THE DURHAM HEALTH INNOVATIONS PROJECT

ACHIEVING HEALTHY BODIES FOR A LIFETIME

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Glossary of Acronyms

BMI – Body Mass Index

BRFSS - Behavior Risk Factor Surveillance System

CHA – Community Health Advisor

CHC – Community Health Coalition

Durham CAN – Congregations, Associations and Neighborhoods

DCIA – Durham Congregations in Action

DCHD – Durham County Health Department

DPfC – Durham Partnership for Children

DPR – Durham Parks and Recreation Department

DPS – Durham Public Schools

EDCI – East Durham Children's Initiative

HB-HM – Health Bodies, Healthy Minds

HCRC – Holton Career and Resource Center

HEALTH – Helping to Establish Actions for Lifestyle Transformation Here

IFFS – Inter-Faith Food Shuttle

NC-PASS – North Carolina Physical Activity Surveillance Survey

NECD – northeast central Durham

OCI – Obesity and Chronic Illness

PEACH – Partnership for the Effective Advancement of Children' Health

PTA – Parent-Teacher Association

SEEDS – Southeastern

SHAC – School Health Advisory Council

TOPS – Take Off Pounds Sensibly

WILD – Weight Loss Intervention for Latinos in Durham

YMCA – Young Men's Christian Association

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HEALTH NEEDS & METRICS

♦ State the health issue concisely and define health needs county-wide and within subpopulations

Because of its increasing prevalence and associated diseases, obesity has become a significant, health problem locally as well as globally. A review of the Durham County 2009 State of the County Health Report shows the average prevalence of adult overweight and obesity is 71%; higher in the African-American and Latino populations.[1, 2] These prevalence estimates are generally in line with those for North Carolina (NC) and the country as a whole (Table 1, Appendix A).

The problem of increasing prevalence of obesity in the population is more alarming with regard to children. Durham is ranked in the 96th%ile in the state in terms of low income children ages 2-4 that are obese;[3] in Durham County, 34.3% of these children are overweight (14.7%) or obese (19.6%) compared to 31.7% statewide.[1] In addition, 19.7% of Durham children age 2-18 were obese compared with 17.5% in NC statewide and 16.3% across the country as a whole.[3, 4]Given the fact that obesity is associated with leading causes of disease morbidity and mortality especially type 2 diabetes, we must work with Durham partners to 1) identify predisposing, enabling, and reinforcing factors for obesity-related lifestyle behaviors, 2) assess policies, resources, and circumstances in Durham that facilitate or hinder efforts to improve these behaviors, and 3) develop plans, tailored to different communities, to improve measurable health outcomes related to obesity, especially in our children.

♦ What environmental components contribute to the health needs?

A wealth of research has shown that poorer and ethnically diverse neighborhoods have fewer grocery stores with healthy food choices, more convenience stores, and a greater density of fast food restaurants.[5] Areas of Durham too, have few grocery stores within walkable distance to neighborhoods and lack adequate spaces for physical activity. In 2005, only 36% of Durham residents met the national physical activity guidelines[6, 7] compared to over 40% nationally. This may be due, in part, to lack of safe, pedestrian and cyclist-friendly, convenient places to be active. Both our geospatial maps and the results of our focus groups lend support that these statements remain true (Appendix B). Durham also has few retail grocery chains and a plethora of fast-food chains and convenience stores in low-income, food-insecure Durham neighborhoods. For example, in Northeast Central Durham (NECD), there are only 31 supermarkets; however, there are 34 fast food chains and 84 convenience stores (Appendix B, map 1). Additionally, in many families, both parents work different shifts, making it difficult to have family mealtimes. Compounding this problem, many poorer neighborhoods are unsafe for outdoor exercise and have inadequate facilities and public transit. For example, the geospatial map shows NECD has few parks, and no trails (Appendix B, map 2). A lack of safe places to play may result in children spending more time being sedentary, such as watching TV and playing video games. Increased sedentary activity, such as TV, has been implicated as a possible cause of childhood obesity.[8]

♦ What are the comparisons to state and national numbers?

Please see Tables in Appendix A.

♦ What are the key health metrics that can be used to measure the current state of health and to judge whether we have an improvement in health in Durham County?

The metric generally used to measure overweight and obesity in adults is body mass index (BMI, kg/m^2) greater than 25 or 30, respectively. In children it is an age- and gender-adjusted percentile rank greater than 85th or 95th percentile. At present, BMI is rarely entered into the electronic medical record. Consistently increasing the frequency of entry going forward would be an improvement. Lifestyle behaviors, such as physical activity/inactivity and healthy dietary intake are key indicators of risk. Changes in obesity-related disease prevalence and morbidity could also be indicators of improvement. These indirect indicators are 1) decreases in the incidence and prevalence of type 2 diabetes; 2)

improvement in glycemic control; and 3) decreases in hospitalizations, outpatient clinic visits, and emergency room usage for obesity-related conditions. Process measures are of high importance for determining acceptability and potential for sustainability. For instance, the number of intervention activities offered, the number of attendees or participants at activities, the perception of an intervention (e.g., a positive response of parents to the obesity risk assessment), and improvement in lifestyle behaviors such as increased physical activity, regular meals, higher fruit and vegetable consumption, and decreased screen time or sugar-sweetened beverage consumption might be used to determine the reach and acceptance of our program. Metrics that can be used to evaluate more global, ten-team goals are 1) increases in the number of neighborhood clinics that are both patient-centered and culturally appropriate; 2) adequate numbers of volunteers, both trainers and trainees, to meet identified needs; 3) provider adherence to best practice guidelines and the promotion of a consistent message; and 4) improved patient education reflected in better health literacy and self-management.

BUILDING THE TEAM & COMMUNITY ENGAGEMENT

- How did your team come together?

The Achieving Healthy Bodies for a Lifetime (AHL) team is an amalgam of three teams **(Appendix C)** from stage 1 who merged - Helping to Establish Actions for Lifestyle Transformation Here (HEALTH), focused on childhood obesity through schools, families and communities; the Weight Loss Intervention for Latinos in Durham (WILD) team, focused on the escalating problem of obesity among Latinos; and the Healthy Bodies, Healthy Minds (HB-HM) team, focused on the correction of racial disparities in school-readiness. The HEALTH team also considered merging with the Diabetes team (IMPACTS), but they agreed instead to pursue a strong collaboration centered on 'community-based medical homes' providing both preventive and non-complex clinical services for both children and adults.

With disparate priorities among the three groups, the merger was not without challenges and disagreements resulting in some attrition among its members. One point on which members coalesced was the choice of the target population: children in pre-kindergarten through 5th grade and their families. There are many evidence-based reasons to have chosen this population.[9, 10] In order to meld the team members into one team, the following strategies were implemented: 1) all co-leads from the original teams who desired to remain a co-lead were kept, 2) weekly meetings were held in varying locations with co-leads rotating as facilitator, and 3) the major tasks of the project were divided with each co-lead taking responsibility for one area – the guiding model, community engagement, the focus groups, the business plan, and research/writing. The result of this process has been the formation of a functional partnership with a shared vision and action plan.

- What is the full complement of existing programs, resources, and partnerships in Durham County relevant to your team's primary focus?

The Resource Landscape was developed to identify and categorize healthcare resources available (http://spreadsheets.google.com/ccc?key=0AqmbZqmq7HxKcmdmYXN5c2pPRDgtOFRCUnFZVEwyS2c&hl=en) to families in Durham. The complete document includes separate pages for obesity, cardiovascular disease and diabetes resources. Since many of the resources provide services for more than one chronic illness, the landscape also denotes for each resource whether it applies to more than one of these conditions.

The obesity resource list consists of weight loss programs, clinics, and organizations that provide weight loss, nutrition and exercise services and opportunities to the community. The services have been geo-mapped to illustrate how they are distributed in relation to the concentrations of normal weight, overweight, and obese individuals represented in the DSR database (Appendix B, maps 3-5). The database and maps are linked to further study relationships between obesity in the community and service proximity.

- How did the existing programs, resources and partnerships shape your team's thinking?

Many of our original partners belonged to the Partnership for a Healthy Durham, a group of 84 organizations including Duke University divided into 8 committees dedicated to addressing the health problems in Durham collectively. Several of our team members serve on one committee, the Obesity and Chronic Illness (OCI) Committee, and one of its primary foci recently has been childhood obesity. Our team also interacted with many existing organizations whose mission includes improving the well-being of children, e.g., El Centro Hispano, Durham Partnership for Children (DPfC), Partnership for the Effective Advancement of Children' Health (PEACH), School Health Advisory Council (SHAC), Operation Breakthrough, East Durham Children's Initiative (EDCI), John Avery Boys and Girls Clubs, and the Salvation Army Boys and Girls Clubs. In addition, DPfC had received a grant to measure the height and weight of all pre-kindergarten children entering Durham Public Schools (DPS) as part of the Kindergarten Health Assessment which would provide current data for the project.

Durham Public Schools (DPS) was already pursuing a recent directive to improve adherence to the Wellness Policy and state requirements. They had also held a "Kitchen Table Discussion" specifically around nutrition so parents, community partners and school personnel could share their concerns about school nutrition. In addition, several OCI partner organizations were already helping to improve nutrition and physical activity in the DPS system. For example, Durham County Health Department (DCHD) offers the basic nutrition course, Dine for Life; Durham Parks and Recreation (DPR) offers a Reduced Fee Program for underprivileged children; the Inter-Faith Food Shuttle (IFFS) provides Back-Pack Buddies (a package of food for the weekend) for food insecure children; and South Eastern Efforts Developing Sustainable Spaces (SEEDS) promotes home, school and community gardening and has helped start gardens at several Durham schools. In addition, the results of the Durham Congregations, Associations and Neighborhoods (CAN) listening sessions indicated their members wanted to continue work in schools and were concerned about the healthfulness of school cafeteria food.

Early in the process, our team interacted with all of these organizations; all were interested in expanding their services or filling in gaps in services. Thus, the offerings above became the core of our intervention. As a result of DCHD's success in this arena and available, recent focus group results, we decided first to work through after-school programs, the PTA and faith-based institutions. DPR and the YMCA already sponsored after-school programs. The Community Health Coalition (CHC) interacts with Black churches around health issues. All of these organizations were already partners on our team and excited about including their programs in this initiative. We also brainstormed with our partners to identify other services that could be provided. The list of annotated ideas that were generated with brief explanations is in Appendix D**.** These strategies align with the recommended community strategies recently published by the CDC.[11]

In meetings, we compiled names of other organizations that might play a role in addressing childhood obesity and help us reach the families and communities of the children. In this way, we identified John Avery and Salvation Army Boys and Girls Clubs, the Parent-Teacher Association (PTA), Weight Watchers, Take Off Pounds Sensibly (TOPS), Durham Congregations in Action (DCIA) and the NC Coalition of Hispanic Pastors; all were happy to partner with us. Another program, Shrinkathon, approached us with an interesting concept – that of a sponsor donating money for each pound lost by a participant in their program. In AHL's case, the money raised would be used to subsidize program fees for low-income participants. After input from our partners that this would be acceptable to Durham residents, Shrinkathon also became a partner.

- How did you ensure broad community input and involvement?

Our original partners, very active in the community in many ways, knew of other organizations we should approach and had contacts in those organizations. Thus, invitations to an informational meeting on September 22, 2009 were sent to all current partners and all potential new partners. Fifty organizations attended this meeting. After this meeting, the Program Manager sent follow-up emails and conducted 11

follow-up interviews either in-person or over the phone. From this effort, the AHL team amassed 32 new community partners.

Later in the process, the AHL team conducted four focus groups using the Nominal Group Technique[12, 13] to elicit feedback on childhood obesity-related concerns in the following groups: i. English-speaking, overweight parents of overweight children, ii. Spanish-speaking, overweight parents of overweight children, iii. overweight adolescents, and iv. individuals who have successfully lost at least twenty pounds and have maintained that weight loss for at least one year. The major results of those focus groups included the following findings. In the adolescent group(n=5), most stated life stress plays a major role in their weight control. In addition, this group stated that family involvement such as eating and exercising together is very important. Overweight parents of overweight children (n=12) considered education on healthy eating, exercise, and nutrition very important. For those individuals who had successfully maintained weight loss (n=6), the keys to their success were motivation, social support, changing eating habits and family. The same group stated social and cultural environment plays a major role in maintaining a healthier lifestyle. Lastly, a major issue remains the availability and convenience of fast food as compared to healthier choices. A summary of the results of these focus groups can be found in Appendix E**.**

Broader community involvement was also accomplished through social networking by team members. As a result of this process, AHL was invited to join the EDCI steering committee and eventually offered the opportunity to pilot the project at YE Smith Elementary School under the auspices of EDCI and sponsored by the NECD Leadership Council. After this invitation, there were a series of meetings with various staff at YE Smith including the principal, the assistant principal, the physical education teacher, the Dine for Life nutritionist, and several other teachers to obtain their input as to how a pilot would best run in their school. Once designed, this project was presented to all the teachers at a faculty meeting and 13 sets of parents at a PTA meeting. All of the feedback from these meetings has been incorporated into the pilot project plan. The AHL team also designed a survey asking very specific questions about location, timing and cost of nutrition, exercise and weight loss services. The survey will be distributed first to NECD residents and then to each subsequent community to guide implementation.

- <u>What input/assistance did you get from the Oversight Committee and the technical assistance cores?</u>

We never really interacted with the implementation core, but we derived great benefit from interacting with the geospatial mapping (GSM) core and Duke Support Repository (DSR) core. GSM made five maps for our team (Appendix B, 1-5). Three of them located nutrition and exercise resources across the county in relation to the distribution of adults according to BMI category. From these, we distinguished a slightly greater density of normal weight individuals in West Durham and a slightly greater density of obese individuals in East Durham. Conversely, weight management services seem to be concentrated in West Durham, and lacking in East Durham. It is also evident that most of these services are concentrated in Durham City proper with fewer services in the county. The other two maps concentrate on NECD and illustrate how access to healthy food is a problem in this relatively poor neighborhood (fast food or convenience store vs. supermarkets/full groceries). The maps also illustrate how a poorer area like NECD does not have safe, nearby places to exercise outside.

Although the DSR database was incomplete in relation to the measurements needed to assess obesity, the DSR staff was able to cull enough information to build the case for our proposal. The data are not complete enough to be used as a key outcome for our plan at this point, but by thoroughly cleaning the data and restricting some questions to calendar year 2008, the DSR staff created a set of data-rich tables (Appendix F) that represent at least a portion of Durham County. From these tables, for this population of DUHS patients living in Durham, we can conclude that 1) prevalence of overweight and obesity is similar to state and national values among the adults, but higher than state and national values among the children; 2) the striking increase in prevalence occurs at approximately age 7-8 years; 3) obesity is

positively associated with several chronic diseases, specifically hypertension, diabetes, osteoarthritis, asthma and sleep apnea; and 4) in general per capita charges increase with increasing BMI.

Our interactions with the DHI Oversight Committee (OC) were not always helpful. We recognize their dedication to and enthusiasm about the entire DHI project, and understand that much of the less helpful aspects of interactions stemmed from having to navigate uncharted territory with this project. Nevertheless, there were three areas that were particularly problematic. First, decisions from the OC were sometimes delayed or inconclusive. For example, recommending mergers rather than making choices led to delayed starts and loss of interest from some partners. In addition, slow deliberation over ten-team versus individual-team focus groups and Community Advisory Boards left little time to develop these sources of input and incorporate the feedback.

Second, at times there was more micromanagement than true guidance. The frequent meetings were helpful to keep teams on track and allowed valuable time to collaborate; however, the sheer number of meetings to attend and forms/reports to submit were often repetitive and competed with time for the actual planning process. It would have been more helpful to have one joint co-lead/project manager meeting rather than have both groups meet separately about the same material.

Third, the delayed compensation of team members and the emphasis on building financially sustainable programs left a sense that the project was more about minimizing costs than improving health. This sense, along with the delayed compensation of community team members, hindered partnerships with community organizations. However, it was clear that the OC devoted an enormous amount of time to this project, was responsive to feedback, and was supportive and appreciative of all the teams' efforts. So while the give and take with the OC was sometimes inefficient and ambiguous, we hope to show that the process ultimately led to a better product that will improve the health of Durham.

- What did the community engagement process teach your team about the problem and about each other?

During the community engagement process, we learned that many organizations in Durham are duplicating efforts. It would seem to be a service to the community as a whole to more effectively coordinate these services. The AHL team also learned that the obesity epidemic is approached very differently by various residents of Durham. Some do not see it as a problem whereas some are already doing everything they can. In addition, weight can be a very sensitive and culturally-charged issue. For example, some African American women in the Durham community see themselves as "voluptuous," not overweight. Latino immigrants would prefer to keep their culture's foods, so the appropriate question is how to make their traditional foods in a healthful way here in Durham. As a result of this diversity of perspective, the community engagement process takes enormous amounts of time and energy; it is also difficult to maintain momentum. Through this process, however, we learned that approaching the community and obtaining its feedback is a critical step. With enthusiastic and dedicated leaders as well as groups working together instead of separately, we think we can successfully implement a community program that will have a real impact by starting small with achievable goals and building on success.

MODELS OF CARE FOR 10 EMPHASIS AREAS - OBESITY

- What is the model of care that your team is proposing?

The AHL team is guided by empirically validated models of individual behavior change and community action, namely the Health Belief model[14] imbedded in the Social-Ecological Framework (Appendix G, figure 1) to improve diet and increase activity. The Social-Ecological Framework conceptualizes lifestyle behaviors and obesity as the result of differing perspectives and multiple levels of influence, including individual-level beliefs and attitudes, family relationships, community practices, and societal policies and cultural practices.[15] Acknowledging all of these different levels and examining how they influence each other gives our team the best position from which to affect an epidemic and pervasive

problem such as obesity; hopefully reducing both health disparities and healthcare costs in Durham. The model is one that provides the target consumer (individual, family or community) with a list of interventions that promote physical activity and offer hands-on nutrition education. The consumer (neighborhood) is the decision maker regarding which interventions meet existing or projected gaps in service. This method creates partnerships between the community and Duke that will allow each community to contribute to the decisions made in their community creating 'ownership' of the program, coordinating and tailoring the health information while expanding health opportunities, thus generating programs specific to each neighborhood.

