

Final Report

Title:	GROW Healthy Kids and Communities: Generating Rural Opportunities for Weight-Healthy Kids and Communities		
Sponsoring Agency	NIFA	Project Status	COMPLETE
Funding Source	Non Formula	Reporting Frequency	Final
Accession No.	224323	Grants.gov No.	
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Project No.	ORER-2010-04614	Proposal No.	2010-04614
Project Start Date	02/01/2011	Project End Date	01/31/2017
Reporting Period Start Date	02/01/2011	Reporting Period End Date	01/31/2017
Submitted By		Date Submitted to NIFA	

Program Code: A2101**Program Name:** Childhood Obesity Prevention: Integrated**Project Director**

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Recipient Organization

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Co-Project Directors

Gunter, Katherine

Departments

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Non-Technical Summary

The problem of obesity in children is in the forefront of research efforts across disciplines. A plethora of data support that physical health outcomes such as metabolic, orthopedic, pulmonary and endocrine conditions and mental health outcomes such as sleep disorders, social exclusion, and depression are associated with obesity, and data are emerging that suggest childhood obesity is associated with poor academic performance. Many risk factors have been associated with children being overweight or obese, including rural residency. Attributes of the rural environment make it difficult for children to access and eat healthy foods, walk or bike to destinations and participate in physical activity and recreational sport programs. Furthermore, features of rural schools, particularly those in under-resourced communities, are such that students often face long bus commutes, minimal/no provision of health and physical education by certified teachers, and few resources to support health and/or enrich the academic environment. Rural community features pose unique challenges for rural residents that differ from those faced by individuals residing in more metropolitan regions. Nevertheless most evidence-based strategies to combat obesity have been developed and tested in non-rural settings. The overarching goal of the Generating Rural Options for Weight-Healthy Kids & Communities (GROW HKC) project is to prevent obesity in rural children. Toward this end, we will take a solution-focused, two-pronged approach. Our first aim is to understand the rural obesogenic environment. To do so Oregon State University (OSU) will partner with Extension Services in six Western States to engage rural people in community-based participatory research efforts to (1) assess features of rural communities that are viewed as obesity preventing/promoting, community resources and readiness to implement and support environmentally-based obesity prevention efforts, (2) create a database to aggregate the data from community assessments, and (3) develop a new eXtension Community of Practice as a vehicle to help practitioners and the public learn from our research findings. Our second aim is to plan, implement, and evaluate a multi-level intervention targeting rural home, school, and community behavioral settings to promote healthful eating and increase physical activity, and thus improve body mass index among rural children aged 5-8 years old (grades K-3). Toward this end, we will develop and test the GROW HKC obesity prevention program in rural communities from three counties in Oregon. Applying a "people and places" framework, our intervention will utilize evidence-based strategies to affect positive changes in person-level attributes and in family home, school, and community environments related to healthful eating and physical activity.

Accomplishments

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Major goals of the project

The goal of the Generating Rural Opportunities for Weight-Healthy Kids & Communities (GROW HKC) project is to prevent obesity in rural children. We will take a two pronged approach. Our first aim is to understand the rural obesogenic environment. To do so Oregon State University (OSU) will partner with Extension Services in six Western States to engage rural people in community-based participatory research efforts to: (Objective 1) assess features of rural communities that are viewed as obesity preventing/promoting, measure community resources and readiness to implement and support environmentally-based obesity prevention efforts, create a database to model the data from community assessments, and (Objective 2) develop a new eXtension Community of Practice as a vehicle to help practitioners and the public learn from our research findings. OUTPUTS: Initial outputs of Aim One activities will be addressed during project years 1-2 and will include: GROW HKC community-campus teams and trainers in Oregon and partnering Western states, community profile and plan inventory including narrative maps and environmental attributes, and an eXtension CoP interested in rural obesity prevention. Our second aim is to plan, implement, and evaluate a multi-level intervention targeting rural home, school, and community behavioral settings to promote healthful eating and increase physical activity, and thus improve body mass index among rural children aged 5-8 years old (grades K-3). Toward this end, we will develop and test the GROW HKC obesity prevention program in rural communities from three geographically diverse counties in Oregon. Our intervention will employ a "people and places" framework and utilize evidence-based strategies to affect positive changes in person-level attributes and in family home, school, and community environments related to healthful eating and physical activity. Aim 2 objectives include implementing and evaluating a comprehensive multi-level intervention (Objective 3) to promote healthy eating and increase physical activity on obesity (change in BMI) among rural kindergarten through 3rd grade children, and (Objective 4) to increase supports and remove barriers in home, school, and community food and physical activity environments. OUTPUTS: Outputs of Aim Two activities include: 1) improved children's knowledge, skills, dispositions, and healthful eating and physical activity behaviors; and 2) families, schools, and communities use GROW HKC strategies to improve home, school, and community food and physical activity environment. Long-term outcome of Aim Two is no change or improved BMI scores in rural children grades K-3.

