for "fresh produce" (ie fruits and vegetables) are due to factors beyond the introduction of the NTS, including seasonality.⁶ The HFAB method described here controls for seasonal influences on these

fruits and vegetables. While prices for fruit and vegetables are labile, the prices of other fresh food items such as meat, milk and bread do not appear to be as variable (Table 2). Wholesale throughput data from Brisbane markets does tend to reflect the changes in retail price measured by the HFAB survey throughout Queensland as a whole, but does not explain the wide variation in retail price change in various ARIA categories from 2000-2001 (Table 4).

Regardless of the underlying causes, the fact remains that consumers now need to pay substantially more for basic food required to support and maintain health. A recent Queensland survey conducted by the Department of Primary Industries found that one in four people considered "price" as the most important factor when deciding what food items to buy.⁷ Cost is likely to be a particular barrier to healthy food access among people of lower socioeconomic status and other vulnerable groups.⁸ This can have an adverse effect on food security and food access, and may compromise nutritional status and health.

ARIA locations



ARIA Categories

- Highly Accessible
- Accessible
- Moderately Accessible
- Remote
- Very remote

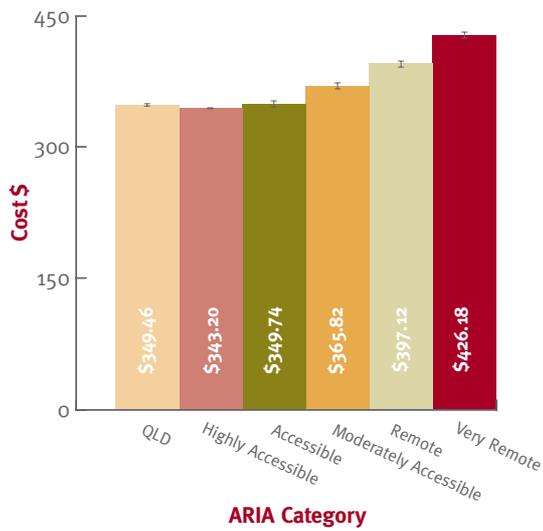
Results



Figure 3: Cost of baskets in year 2001 (mean ± se)*

*Weighting proportional to Queensland population size by each ARIA category

a) Cost of healthy food access basket



b) Cost of fruits, vegetables and legumes in basket

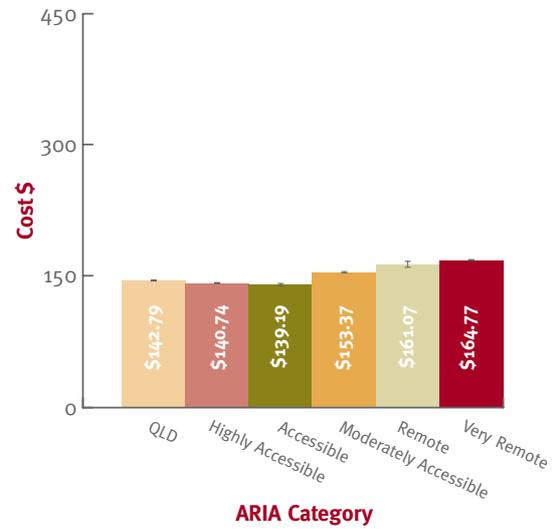
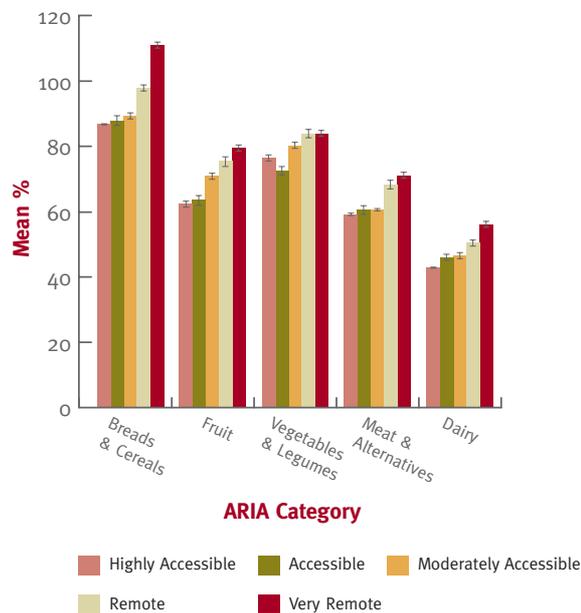


Figure 4: Cost of individual food groups in 2001 by ARIA category (mean ± se)