The AHL team has adapted the theoretical form of this model because we plan to use the Durham Public School System as the focus of our intervention (Appendix G, figure 2). Therefore, our first approach to the child becomes the schools and the after-school programs. We reach the family and extended family through activities connecting the school and family, e.g., the PTA. The community becomes involved through the organizations with which the target families are involved. In addition, there are the over-arching influences of society, including messages from the media and health professionals; cultural norms, and the neighborhood environment.

Community-based participatory methods (CBPR) will be employed to guide our efforts. CBPR methods can also be used to further complement multilevel community-based intervention approaches that address policy, built-environment, and individual-level characteristics, and may also be important to effectiveness and sustainability.[16] CBPR methods suggest aligning academic researchers with community partners to improve public health research.[17] Specifically, CBPR promotes involving community stakeholders and partners in aspects of the development, design, evaluation, and dissemination of public health interventions and strategies.[18] An essential element of community participation in CBPR is "participation in the products and process of research by people who experience the issue being studied."[19] This involvement by community members and stakeholders is believed to build community capacity which increases the effectiveness and sustainability of health interventions.[20, 21]

♦ <u>What services will be provided</u>?

The AHL team proposes three levels (nutrition, exercise and communication) of services within each of the four levels of our ecological framework -family, school, community, society: (Appendix G figure 3). We propose to use two phases, a pilot phase to assess feasibility and a dissemination phase to broaden our reach once we have integrated the findings from the pilot phase.

- *Nutrition* - education through Dine for Life classes; use of nutrition as the topic of lesson plans for other subjects in the daily curriculum; displays about healthier choices in the cafeteria; enforcement of changes in the DPS wellness policy recommended by SHAC; cooking classes and grocery tours through Operation Frontline; increased food accessibility through provision of mobile Farmer's Markets and expanding the Back Pack Buddies program; weight loss programs through Weight Watchers, TOPS, and Shrinkathon; and support groups for weight loss.

- *Exercise* – standardization of the implementation of the SPARKs program; provision of teacher, neighborhood and community walking groups; sports teams and exercise classes through DCHD, DPR and Live for Life; improved access to community after-school programs by increasing transportation options (e.g., walking buses and carpools); team competitions to foster motivation; improved safety through a more prominent police and community watch presence or closing certain streets for activities on weekends; and policy changes to increase walk- and bike-ability.

- *Communication* – student and parent education through the measurement of children' heights and weights and provision of the results (with interpretation) to both the children and their parents; follow-up and referral for those parents who request aid in helping a child with a weight problem; endorsement and distribution of a consistent health message on the prevention and treatment of overweight from all Durham County healthcare providers; newsletters, workshops and competitions (e.g., The Biggest Loser) through local government collaborating with DCHD and DPR to make weight loss a community-wide focus; and tailoring messages for the media through radio PSAs, local TV spots, newspaper columns, web-pages, text-messages, and bus, transit station or other billboards.

♦ What populations does your proposed model seek to serve?

Kindergarten and elementary school-age children, ages 4-10 years, in the Durham Public School (DPS) system are the primary target of our proposed service. Secondarily, we will target those who serve as role-models and caretakers for these children who are just starting to form their lifetime health habits. A child's early experiences are lifelong determinants of health and well-being. Poor nutrition and lack of physical activity in early childhood lead to health and medical problems in the future.[22] We hope to reinforce efforts already on-going in Head Start (Operation Breakthrough), day-cares and preschools in Durham, and assist the teachers, families and neighbors of these children, especially those who are also overweight or obese. One of the main motivators for adults is to improve their own health habits to help their children knowing that children model parental behavior. Parents also learn from their children; whatever a child learns at school is taken home to their family, extended family, and whoever comprises that child's immediate community. Therefore, our social-ecological model suggests that interventions will have an effect at the individual, family and community levels.

♦ Who will provide the services?

AHL will use the train the trainer model[23] to provide services. An all volunteer team of trainers will be established that will consist of health professionals from community agencies (DCHD, DPR, DPS and IFFS) and DUHS – physicians, registered dietitians, exercise physiologists, and health educators. The trainees will comprise four levels of expertise dependent on the skill level needed for the volunteer task to be completed:

- Current credentialed professionals accessed through company human resource departments or professional organizations;
- Retired health professionals accessed through community service organizations, senior centers or professional organizations;
- Students from local higher education institutions or high schools, especially those pursuing or interested in pursuing degrees in healthcare disciplines;
- Residents of each target neighborhood and from other areas of Durham County.

♦ Where will the services be provided?

Services will be provided in two primary locations: the public elementary school and community facilities within a reasonable radius of the target elementary schools that are willing to donate space for the AHL (e.g., faith-based institutions). We anticipate the communication services will take place wherever residents of a target community congregate or are exposed to health information – barber shops, beauty parlors, health clubs, civic organizations, local TV and radio stations, newspapers, bulletin boards, billboards, websites - even cell phone text messaging systems. In addition, dependent on local employers' interest in the program, information may be disseminated with pay checks, employee newsletters or on company employee websites.

- What volume of services is associated with your alternative model of care?

The volume of services will depend on the year of our planned five-year process. DPS is 7th largest school system in NC with 32,000 students at 46 schools, 29 of which are elementary schools. The racial demographic of this school population is 54% Black, 24.3% White, 15.7% Latino, and 6% other. In 2006, 46% of students qualified for free or reduced lunch meaning that these students were living in families at < 185% of the poverty level (http://www.dpsnc.net/schools).

The AHL team plans to pilot the feasibility of the program in one elementary school, YE Smith, with the support of the EDCI and the NECD Leadership Council the first year. YE Smith has 350 students representing approximately 200 families – 95 % of these students receive free or reduced lunch, 50-55% of students are African American, 40-45% are Hispanic, and <2% of students are Caucasian.[24] We will measure changes in BMI and assess changes in diet, physical activity, participation, and acceptability. Modifications will be made based on the feedback we receive. The refined program will then be rolled-out to elementary schools over subsequent years with complete saturation in the 29 schools achieved in five years. We envision that the second year will include a control school in order to collect pilot data for measurement of change against YE Smith. In addition, we will target two other elementary schools, one of which includes a pre-K program, with populations disparate from YE Smith in order to test the success of the breadth and reach of our program to diverse communities. We plan to add six schools the third year, nine schools the fourth year and ten schools the fifth year.

In the community surrounding YE Smith, there are 251 faith institutions, 37 of which have an ongoing exercise program and/or belong to the Durham County Health Ministry Network. Each congregation will be approached as to whether they would agree to house a weight control group. If yes, the survey for congregations will be distributed to attendees at a service in order to determine the best type, day of the week and time for the program. We hope to find four community institutions besides YE Smith Elementary School that will agree to house a program in NECD. Union Baptist Church has already agreed to consider this proposal. The same type of community outreach plan will be followed with subsequent communities. We will also approach other community institutions, e.g., the Rotary Club, to determine if they wish to house a class or aid with the program in another way.

- What are the estimated incremental costs of delivering your alternative model of care assuming that the primary connected care model is in place?

There is varied incremental cost associated with the delivery of the AHL program using the proposed community-based approach. We have estimated the cost based on the dose of intervention delivery required for either helping children maintain a healthy weight or helping children who are overweight or obese achieve a healthier weight. For instance, children who are normal weight might only receive healthy lifestyles counseling, whereas those who are obese would be offered additional weight-loss assistance. The range of cost is dependant on the current weight of the child and the products the school chooses to implement, i.e. community garden etc. Within the framework, the child at or below normal weight (59%) has the lowest estimated annual cost ($60). This cost is inclusive of the recommended preventive nutritional education (Dine for Life and 2 community gardens) and the preventive physical activity (SPARKs and in-class energizers), interventions that are currently offered in the selected pilot school. The estimated annual cost for the additional services outlined in the framework for those 21% of overweight children above the 85th percentile within the pilot population is $194 per child. This segment of the population will receive intensified nutrition education and physical activity preventive interventions and potentially will include multiple interventions that include a parent or primary caretaker and/or teachers (an Operation Front Line course w/ grocery tours, walking groups and above mentioned interventions). Lastly, the estimated annual cost for the framework increases to $857 for the 20% of obese children within the target population. This segment participates in the above mentioned preventive interventions as well as family friendly weight loss program, exercise classes and all above mentioned interventions. Hence during year one, the annual cost for delivery of the AHL preventive interventions to the pilot school and associated caregivers is estimated at $86,122.00.

- What evidence currently exists that this model is viable – particularly in Durham County?

It is well-documented in the literature that students perform better academically if they are well-nourished, physically fit, and have had adequate sleep.[25-36] The students and parents we have talked to in the Durham community agree the school is a very good venue for a childhood obesity intervention, but added that it needs to involve families and target home environments also. Recent literature in the area of school-based interventions supports this conventional wisdom.[9, 10, 37] Several community-wide interventions that include school-based components have been implemented in other parts of the country and have proved very successful – e.g., the Diabetes Prevention Project,[38, 39] Shape Up Sommerville,[40-42] and the Harlem Children's Zone.[43, 44] All of this evidence supports our model.

According to the literature and the feedback received from YE Smith parents when the program was presented to the PTA, parents react very positively to receiving information about their child's health from the school system, especially if some type of follow-up is offered also.[45, 46] However, if it applies to nutrition and/or physical activity, this feedback must be very specific to the topic. Golley et al.[47] found that non-specific feedback concerning parenting skills (which could be applied to the topics of nutrition and physical activity) was no more effective for weight management than no intervention. Conversely, behavior-specific parenting skills training on nutrition and physical activity resulted in the reduction of the average BMI z-score by 10% over a 12-month period.

In addition, many of the programs that form the core of our intervention – the DCHD programs (Dine for Life and Resistance to the Core), the Inter-Faith Food Shuttle programs (Operation Frontline, Mobile Farmer's Markets, and Backpack Buddies), and the weight control programs (Weight Watchers and TOPS) - have been active in Durham County for years and already collect evaluation data illustrating their positive impact (Appendix H). Other endeavors, such as walking groups and ensuring safe areas for outdoor recreation, are supported in the literature.[48-50] The one area of concern to AHL is whether the heavy use of volunteer labor is viable. At a recent international workshop, the need for coordination in the form of formal objectives, clear roles and responsibilities, a communication infrastructure, and good management was emphasized if many different types of resources were going to be tapped for care-giving.[51] Therefore, AHL will attempt to make full use of lessons learned by others, and there will be an ongoing evaluation component for each aspect of the AHL program allowing for ongoing adjustment.

- Economic analysis – in current state of affairs, who bears the burden and what are the economic implications of the proposed changes in the model of care?

Currently, there are several entities that should assume the economic burden of addressing the steps necessary to reduce levels of obesity within our target population. Based on the Durham County Health Assessment and the projected rates of increased levels of obesity among children within Durham County, the economic cost of addressing obesity through the implementation of the AHL interventions rests with Durham City and County Government and its many entities. These entities would include: DPS, DPR, and the DCHD. The success of the model also requires the Duke Health System to assume responsibility of ensuring that consistent messaging regarding obesity amongst its providers aligns with the AHL proposed framework, preventive strategies, and county wide implementation strategies.

As the project is rolled out to include additional schools and communities throughout the county, there is the opportunity for the burden to shift, allowing greater private industry involvement. Private industry should be incentivized to participate in the model in the latter years of the project, when schools and communities with higher socio-economic status populations and employment rates become involved.

We expect the pilot school to see a reduction in the rates of new cases of obesity during the first five years of implementation of the model of care. In our pilot school, rates of obesity fall from kindergarten to second grade and then rise again (Appendix I). If we can decrease the scope and size of this increase after second grade, the potential economic benefits of our program will be evident within a 3-5 year period.

According to Finkelstein et al.[52] the net present value of the lifetime cost of obesity is $65,000 (after adjustment to 2009 dollars). Therefore, if two or more of the 350 children in the YE Smith pilot project were to be prevented from becoming obese in their lifetime, the annual cost of the interventions are mitigated. Also, the interventions are likely to have positive spillover effects on parents of the YE Smith children (i.e., they are modify their health behaviors) making the cost saving even more substantial. Currently, the stakeholders who bear the cost burdens of the interventions are different than the stake holders who will be the long-term beneficiaries. Public policy and cooperation are needed to share the cost burdens and benefits of the interventions in a more equitable manner.

- What providers (both physician and non-physician) and community stakeholders would be involved in delivery of your alternative model of care?

Working with the NC and local chapters of medical professional societies, AHL will encourage all Durham County healthcare practitioners who work with families on the topic of preventing obesity to adopt the consistent nutrition and exercise message, 5-3-2-1-0 (http://www.eatsmartmovemorenc.com/;).[8, 53-56] Eventually, this may also include media organizations and a celebrity sponsor. A list of the providers, the services each entity will provide and a description of the organizations presently involved in our plan's implementation is presented in Appendix J.

- How do the health metrics identified by your team align with your proposed alternative model of care?

The health metrics we have selected align with both the prevention and intervention components of our model. Our principal metric of BMI among children in our initial school setting will allow us to gather outcome data on the main outcome variable at the individual child level. By preventing the acceleration of the growth of childhood obesity, as measured through BMI, we hope to lessen healthcare costs on a countywide level (see above, *Economic Analysis*). However, in addition to the individual child, the incorporation of that child's family into the AHL program at the school, neighborhood, or community level will allow us to provide additional prevention and intervention and to measure additional health metrics and their outcomes. Accounting for and measuring outcomes among these expanded levels of influence are key components of our alternative model of care. For example, gathering information on family nutrition and exercise is an important set of secondary metrics. In addition, gathering information on the incidence of type 2 diabetes among an identified child's adult family members, measuring those family members' glycemic control, and recording instances of those family members' hospitalizations and emergency room visits for obesity-related conditions will help us evaluate our model's reach and effectiveness.

In our proposed pilot project, we are gathering BMI data from children within an identified school (YE Smith), which itself has a county- and school-based nutrition program (Dine For Life) and resides within a neighborhood and area that is interconnected through a community program (EDCI). This proposed project illustrates the embedded nature of our model as well its alignment with our proximal metric (BMI) and other important distal metrics.

- What regulatory/policy changes (national/state/local) would facilitate your proposed alternative model of care?

Policy changes are often controversial. However, AHL would start with assisting the Durham Public Schools (DPS) in strengthening, updating, and improving the monitoring and enforcement of the current DPS Wellness Policy.[57] Some parts of the policy are nearly impossible to comply with or enforce. For example, the 'Nutrition Guidelines for All Foods on Campus' section states, "classroom parties and celebrations, such as pizza parties shall be coordinated with Child Nutrition Services (CNS) to ensure compliance with applicable federal and state law…" Along with the Partnership for a Healthy Durham,

AHL endorses the following recommended changes in the policy's wording:

- Classroom parties and celebrations will use NON-food items only to celebrate…;
- Only water, low-sugar beverages and 100% fruit juice will be offered during …parties;
- Food will not be incorporated into celebrations for student performance.

AHL further supports positions taken by the DPS Wellness Coordinator, Pete Shankle, i.e., vending machines should be removed from all schools (not just elementary) or at least turned off during traditional school hours; parents should not bring food into the school for special occasions; junk food should not be sold at sports events or for fund-raisers; and the number of cookies and other snack items that can be purchased per child should be limited..

In relation to physical activity, the Wellness Policy states that children, kindergarten through eighth grade, should be active 30 minutes per day. This level is 60 minutes per day for older children. This is, however, difficult to enforce outside the auspices of a physical education class. Recently, DPS adopted the evidence-based Sports, Play and Recreation for Kids (SPARKs)[58] program for all schools, kindergarten through 8th grade. AHL supports the uniform implementation of this program in a standardized manner through high school as well as elementary and middle school.

AHL agrees again with the Wellness Coordinator that enforced exercise or restricting of sports activities should not be used as punishment. Further, neither recess nor PE should be rescinded for extra tutoring in reading or math. In addition, we support more subsidies for after-school programs and car pools or late school buses to take children home when after-school programs end.

In the Durham CAN listening sessions, many Durham residents complained about school cafeteria food. This situation is largely the result of outdated national standards and the fact that, in DPS, the child nutrition services program receives approximately 50% of its funding from the federal government, but the rest of the revenue must be generated through sales. AHL supports lobbying the state and local government to help subsidize child nutrition services.

Outside of the schools, American food culture in general has been dubbed "obesiogenic."[59, 60] In section 1 of this report, and in our focus group results, the availability of fast food, the lack of access to healthy food, and the lack of safe places to exercise were cited recurrently as obstacles to living a healthier lifestyle. Policy changes that would help to address these obstacles are the following:

- Require fast food stores to list calorie content, both raw numbers and as a percentage of the recommended 2000 kcal/day, on the menu
- Require gas station convenience stores and fast food stores to carry a certain percentage of healthy food options, e.g., fresh fruit, as determined by the Health Department
- Incentivize grocery store chains to locate in poorer neighborhoods through tax credits
- Turn some city-owned, condemned properties into additional parks and/or community gardens
- Provide adequate police staff to patrol parks and recreation areas so people feel safe using them
- Allocate funds to improve and increase sidewalks, bike lanes, walking trails and access to recreation areas through public transit

♦ How could the proposed model of care be evaluated in terms of processes, impact, and outcomes?

The proposed model of care can be evaluated by examining processes, impact, and outcomes at each of the levels identified in the social ecological framework: school, family, community, and society. Examples of evaluation at each of these levels are as follows: At the school level, metrics that can be used to evaluate the AHL model of care are 1) rates of child measurement in the schools; 2) the amount and valence of response by parents to the obesity risk assessment; 3) attendance rates for programs and facility use; 4) process notes from program meetings; 5) amount and valence of response to the intervention by school staff. At the family level, metrics that can be used to evaluate the AHL model of care are 1) family nutrition changes; 2) family behavioral changes (e.g., amount and type of exercise, instances of eating

together); 3) family weight and health changes (e.g., parents' improved blood pressure or glycemic control). At the community level, metrics that can be used to evaluate the AHL model of care are 1) amount and valence of response to the intervention by EDCI personnel; 2) attendance by AHL staff at EDCI meetings; 3) attendance by community members at AHL neighborhood meetings. At the societal level, measuring family and community changes to the attempt at consistent messaging (i.e., 5-3-2-1-0) would be a method to evaluate the AHL model of care as it effects increased physical activity, regular meals, higher fruit and vegetable consumption, and decreased screen time or sugar-sweetened beverage consumption.