What was accomplished under these goals?

We met aim one goals through partnerships with Cooperative Extension in Oregon and our 5 original partnering LGUs in WA, ID, CO, NV, NM, and new LGU partners in OH and SD. Our partnerships engaged rural populations in participatory research that (Objective 1) assessed features of rural communities experienced by residents as obesity preventing/promoting, measured community resources and readiness to implement and supported environmentally-based obesity prevention efforts. From these data, we have created a database and developed a model the data of the rural obesogenic context to support future interventions. We have developed online resources, webinars, interactive maps, and adopter trainings, (Objective 2) that will be available via eXtension as a vehicle to help practitioners and the public learn from our research findings. Our second aim was to plan, implement, and evaluate a multi-level intervention targeting rural home, school, and community behavioral settings to promote healthful eating and increase physical activity, and thus improve body mass index among rural children aged 5-8 years old (grades K-3). Toward this end, we developed an environmentally based, GROW HKC obesity prevention program, and tested the effectiveness of the program in rural communities (intervention n=3; comparison n=3) from three geographically diverse counties in Oregon. GROW HKC participatory research approach was effective in promoting sustainable policy, systems, and environmental changes in both intervention and comparison communities (estimated economic impact >\$700,000 of new healthy eating and physical activity resources) with greatest environmental changes occurring in intervention communities. However, changing the obesogenic context takes considerable time to occur even in communities that are ready for change, which most rural communities are not. And, measurable weight health impacts in a target population requires the audience be repeatedly and strongly exposed to new healthy eating and physical activity supports over sufficient time to maintain a balanced energy. Despite our significant accomplishments, and modest healthy eating and physical activity behavior improvements among subsets of children exposed to new environmental interventions, sustained, long term exposures to behavioral supports in all rural children's microenvironments (home, school, community) are needed to habitualize behavioral patterns that lead to measurable population-level weight health impacts.

What opportunities for training and professional development has the project provided?

HEAL MAPPS, SPAN-ET and BEPA Toolkit were adopted for inclusion in the USDA SNAP-Ed Obesity and Evaluation Toolkit 2016. HEAL MAPPS and SPAN-ET online courses are being developed and beta tested for publication fall 2017 to support national adoption and diffusion of innovation. BEPA Toolkit, SPAN-ET, and HEAL MAPPS trainings and professional development workshops have been provided by project staff, graduate students and postdocs, and collaborators in state and national venues. HEAL MAPPS will receive a Jeanne E. Priester award in the innovation category at the 2017 National Health Outreach Conference.

How have the results been disseminated to communities of interest?

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John, DH, Gunter, K, Armington, A. with Winfield, T & Hicks, J (webmasters) (2012-present). The project team developed and maintains (Hicks & Armington) the **GROW Healthy Kids & Communities** website (funded by USDA NIFA grant #2011-68001-30020). The website provides information and resources about the project and rural childhood obesity prevention, including family newsletters, media articles, tools, and links to partners and public resources.

Oregon Community ReportsCounty

Gunter, KB, Armington, A, Hicks, J., **John D.** (2015, 2016). Columbia County; Clackamas County; Klamath County Impact Report.

Community

John, DH, Winfield, T, & Gunter, K. (2016). Molalla; Estacada; Clatskanie; Rainier; Bonanza; Chiloquin (n=6) Community Food and Physical Activity Environmental Resource Spatial Audit Report.