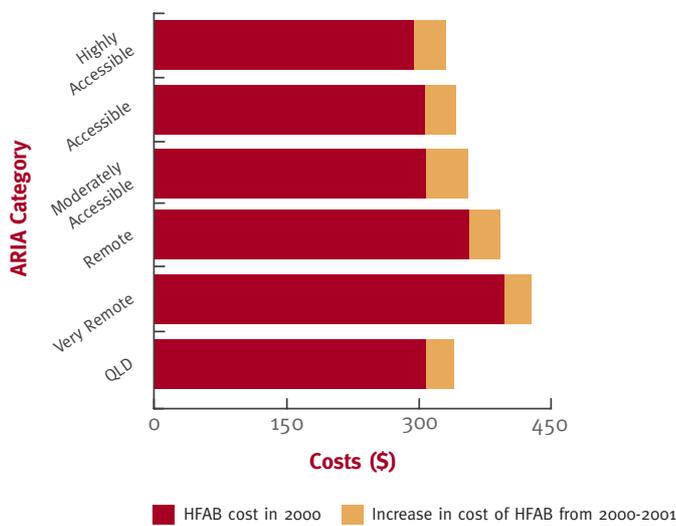
■ Highly Accessible ■ Accessible ■ Moderately Accessible
■ Remote ■ Very Remote



Figure 5: Cost of baskets in year 2000 and increase in cost from 2000-2001 in paired stores

*Weighting proportional to Queensland population size by each ARIA category

a) Healthy food access basket



b) Fruits, vegetables and legumes in basket

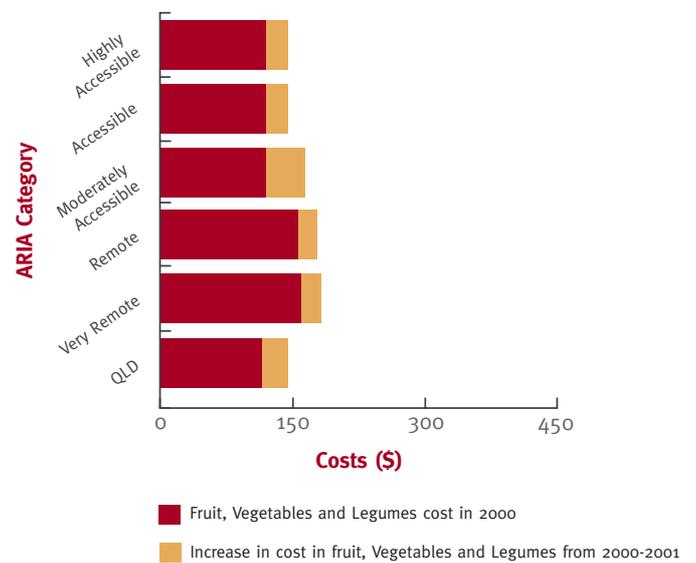
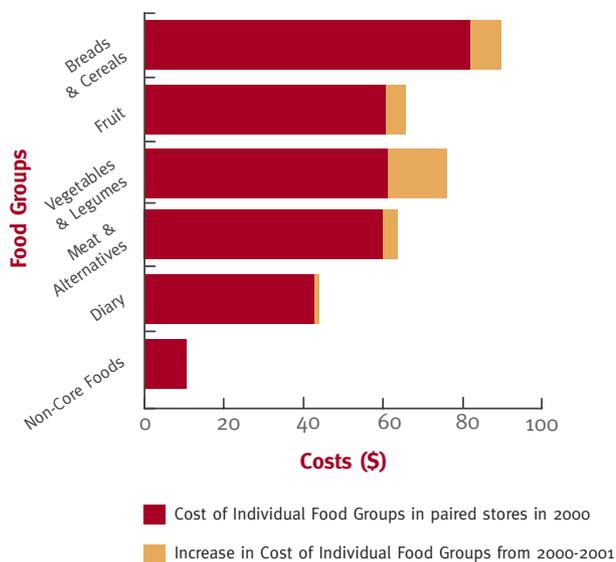


Figure 6: Cost of individual food groups in 2000 and increase in cost from 2000-2001 in paired stores (n=87)