Of course, self-evaluation by all of the requisite partners and programs can only enhance the delivery of services and their intended outcomes. Several of the programs with which we are collaborating already have self-evaluation processes in place. These include three programs from the Inter-Faith Food Shuttle (Operation Frontline, Backpack Buddies, and Mobile Farmer's Market) as well as Dine for Life.

- What are the critical components to the long-term sustainability of the proposed model of care?

The model has the potential to have tremendous success in addressing the epidemic of juvenile and adult obesity throughout the Durham community. The sustainability of the AHL connected care model is reliant on the firm commitment from Durham County government to function as a short term funding source. The model of care is also reliant on the commitment of the DUHS as a lesser but significant financial contributor and communicator of consistent messaging to the provider network and community regarding weight loss and obesity. Currently, there is the immediate support of the model from DCHD, DPS and DPR. These entities, while major components of City and County Government, are only several pieces of the breath of support needed from the local government structure to ensure viability of the model within the school system and its surrounding communities. The AHL model of care must also have a level of overlap with several other DHI teams to maximize resources and impact.

Additionally, there is a component to the sustainability of the model that must involve significant efforts from each of the communities in Durham as the model is implemented in their school and surrounding neighborhoods. Specifically, at our pilot school, YE Smith, the continued involvement in the implementation of the model by the EDCI, the PTA at the pilot school, and existing community partners such as the IFFS and the Partnership for a Healthy Durham is pivotal. Addressing the sustainability of the model throughout the entire five year plan, will eventually require involvement of the Durham business community and at some point NC State Government.

Lastly, there is a marketing component that will need to be activated after the first year of the implementation of the model at the pilot school. This social marketing campaign should be similar in scope to the state wide "Eat Smart Move More NC" campaign, but be specific to Durham County. This campaign will serve as a springboard for greater community awareness of Durham County Government and the DUHS commitment to creating a healthier Durham.

KEY ELEMENTS OF A CONNECTED CARE MODEL FOR SUCCESS OF PROPOSED TEAM MODEL OF CARE

- What functions would your team want a connected care model to contain?

The AHL connected care model consists of four key elements to be coordinated with the other DHI teams, as summarized below:

(1) *De-identified database and Health Report Cards*. Our proposed CC system will include both a database of aggregate data and a Health Report Card that tracks data from individual children. The database will house the school-wide child health data that are available in universal school records such as the Kindergarten Health Assessment, a form filled out by a health provider and required of every kindergartner, and the height, weight, and BMI percentile measurements required to be taken of every

student once each year. These data will be used to track the health and nutrition status, specifically the BMI percentile distribution, of each incoming cohort of young children. The Health Report Cards will show graphically the progress of each child's weight for height percentiles and the numbers and kinds of health-related activities in which he or she has participated in the recent past. With the permission of the parent, the individual data could also be communicated directly to the child's primary care provider. This type of information could be collected for all ten DHI teams using different 'pages.'

(2) *Consistent messages*. AHL advocates for standards of practice for obesity treatment that follow from evidence-based, moderate weight management messages to be used consistently all healthcare professionals within Durham County. Consistent messages that shape the culture of our County towards a more healthful lifestyle is so important AHL hopes that DHI would consider taking these health messages beyond this program to the entire community through a multi-level social marketing campaign similar to the one waged against tobacco use.

(3) *Access to available resources.* AHL intends to centralize information on all the resources available for each of the problems addressed by the ten teams in a venue that can be easily accessed by providers so that referrals could be made directly and in a coordinated manner. With this coordination, it would be possible to keep better statistics on which services are needed where and by whom, not only providing the services where needed at the correct volume, but also avoiding duplication of services.

(4) *Information about community volunteers.* AHL plans to create a database of information on community volunteers and community health advisors (CHA), including contact information, demographics, areas of interest, level of training, availability, preferred geographical area, cost for services (if applicable), present assignment and any openings for additional service to other individuals. This database would be sort-able by name of volunteer and name of service user so that one volunteer (or community health advisor (CHA)) could be designated as the navigator, case manager or point person for each service user.

- <u>How would workflow and processes ideally work within the CC model</u>?

AHL will request YE Smith school, and subsequently other participating schools, to contact parents to obtain consent to allow the AHL team to enter data from children' school health records directly into the AHL database. Recognizing how busy school personnel are, either AHL would have to provide the coders and data entry staff to accomplish this task, or pay the school to hire someone to do it. In addition the school routinely measures heights and weights annually. For those children whose families have consented, these data would be entered and linked with the individual child in the database. Other data, such as oral health screenings, can be added later. The school would also record nutrition education, school gardening, physical education or sports activities, etc., in which the child has engaged.

The AHL team includes community partners who also will be providing nutrition education and physical activity opportunities. These opportunities may also be captured perhaps through entry into the database by the child, if old enough, or by the parent or a volunteer. However, AHL looks forward to a time when each of the collaborating partners and institutions will have a card reader. Each consented child would have a card with the AHL logo on one side and a magnetized strip on the other to swipe through the card reader. The database, accessible through the World Wide Web, would receive and store this information. In turn, this information would be down-loadable by the school, which would be able to print a colorful health report card with stars or other incentivization representing the number of times each child recorded an eligible activity. In addition, the Duke Health provider would have access to the same data for use in periodic health maintenance and wellness visits by the child. To the extent it could be done anonymously, AHL could abstract these data for all children in the school for evaluation purposes.

- How can we ensure that Durham County residents and patients remain engaged in the Connected Care system and the more formal health system where appropriate?

According to the Health Belief Model,[14] if people believe that by their actions they can favorably affect their health outcomes, then they are more likely to undertake actions that will be effective in overcoming perceived barriers or costs. Positive reinforcement has been shown to enhance a patient's (in this case, a participating child and his or her family) sense of self-efficacy. The positive feedback that the children and families receive by the graphic representation of their height and weight, and the increasing marks or scores the children get for their nutrition education and physical activity participation may serve that purpose. However, until the program becomes embedded in the everyday expectations of families, schools and health providers, an additional incentive may be necessary. Insurance companies and others have used small gifts to reinforce health promoting behaviors on the part of patients and subscribers. The AHL team intends to do the same, using small gifts (perhaps pedometers, or bookmarks or pens/pencils with the AHL logo) or eligibility for drawings for a larger prize to reinforce positive behaviors.

- How can we ensure that residents/patients have an opportunity to understand their health care treatment options, as well as how their own behavioral choices affect their health outcomes?

The AHL team believes that by making the health messages about obesity consistent and ubiquitous, making the contact information for health resources (including a question hotline as per insurance companies) easily available, and involving the entire community surrounding the target child, anyone who has a question will be able to locate the answer or the options that comprise the possible answers. Understanding, however, is a different matter. This is where the volunteer who is the navigator, advocate or point person for any individual in the system becomes a key player. It would be the responsibility of this person to ensure this understanding, or to acquire additional help (in the form of an interpreter or other health professional) if they themselves cannot do it.

- How can we maximize the probability that residents/patients will adhere to the plans that are agreed upon between providers and residents/patients?

Our child participants will be under the purview of their homeroom teacher, their PE teacher, their school nurse, social worker or nutritionist at least weekly – daily in some instances. In addition, they will be visiting their medical care homes at least annually. Through the CC database, all of these professionals will be working toward the same health goals with the target child using the same information and care plan. When the system reaches the point that the providers themselves can enter data, which point we anticipate reaching before the end of the pilot, we will be able to track healthcare visits. The provider will be able to use this information to reinforce any progress the child may have made and, if indicated, set new goals for the child to achieve before the next visit.

- How can we ensure that critical patient information (medications, allergies, etc.) is shared efficiently across the multiple components of the CC system?

In order for AHL to achieve its goals, all actors in the system should offer children and their families the same messages with respect to nutrition and physical activity. This information for each consenting child can be stored in the database. Specifically, both schools and health providers will have access to that same information. Eventually, the community-based partners who are active members of the AHL team will have access to the same information. Since the database will be accessible over the internet, all partners will be able to view the same patient and participant information as long as there is an internet connection. Therefore, the school could see when the child last visited his or her medical care home, the doctor or other provider could see in which recreation activities the child participated, and the community-based partner could see what nutrition lessons or PE classes the child received in school.

- ♦ What information systems (functions) would your team want as part of the CC model?
  - *What information does each component of the system need?*

To be seamless and to achieve the above goal of sharing information efficiently, each of the partners in the AHL program should be able to see the same information, with the exception of confidential Personal Health Information (PHI) protected by HIPAA. However, with the consent of parents, even selected PHI data might be shared if it would benefit the child. There may be children who are on medication if they have a health condition, such as type 2 diabetes or hypertension, related to their overweight status. As PHI, this information may be accessible by other providers in Duke Health (such as Pediatric Endocrinology), but not by the school or the community-based partners except with an informed consent and the appropriate HIPAA release from parents.

We have identified above the information that each component of our system should have access to. To summarize, these are the height and weight of children entering kindergarten, then the annual heights and weights and BMI percentiles, the nutrition and PE classes they attend, and the community-based nutrition and physical activities in which they participate for each child in a target elementary school. In addition, the partners will be able to see the medical visits (but not the PHI from those visits) that the child has had, not only to the medical home but to other providers in the Duke system.

Finally, the major innovation we hope to bring to the CC model is the opportunity for the information to be shared with parents and families through the health report card, a printout that should be designed to be attractive to children. The card will document the child's progress toward healthy weight and the nutrition and physical activities he or she has accomplished. If done well (as we intend to do), the information will be rewarding and be carried with pride by the children and their parents.

- *How should that information be shared?*

The agencies and institutions participating should be able to access the information online. The schools (with resources provided by AHL) will enter the health information on participating children from their school files; health care providers will enter the fact that a visit took place and, if permitted by parents, any relevant PHI; community-based recreation and educational organizations will enter the participation of children in pertinent activities. All of the partners will have access to this information via a unique protected password dependent on the level of access necessary and/or permitted.

- ♦ Who are the stakeholders for this model in Durham County?

In addition to the partner organizations listed in Appendix J, the stakeholders are all the residents of Durham County because, in the obesiogenic environment of modern culture, almost three-quarters of the residents of Durham are already overweight or obese and the other half are at some degree of risk of becoming overweight or obese. The healthcare system, the insurance industry, and the business community are also stakeholders because, as illustrated in our economic analysis, everyone shares the increased costs to society of the obesity epidemic. Letters of support from all of the major partners who will be involved with the pilot as soon as it is approved by the DPS office of research and accountability are included in Appendix K.

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INDEX OF APPENDICES

APPENDIX A.

Table 1. Comparison of adult obesity prevalence rates:
United States, NC state and Durham county populations.

BMI category (kg/m^2)	National	North Carolina State	**Durham County**
Underweight (BMI < 18.5)	2.0%	1.8%	3.0%
Normal Weight (BMI = 18.5 – 24.9)	33%	33.6%	32.6%
Overweight (BMI = 25 – 29.9)	32.8%	35.9%	34.8%
Obese (BMI ≥ 30)	32.2%	28.7%	29.6%

Sources: National, CDC website; State, 2007 Behavioral Risk Factor Surveillance system; County, 2007 Community Health Assessment.

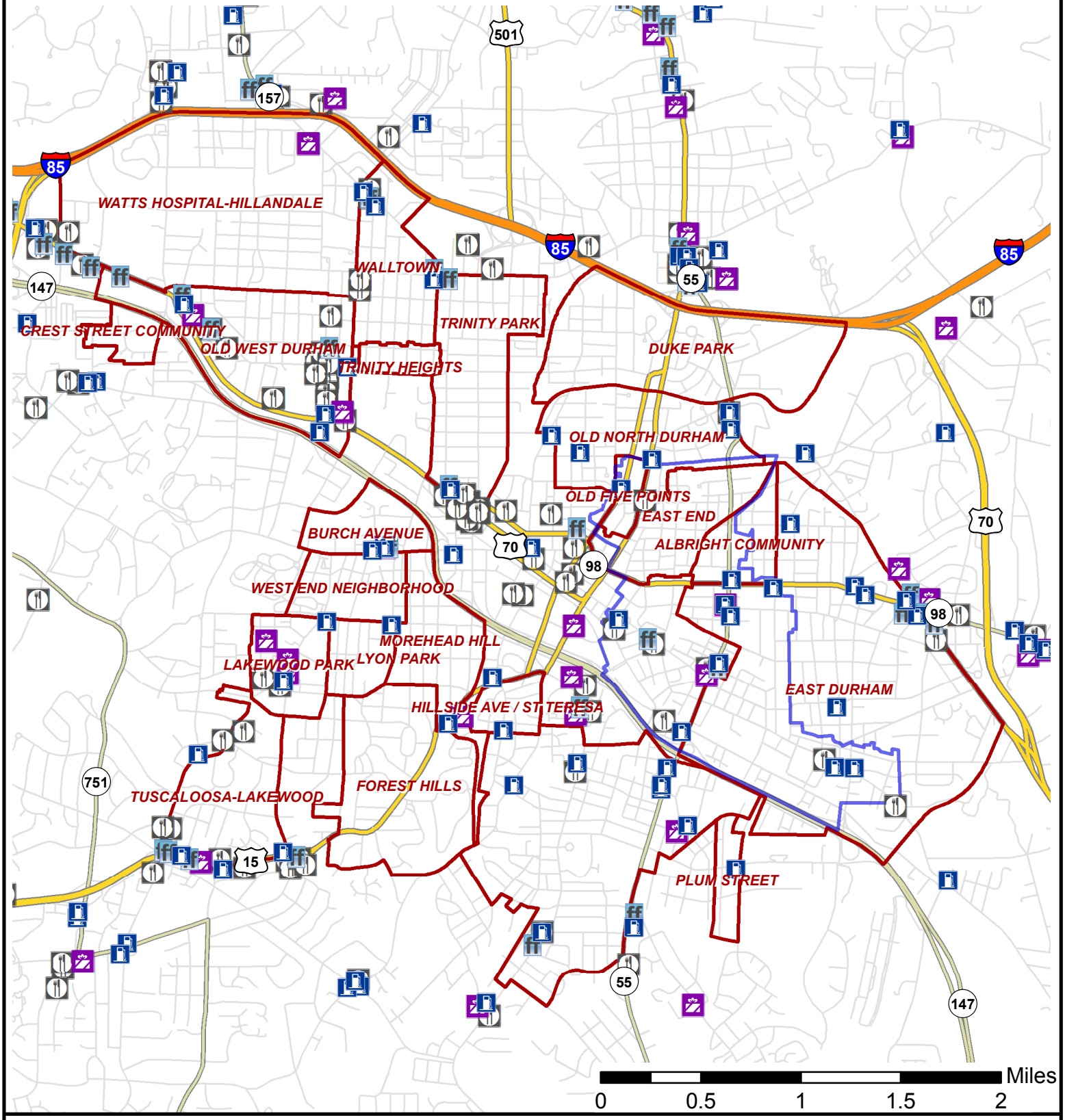
Table 2. Comparison of child (age 2-18) obesity prevalence rates:
United States, NC state and Durham county populations.

BMI category (kg/m^2)	National	North Carolina State	**Durham County**
Underweight (BMI < 5^{th} %ile)	3.3%	3.3%	4.5%
Normal Weight (BMI = 18.5 – 24.9)	64.8%	62.8%	61.1%
Overweight (BMI = 85- <95%ile)	15.6%	16.4%	14.7%
Obese (BMI ≥ 95^{th} %ile)	16.3%	17.5%	19.7%

Sources: National, NCHS Health E-stat; State and county, 2008 NC-Nutrition and Physical Activity Surveillance System; County.

APPENDIX B.

