

## **Prototype FNDDS: Branded Foods Database for Public Health, Proof of Concept**

A public-private partnership was established to augment the USDA's food composition data with nutrition label data for branded food products utilizing GS1 standards ([www.gs1.org](http://www.gs1.org)). The partnership is composed of:

- International Life Sciences Institute (ILSI) North America ([www.ilsi.northamerica.org](http://www.ilsi.northamerica.org))
- Agricultural Technology Innovation Partnership (ATIP) Foundation ([www.atipfoundation.com](http://www.atipfoundation.com))
- Agricultural Research Service (ARS), USDA

A proof of concept for a selection of food products was initiated to test the acquisition and transfer of data into USDA public access databases. The proof of concept data have been incorporated into a prototype Food and Nutrient Database for Dietary Studies (FNDDS). The purpose of this prototype is to exhibit the approach for incorporation of the Branded Foods Database into FNDDS and is not intended for use at this time in the What We Eat in America, NHANES survey.

### **Prototype Variables**

Data provided by GS1 (highlighted in blue throughout the document) have been added as new variables or incorporated into existing variables in the FNDDS database directly or with modification.

New variables:

- Global Trade Identification Number (GTIN): unique product identifier for each item
- Brand name
- Manufacturer
- Preparation state
- Ingredients

Existing variables in which GS1 data added directly:

- Main food description is Product long name.
- Start date is Item availability date (also appears in Food Weights and Nutrient Values files).
- End date is Discontinue date (also appears in Food Weights and Nutrient Values files).

Existing variables in which GS1 data added with modification:

- Prototype FNDDS code: unique eight-digit code assigned to each item. The first digit (1-9) represents a main FNDDS food group provided below. The second digit is assigned '9' for every item, and the remaining 6 digits are sequential numbers.

1-Milk and Milk Products

2-Meat, Poultry, Fish, and Mixtures

3-Eggs

4-Dry Beans, Peas, Other Legumes, Nuts, and Seeds

5-Grain Products

6-Fruits

7-Vegetables

8- Fats, Oils, and Salad Dressings

9-Sugars, Sweets, and Beverages

- Portion code and description: FNDDS portion that matches the common household measure or unit in Household serving size
- Portion weight: calculation by adjusting Serving size (grams) for the amount in Household serving size

### **Nutrient Values**

FNDDS includes values for energy and 64 other nutrients on a 100 gram basis. In order to incorporate the nutrient data from GS1, select conversions and imputations were required.

- **Nutrient conversions:**
  - Nutrients provided as an amount per serving were converted to per 100 grams.
  - Nutrients provided as a %RDI per serving were first converted to an amount per serving and then converted to per 100 grams.
- **Nutrient imputations:** nutrients values not provided for the item, or not provided in a form able to be incorporated into FNDDS (e.g. Vitamin A and E in IU), were assigned based on closest food description from FNDDS 2011-2012 (1) or the National Nutrient Database for Standard Reference 26 (SR26) (2).

***Please note: Nutrient values not provided by GS1 and imputed from the closest match are being used for this prototype to provide the complete profile of energy and 64 nutrients. Plans are for nutrient values not provided by GS1 to be provided by the USDA, Nutrient Data Laboratory enhanced formulation program when available.***

- **Nutrient source:** new variable that identifies the source of each nutrient
  - GS1-Amount
  - GS1-RDI
  - FNDDS 2011-2012
  - SR26
- **Nutrient source code:** new variable that identifies the FNDDS 2011-2012 or the SR26 NDB number used to assign missing nutrient values

### **Prototype FNDDS Availability: FSRG website [www.ars.usda.gov/nea/bhnrc/fsrg](http://www.ars.usda.gov/nea/bhnrc/fsrg)**

- Prototype ***What's In the Foods You Eat Search Tool***. A search program that allows a user to easily find information on the nutrient content of the foods by searching on product description/name, brand, or manufacturer.
- Download as a Microsoft Access® database. Also available are GS1 data as Microsoft Excel® spreadsheets.

### **References**

1. U.S. Department of Agriculture, Agricultural Research Service. 2014. *USDA Food and Nutrient Database for Dietary Studies 2011-2012*. Food Surveys Research Group Home Page, [www.ars.usda.gov/nea/bhnrc/fsrg](http://www.ars.usda.gov/nea/bhnrc/fsrg). Accessed 2015 Jan 16.
2. U.S. Department of Agriculture, Agricultural Research Service, Nutrient Data Laboratory. 2013. *USDA National Nutrient Database for Standard Reference, Release 26*. Nutrient Data Laboratory Home Page, [www.ars.usda.gov/nea/bhnrc/ndl](http://www.ars.usda.gov/nea/bhnrc/ndl). Accessed 2015 Jan 16.