Health Status and Food Environment

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- The motivation for this project
    - Have a brief understanding of food environment in USA (April 1, 2014 - February 7, 2017);
    - Probe into the relationship between food-related factors and diabetes/obesity rate;
    - Investigate the association between social economic factors, such as income, and diabetes/obesity rate;
    - Inspect the change of participants in National School Lunch Program, School Breakfast Program and Summer Food and their possible relationship with food accessibility.

- The intended final products
    - Show the food-related factors that are associated with diabetes/obesity rate and how they are associated with statistical methods;
    - Visualize of diabetes/obesity rate change over years and factors related to them;
    - Visualize of participants number change in School Lunch Program, School Breakfast Program and Summer Food over years.

- The anticipated data sources
    - The dataset we would like to use is *Food Environment Atlas* which can be found on data.gov.
    - https://catalog.data.gov/dataset/food-environment-atlas-f4a22

- The planned analyses / visualizations / coding challenges
    - Visualize the relationship between food-related factors and diabetes/obesity rate using plot, such as scatterplot, boxplot, and then analyzing the data using statistical test, such as t test, ANOVA;
    - Visualize the change of diabetes/obesity rate over years using barplot or spaghetti plot;
    - Visualize the change of participants number in School Lunch Program, School Breakfast Program and Summer Food over years using barplot or spaghetti plot;

    - The dataset we found is pretty clean but complicated. The challenges include how to extract useful information and find association;
    - Summarize our final findings in the web page in a brief and clean way.

- The planned timeline
    - **Nov. 17 - 19:** Clean the data, briefly investigate into related datasets, select and combine some datasets for further research and visualize the relationship of important variables;
    - **Nov. 20 - 26:** Perform data analysis on identified variables, and making plots;
    - **Nov. 27 - 30:** Answer questions in the motivation part and inspect other interesting patterns in the dataset with R coding and statistical methods;
    - **Dec 1. - Dec. 4:** Reorganize R Markdown file and proof-reading;
    - **Dec 5. - Dec. 8:** Make Web Page and screencast.