Central Durham -- Diet/Nutrition

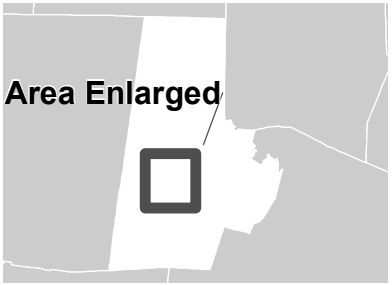


Map Key

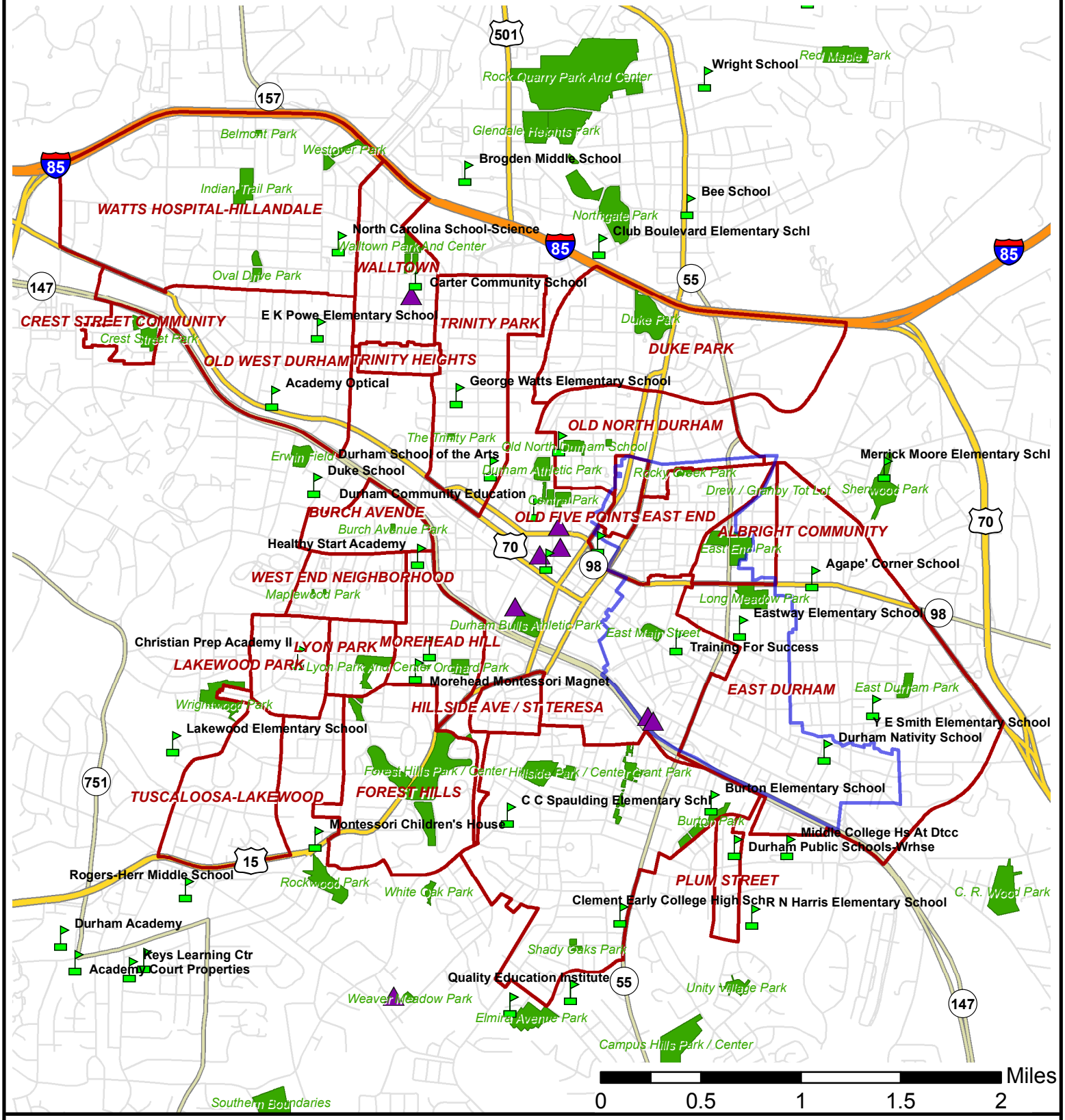
- Convenience Stores (84)
- Fast Food (34)
- Grocery Stores (31)
- Restaurants (148)
- NECD
- Neighborhoods

Roads

- Local Roads
- Interstate
- US Highway
- NC Highway



Central Durham -- Exercise/Recreation

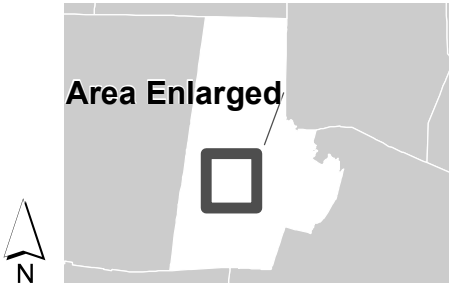


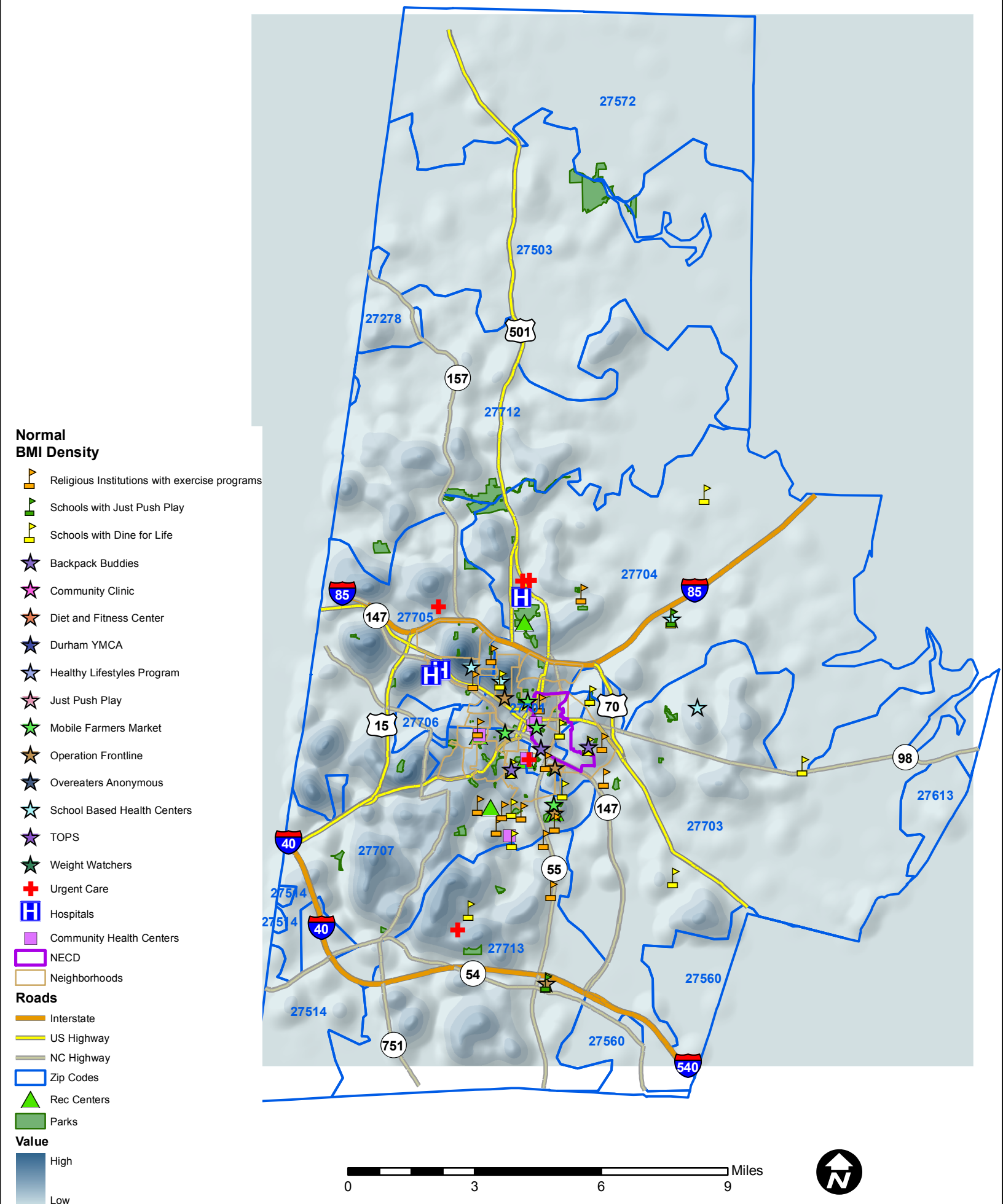
Map Key

- Schools (42)
- Youth Services (8)
- NECD
- Neighborhoods
- Parks (45)

Roads

- Local Roads
- Interstate
- US Highway
- NC Highway

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27560
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751
27560
540
Normal
BMI Density
Religious Institutions with exercise programs
Schools with Just Push Play
Schools with Dine for Life
Backpack Buddies
Community Clinic
Diet and Fitness Center
Durham YMCA
Healthy Lifestyles Program
Just Push Play
Mobile Farmers Market
Operation Frontline
Overeaters Anonymous
School Based Health Centers
TOPS
Weight Watchers
Urgent Care
Hospitals
Community Health Centers
NECD
Neighborhoods
Roads
Interstate
US Highway
NC Highway
Zip Codes
Rec Centers
Parks
Value
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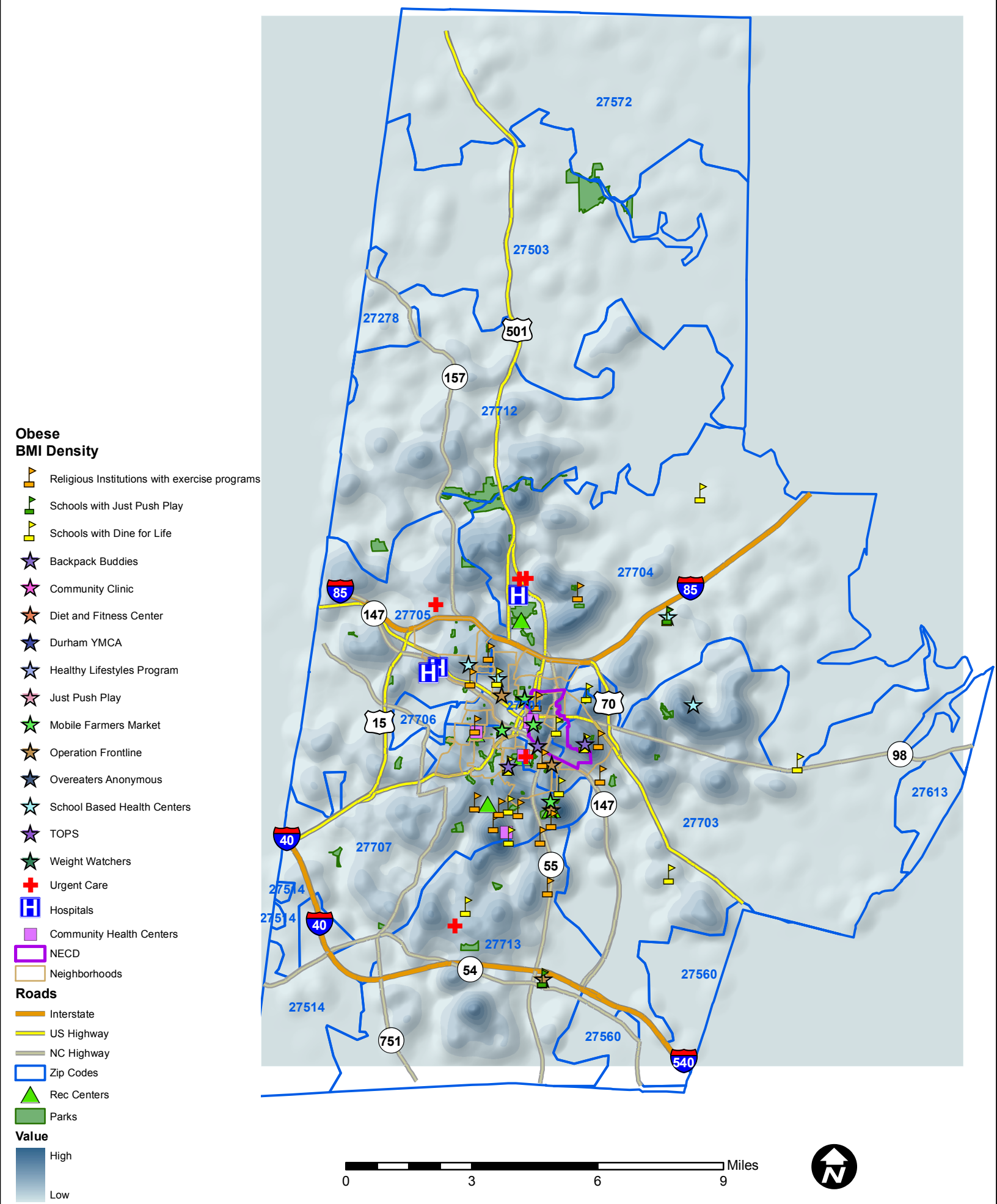
Obese
BMI Density
Religious Institutions with exercise programs
Schools with Just Push Play
Schools with Dine for Life
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Community Clinic
Diet and Fitness Center
Durham YMCA
Healthy Lifestyles Program
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Overeaters Anonymous
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Weight Watchers
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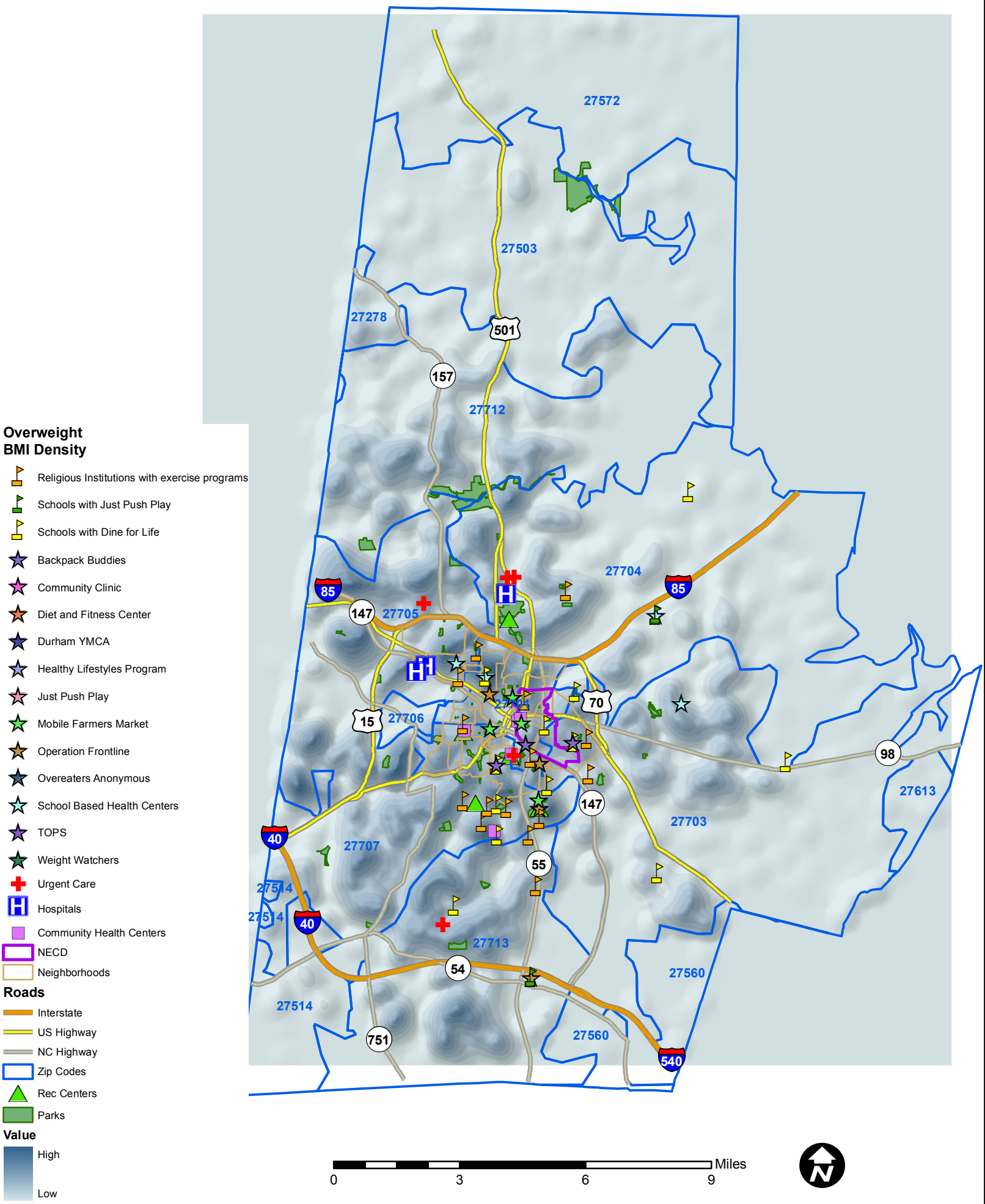
Overweight
BMI Density
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Schools with Just Push Play
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Miles

APPENDIX C.

History of AHL Team

Original WILD	Original HB-HM	Combined HB-HM	Original HEALTH	Final AHL
Laura Svetkey, Duke Hypertension Center	David Fitzgerald, Duke Medical Psychology	Laura Svetkey, Duke Hypertension Center	William Yancy, Duke GIM	William Yancy, Duke GIM
Colleen Blue, El Centro Hispano	Theresa El-Amin, Southern Anti-racism network	David Fitzgerald, Duke Medical Psychology	David Reese, Inter-Faith Food Shuttle	David Reese, Inter-Faith Food Shuttle
Rosa Maria Gattas de Mayorga, El Centro Hispano	Linda Davis, Duke Student Health	Hayden Bosworth, Duke General Medicine	Jen McDuffie, Duke GIM	Jen McDuffie, Duke GIM
Maritza Chirinos, El Centro Hispano	Rachel Dew, Duke Psychiatry	Leonor Corsino, Duke Endocrinology	Remy Coeytaux, Duke DCRI	Remy Coeytaux, Duke DCRI
Hayden Bosworth, Duke General Medicine	Amy Orange, Duke Pediatrics	Perri Morgan, Duke DCFM	Bernard Fuemmeler, Duke DCFM	Bernard Fuemmeler, Duke DCFM
Leonor Corsino, Duke Endocrinology	Janet Whidby, Duke Psychiatry	Linda Davis, Duke Student Health	Brenda Poirier, Duke DCFM	Brenda Poirier, Duke DCFM
Pilar Rocha, El Centro Hispano	Beth Brockman, Community Gardens	Rachel Dew, Duke Psychiatry	Howard Eisenson, Duke DFC	Howard Eisenson, Duke DFC
Perri Morgan, Duke DCFM	Maritza Chirinos, El Centro Hispano	Amy Orange, Duke Pediatrics	Deborah Horn, Duke DFC	David Fitzgerald, Duke Medical Psychology
Kathleen Aicher, Duke Hypertension Center	Julie Diaz, Love Thy Neighbor	Janet Whidby, Duke Psychiatry	John Dement, Duke DCFM	Colleen Blue, El Centro Hispano
	Eloise Edwards, Union Baptist	Perri Morgan, Duke DCFM	Howard Eisenson, Duke DFC	Howard Eisenson, Duke DFC
	Bessie Elmore, Turning Corners Alliance	Theresa El-Amin, Southern Anti-racism network	Christy Boling, GIM	Christy Boling, GIM
	Sherika Hill, Generation Fit	Colleen Blue, El Centro Hispano	Joan Levy, Duke GIM	Leonor Corsino, Duke Endocrinology
	Jonathan Kotch, Health Care for All NC	Beth Brockman, Community Gardens	Santanu Data, Duke GIM	Santanu Data, Duke GIM
	Janet Morton, Union Baptist	Maritza Chirinos, El Centro Hispano	Eric Westman, Duke GIM	Eric Westman, Duke GIM

Lenora Smith, PEACH

Sheri Starks, SPICE

Trish Vandersea, DPfC

Sandi Velez, Love Thy Neighbor

Julie Diaz, Love Thy Neighbor

Eloise Edwards, Union Baptist

Bessie Elmore, Turning Corners Alliance

Sherika Hill, Generation Fit

Jonathan Kotch, Health Care for All NC

Janet Morton, Union Baptist

Lenora Smith, PEACH

Sheri Starks, SPICE

Trish Vandersea, DPfC

Sandi Velez, Love Thy Neighbor

Sarah Armstrong, Duke Peds

Michelle Bailey, Duke Peds

Brenda Nevidjon, Duke Nursing

Miriam Morey, Duke Center for Aging

Becky Freeman, DCHD

Barbara Rumer, DCHD

Casey Wardlaw, DCHD

Gwen Murphy, PfHD, SHAC

Heidi Carter, DPS School Board

Sharon Baker, CHC

Annette Smith, DPR

Ivan Parra, Durham CAN

Florence Siman, El Pueblo

Peggy Norwood, Structure House

Nick Errato, YMCA

Sarah Armstrong, Duke Peds

Michelle Bailey, Duke Peds

Janet Whidby, Duke Psychiatry

Julie Diaz, Love Thy Neighbor

Becky Freeman, DCHD

Barbara Rumer, DCHD

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Jonathan Kotch, Health Care for All NC

Janet Morton, Union Baptist

Lenora Smith, PEACH

Trish Vandersea, DPfC

Sandi Velez, Love Thy Neighbor

Helen Bell, Operation Breakthrough

Nadine Blake, DPS

Spencer Bradshaw, DCIA
Hank Eichin, DCIA
Ivan Parra, Durham CAN
Carlene Byron, Salvation Army
Barron Damon, BBBS
Linda Demarest, SHAC
Cassandra Fogg, YE Smith
Minnie Forte-Brown, EDCI
Ellen Reckhow, EDCI
Lucy Harris, SEEDS
Melva Henry, NECD
Martin Juarez, Pastor
Rosanna Panizo, Pastor
Trilby McClammy, PTA
Sheila Ryba, John Avery
Penny Sekadlo, WW
Pete Shankle, DPS
Laura Wickwar, TOPS

APPENDIX D.