John, DH, Winfield, T, Halverson, B, Devlin, E, & Gunter, K. (2016). Estacada; Molalla (n=2) HEAL MAPPS Community Report. Report was prepared using data collected by residents during HEAL MAPPS.

John, DH, Winfield, T, Rudolph, J, Harden, L, & Gunter, K. (2016). Rainier; Clatskanie (n=2) HEAL MAPPS Community Report. Report was prepared using data collected by residents during HEAL MAPPS.

John, DH, Winfield, T, Case, P, Rojina, J, & Gunter, K. (2016). Chiloquin; Bonanza (n=2) HEAL MAPPS Community Report. Report was prepared using data collected by residents during HEAL MAPPS.

School

Jackson, J., Rudolph, J, Gunter, K, & **John, D** (2016). School Physical Activity and Nutrition Environmental Assessment (SPAN-ET) Report: Clatskanie Elementary; Hudson Park Elementary (Rainier)

Halverson, B, Devlin, E, Gunter, K, & **John, D** (2016). School Physical Activity and Nutrition Environmental Assessment (SPAN-ET) Report: Molalla Elementary; Clackamas River Elementary (Estacada)

Case, P, Gunter, K, & **John, D** (2016). School Physical Activity and Nutrition Environmental Assessment (SPAN-ET) Report: Bonanza Elementary; Chiloquin Elementary

Jackson, J., **John, D.**, Gunter, K. (2013, 2014, 2015). School Physical Activity and Nutrition Environmental Assessment (SPAN-ET) Report: Molalla Elementary; Clackamas River Elementary (Estacada)

Jackson, J., **John, D.**, Gunter, K. (2013, 2014, 2015). School Physical Activity and Nutrition Environmental Assessment (SPAN-ET) Report: Clatskanie Elementary; Hudson Park Elementary (Rainier)

Jackson, J., **John, D.**, Gunter, K. (2013, 2014, 2015). School Physical Activity and Nutrition Environmental Assessment (SPAN-ET) Report: Bonanza Elementary; Chiloquin Elementary

School-Student

Gunter, K., Abi-Nader, P., Jackson, J., **John, D.** (2015, 2016). Promoting Healthy Active Schools: Molalla Elementary School Physical Activity and Nutrition Report; Clackamas River Elementary School Physical Activity and Nutrition Report.

Gunter, K., Abi-Nader, P., Jackson, J., **John, D.** (2015, 2016). Promoting Healthy Active Schools: Hudson Park Elementary School Physical Activity and Nutrition Report; Clatskanie Elementary School Physical Activity and Nutrition Report.

Gunter, K., Abi-Nader, P., Jackson, J., **John, D.** (2015, 2016). Promoting Healthy Active Schools: Bonanza Elementary School Physical Activity and Nutrition Report; Chiloquin Elementary School Physical Activity and Nutrition Report.

What do you plan to do during the next reporting period to accomplish the goals?

{Nothing to report}

Participants**Actual FTE's for this Reporting Period**

Role	Non-Students or faculty	Students with Staffing Roles			Computed Total by Role
		Undergraduate	Graduate	Post-Doctorate	
Scientist	0.7	0	0.5	0.5	1.7
Professional	0.7	0	0	0	0.7
Technical	1.2	0	0	0	1.2
Administrative	0.2	0	0	0	0.2
Other	0	0	0	0	0

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Computed Total	2.8	0	0.5	0.5	3.8
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Student Count by Classification of Instructional Programs (CIP) Code

Undergraduate	Graduate	Post-Doctorate	CIP Code
	1	1	51.22 Public Health.

Target Audience

We have facilitated and delivered trainings to Oregon State U Extension educators (n=128), and workshops and community meetings to school teachers and administrators (n=88), and children, parents and other adult stakeholders in 6 rural communities in 3 Oregon counties. Our GROW Extension collaborators facilitated school and community events reaching/engaging over 5,000 youth targeted for this intervention.

Products

Type	Status	Year Published	NIFA Support Acknowledged
Book Chapters	Awaiting Publication	2017	YES

Citation

John, D. and Gunter, K. Chapter 10. Physical activity among rural populations. In M. Bopp, (Ed.), Physical Activity and Diverse Populations: Evidence and Practice. Taylor and Francis (Routledge): New York, NY.

