Additional File 8. Regression coefficients and adjusted ${ }^{\text {a }}$ odds ratios of diet-related cardiometabolic multimorbid households relative to 100 kcal per capita, per month, estimated by various residual models ${ }^{\mathrm{b}}$, for purchases from 3 calorie sources, fiber, sodium, and calories from all food \& drinks ${ }^{\mathrm{c}}$ and when grouped into perceived healthy ${ }^{\text {d }} \&$ unhealthy ${ }^{\text {e }}$ when including baked goods/desserts and candy/confectionary items

|  |  | Included | $\begin{aligned} & \text { B x } 100 \\ & \text { kcal } \end{aligned}$ | Odds <br> Ratio | Standard Error | $\mathbf{9 5} \%$ Confidence Interval | P Value |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Across all 15 Food \& Drink Categories |  |  |  |  |  |  |  |
|  | Excluded | Fat | 0.01 | 1.01 | 0.00 | 1.00, 1.02 | $0.002^{\text {g }}$ |
| Model 1 | Protein | Carbohydrates | 0.01 | 1.01 | 0.00 | 1.00, 1.02 | $0.000^{\mathrm{g}}$ |
|  |  | Fiber Residual | -0.03 | 0.97 | 0.01 | 0.95, 0.99 | $0.007{ }^{\text {g }}$ |
|  |  | Sodium Residual | 0.11 | 1.12 | 0.01 | 1.01, 1.15 | $0.000{ }^{\text {g }}$ |
|  |  | Calories | 0.00 | 1.00 | 0.00 | 1.00, 1.00 | $0.000{ }^{\text {g }}$ |
|  |  |  |  |  |  |  |  |
| Model 2 | Carbohydrates | Fat | -0.00 | 0.99 | 0.00 | 0.99, 1.00 | 0.546 |
|  |  | Protein | -0.01 | 0.99 | 0.00 | 0.98, 1.00 | $0.003{ }^{\mathrm{g}}$ |
|  |  | Fiber Residual | -0.03 | 0.97 | 0.01 | 0.95, 0.99 | $0.011^{\mathrm{g}}$ |
|  |  | Sodium Residual | 0.11 | 1.11 | 0.01 | 1.09, 1.14 | $0.000{ }^{\text {g }}$ |
|  |  | Calories | 0.00 | 1.00 | 0.00 | 1.00, 1.00 | $0.000{ }^{\text {g }}$ |
|  |  |  |  |  |  |  |  |
| Model 3 | Fat | Protein | -0.01 | 0.99 | 0.00 | 0.98, 1.00 | 0.031 |
|  |  | Carbohydrates | 0.00 | 1.00 | 0.00 | 0.99, 1.01 | 0.256 |
|  |  | Fiber Residual | -0.03 | 0.97 | 0.01 | 0.95, 0.99 | $0.006^{\text {g }}$ |
|  |  | Sodium Residual | 0.11 | 1.12 | 0.01 | 1.09, 1.14 | $0.000{ }^{\text {g }}$ |
|  |  | Calories | 0.00 | 1.00 | 0.00 | 1.00, 1.00 | $0.000{ }^{\text {g }}$ |
| Across Perceived Healthy Food \& Drink Categories |  |  |  |  |  |  |  |
|  | Excluded | Fat | -0.00 | 0.99 | 0.01 | 0.99, 1.01 | 0.833 |
| Model 1a | Protein | Carbohydrates | -0.00 | 0.99 | 0.01 | 0.99, 1.01 | 0.799 |
|  |  | Fiber | -0.02 | 0.98 | 0.01 | 0.96, 1.00 | 0.092 |
|  |  | Sodium | 0.08 | 1.08 | 0.01 | 1.06, 1.12 | $0.000{ }^{\text {g }}$ |
|  |  | Healthy Calories | 0.00 | 1.00 | 0.00 | 1.00, 1.00 | 0.184 |
|  |  |  |  |  |  |  |  |
| Model 2a | Carbohydrates | Total Fat | 0.00 | 1.000 | 0.00 | 0.99, 1.01 | 0.992 |
|  |  | Protein | 0.00 | 1.002 | 0.01 | 0.99, 1.01 | 0.751 |
|  |  | Fiber | -0.02 | 0.981 | 0.01 | 0.96, 1.00 | 0.067 |
|  |  | Sodium | 0.08 | 1.085 | 0.01 | 1.06, 1.11 | $0.000^{\mathrm{g}}$ |
|  |  | Healthy Calories | 0.00 | 1.001 | 0.00 | 1.00, 1.00 | 0.184 |
|  |  |  |  |  |  |  |  |
| Model 3a | Fat | Protein | 0.00 | 1.00 | 0.01 | 0.99, 1.01 | 0.776 |
|  |  | Carbohydrates | 0.00 | 1.00 | 0.00 | 0.99, 1.01 | 0.986 |
|  |  | Fiber | -0.02 | 0.99 | 0.01 | 0.96, 1.00 | 0.080 |
|  |  | Sodium | 0.08 | 1.09 | 0.01 | 1.06, 1.11 | $0.000^{\mathrm{g}}$ |
|  |  | Healthy Calories | 0.00 | 1.00 | 0.00 | 1.00, 1.00 | 0.183 |
| Across Perceived Unhealthy Food \& Drink Categories |  |  |  |  |  |  |  |
|  | Excluded | Fat | 0.04 | 1.04 | 0.01 | 1.02, 1.06 | $0.000{ }^{\text {g }}$ |
| Model 1b | Protein | Carbohydrates | 0.04 | 1.04 | 0.01 | 1.02, 1.05 | $0.000{ }^{\text {g }}$ |
|  |  | Fiber | -0.00 | 0.99 | 0.01 | 0.98, 1.02 | 0.825 |
|  |  | Sodium | 0.11 | 1.13 | 0.01 | 1.01, 1.16 | $0.000^{\text {g }}$ |


