Impact Outcomes and Theory of Change: 2019

WHO WE ARE
Project GROWS is an educational, nonprofit organization with a mission to improve the health of children and youth in Staunton, Waynesboro, and Augusta County, Virginia through garden-based education and access to healthy food. We believe all youth deserve a healthy life and future.

MISSION: To improve the health of children and youth in Staunton, Waynesboro, and Augusta County

ULTIMATE IMPACT: Children in our community are healthy, and are encouraged and supported to make healthy choices both at school, in the community, and at home.

OUTCOMES: Long Term:

1. **Children's obesity rates lower over time** (MEASURE: indicated by BMI data collected in partnership with school systems and Augusta Health)
2. **Individuals and families of all socioeconomic levels have easy access to healthy food** (community-level change)(MEASURE: SNAP/WIC Redemption at Markets; surveys)
3. **Healthy eating becomes a norm in schools and at home** (systems/institution change)(MEASURE: Healthy School Progress Report and Educator/Youth Food Frequency Questionnaire)

OUTCOMES: Intermediate/Short Term:

4. **Children and youth eat 5 or more servings of fruits and vegetables per day** (individual behavior) (MEASURE: Healthy School Progress Report & Fruit and Vegetable Recall Questionnaire or Youth Food Frequency Questionnaire)
5. **Children and youth develop willingness to try new vegetables and preference for vegetables** (individual attitude/belief)(MEASURE: Healthy School Progress Report and Youth Food Frequency Questionnaire)
6. **Children and youth know where their food comes from** (MEASURE: number of school gardens, number of farm to school programs, number of kids visiting PG farm or markets, # of hours spent at farm, Healthy School Progress Report)
7. **Project GROWS is identified in our community as an essential, valuable, and inclusive resource for connecting people to the source of their food, the land, and each other**. (Healthy School Progress Report & Educator/Partner Surveys)

PURPOSE/IMPACT STATEMENT:
In pursuit of our mission to improve the health of local youth, Project GROWS supports and encourages kids to eat more vegetables in school and at home through hands-on, garden-based nutrition education and access to healthy food. Evidence-based research shows that exposure to produce through garden-based education can increase willingness to try new vegetables and preferences towards vegetables, which are some of the strongest predictors of a healthy diet*

***EVIDENCE-BASED RESEARCH**:

1. Gardening (as part of comprehensive nutrition education programming) increases vegetable consumption in children by:

    a. increasing access to vegetables and
    b. decreasing reluctance to try new foods
2. It takes between 6 and 15 exposures before a child will accept a new food (Exposures can include all sensory experiences of the vegetable. In other words, an "exposure" doesn't HAVE to be a tasting of the vegetable-- it could be touching it by planting it or harvesting it).
3. Children share their gardening experiences at home, and as a result, the home food environment may become increasingly supportive of fruit and vegetable consumption
4. Encouraging children to eat foods that are low in fat and nutrient-dense (such as fruits and vegetables) can help prevent excessive weight gain and reduce risk factors of chronic diseases.

VALUES AND ASSUMPTIONS

- Improving health is complex and requires collaboration and community engagement among diverse groups to leverage community resources
- Programs focusing on health prevention will lead to long-term, systemic change
- Prevention initiatives should address children, families, individuals, and community-level knowledge, attitude, behavioral, and system changes
- Root causes of inequity must be addressed in order to address health
- In order to reach low-income families and students, Project GROWS engages in population-based prevention efforts that reach and serve *all students*
- School-based programs play an important role in promoting lifelong healthy eating
- Hands-on garden-based learning + food access will lead to behavior change
- Peer to peer programing yields the highest retention of learning
- In addition to health, gardening has social, behavioral, and academic impacts as well
- Kids that have the opportunity to grow their food, love to eat it

STRATEGIES/PROGRAMS TO ADDRESS MISSION:

