Nutrition Informatics & Understanding Child Hunger

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APRIL 19, 2017

Definitions

Nutrition informatics: **the effective retrieval, organization, storage, and optimum use of information, data, and knowledge for food- and nutrition-related problem solving and decision-making**

USDA Levels of Food Security	Description
High food security	No reported indications of food-access problems or limitations.
Marginal food security	One or two reported indications—typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake.
Low food security	Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.
Very low food security	Reports of multiple indications of disrupted eating patterns and reduced food intake.

Applications of Nutrition Informatics

Community Nutrition
- Foodborne illness outbreaks
- Population Food intake analysis
- Communication with patients and providers via EHR

Clinical Nutrition
- Clinical documentation via EHR
- CDSS tools and alerts
- Remote care and telemedicine

Consultation and Business
- Cost-benefit analysis for efficiency
- Financial management
- Supply chain management

Food and Nutrition Management
- Menu planning
- Future trend predictive analytics
- Policy development based on workflow analysis

Education
- Professional course development
- Tracking student progress

Secondary Use
- Access to large, shared databases
- Web-based search tools
- Integration of genomics and metabolomics

Source: Academy of Nutrition and Dietetics

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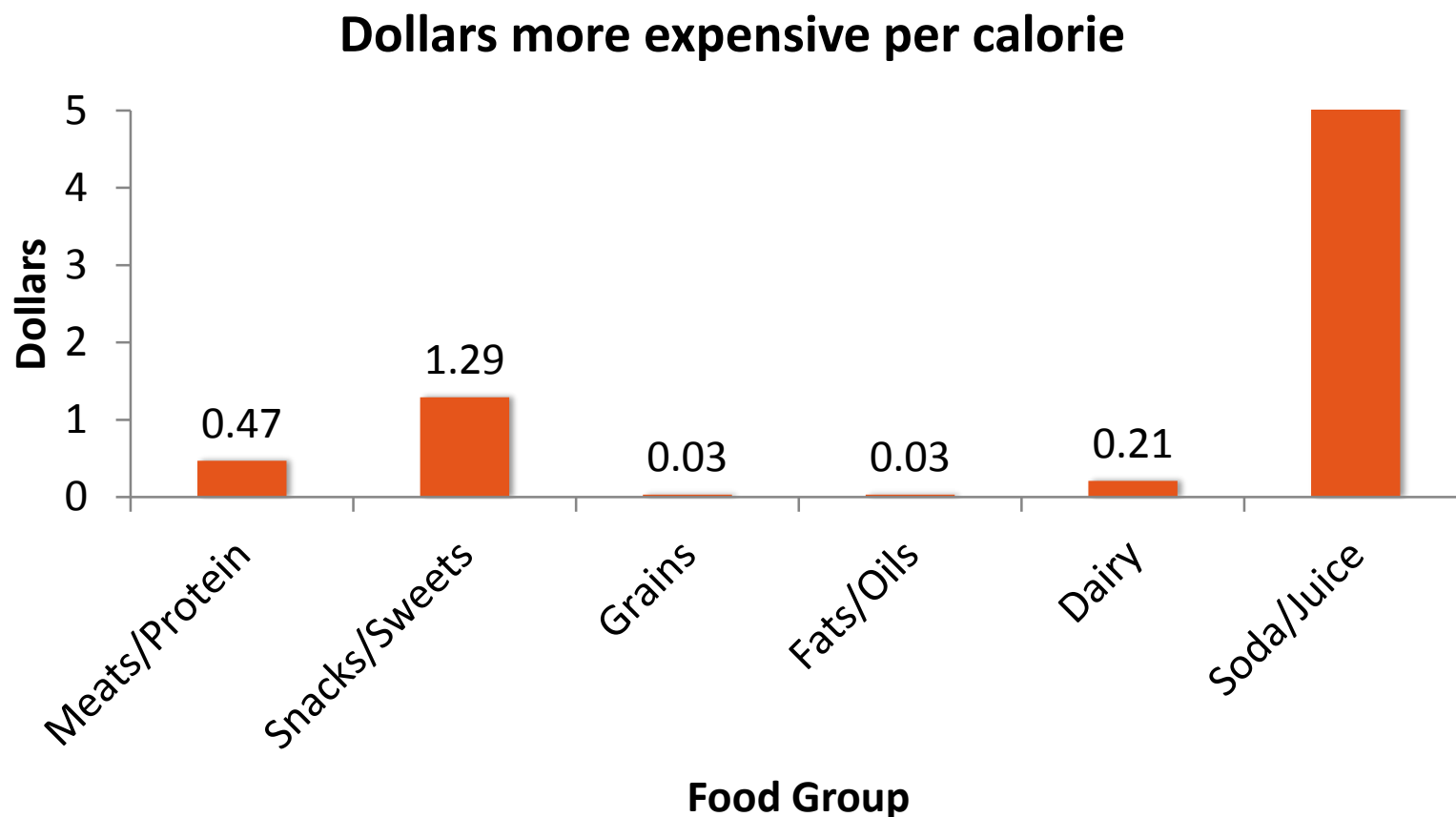- Integration of genomics and metabolomics

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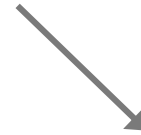
Fighting Child Hunger

Tableau Public Analyses (Early Stage)

Price Differences in Healthy vs Unhealthy Food in each Food Group

Dollars more expensive per calorie

Source: Rao, et al, 2013

Education and Call-To-Action

Future Work

- **Data collection and analysis of food insecure children's diets**

- **Analysis of typical empty calorie diet vs. healthy calorie diet percentages**

- **ArcGIS analysis of North Carolina Food banks**

References

USDA. "Definitions of Food Security." *Definitions of Food Security*. N.p., 4 Oct. 2016. Web. 19 Apr. 2017.

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Rao M, Afshin A, Singh G, et al Do healthier foods and diet patterns cost more than less healthy options? A systematic review and meta-analysis BMJ Open 2013;3:e004277. doi: 10.1136/bmjopen-2013-004277