Current list of potential intervention strategies

In all of the examples listed below, AHL will work closely with El Pueblo, El Centro, The Community Health Coalition, and the XX to ensure that programs are developed and delivered in a culturally sensitive manner.

1. Enlarging the existing DINE for LIFE nutrition program taught by the DCHD in the DPS by using the following additional materials as topics for other subjects:
    - WIN the Rockies: hands-on programs that are very kid friendly.
    - Kidnectics: lesson plans that are fun activities
    - ESMM: acitivities/lessons for science and math, K - 5
    - Jr. Chef Club: a cooking aspect with each lesson that would be most appropriate for an after school program
2. Work with CNS to turn the cafeteria into a learning center for nutrition. Suggested topics for displays are the following:
    -Milk nutrition facts
    -Fiber-importance and sources
    -Nutrient value for canned/frozen/fresh vegetables/promote all types
    -Healthy Snacking
    -Healthy Drinks
    -Iron-importance and sources
    -Vitamin D-importance and sources
    -Vitamins A & C-importance and sources
3. Offer healthy eating and cooking classes conducted by Operation Frontline (IFFS) or partner organizations to reach families, neighbors, and other community members
4. Establish Free Farmer's Markets (IFFS) in low-income neighborhoods without supermarkets or grocery stores,
5. Expand Back Pack Buddies (IFFS), a program that sends food for the weekend home with food-insecure children, to more schools,
6. Expand the SPARKs physical education programs, presently offered K-8, to increase and improve participation, possibly into the high schools,
7. Extending the hours of the before- and after-school programs at elementary and middle schools when possible so that parents and children can be active together,
8. Provide transportation to take kids home at the end of after-school programs: walking busses, car pools, late activity busses, shuttles, etc.
9. Offer special skills classes for overweight children to help them reach their full athletic potential as they try to lose weight,
10. Form walking groups for teachers and students at schools, for parents and children in the neighborhoods through faith and civic institutions,
11. Encourage these same institutions (#11) to organize sports and teams for health, comraderie and fellowship,
12. Supervise or patrol community use of school athletic facilities in the late afternoon and early evening when they are not needed for school team practice,
13. Organize civic, faith, and government organizations to sponsor Fitness Challenge and Resistance to the Core, two lay-led exercise programs through the DCHD,

14. Use the PTA to organize events, workshops, and health fairs to promote families working on health together,
15. Conduct classes for adults on parenting, conflict mediation and stress reduction techniques such as mindfulness meditation through Duke Diet and Fitness Center, Duke Live for Life and Integrative Medicine,
16. Provide support groups to new and expectant mothers during pregnancy, after delivery, and throughout breastfeeding to improve nutrition of mother and baby in collaboration with Baby College and/or The Incredible Years,
17. Institute local chapters of TOPS, Weight Watchers and Shrinkathon based, again, using civic, faith or government facilities
18. Work with Big Brothers, Big Sisters of the Triangle and DPS to provide appropriate mentors for overweight children without a role model,
19. In collaboration with Durham CAN, Durham for Obama and other advocacy organizations, advocate for needed health policy change

APPENDIX E.

Instructions for scoring – how to interpret these results:

Focus group questions were selected by AHL team members through discussion and with consideration for the length of time allotted for focus groups (typically 90-120 minutes). Focus group questions were asked by the group facilitator in the order presented (see tables). Once each question was asked, group members were encouraged to provide as many verbal responses as possible while the facilitator wrote these answers on a large piece of paper. Once group responses appeared to be exhausted, the facilitator assisted group members in consolidating and combining recorded responses into ideas or themes. Upon the creation of an agreed-upon list of ideas that represented the group responses, group members were then asked to individually select the top three responses that they believed to be the most salient and to rank their evaluation of the ideas from most to least important. Rankings were written by group members on a note card that also contained the original question. Note cards with rankings were collected from group members without revelation or discussion of individuals' rankings and the process began again with the subsequent question. Data-analytic procedures consisted of summing the votes assigned to each idea across each question. Top-ranked responses received three votes, second-ranked responses received two votes, and third-ranked responses received one vote. On one occasion (Adolescent group, question 1) a group member did not list a third-ranked response.

1. What keeps you, your family members, or other people you know from being able to control weight the most?

		SUM
A.	STRESS	14
B.	UNHEALTHY EATING	5
C.	PRESCRIPTION MEDICATION	2
D.	LACK OF MOTIVATION	8

2. What type of results would you like to see in order to feel that a weight control program is working for you?

		SUM
A.	LOSING WEIGHT/DROPPING A DRESS SIZE	13
B.	REDUCED CRAVINGS/APPETITITE	4
C.	MORE ENERGY	10
D.	MORE SELF ESTEEM	3

3. What would a weight control program need to have to make you want to participate?

		SUM
A.	SPORTS	9
B.	ENCOURAGEMENT	11
C.	TALKING AS A GROUP	7
D.	FIELD TRIPS	3

Adolescent Group

5 Females

4. What would be the best place for weight control services/programs for your and/or your family?

	SUM
A. CAMP	9
B. YMCA	6
C. SCHOOL	9
D. GYM	5
E. CLINIC	1

5. What places would you NOT go for weight control services/programs for your or your family?

	SUM
A. FOOD STORE	11
B. MALL	10
C. DAY CARE	6
D. HOME	3

6. What methods do you believe work best to lose weight or maintain a healthy weight?

	SUM
A. DAILY EXERCISE	11
B. HEALTHY EATING	9
C. SOCIAL SUPPORT	6
D. SLEEPING	3
E. INSTRUCTION	1

Adolescent Group

5 Females

7. What type of social support would you or your family need to lose 10-20 pounds and keep it off?

		SUM
A.	EATING TOGETHER	12
B.	ENCOURAGEMENT	10
C.	EXERCISE TOGETHER	8

8. What do you feel you need to have in order to live a healthy lifestyle?

		SUM
A.	GOALS	13
B.	SOCIAL SUPPORT	3
C.	MOTIVATION	8
D.	SELF CONTROL	6

Adolescent Group

5 Females

1. What do you think are some things that may have caused your son's/daughter's higher weight?

		SUM
A.	INACTIVE ENTERTAINMENT	9
B.	EATING HABITS	13
C.	GENETICS	1
D.	LIFESTYLE	13

2. What do you think would have to happen for your son/daughter to change their habits/behavior in relation to their weight?

		SUM
A.	FINANCIAL SITUATION	9
B.	SUPPORT	16
C.	DISCIPLINE – INCREASED PARENTAL LIMIT-SETTING	11

3. What advice would you give to another parent regarding their children's weight?

		SUM
E.	FAMILY LIFESTYLE	12
F.	FOOD CHOICES	10
G.	ENCOURAGEMENT	14

4. What methods, if any, have you tried to help your son/daughter with their weight problem through the years?

		SUM
A.	SELF-EMPOWERMENT	15
B.	DIET GOALS	13
C.	DISCIPLINE	8

OBESE or OVERWEIGHT PARENTS OF

OBESE or OVERWIEGHT CHILDREN

(English)

5 Females

1 Male

5. How did your doctor or care provider tell you that your child was overweight?

	SUM
A. GENTLY	13
B. WITH CONCERN	14
C. EDUCATIONAL	9

OBESE or OVERWEIGHT PARENTS OF OBESE or OVERWIEGHT CHILDREN (English)

5 Females

1 Male

1. What things do you think have caused an increase in weight in your child?

	SUM
A. EATING HABITS	3
B. LACK OF EXERCISE	10
C. LACK OF TIME	4
D. LACK OF EDUCATION	8
E. PARENT BEHAVIOR	4
F. PRESCRIPTION MEDICATION	1

2. What do you think is necessary so that your child changes their habits or behaviors related to their weight?

	SUM
A. INFORMATION/EDUCATION	4
B. CHANGING EATING HABITS	13
C. EXERCISE	7
D. PARENT BEHAVIOR	6

3. What advice would you give to other parents with children related to the weight of the children?

	SUM
A. EXERCISE	8
B. PROFESSIONAL HELP	5
C. EATING HABITS	8
D. EDUCATION	9

OBESE or OVERWEIGHT PARENTS OF

OBESE or OVERWIEGHT CHILDREN

(Spanish)

6 Females

4. What method, if any, have you used to help your child with their weight problem over the years? Did one of these methods help?

		SUM
A.	EXERCISE	12
B.	EATING HABITS	12
C.	EDUCATION	6

OBESE or OVERWEIGHT PARENTS OF OBESE or OVERWIEGHT CHILDREN (Spanish)

6 Females

1. What was the one thing that helped you the most in losing weight?

	SUM
A. PATIENCE	10
B. PRAYER	3
C. MOTIVATION	15
D. DOCTOR	8

2. What was the one thing that helped you the most in maintaining your weight loss?

	SUM
A. EXERCISE	9
B. DIET CHANGE	12
C. NEW HABITS	5
D. FEAR OF BAD HEALTH	6
E. SEEK INFORMATION/SUPPORT	4

3. What was the biggest obstacle in achieving your weight loss?

	SUM
A. BAD EATING	11
B. TEMPTATIONS BY FAMILY MEMBERS	11
C. TIME	5
D. FINANCIAL STATUS STRESS	6
E. DROPPING A DRESS SIZE	3

FORMERLY

OBESE or OVERWEIGHT

ADULTS (Who maintained weight

for one year or more)

6 Females

from TOPS or WEIGHT

WATCHERS

4. What was the biggest obstacle in maintaining your weight loss?

	SUM
A. OLD HABITS	9
B. NO MOTIVATION	7
C. BAD FOOD/CONVENIENCE	8
D. HOLIDAYS	4
E. FRUSTRATION	4
F. FINANCIAL ISSUES	4

5. What kind of support has been most helpful for you to maintain your weight loss?

	SUM
A. MYSELF	17
B. SOCIAL SUPPORT	9
C. WEIGHT CHANGE	6
D. PHYSICAL/MEDICAL IMPROVEMENTS	4

6. What is the most important thing a weight loss program has to have to make overweight people want to participate and keep participating?

	SUM
A. FLEXIBLE	4
B. SUPPORT	11
C. PROVEN RESULTS	3
D. INCENTIVE	4
E. GOOD LEADERSHIP	5
F. FUN	3
G. AFFORDABLE	6

FORMERLY OBESE or OVERWEIGHT ADULTS (Who maintained weight for one year or more)

6 Females from TOPS or WEIGHT WATCHERS

7. In your experience of living in Durham, why is it difficult for people to keep a healthy weight?

		SUM
A.	TOO MUCH FAST FOOD	7
B.	TOO MANY FOOD EVENTS	4
C.	POOR LEADERSHIP	3
D.	PREVALENCE OF PORK IN REGION ("HOG COUNTRY")	3
E.	LACK OF SAFETY	6
F.	FINANCIAL ISSUES	3
G.	LACK OF KNOWLEDGE	5
H.	LACK OF RESPONSIBILITY	5

FORMERLY

OBESE or OVERWEIGHT

ADULTS (Who maintained

weight for one year or more)

6 Females from TOPS or WEIGHT

WATCHERS

1. As a person with Diabetes/Obesity (Chronic Illness), do you know how to take care of yourself?

		SUM
A.	HEALTH & NUTRITION	29
B.	MAINTAINING YOUR HEALTH	18
C.	PREVENTION	12

2. How do you think your weight affects your chronic illness?

		SUM
A.	RISK FACTORS	30
B.	CONSEQUENCES	20
C.	DEPRESSION	10

3. What are the three things that help you most with your Diabetes/Chronic Illness?

		SUM
A.	FOLLOW UP	29
B.	SUPPORT	11
C.	NOURISHMENT REGIMEN	11
D.	ACTIVITY	9

4. Do you think that losing weight will improve your health? Why?

		SUM
A.	PREVENTION	30
B.	EFFECTS	20
C.	BENEFITS	10

OBESE or OVERWEIGHT ADULTS

with a CHRONIC ILLNESS

(Spanish)

8 Females

2 Males

1. As a person with a Chronic Illness, do you understand how to take care of yourself?

		SUM
A.	DIET	20
B.	EXERCISE	14
C.	MEDICATION	15
D.	FOLLOW MEDICAL ADVICE	6
E.	SUPPORT SYSTEM	5
F.	SURGERY	0
G.	RECUPERATION	0
H.	CIVIC AND RELIGIOUS ACTIVITIES	0

2. What is the issue that you feel is keeping you, your family member, or the people you know from being able to control your weight the most?

		SUM
A.	HEALTHY APPETITE/FOODS LIKED	19
B.	THE WAY YOU WERE RAISED/HABIT	26
C.	CONFUSING MEDICAL INFO/NO UNITY	8
D.	NOT ABLE TO PREPARE YOUR OWN FOOD	7

3. What 3 things help you the most with your chronic illness?

		SUM
A.	DIET	22
B.	MEDICATION	22
C.	ATTITUDE	0
D.	EXERCISE	16

OBESE or OVERWEIGHT ADULTS

with a CHRONIC ILLNESS

(English)

7 – Female Participants

3 – Male Participants

OBESE or OVERWEIGHT ADULTS

with a CHRONIC ILLNESS

(English)

7 – Female Participants

3 – Male Participants

4. What is the most important thing a weight loss program has to have to make overweight people want to participate and keep participating?

		SUM
A.	EXERCISE/SWIMMING POOL	19
B.	Weight Watchers/Getting Weighed At The Same Time/Consistency	14
C.	HEALTH PROBLEM ADVISE/MEDICAL SUPERVISION	16
D.	GROUP APPROVAL	3
E.	DESIRE	8

DIABETES and OBESITY GROUP

(African American)

18 Participants

1. What 3 things would help you the most with your diabetes?

		SUM
A.	MONEY/FINANCES	41
B.	NUTRITION	27
C.	COMMUNICATION B/W & AMONG PROVIDERS AND PHARMACIES	27
D.	INFORMATION AND EDUCATION	23

2. What has been helpful for controlling your weight?

		SUM
A.	SUPPORT & FAMILY EDUCATION	55
B.	EATING SMALLER PORTIONS	38
C.	EXERCISE	27

3. What is the most important thing a weight loss program has to have to make overweight people want to participate and keep participating?

		SUM
A.	CARING & SUPPORTIVE LEADERSHIP	49
B.	SOCIAL SUPPORT AMONG MEMBERS	26
C.	SELF-PACED	20
D.	EDUCATION	15
E.	NO LABELS ON PROGRAM	8
F.	SHARED TRANSPORTATION	2

DIABETES and OBESITY GROUP

(African American)

18 Participants

4. What is the issue that you feel is keeping you, your family members, or other people you know from being able to control your weight the most?

		SUM
A.	LACK OF AWARENESS OF PROGRAMS	54
B.	ACTIVITIES INCLUDED FOR CHILDREN	25
C.	EDUCATION	13
D.	LACK OF INTEREST IN OFFERED PROGRAMS	8
E.	HOMEWORK, REWARDS, AND INCENTIVES	8
F.	AGE APPROPRIATE GROUPS	7
G.	MATCHING INTERESTS	5

HEALTH CARE PROVIDERS

GROUP

6 Participants

1. What ways in which you work with patients with diabetes or aspects of diabetes care in Durham County do you feel are the most beneficial and effective? What is working well?

		SUM
A.	African-American churches-linked care; DRH diabetes/nutrition education program; Duke diet & fitness center; RD (in Just For Us program)	16
B.	HOME VISITS	9
C.	NURSE FOLLOW-UP	4
D.	DIABETES GROUP VISITS	3
E.	ADA TOOLS	2
F.	SETTING SHORT TERM GOALS (2 WEEKS, RECHECK)	2

2. As you work with patients with diabetes, what would make a difference? (e.g., more time with patients, more resources, dietician consults, etc.)