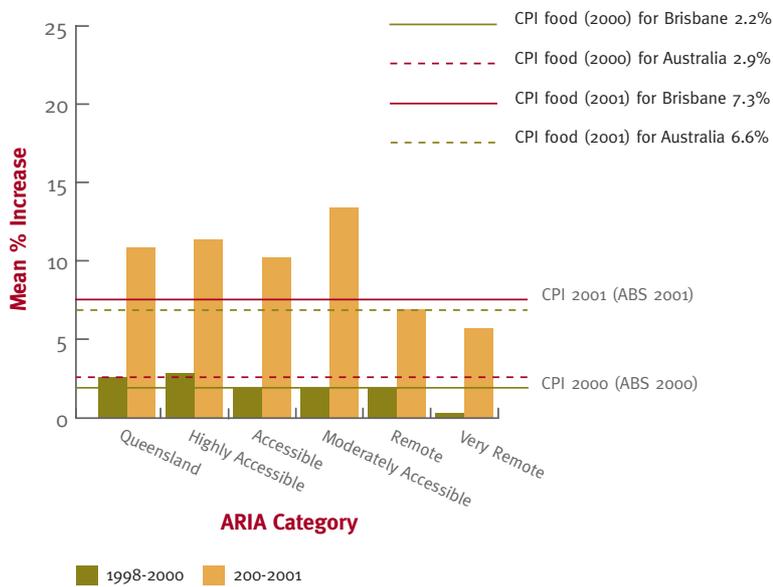
Results



Figure 7: Mean percent annual increase in costs* in the same stores over three years (n=59)#

*Ham and cabbage excluded.
#Only stores surveyed in 1998, 2000, and 2001 were included.
Weight proportional to Queensland population size by each ARIA category.

a) Healthy food access basket



b) Fruits, vegetables and legumes in Basket

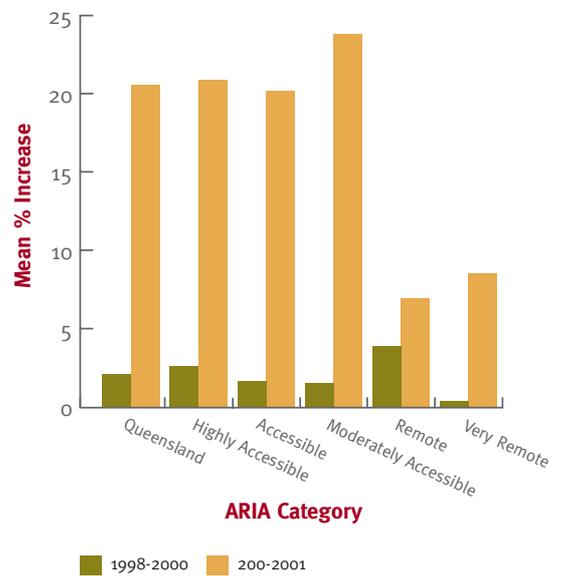


Figure 8: Availability of vegetables and fruit varieties (out of a total of 15) in stores (n=88) in 2001

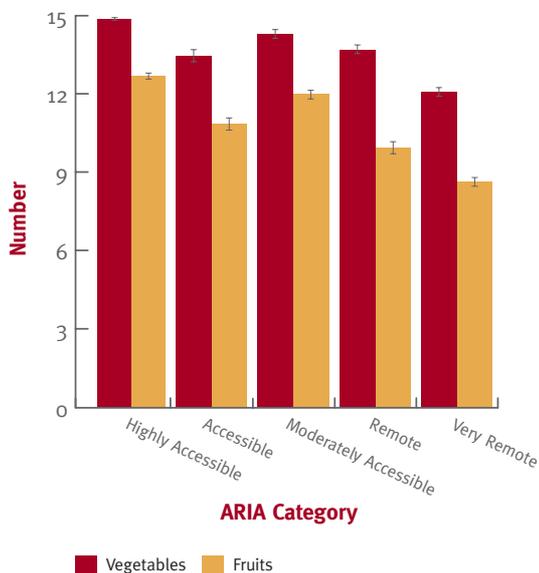




Figure 9a: Availability of better nutrition choices (out of a total of 17) in paired stores (n=87) in 2000 and 2001

