Selecting the “Best” Food Fortification Plan
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Introduction
Typical Food Fortification Plan:
• One or more nutrients are added to food vehicles in order to increase the supply of the nutrient in the population

Food Fortification Plan Goal:
• Reduce the proportion of the population with inadequate/excessive nutrient consumption, at a reasonable cost

Our Objective:
• Propose a method to select the optimal amount of nutrient to add to a set of promising vehicles so that a target prevalence of inadequacy/excess in the population can be met, at minimal cost (i.e. select the “best” plan)

Data Collection and Description

Food Fortification Plan Considerations

Conclusions for selecting a food fortification plan:
1. Select a goal for nutrient inadequacy/excess in the target population (e.g. inadequacies and excesses not to exceed 5%, respectively)
2. Select candidate food vehicles for food fortification
3. Determine food fortification limits for each food vehicle
4. Select the amount of fortificant to add to each food vehicle

The fourth step defines a fortification plan

Approaches to Plan Selection

Current Approach:
Manual select candidate food fortification plan. Check to see if the plan effectively achieves the goal. drawbacks of this approach include:
1. Guess and check
2. Time consuming
3. Cost of plan not considered

Our Approach:
For a given goal, automatically select the food fortification plan, amongst all possible plans, that achieves the goal for minimal cost. Steps to execute our approach:
1. Select candidate food fortification plans
2. Estimate prevalence of nutrient inadequacy/excess under fortification, via the methodology proposed by Nusser et. al., 1996
3. Amongst candidate plans, employ a genetic search algorithm to propose new and better candidate plans
Repeat steps 2 and 3 until convergence.

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For Further Information
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