Amazon’s slashing of selected Whole Foods prices is supposed to bring organic nutrient-rich foods within the reach of the average consumer.

The Seattle Obesity Study (SOS), funded by National Institutes of Health, has been exploring affordability of healthy foods for the past decade. We have collected food prices from Seattle supermarkets including QFC, Safeway, and Whole Foods.

We have also developed metrics of energy density, nutrient density and affordability. Energy density is calories per gram: butter is energy dense, lettuce is not. Nutrient density is measured in nutrients per calorie: baby kale is nutrient-rich, sugary drinks are not.

The problem is that nutrient-rich foods cost more, sometimes much more, than do empty calories. A comparison of newly reduced Whole Foods prices with the corresponding products from Safeway shows that the same price hierarchy holds in both stores.

Exhibit 1 shows the relation between Amazon’s reduced prices (x-axis) and Safeway prices (y-axis) per 100 kcal of food. An average person needs 2000 kcal per day to maintain body weight. The scale is logarithmic, meaning that each increment reflects a tenfold increase in price. The size of the bubble denotes nutrient density, measured using the Nutrient Rich Foods (NRF9.3) nutrient profiling system. The most affordable foods on the left were not always equally nutrient-rich.

No matter where you shop, organic baby kale and responsibly farmed Atlantic salmon cost more than apples and bananas do. That is the way it is.

Applying the NRF9.3 algorithm to Amazon foods showed that the most nutrient-rich foods had the lowest price drop. Organic baby lettuce and organic baby kale dropped by 7%, whereas the already affordable bananas dropped by 33%. Nutrient profiling methods could guide future price interventions. Surveys of consumption frequency could also play a role.
Exploring whether health disparities are driven by inequitable access to healthy foods is one mission of the UW Center for Public Health Nutrition. The goals of the Food and Fitness sequence of studies are to understand the links between urban form and the food environment and diets and health.

The SOS team has also developed methods to assess the price of a market basket across supermarket chains as well as new procedures to estimate the monetary cost of individual diets.

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