Type	Status	Year Published	NIFA Support Acknowledged
Journal Articles	Awaiting Publication	2017	YES

Citation

1. Gunter, K.B., Abi Nader, P*, Armington, A., Hicks, JC., John, D. Evaluation of an Extension-Delivered Resource to Accelerate Progress in Childhood Obesity Prevention: The BEPA-Toolkit. Journal of Extension. Accepted Nov 14, 2016; in press Jan 11, 2017.

Type	Status	Year Published	NIFA Support Acknowledged
Journal Articles	Awaiting Publication	2017	YES

Citation

2. Jackson, J.A.*, Smit, E., Branscum, A., Harvey, S.M., John, D., Manore, M.M., Gunter, K.B. The family-home environment, body mass index, and food insecurity in rural children. Health Education and Behavior. Accepted Nov 9, 2016.

Type	Status	Year Published	NIFA Support Acknowledged
Journal Articles	Awaiting Publication	2017	YES

Citation

3. John, D., Langelotto, G., Winfield, T., Hystad, P., Gunter, KB. Community-Engaged Attribute Mapping: Exploring Resources and Readiness to Change the Rural Context for Obesity Prevention. Progress in Community Health Partnerships: Research, Education, and Action. Accepted Aug 29, 2016.

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2016	YES

Citation

1. John, DH, Winfield, W, Hystad, P. Gunter, K. Mapping resident experiences of active living resources: Developing a data-driven model of availability and accessibility of affordable physical activity supports in rural Oregon communities. American Public Health Association National Conference, Denver, CO. November 2016.

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Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2016	YES

Citation

3. John, DH, Jackson, J*, Gramlow, L, Gunter, K. Evaluating the Feasibility and Utility of the School Physical Activity and Nutrition Environment Tool (SPAN-ET) for SNAP-Ed Adoption and National Dissemination. American Public Health Association National Conference, Denver, CO. November 2016.

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2016	YES

Citation

4. Stulka, S, Shafrath, T, Winfield, T. John, DH. Creating healthy eating and active living rural communities: Utilizing local food and activity asset mapping to inform coalition work. American Public Health Association National Conference, Denver, CO. November 2016.

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2016	YES

Citation

5. John, DH., Gunter, K., Hystad, P., Langellotto, G., Manore, M. (July 2016). Generating Rural Options for Weight Healthy Kids and Communities – Outcomes and Impacts. Journal of Nutrition Education and Behavior, 48(7), S122.

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2016	YES

Citation

6. Gunter KB, Nader PA*, Hicks J*, John D. Setting the Context for Obesity Prevention in Rural Oregon Elementary Schools: Weight Status of Elementary-Age Children. Med Sci Sports Exerc. 2016 May;48(5 Suppl 1):1065-6. doi: 10.1249/01.mss.0000488207.57984.7d.

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2016	YES

Citation

7. Nader PA*, Hilberg E*, John DH, Gunter K. Balanced Energy Physical Activity (BEPA) Toolkit Implementation and Children's Physical Activity at School. Med Sci Sports Exerc. 2016 May;48(5 Suppl 1):762. doi: 10.1249/01.mss.0000487288.88422.3b.

Other Products**Product Type**

Educational Aids or Curricula

Description

The purpose of this online course is to introduce the Healthy Eating Active Living: Mapping Attributes using Participatory Photographic Surveys (HEAL MAPPS™) program, train users, and support implementation of the MAPPS™ process and tools collaboratively with community-based research partners. This multi-module course is a step-by-step resource intended to guide users through the entire HEAL MAPPS™ process, from planning to execution to dissemination of findings.

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Product Type

Educational Aids or Curricula

Description

The School Physical Activity and Nutrition-Environmental Tool (SPAN-ET) online course trains new adopters and provides a step-by-step resource intended to guide users through the entire process (from planning to execution to dissemination and application of findings) to address school policy, system/situation, and environmental “poor” or “fair” practices that may hinder students’ weight healthy behaviors.

Changes/Problems

{Nothing to report}