Data Collection Worksheet

Please Note: The Data Collection Worksheet (DCW) is a tool to aid integration of a PhenX protocol into a study. The PhenX DCW is not designed to be a data collection instrument. Investigators will need to decide the best way to collect data for the PhenX protocol in their study. Variables captured in the DCW, along with variable names and unique PhenX variable identifiers, are included in the PhenX Data Dictionary (DD) files.

Traditional Retail Food Environment Index

Accessing Food Store Data at the County Level

All county-level food-store data is sourced from the Food Environment Atlas found at https://www.ers.usda.gov/data-products/food-environment-atlas/data-access-and-documentation-downloads/. An excel file can be downloaded to further extract data at a county level.

According to the U.S. Census Bureau, County Business Patterns, the following food environment variables are defined as:

Grocery Stores - The number of supermarkets and grocery stores in the county. Grocery stores include establishments generally known as supermarkets and smaller grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry.

Fast Food Restaurants - The number of limited-service restaurants in the county. Limited-service restaurants include establishments primarily engaged in providing food services where patrons generally order or select items and pay before eating. Food and drink may be consumed on premises, taken out, or delivered to the customer's location.

Convenience Stores/Food Marts - The number of convenience stores in the county. Establishments known as convenience stores or food marts are primarily engaged in retailing a limited line of goods that include soda, snack foods, etc.

Calculating the Traditional Retail Food Environment Index

After downloading the data for a given county, the traditional Retail Food Environment Index may then be calculated as follows:

Traditional Retail Food Environment Index (RFEI) =

(Fast Food / Limited Service Establishments + Convenience Stores) / (Grocery Stores / Super Markets)

Additional information may be found in the related publication at: https://dx.doi.org/10.3390%2Fijerph14111366

The RFEI can be categorized as following:

800 m buffer:

below 3.0

3.0 – 4.9

5.0 and above

1600 m buffer

below 6.0

6.0 – 9.9

10.0 and above

The number indicates the times greater of unhealthy food access (i.e. a RFEI of 3 indicates there are 3 times more unhealthy food retailers vs healthy food retailers in a given radius). A higher RFEI has been correlated with a higher obesity rate compared to a lower RFEI.