|  |  | Unhealthy Calories | 0.00 | 1.00 | 0.00 | 1.001, 1.002 | $0.000^{\text {g }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Model 2b | Carbohydrates | Fat | -0.00 | 0.99 | 0.00 | 0.99, 1.00 | 0.469 |
|  |  | Protein | -0.04 | 0.97 | 0.01 | 0.95, 0.99 | $0.001{ }^{\text {g }}$ |
|  |  | Fiber | -0.01 | 0.99 | 0.00 | 0.97, 1.01 | 0.374 |
|  |  | Sodium | 0.12 | 1.12 | 0.02 | 1.09, 1.16 | $0.000^{\mathrm{g}}$ |
|  |  | Unhealthy Calories | 0.00 | 1.00 | 0.00 | 1.00, 1.00 | $0.000^{\mathrm{g}}$ |
| Model 3b | Fat | Protein | -0.03 | 0.97 | 0.01 | 0.95, 0.99 | $0.004{ }^{\text {g }}$ |
|  |  | Carbohydrates | 0.00 | 1.00 | 0.00 | 0.99, 1.01 | 0.214 |
|  |  | Fiber | -0.01 | 0.99 | 0.01 | 0.97, 1.01 | 0.380 |
|  |  | Sodium | 0.12 | 1.12 | 0.02 | 1.09, 1.16 | $0.000^{\mathrm{g}}$ |
|  |  | Unhealthy Calories | 0.00 | 1.00 | 0.00 | 1.00, 1.00 | $0.000^{\mathrm{g}}$ |

${ }^{\text {a }}$ Models adjusted for household size, head(s) of household BMI, maximum age for head(s) of household, self-identified race/ethnicity of household, maximum education attainment for head(s) of household, household income, marital status, physical activity, year of data collection, and average total calories per capita available from categories of packaged foods and drinks perceived to be healthy and unhealthy in the home each month
${ }^{\mathrm{b}}$ Nutrient residuals for energy bearing nutrients computed using linear regression: kcal of each nutrient over all packaged foods and drinks purchased per month was regressed on the average total calories over all packaged foods and beverages purchased per month. Nutrient residuals are independent of total calories. Point estimates for nutrient residuals reflect a 100-kcal per capita increase. For perceived healthy and unhealthy food and drink categories, the same methods described above were used, separately for healthy and unhealthy categories
${ }^{\text {c }}$ Nutrient residuals for sodium and fiber computed using linear regression: grams (or milligrams) of each nutrient over all packaged foods and drinks purchased per month was regressed on the average total calories over all packaged foods and drinks purchased per month. Nutrient residuals are independent of total calories. Point estimates for nutrient residuals reflect an increase per each 0.5 standard deviation per each residual. For sodium and fiber from perceived healthy and unhealthy food and drink categories, the same methods described above were used, separately for healthy and unhealthy categories
${ }^{\mathrm{d}} 15$ food categories include: CSDs, cereals, crackers, ice cream, milk, juices, salty snacks, soup, cheese, cookies, frozen dinners, processed meats, yogurt, baked goods/desserts, candy/confectionary
${ }^{\mathrm{e}}$ Perceived Healthy= Cereal, cheese, crackers, juices, milk, soup, and yogurt
${ }^{\mathrm{f}}$ Perceived Unhealthy= cookies, CSDs, ice cream, frozen dinners, processed meats, salty snacks, baked goods/desserts, and candy/confectionary
${ }^{\mathrm{g}}$ Statistically significant using Holm's step-down approach for multiple comparisons