		SUM
A.	MENTAL HEALTH PROFESSIONAL AVAILABLE AT PCP VISITS	13
B.	INCLUDE FAMILY AND SIGNIFICANT PEOPLE IN THEIR LIVES	11
C.	REIMBURSED FOR EDUCATION / TIME WITH PATIENTS (TO USE MOTIVATIONAL INTERVIEWING)	5
D.	MONEY; FOOD STAMP SUPPORT FOR BETTER FOODS; MINI GROCERY TO TEACH HOW TO MAKE A LIST AND SHOP	4
E.	GROUP VISITS / BEHAVIORALLY FOCUSED	3

HEALTH CARE PROVIDERS

GROUP

6 Participants

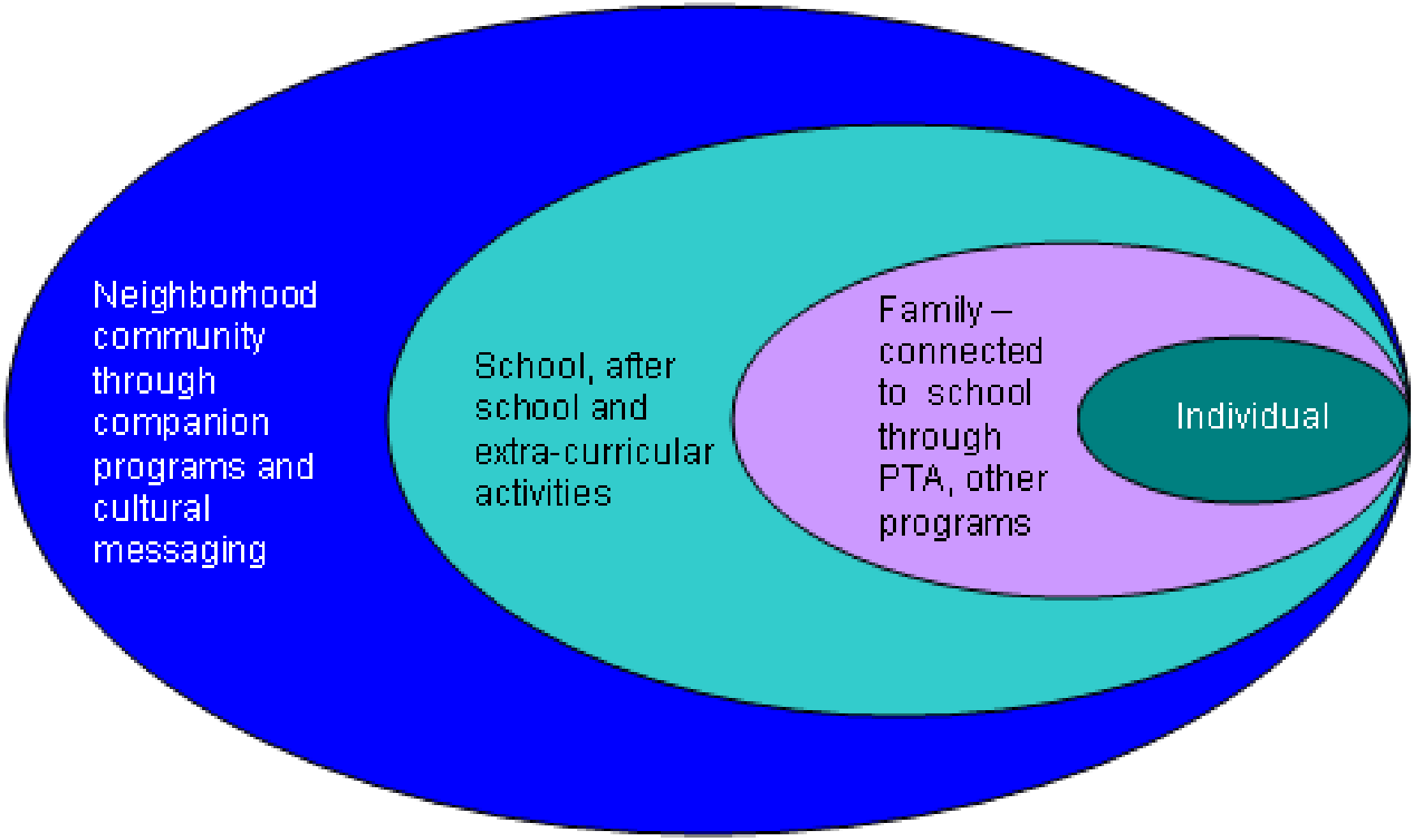
3. Given the physical activity and nutrition resources that are already available in the community (and possibly more that we will be developing), what would it take for your clinic to be able to guide patients to these resources consistently? If there was a single computer program that would allow a patient or staff person in your clinic to search resources by location, type of resource, cost, etc. would this be used in a busy clinic like yours?

		SUM
A.	MAKE IT EASY TO FIND RESOURCES (ICON ON THE DESKTOP)	13
B.	NO 2ND COPAY TO SEE RD/NUTRITIONIST (REIMBURSEMENT ISSUE)	11
C.	FASTER REFERRALS (TO NUTRITION AND OTHER SERVICES)	8
D.	RESOURCE PERSON (TRANSPORTATION; APPT REMINDERS)	5
E.	GIVE RESOURCES MAP TO PATIENTS (STOCK IN PCP CLINICS)	3
F.	LOW COST GYMS	2

4. What do you think is the one thing a weight loss product/service has to have in order to engage the community? To engage yourself and your fellow providers?

		SUM
A.	ENDORSEMENT OF COMMUNITY LEADERS/ENTITIES	10
B.	FOLLOW-UP WITH LOST PEOPLE; TRACK WHO IS SEEN LONG-TERM	10
C.	DON'T FOCUS ON WEIGHT LOSS, FOCUS ON BEING HEALTHY	9
D.	SET UP WITH SHORT-TERM GOALS	6
E.	BE THERE LONG-TERM, NOT JUST A YEAR	4
F.	EASY AND WORKS FAST	3

APPENDIX G.



Adapted from - http://www.cdc.gov/ncipc/dvp/Social-Ecological-Model_DVP.htm

Figure 1.

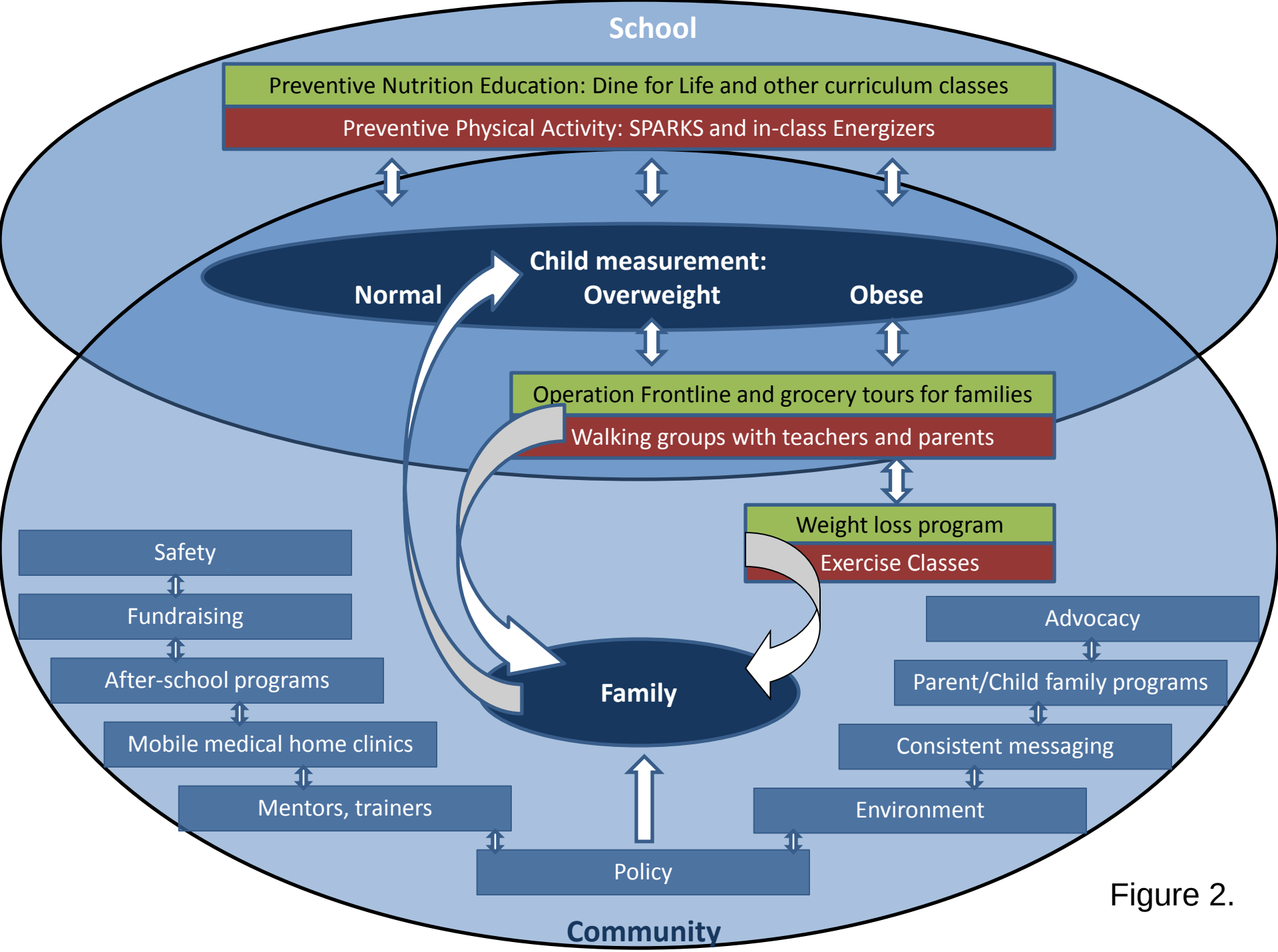

School
Preventive Nutrition Education: Dine for Life and other curriculum classes
Preventive Physical Activity: SPARKS and in-class Energizers
Child measurement:
Normal
Overweight
Obese
Operation Frontline and grocery tours for families
Walking groups with teachers and parents
Weight loss program
Exercise Classes
Safety
Fundraising
After-school programs
Mobile medical home clinics
Mentors, trainers
Advocacy
Parent/Child family programs
Consistent messaging
Environment
Family
Policy
Community

Figure 2.

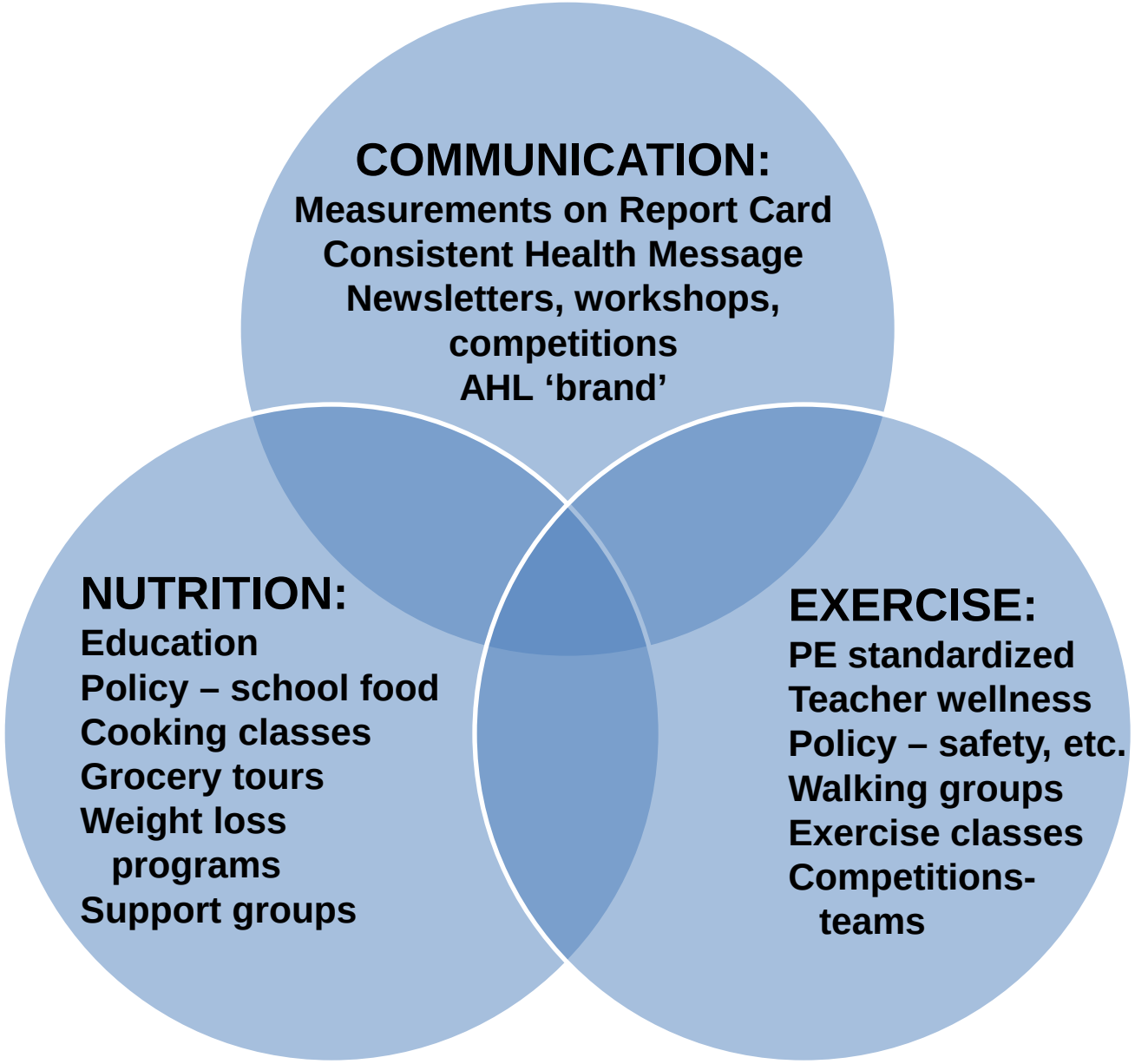

COMMUNICATION:
Measurements on Report Card
Consistent Health Message
Newsletters, workshops, competitions
AHL 'brand'
NUTRITION:
Education
Policy – school food
Cooking classes
Grocery tours
Weight loss programs
Support groups
EXERCISE:
PE standardized
Teacher wellness
Policy – safety, etc.
Walking groups
Exercise classes
Competitions-teams

Figure 3.

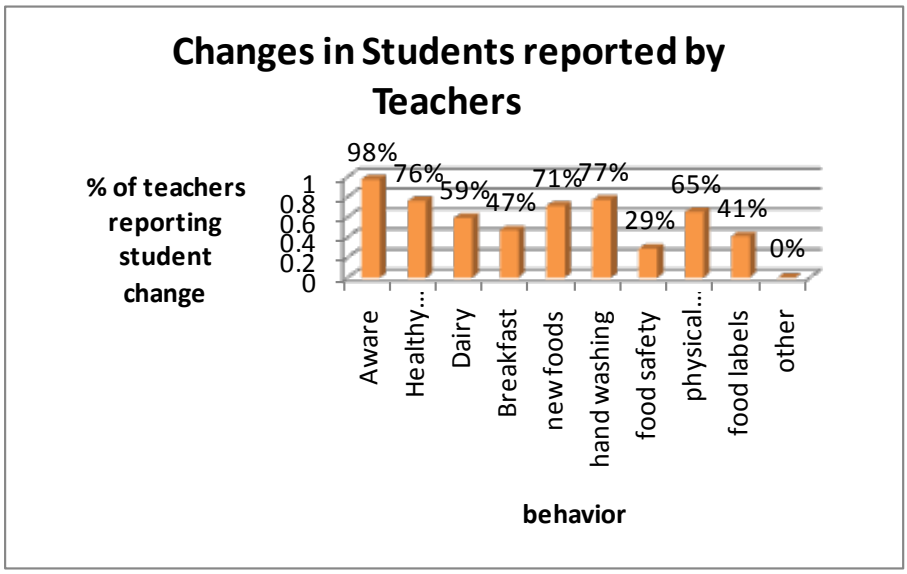
APPENDIX H.

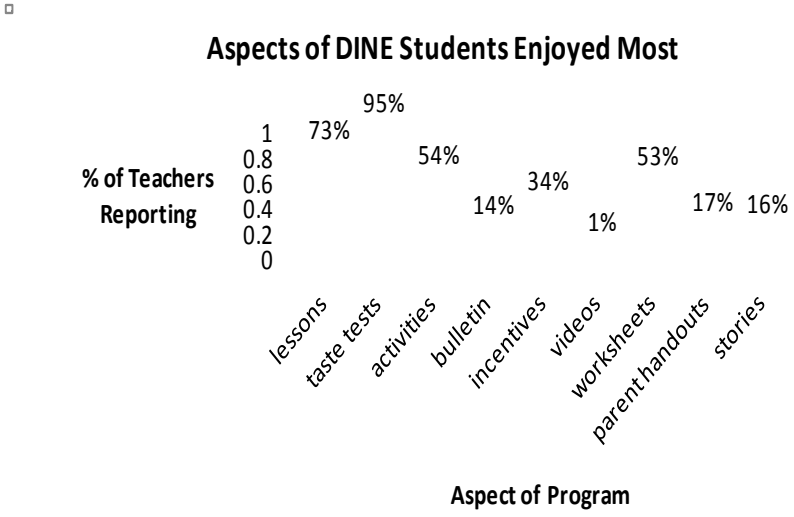
2008-2009 DINE School Teacher Evaluations

On a scale from 1 to 5, with 5 being the highest, teachers rated the program a 4.69 (3 did not answer and got 0)

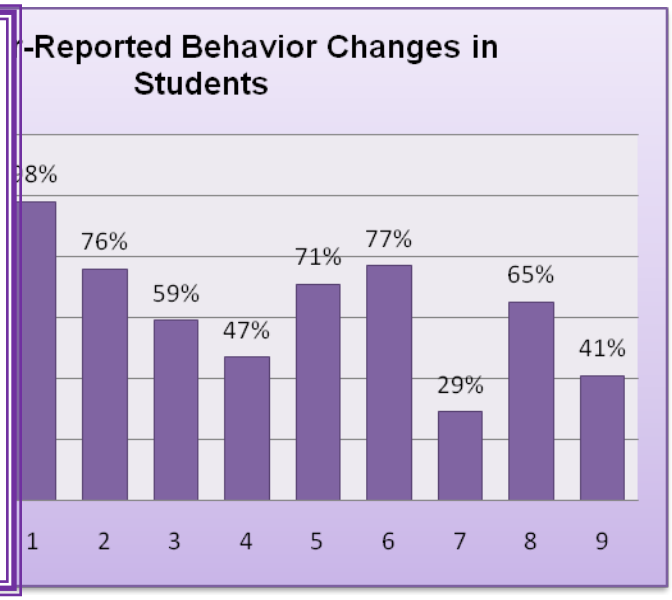
One a scale from 1 to 4, with 4 being the highest, teachers rated student interest in the program a 3.67. (4 did not answer and got 0)

Teacher's observed changes in students





1. More aware of healthy foods
2. Make healthier meal/snack choices
3. Increased intake of low-fat dairy
4. Eat breakfast more often
5. More willing to try new foods
6. Improved hand washing
7. Improved food safety
8. Increased physical activity
9. Increased reading of food labels



Inter-Faith Food Shuttle

Today, the Inter- Faith Food Shuttle is the Triangle's leading provider of high quality nutritious foods to tens of thousands of local, food insecure residents. The Inter-Faith Food Shuttle is a member of Feeding America, the Nations Food Bank Network and is one of the seven food banks located North Carolina. By and large, these residents include the low-income, the working families, the impoverished senior citizens, and thousands of children who too often miss meals. People in need of emergency supplemental food visit the Food Shuttle's 220 human service agency partners including church food pantries, neighborhood centers, Kids Cafes, low-income housing sites, senior nutrition centers, family crisis centers, hospices, United Way agencies, soup kitchens, emergency shelters, after school programs, day care centers, rehabilitation facilities, and disaster relief agencies. The food is recovered and distributed using our large fleet of refrigerated trucks and volunteer drivers.