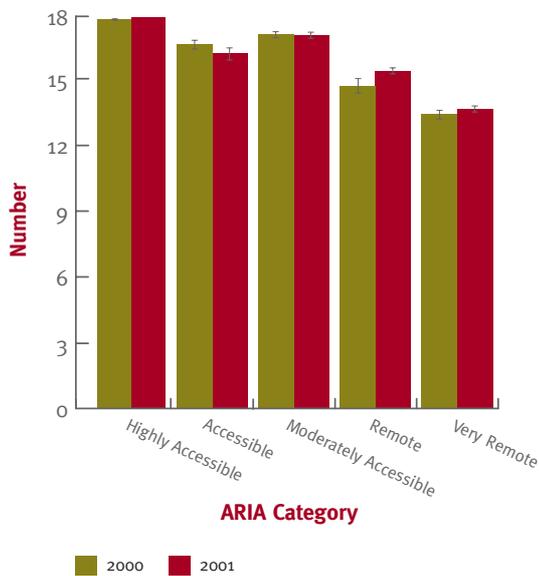
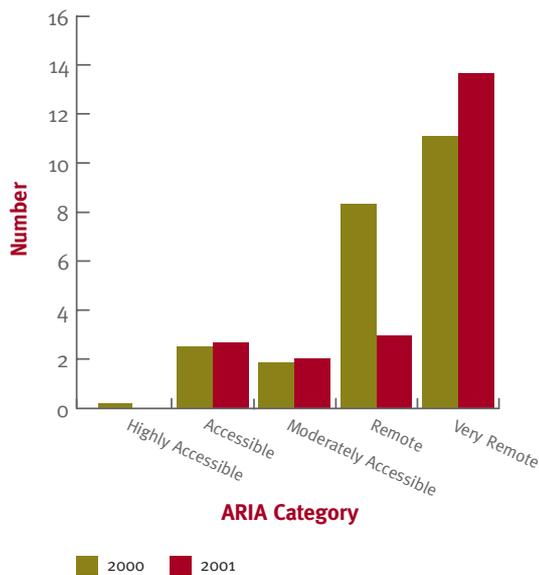


Figure 9b: Percentage of missing HFAB items (n=44) in paired stores (n=87) in 2000 and 2001



Availability

Availability data are illustrated in Figure 8 and Figure 9. The stores in the *very remote* ARIA category had the lowest variety of fresh vegetables and fruit (Figure 8). While there has been some improvement in the availability of better nutrition choices in the stores in the *remote* ARIA category (Figure 9a), availability of basic healthy food items continues to be a problem in stores located in the *very remote* ARIA category, with almost 14% of HFAB food items not available for purchase at the time of the 2001 survey (Figure 9b). The ten most frequently missing items in all stores were wholemeal flour, powdered skim milk, fresh reduced fat milk, orange juice (100%, no added sugar), tinned ham, bananas, cabbage, long-life full cream milk, wholemeal bread and carrots.

Results



Table 1 : Change in cost (mean±se) of Healthy Access Food Basket in paired stores from 2000 to 2001 (n=87)

* = p<0.05; ** = p<0.01; *** = p<0.001 significantly different from 2000

Weighting proportional to Queensland population size by each ARIA category.

| | QLD (\$) n=87 | ARIA Category: highly accessible (\$) n=16 | ARIA Category: accessible (\$) n=12 | ARIA Category: moderately accessible (\$) n=16 | ARIA Category: remote (\$) n=13 | ARIA Category: very remote (\$) n=30 |
|---|----------------------|---|--|---|--|---|
| Cost of Healthy Access Food Basket in 2000 | 315.76±2.60 | 309.42±2.5 | 322.26±12.3 | 324.45±8.3 | 368.71±11.0 | 400.85±8.1 |
| Cost of Healthy Access Food Basket in 2001 | 349.46±2.51 | 343.20±2.8 | 349.74±9.0 | 368.17±6.5 | 397.12±10.3 | 426.18±7.6 |
| % increase in mean | 10.7% | 10.9% | 8.5% | 12.8% | 7.7% | 6.3% |
| t- statistic | 11.94 ^{***} | 9.53 ^{***} | 3.44 ^{**} | 8.24 ^{***} | 7.43 ^{**} | 6.34 ^{**} |
| Fruits, vegetables and legumes in 2000 | 120.15 2.21 | 118.61 2.7 | 118.73 7.5 | 120.97 3.8 | 146.27 6.1 | 150.74 3.8 |
| Fruits, vegetables and legumes in 2001 | 142.79 1.87 | 140.74 2.4 | 139.19 5.1 | 153.37 3.6 | 161.07 5.1 | 164.77 3.3 |
| % increase in mean | 18.8% | 18.7% | 17.2% | 25.6% | 10.1% | 9.3% |
| t-statistic | 7.84 ^{***} | 5.93 ^{***} | 2.85 [*] | 7.62 ^{***} | 3.86 ^{**} | 4.66 ^{***} |