Farm: Hands-on Garden Field Trips, Summer Camps, and Garden Work Parties, Youth Garden Leaders
School: Farm to School Produce Tastings, Vegetable Wholesale to School Cafeterias, School Gardens
Home/Community: Cooking Classes (Youth and Family), Farmer's Market Programs (SNAP/Double Dollars - WIC Farmer's Market), Community Gardens, Community Supported Agriculture (CSA) Farm Share Program

TOOLS FOR MEASURING IMPACT

Project GROWS Youth Surveys
Project GROWS Cooking Class Surveys
SNAP/WIC Redemption Rates, # of Families/Individuals Served, Surveys
Augusta Health Community Health Needs Assessment
Youth Food Frequency Questionnaire (national resource)
Healthy School Progress Report and Evaluation: (Resource of Food Corps):

1. Hands-on Learning (gardening, nutrition, and cooking)
2. Healthy School Meals
3. Schoolwide culture of health

Virginia Tech Community Food Equity Assessment:
Smarter Lunchrooms (Cornell)

*See References

References

Heim, S., Bauer, K., Stang, J., & Ireland, M. (2011). Can a Community-based Intervention Improve the Home Food Environment? Parental Perspectives of the Influence of the Delicious and Nutritious Garden. Retrieved from https://doi.org/10.1016/j.jneb.2010.01.003

Langellotto, G. A., & Gupta, A. (2012). Gardening Increases Vegetable Consumption in School-aged Children: A Meta-analytical Synthesis, HortTechnology hortte, 22(4), 430-445. Retrieved Jan 16, 2019, from https://journals.ashs.org/view/journals/horttech/22/4/article-p430.xml

Robinson-O'Brien, R., Story, M., & Heim, S. (2009). Impact of Garden-Based Youth Nutrition Intervention Programs: A Review. Retrieved from https://doi.org/10.1016/j.jada.2008.10.051

Wardle, J., Cooke, L., Gibson, L., Sapochnik, M., Sheiham, A., & Lawson, M. (2003). Increasing children's acceptance of vegetables; a randomized trial of parent-led exposure. Retrieved from https://doi.org/10.1016/S0195-6663(02)00135-6

Additional References and Research:

Indicators for a Sustainable Food System: Colorado Farm to School and PDF: (IFPRI Sustainable Food Systems)

Repeated exposure and associative conditioning promote preschool children's liking of vegetables☆ StephanieAnzman-FrascaaJennifer S.SavageaMichele E.MariniaJennifer O.FisherbLeann L.Bircha.

https://www.sciencedirect.com/science/article/pii/S0195666311006416

Planet Health Study - Reducing TV time:
https://jamanetwork.com/journals/jamapediatrics/article-abstract/346206

Can a Community-based Intervention Improve the Home Food Environment? Parental Perspectives of the Influence of the Delicious and Nutritious Garden:
https://www.jneb.org/article/S1499-4046(10)00036-9/fulltext

ASKING BEHAVIOR AT HOME:

- Process evaluation results indicate children shared their garden experience at home, and as a result, the children's home food enviro. became increasingly supportive of FV consumption
- Parents reported an increase in the frequency that their child asked for FVs. Parental value for FV consumption also improved, as did home availability of fruit, vegetables, and parental encouragement of FV.
- Findings from this review suggest that garden-based nutrition intervention programs may have the potential to promote increased fruit and vegetable intake among youth and increased willingness to taste fruits and vegetables among younger children"
- "evaluation assessed fruit and vegetable exposure, preference, self-efficacy, asking behavior, and availability of fruits and vegetables in the home."

- Children reported high levels of enjoyment in the intervention activities. Most children (97.8%) enjoyed taste-testing fruits and vegetables. Children also liked preparing fruit and vegetable snacks (93.4%), working in their garden (95.6%), and learning about fruits and vegetables (91.3%). Impact data suggest that the intervention led to an increase in the number of fruits and vegetables ever eaten ($P<0.001$), vegetable preferences ($P<0.001$), and fruit and vegetable asking behavior at home ($P<0.002$).