The Food Shuttle has always believed that hunger in our land of plenty is unacceptable, and since 1989 we have rescued tens of millions of pounds of high quality fruits, vegetables, meats, dairy products, cereals, and juices for distribution to those amongst us who are hungry. Through partnerships with hundreds of food donors – including North Carolina's State Farmers Market that is adjacent to our headquarters – the Shuttle strives to rescue the best and most nutritious foods available for distribution to the hungry.

The Food Shuttle strives to establish equitable distribution of all food. Our service includes:

1. **Food Recovery and Distribution--**creates systems to rescue food and distribute donated food to every major soup kitchen, shelter and pantry in the Triangle area of North Carolina. This program also provides a Mobile Farmers Market truck directly to low income neighborhoods.
2. **The Culinary Job Training Program--**enrolls people of disadvantaged backgrounds, who have experienced poverty and hunger, to learn professional culinary skills while they proactively provide food to others in need.
3. **The Comprehensive Food Stabilization Program--** utilizes our CJTP students to prepare food with quick freeze (blast freezer technology) stabilization, so that fresh perishable foods are not lost, and better nutrition options can be offered to the various programs we serve.
4. **Children's Nutrition Programs** provides food to children in need during the summer, on weekends (BackPack Buddies Program), and in after school programs, and
5. **Nutrition Programs** includes Operation Frontline classes and food demonstration/nutrition education events.

<u>IFFS Mobile Farmers Market Project</u>

The Inter-Faith Food Shuttle uses a non-traditional methodology of food distribution, with a greater focus on mobile and direct distribution as opposed to traditional pantries shopping at our warehouse. Research has shown that the average grocery store is **2 ½ times smaller** in poor neighborhoods, with increased prices [1] and that low income and racially mixed census tracks have significantly **more convenience** stores and **fewer supermarkets.** [1] The **highest levels of obesity** are observed in census tracks with **no supermarkets. Since a** high percentage of food insecure families do not participate in food programs (WIC, food stamps, food pantries, etc), the Food Shuttle has found that the Mobile Farmers Market Project is an effective way to address food insecurity.

The organization's approach to addressing food insecurity, hunger and nutrition education has proven to be a model that has been emulated throughout the nation's food banking industry. The Inter-Faith Food Shuttle engages community volunteers and community members to aid in the facilitation of the Mobile Farmer's Market. The goal of this methodology is to provide wholesome food directly to low-income communities where they live where access and availability to healthy foods is greatly limited and sometimes nonexistent. The outcomes of the Mobile Farmer's Market include: increased food security, the provision of more nutritious food to the community, increased consumption of fruits and vegetables, and all the resulting health benefits of a healthier diet.

The Inter-Faith Food Shuttle has been using this model for more than a decade, engaging low-income community members in organizing their neighborhoods for smooth distribution of the free food provided by the Food Shuttle and engaging the larger community in addressing the issue of hunger. Currently, the Inter-Faith Food Shuttle provides Mobile Farmers Market trucks on a regular basis to seniors, families and individuals in housing authority communities and low income residences including: Walnut Terrace, Valleybrook, The Oaks, the Magnolias, Windsor Springs, Murphy

School Apartments, Garden Springs, Meadowridge, Stonecrest, Cedar Crest, Carriage House, Glenwood Towers in Raleigh; and JJ Henderson and Oldham Towers in Durham. Our newest site is West Durham Baptist Church located in central Durham.

Subject: RE: Mobile Markets - Poundage thru Nov 15th - Mr. Eual's folder

Durham Mobile Markets	Poundage
CAARE, Inc	6995
Iglesia EL Buen Pastor	34076
JJ Henderson Towers	17927
Oldham Towers	17892
West Durham Baptist Church	97338

5 Mobile Markets - See info below

Durham Mobile Markets	Open Sites	Closed Sites	Frequency
CAARE, Inc		y	2nd & 4th Wed
Iglesia EL Pastor	y		1st Sat
JJ Henderson Towers		y	2nd & 4th Wed
Oldham Towers		y	2nd & 4th Wed
West Durham Baptist Church	y		4th Sat

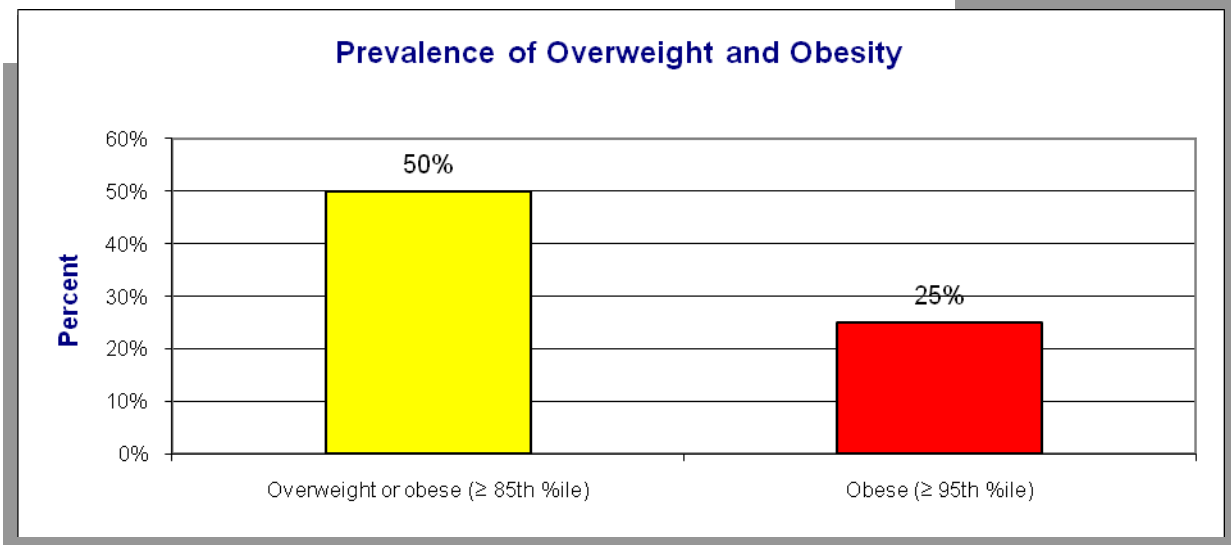
Back Pack Buddies distributed 34480 bags at 10# of food per bag to food-insecure children between 1/1/2009 and 11/19/2009.

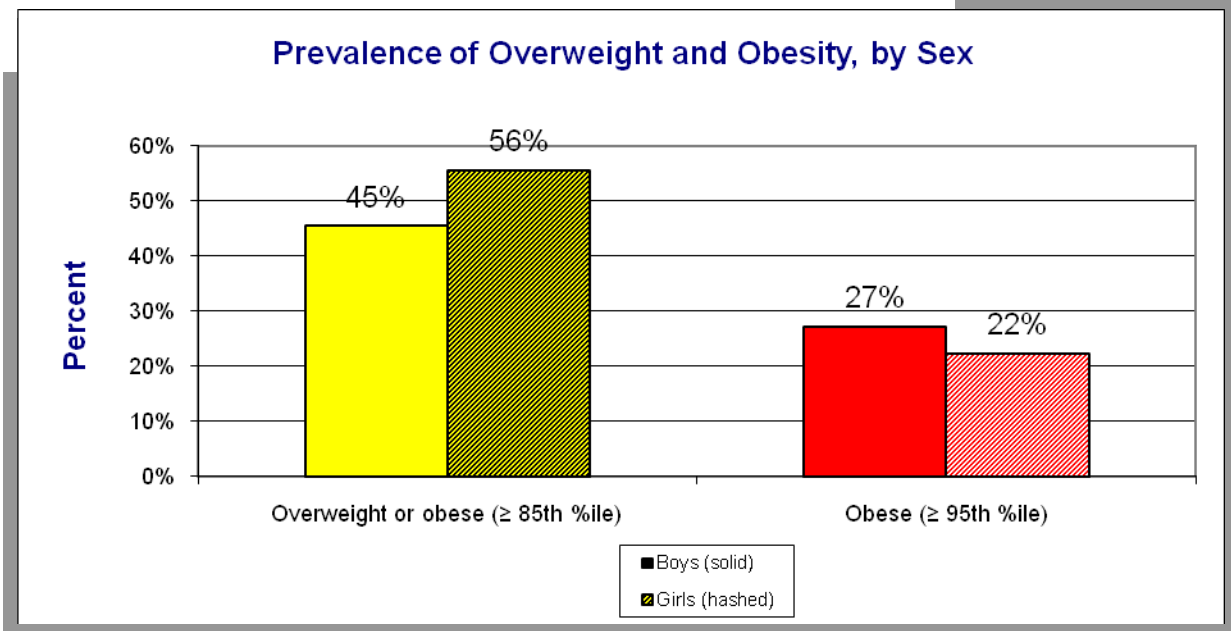
APPENDIX I.

Summary of Kindergarten BMI-for-Age

	Boys	Girls	Total
Number of children assessed:	22	18	**40**
Underweight (< 5th %ile)	0%	0%	**0%**
Normal BMI (5th - 85th %ile)	55%	44%	**50%**
Overweight or obese (≥ 85th %ile)*	45%	56%	**50%**
Obese (≥ 95th %ile)	*27%*	*22%*	***25%***

*Terminology based on: Barlow SE and the Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics. 2007;120 (suppl 4):s164-92.

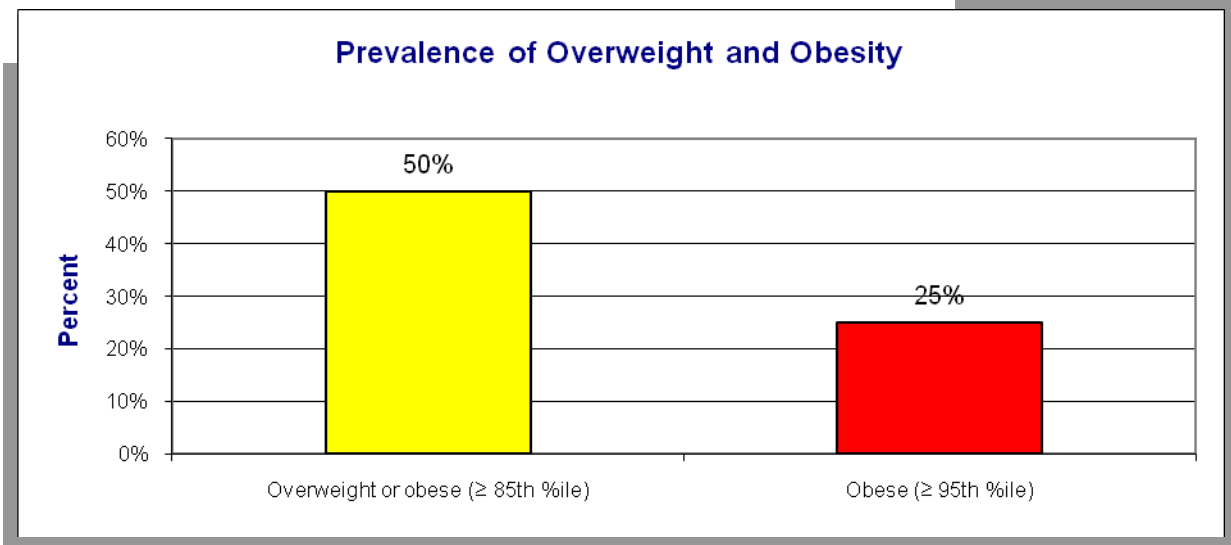


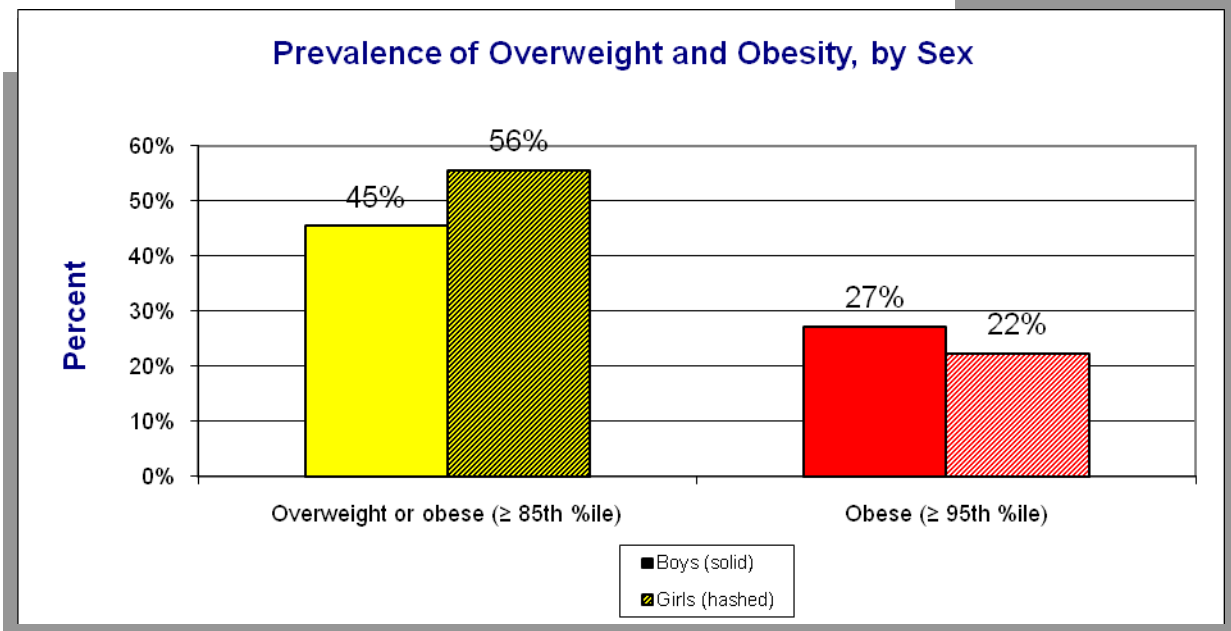


Summary of First Grade BMI-for-Age

	Boys	Girls	Total
Number of children assessed:	22	18	**40**
Underweight (< 5th %ile)	0%	0%	**0%**
Normal BMI (5th - 85th %ile)	55%	44%	**50%**
Overweight or obese (≥ 85th %ile)*	45%	56%	**50%**
Obese (≥ 95th %ile)	*27%*	*22%*	***25%***

*Terminology based on: Barlow SE and the Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics. 2007;120 (suppl 4):s164-92.

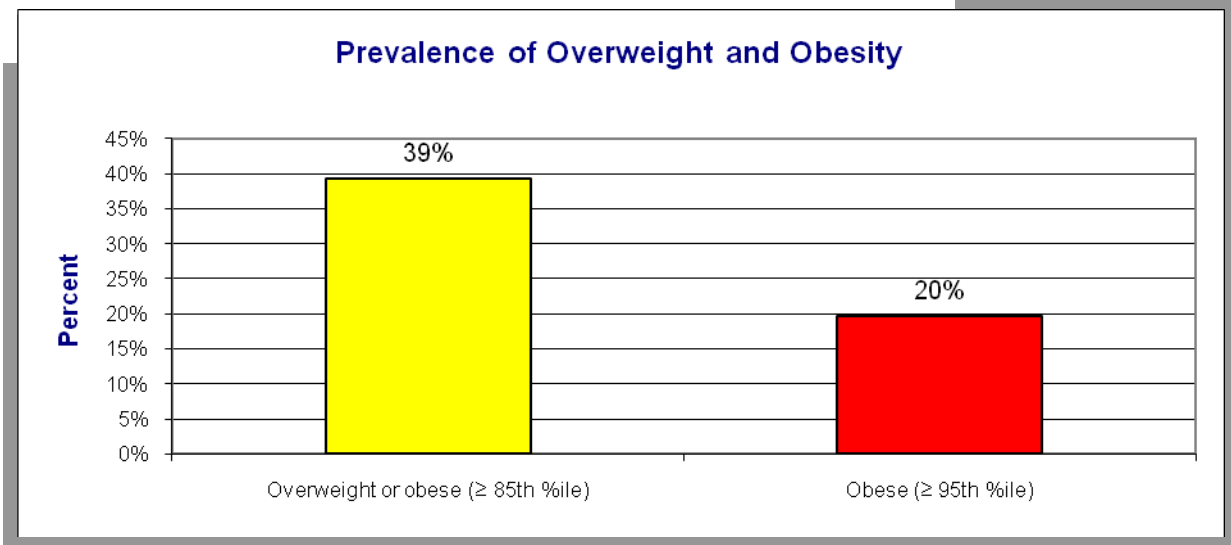


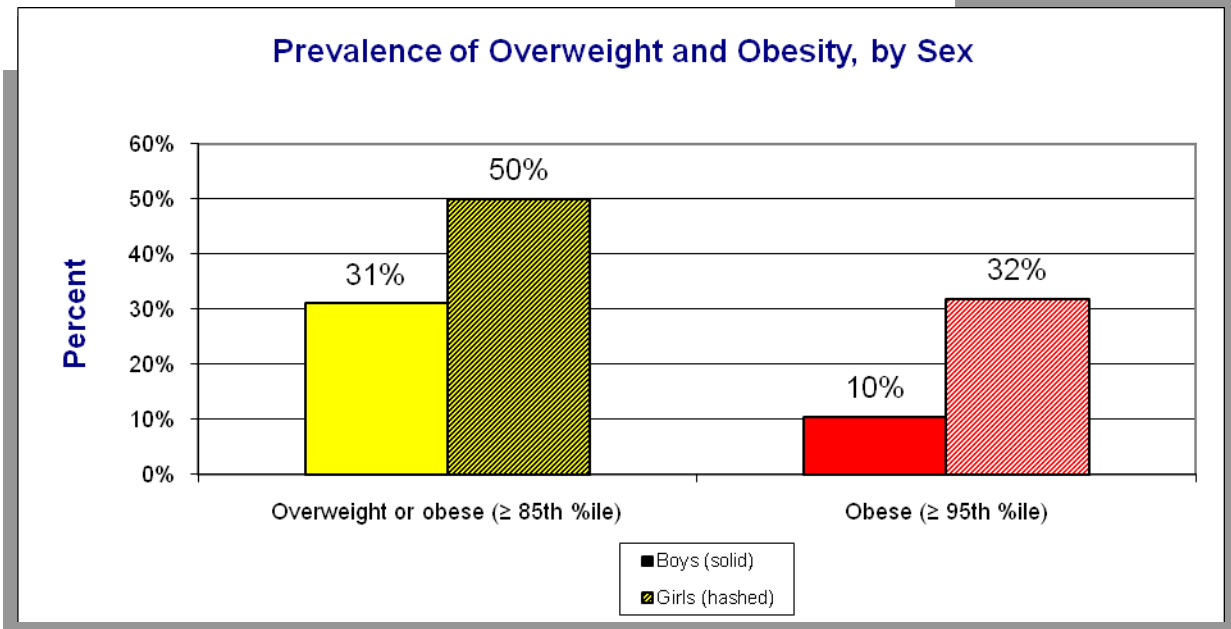


Summary of Second Grade BMI-for-Age

	Boys	Girls	Total
Number of children assessed:	29	22	**51**
Underweight (< 5th %ile)	3%	0%	**2%**
Normal BMI (5th - 85th %ile)	66%	50%	**59%**
Overweight or obese (≥ 85th %ile)*	31%	50%	**39%**
Obese (≥ 95th %ile)	*10%*	*32%*	***20%***

*Terminology based on: Barlow SE and the Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics. 2007;120 (suppl 4):s164-92.