Table 2: Annual percentage price change for selected food items (June quarter 1995 to June quarter 2001) Brisbane (unpublished data from the Australian Bureau of Statistics)

| Items | 95-96 % | 96-97 % | 97-98 % | 98-99 % | 99-00 % | 00-01 % |
|-------------------------------|------------|------------|------------|------------|------------|------------|
| CPI for food | 2.9 | 1.8 | 2.8 | 2.4 | 2.2 | 7.3 |
| Bread | 10.1 | 3.4 | 3.4 | 6.5 | 2.2 | 8.4 |
| Bread and cereal products | 7.3 | 1.9 | 1.9 | 2.3 | 1.8 | 5.7 |
| Diary and related product | 3.1 | 1.3 | 2.2 | 3.9 | 8.0 | -1.2 |
| Milk | 2.7 | 0.9 | 2.2 | 3.4 | 11.5 | -4.6 |
| Fruit and vegetables | -0.4 | 6.1 | 3.3 | 6.0 | -0.8 | 11.4 |
| Fruit | 6.6 | 7.2 | -8.1 | 25.8 | 17.7 | 18.2 |
| Vegetables | -5.4 | 5.2 | 12.6 | -8.4 | 15.9 | 6.5 |
| Meat and seafoods | 2.5 | 1.7 | 0.7 | -1.01 | 4.5 | 8.4 |
| Soft drinks, water and juices | 5.1 | 1.6 | 6.3 | -1.5 | -1.6 | -1.3 |
| Take-away and fast foods | 0.4 | -1.4 | 3.0 | 3.1 | 3.6 | 11.1 |
| Snacks and confectionery | 2.1 | 3.5 | 4.2 | 5.0 | 1.8 | 5.5 |

Table 3: ACCC product group categories, mean price change

| ACC product group | Estimated NTS effect on prices by end 2000 (ACCC 2001) % | ACCC survey mean price change May '00 to Aug '00 % | ACCC survey mean price change May '00 to Feb '00 (ACCC 2001) % | HFAB mean price change Apr/May '00 to Apr/May '01 (only HFAB items) % |
|------------------------------|--|---|--|---|
| Fresh/unprocessed food | -1.1 | 3.2 | 10.3 | 13.8 |
| Processed food and beverages | -0.3 | 0.2 | 1.8 | 0.9 |
| Meals out and takeaway food | 9.2 | 7.9 | 8.5 | N/A |

Results



Table 4 : Price change for selected fruits and vegetables from 2000 to 2001

*data from Healthy Food Access Basket Survey 2000-2001

| Fruits and vegetables | Brisbane markets April/May/June | | % price change for Queensland in paired stores (n=87)* | ARIA category (paired stores n=87) | | | | |
|-----------------------|------------------------------------|-----------------------|---|------------------------------------|----------------------|------------------------------------|------------------|--------------------------|
| | % change throughput | % change price/ton | | Highly accessible (n=16) | Accessible (n=12) | Moderately accessible (n=16) | Remote (n=13) | Very Remote (n=30) |
| Apples | 12.5 | 19.2 | 21.9 | 29.2 | 12.3 | 34.3 | 16.0 | 19.8 |
| Bananas | 3.9 | 39.6 | 11.2 | 22.0 | -9.4 | 12.3 | 15.1 | 11.4 |
| Carrots | -12.5 | 14.9 | 18.1 | 1.0 | 16.7 | 17.8 | 16.3 | 27.9 |
| Lettuce | -9.6 | -30.0 | -24.3 | -27.9 | -27.6 | -19.1 | -22.6 | -24.9 |
| Onions | -17.4 | 52.1 | 51.8 | 89.6 | 72.1 | 54.8 | 21.4 | 43.4 |
| Oranges | -4.5 | -12.5 | 5.0 | 1.8 | 21.0 | 40.5 | -9.7 | -7.2 |
| Potato | -43.5 | 109.7 | 52.4 | 56.7 | 59.9 | 74.5 | 48.9 | 37.5 |
| Pumpkin | -10.9 | -38.2 | -14.0 | 3.3 | -3.3 | -11.1 | -2.8 | -28.3 |
| Tomato | 5.1 | -16.9 | 25.3 | 32.4 | 34.2 | 35.0 | 21.6 | 16.6 |

Conclusions



- A disparity in the cost of basic food continues to exist between the accessible and remote ARIA categories across Queensland. However, there is an apparent flattening of this differential, due to increased prices from 2000 to 2001 in the three most accessible ARIA categories.
- Consumers, particularly those in urban areas, regional centres and large towns, now need to pay substantially more for the basic foods required to support and maintain health. Conversely, some less nutritious foods, such as sweetened carbonated beverages, are now relatively more affordable.
- Food security is likely to be of increasing concern for lower socioeconomic and other vulnerable groups throughout Queensland.

Recommendations

1. Further investigation is required into the effects of the new tax system on the price of basic healthy food, particularly those foods which do not attract goods and services tax under the new system.
2. Regular monitoring at a national level is required to detect the impact of future changes (including fiscal policy) on food cost. National monitoring, as part of a comprehensive nutrition surveillance system for Australia, could assist in future strategic planning, priority setting and resource investments to improve population health outcomes.

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