Appendix 1. Test of proportions of South African pre-packaged foods and beverages that are non-compliant per nutrient profiling model overall; for foods and beverages; and by select categories (using the CAM and SA HNC nutrient profiling models as reference models)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Difference in % non-compliant (CAM NPM as reference) | | | Difference in % non-compliant (SA HNC NPM as reference) | |
| CAM% -SA HNC% | CAM% -CWO% | CAM%-PAHO% | SA HNC% -CWO% | SA HNC% -PAHO% |
| **FOODS** | | | | | |
| 1. Breakfast cereals | 35.45\*\* | -10.00\* | -0.91 | -45.46\*\* | -36.36\*\* |
| 2. Cereals & cereal products | 17.32\*\* | -1.58 | -44.49\*\* | -18.90\*\* | -61.81\*\* |
| 3. Confectionary & Desserts | 4.74\*\* | 2.06\* | -0.72 | -.02.68\* | -5.45\*\* |
| 4. Dairy | 28.43\*\* | 5.82\* | -15.17\*\* | -22.63\*\* | -43.62\*\* |
| 5. Fruits | 38.27\*\* | -3.57 | -4.59 | -41.84\*\* | -42.86\*\* |
| 6. Vegetables | 17.65\*\* | 0.39 | -30.39\*\* | -17.25\*\* | -48.04\*\* |
| 7. Legumes | 28.00\*\* | 0.00 | -66.00\*\* | -28.00\*\* | -94.00\*\* |
| 8. Mixed dishes | 20.07\*\* | -0.33 | -29.43\*\* | -20.40\*\* | -49.50\*\* |
| 9. Protein | 12.46\*\* | -0.50 | -26.58\*\* | -12.96\*\* | -39.04\*\* |
| 10. Snack foods | 13.02\*\* | -4.44\* | -2.58 | -17.45\*\* | -15.59\*\* |
| 11. Soups & sauces | 0.82 | -1.8 | -16.56\*\* | -2.62 | -17.38\*\* |
| **Total All Foods** | **14.84\*\*** | **0.06** | **-15.86\*\*** | **-14.78\*\*** | **-30.70\*\*** |
| **BEVERAGES** | | | | | |
| 12. Dairy drinks | 5.56 | 5.23 | -7.19 | -0.33 | -12.75\*\* |
| 13. Other beverages | 22.59\*\* | 25.10\*\* | -9.00\*\* | 2.51 | -31.59\*\* |
| 14. Sodas | 29.17\*\* | 29.51\*\* | -4.17\*\* | 0.35 | -33.33\*\* |
| 15. 100% Juice | 96.88\*\* | 95.84\*\* | 94.81\*\* | -1.04 | -2.08\* |
| **Total All Beverages** | **39.95\*\*** | **40.50\*\*** | **19.77\*\*** | **0.549** | **-20.19\*\*** |
| **TOTAL FOOD & BEVS** | **20.26\*\*** | **8.79\*\*** | **-8.17\*\*** | **-11.47\*\*** | **-28.43\*\*** |

NPM – Nutrient profiling model; CAM – Chile adjusted model; SA HNC – South African health and nutrition claims; CWO – Chile warning octagon 2019; PAHO – Pan American Health Organization

\*p<0.05 \*\*p<0.01

Appendix 2. Comparison in mean number of products with “excess nutrients” of South African pre-packaged foods and beverages that are non-compliant per nutrient profiling model overall; for foods and beverages; and by select categories (using ttest in Stata)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Difference in mean number of products with “excess nutrients”** | | |
| **CAM NPM as reference** | | **CWO 2019 NPM as reference** |
| **CAM – CWO 2019** | **CAM - PAHO** | **CWO 2019 - PAHO** |
| **FOODS** | | | |
| 1. Breakfast cereals | -0.856\*\* | -0.300\*\* | 0.555\*\* |
| 2. Cereals & cereal products | -0.154\*\* | -1.075\*\* | -0.921\*\* |
| 3. Confectionary & Desserts | -0.688\*\* | -0.517\*\* | 0.172\*\* |
| 4. Dairy | -0.005 | -1.235\*\* | -1.230\*\* |
| 5. Fruits | -1.020\*\* | -0.061\*\* | 0.041 |
| 6. Vegetables | -0.008 | -0.982\*\* | -0.975\*\* |
| 7. Legumes | -0.030 | -1.010\*\* | -0.980\*\* |
| 8. Mixed dishes | -0.087\*\* | -1.759\*\* | -1.672\*\* |
| 9. Protein | -0.116\*\* | -1.515\*\* | -1.399\*\* |
| 10. Snack foods | -0.707\*\* | -0.425\*\* | 0.282\*\* |
| 11. Soups & sauces | -0.343\*\* | -1.200\*\* | -0.857\*\* |
| **Total All Foods** | **-0.328\*\*** | **-0.934\*\*** | **-0.606\*\*** |
| **BEVERAGES** | | | |
| 12. Dairy drinks | 0.062 | -0.605\*\* | -0.667\*\* |
| 13. Other beverages | 0.439\*\* | -0.494\*\* | -0.933\*\* |
| 14. Sodas | 0.549\*\* | -0.528\*\* | -1.076\*\* |
| 15. 100% Juice | 0.958\*\* | 0.935\*\* | -0.023\* |
| **Total All Beverages** | **0.519\*\*** | **-0.146\*\*** | **-0.665\*\*** |
| **TOTAL FOOD & BEVERAGES** | **-0.145\*\*** | **-0.764\*\*** | **-0.619\*\*** |

NPM – Nutrient profiling model; CAM – Chile adjusted model; CWO 2019 – Chile warning octagon 2019; PAHO – Pan American Health Organization

\*p<0.05 \*\*p<0.01

Appendix 3. Pairwise k values for the four nutrient profiling models

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | **CAM** | | **SA HNC** | | **PAHO** | |
| **CWO 2019** | **Food** | | 0.9176 (Almost perfect) | | 0.5517 (Moderate) | | 0.4814 (Moderate) | |
| **Beverages** | | 0.2715 (Fair) | | 0.8829 (Almost perfect) | | 0.6025 (Moderate) | |
| **All** | | 0.7349 (Substantial) | | 0.6370 (Substantial) | | 0.5501 (Moderate) | |
| **CAM** | **Food** | | - | | 0.5417 (Moderate) | | 0.5310 (Moderate) | |
| **Beverages** | | - | | 0.1909 (Slight) | | 0.2941 (Fair) | |
| **All** | | - | | 0.4501 (Moderate) | | 0.4573 (Moderate) | |
| **HNC** | **Food** | | - | | - | | 0.2538 (Fair) | |
| **Beverages** | | - | | - | | 0.5278 (Substantial) | |
| **All** | | - | | - | | 0.3398 (Fair) | |
| Level of agreement using the Kappa statistic | | | | | | | | |
| Slight:  0.0-0.20 | | Fair:  0.21-0.40 | | Moderate:  0.41-0.60 | | Substantial:  0.61-0.80 | | Almost perfect:  0.81-0.99 |

CAM – Chile adjusted model; SA HNC – South African health and nutrition claims; PAHO – Pan American Health Organization; CWO 2019 – Chile warning octagon 2019