**AIM ONE**

**To explore and model the rural obesogenic environment in Oregon and five Western states (AZ, CO, NM, NV, and WA) and inform ExtensionCommunities of Practice.**

**Objective 1:** Create a community-informed profile of the rural environment that models attributes that support (make easier) or hinder (make harder) habitual healthful eating and physical activity among children and families.

**Objective 2:** Develop an interactive, virtual learning application to inform, educate, and support public and private sector practitioners, educators, and policy makers with rural obesity prevention efforts.

**AIM TWO**

**To plan, implement, and evaluate a multi-level intervention in Oregon targeting home, school, and community behavioral settings to support healthful eating and increase physical activity, and thus improve body mass index among rural children ages 5-8 years old.**

**Objective 3:** Evaluate the impact of a comprehensive multi-level intervention on positive healthful eating and increase physical activity on weight and obesity (change in BMI) among rural children and families using community-engaged participatory research methods.

**Objective 4:** Evaluate the effects of intervention strategies on changes in home, school, and community nutrition and physical activity environments and associated body mass index changes among rural children ages 5-8 years old.

**COMUNITY LEVEL**

**Research Design**

Schools were nested within communities. Data were collected annually and changes over time will be assessed. One elementary school in each of the six participating rural communities was the focal point for school level intervention activities. In each community, there was only one school that met the criteria for enrollment (>95% of student body eligible for free or reduced lunch). Eleven of 12 FSOC items were strongly correlated against BMI. The 12-item FSOC was developed to quantify the quality of the school nutrition and physical activity policy items that attribute in three environmental contexts: Physical Environment, Situational Environment, Policy Environment. Specific areas of interest within each domain (PA, Nut, Food) were determined as a readiness in that quantity of items the school has to plan to change. However, efforts are not focused or evidenced-based, and available resources are limited.

**Assessments and Results**

**School Nutrition and Physical Activity Assessment of the Environment (SNPA)**

We are recruiting rural families in each participating community with a child/family level (parent, child, and caregiver) health report (Table 3: HEAL MAPPS™ Community Readiness Scoring Scale) of influence and triangulated across multiple data sources.

**Data revealed schools achieving low readiness to change the food and PA environments (Fig.1). Some best practice criteria are met, and schools have plans to change. However, efforts are not focused or evidenced-based, and available resources are limited.**

**Health and Weight Assessments**

We recruited kindergarten through 5th graders in six rural, Oregon counties. BMI data revealed higher obesity rates (13% in kindergarten versus 23% in 5th grade) in intervention communities compared to control communities (20% in kindergarten versus 36% in 5th grade) (Table 5: % Obese by Grade: All Schools). Correlations ranged from 0.56 to 0.77; valid and tested on all 62 eligible schools or between intervention and control schools or between intervention and baseline BMI data. Additional analyses will be conducted to test the null hypothesis and explore potential relationships in February 2014. In addition, we will collect specific school physical activity Infant-Career. BMI data will be analyzed on each of such school data beginning with the first and ending at the last month of the school year. This will enable us to make certain that children achieve recommended nutrient recommendations BMI data changes over time (Fig. 2: Change in BMI between Fall and Spring grades).

**Plan for HEAL MAPPS™ Data Analysis**

Aim is grounded through using camera-enabled GPS to quantify and quality environmental elements of the community food and physical activity environment. Data are collected using a constant comparative method at each conceptual level of influence and triangulated across multiple data sources.

**Data Analysis**

Observational, survey, and narrative data collected during HEAL MAPPS™ assessments from all six states (OR, WA, NV, AZ, NM, CO) will be analyzed using a constant comparative method at each conceptual level of influence and triangulated across multiple data sources.