Emerging opportunities for monitoring the nutritional content of processed foods1,2

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For almost a century, cardiovascular disease has been the number one cause of death in the United States, and hypertension is a leading risk factor. The relation between sodium intake and blood pressure is positive, continuous, and well established (1) as is the need to reduce population sodium intake to lower blood pressure and save lives (1, 2). Although sodium reduction efforts were first introduced 30 y ago in the United States, the average daily adult intake far exceeds the recommended daily limit of 2300 mg/d and is ≥2 times the recommended limit of 1500 mg/d for those with hypertension, who are black, and/or who are middle-aged and older (3). These groups represent ~70% of US adults (4). Attempts to meaningfully reduce intake by changing individual behavior have been largely unsuccessful (5), likely because three-quarters of dietary salt comes from packaged and restaurant foods (6).

These findings in the United States, and similar concerns around the world, are the basis for broad public health efforts designed to decrease involuntary population sodium intake by promoting industry reductions in the sodium content of processed foods. One such model, the UK Salt Reduction Campaign (7) [and the basis for initiatives in the United States (8), Canada (9), and soon in Australia (10)], includes assessing baseline sodium amounts in processed food, establishing voluntary industry sodium reduction targets by food category, and monitoring progress over time. In all of these countries, existing publicly available nutrition databases were not sufficient for the effort, prompting the creation of new information systems to assess that which is arguably most germane to nutritional intake—the food supply itself. These systems present new opportunities for assessing and monitoring the nutritional content of processed foods.

In this issue of the Journal, Webster et al (10) describe a system designed to support an Australian sodium reduction initiative. It includes a nutrition database with information for 7221 individually packaged food items, and the authors present a categorization scheme to assess mean sodium concentration of processed foods available in Australia.

Conceptually simple in design, the power of this database lies in its ability to capture, assess, and track sodium content changes by individual branded products, by company and by food category, for a large proportion of food items available to the nation’s population. Although the system was created to support a sodium reduction initiative, the addition of all publicly reported nutrients in such databases (eg, energy/calories, saturated and trans fatty acids, etc) could further expand their descriptive and analytic value to a broader spectrum of population nutrition concerns.

The value of these information systems may also extend beyond national boundaries. Webster et al (10) used their database to compare Australian baseline category means with UK sodium targets. The contemporaneous introduction of these information systems in multiple countries creates the opportunity to propose further analyses, including through aggregating multicountry baseline and monitoring data. Such information is relevant because food manufacturing is increasingly dominated by a limited number of corporations, and it can provide a measure of individual and collective industry prioritization regarding processed food nutrition.

Whereas similarities in these information systems can facilitate cross-national analysis, the availability of specific types of data will vary by country. Such variation will likely add analytic complexity as well as opportunities to examine improved design. In 2008, the New York City (NYC) Health Department, in partnership with now >40 city and state health departments and health organizations across the country, launched the National Salt Reduction Initiative (NSRI). Informed by the UK model, the goal of the NSRI is to achieve a 20% reduction in population sodium intake in 5 y (8). To support the assessment and monitoring needs of the NSRI, the NYC Health Department conducted a search of existing national nutrition databases. The US Department of Agriculture’s National Nutrient Database for Standard Reference is the basis for most public food composition databases (11). The most recent release contains data on >7500 food items. Whereas impressive in breadth and increasingly diverse with respect to restaurant and ethnic foods, the

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methodology of data collection does not allow for consistent tracking of the nutrition content of individual branded products.

Similar to Australia, the NYC Health Department created an NSRI packaged food database. Although Webster et al (10) note the limited availability of individual product sales data for their system, branded product sales data were readily available in the United States. Linked by Universal Product Code (UPC) to nutrition data as reported on the Nutrition Facts panel, the NSRI database currently has ~6000 products that are in the top 80% of sales by food category and that have complete sales and nutrition information.

The addition of individual product sales data is an example of country-specific data variation and is worthy of further comment as it relates to food category target setting and monitoring. When the sodium content of the market leader in a category deviates from the nonweighted mean of products in that category, that product will heavily influence the sales-weighted mean. Sodium reduction in market leaders will have a greater effect on reducing the sales-weighted mean—and thus population sodium intake. Whereas Webster et al (10) have shown that product-level sales data are not essential to guide national efforts, their inclusion in the NSRI packaged food database was an important addition and helped guide the setting of proposed targets and industry discussions. When used for monitoring changes over time, sales-weighted data will more closely reflect changes in population exposure as compared with changes on the basis of unweighted data. As these information systems continue to evolve, such variations in approach and data elements are expected by country and will be important to assess.

A reduction in population sodium intake is a global public health priority (2). Recent initiatives have led to the creation of new information systems. Webster et al (10) have provided important documentation of a system designed to describe and track the sodium content of a national food supply—one which may inform future innovations and provide an expanded understanding of the nutritional content of the food supply.

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REFERENCES