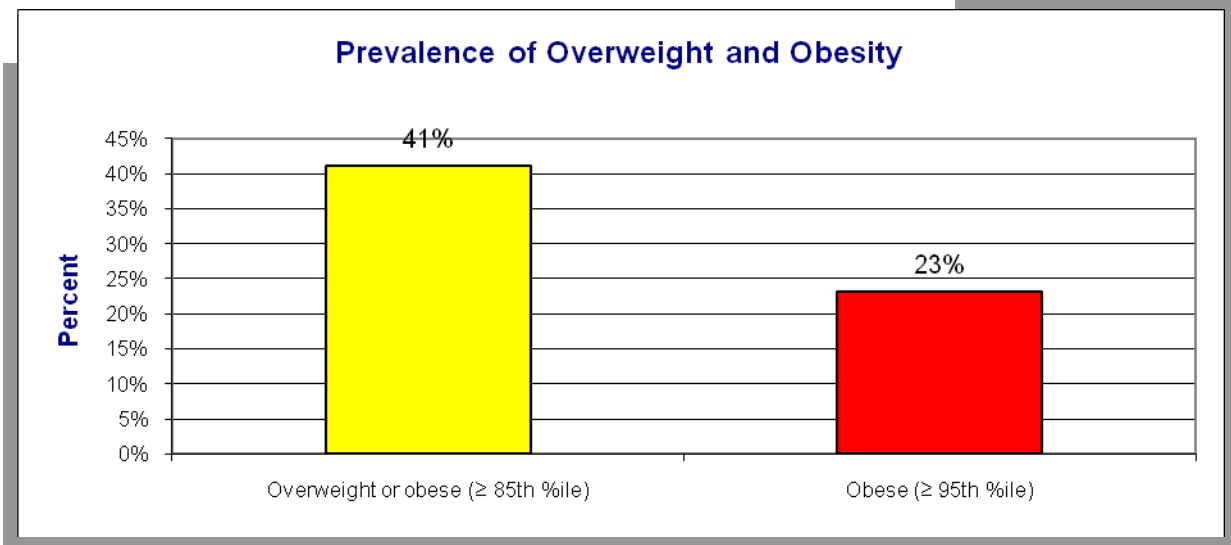


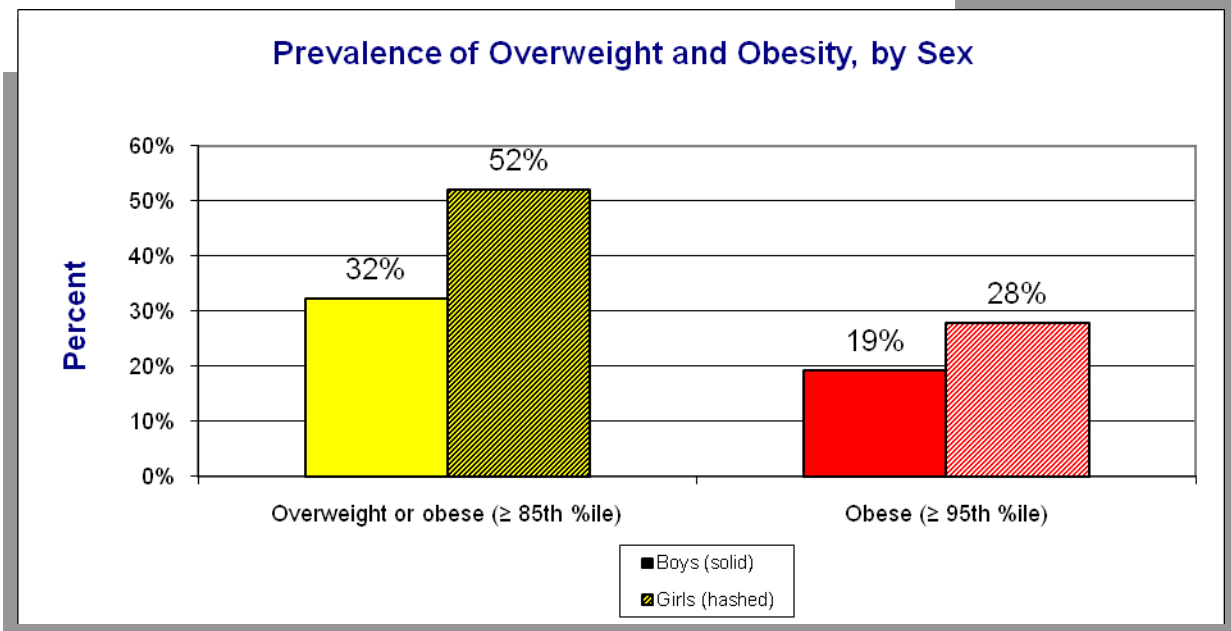


Summary of Third Grade BMI-for-Age

	Boys	Girls	Total
Number of children assessed:	31	25	**56**
Underweight (< 5th %ile)	0%	4%	**2%**
Normal BMI (5th - 85th %ile)	68%	44%	**57%**
Overweight or obese (≥ 85th %ile)*	32%	52%	**41%**
Obese (≥ 95th %ile)	*19%*	*28%*	***23%***

*Terminology based on: Barlow SE and the Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics. 2007;120 (suppl 4):s164-92.

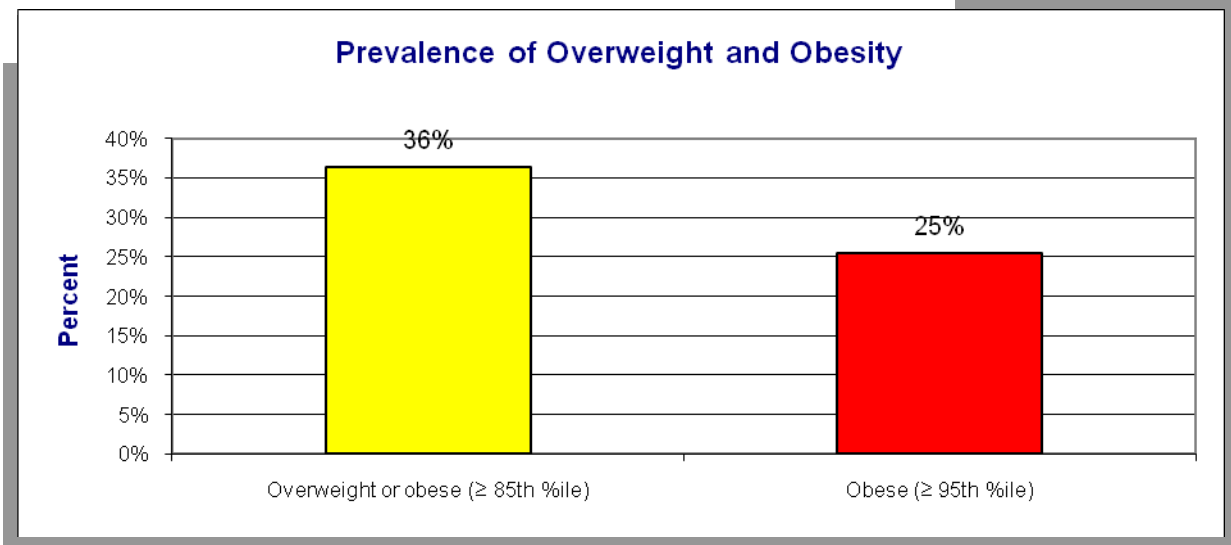


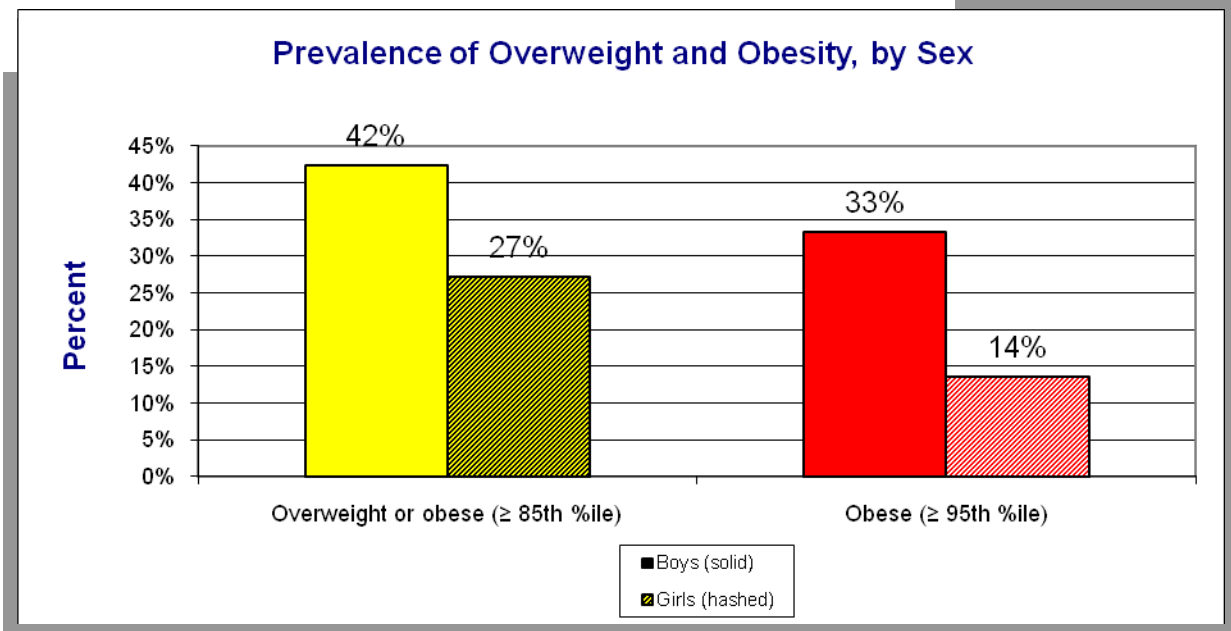


Summary of Fourth Grade BMI-for-Age

	Boys	Girls	Total
Number of children assessed:	33	22	**55**
Underweight (< 5th %ile)	3%	0%	**2%**
Normal BMI (5th - 85th %ile)	55%	73%	**62%**
Overweight or obese (≥ 85th %ile)*	42%	27%	**36%**
Obese (≥ 95th %ile)	*33%*	*14%*	***25%***

*Terminology based on: Barlow SE and the Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics. 2007;120 (suppl 4):s164-92.

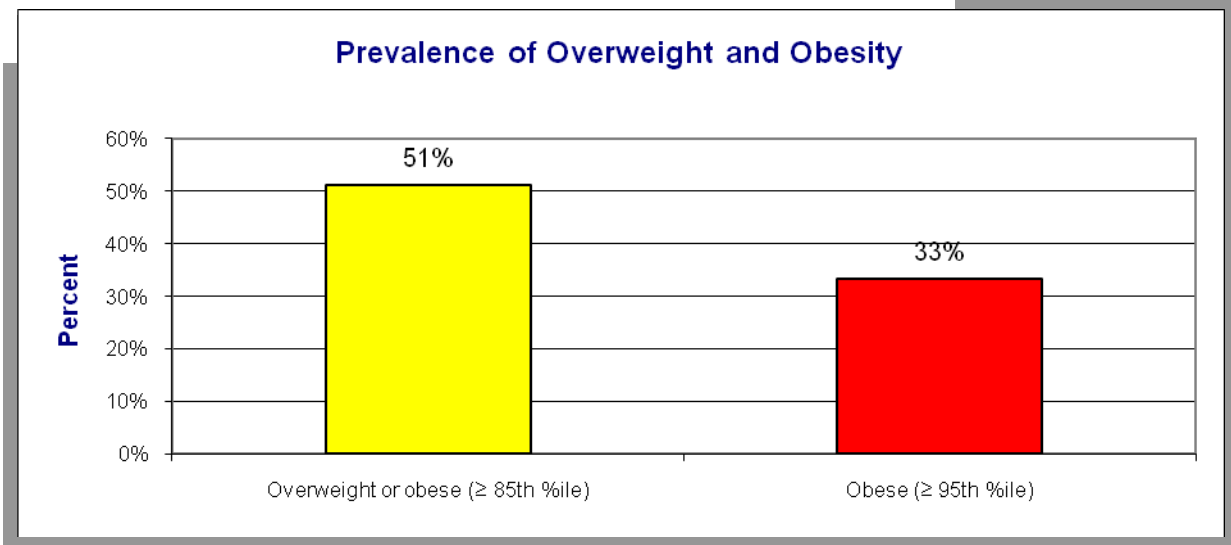


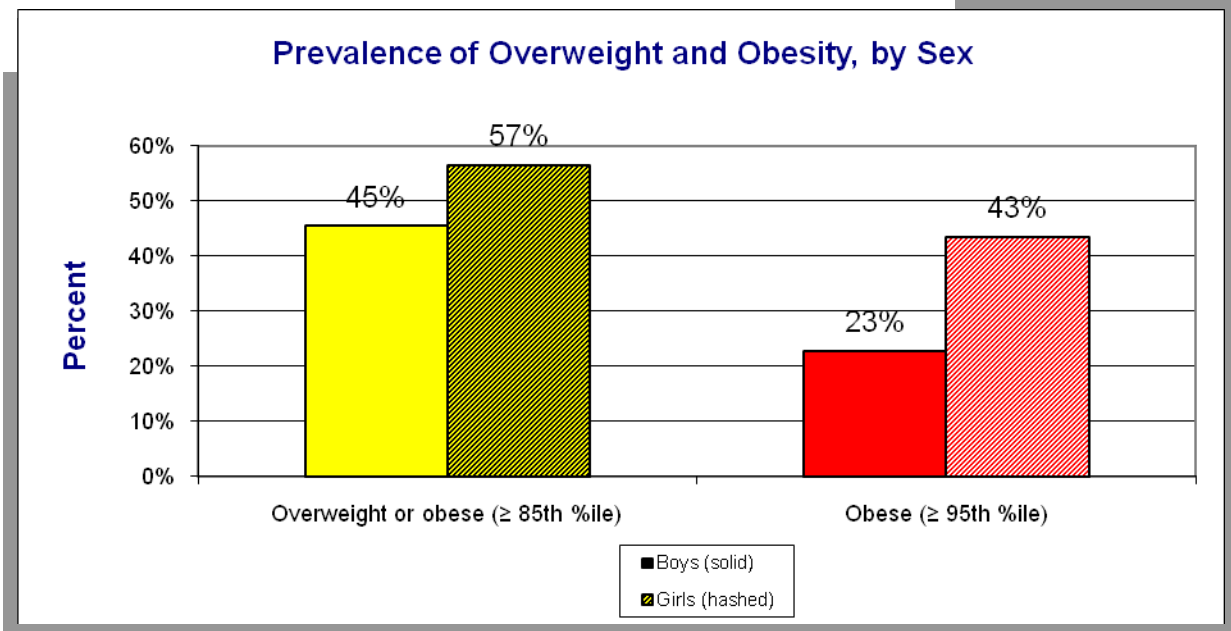


Summary of Fifth Grade BMI-for-Age

	Boys	Girls	Total
Number of children assessed:	22	23	**45**
Underweight (< 5th %ile)	0%	0%	**0%**
Normal BMI (5th - 85th %ile)	55%	43%	**49%**
Overweight or obese (≥ 85th %ile)*	45%	57%	**51%**
Obese (≥ 95th %ile)	*23%*	*43%*	***33%***

*Terminology based on: Barlow SE and the Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics. 2007;120 (suppl 4):s164-92.





Composite Table of BMI for Age K-5

	Underweight	Normal	Overweight	Obese
Kindergarten	0%	50%	25%	25%
First	5%	62%	10%	23%
second	2%	59%	19%	20%
Third	2%	57%	18%	23%
Fourth	2%	62%	11%	25%
Fifth	0%	49%	18%	33%

APPENDIX J.

AHL Team Organizations

DUKE

School of Medicine

Department of Community and Family Medicine –

Clinical Health Policy Research: Remy Coeytaux, MD, PhD
Chronic Disease and Epidemiology Research: Bernard Fuemmeler, PhD, MPH
Community Health: Gwen Murphy, RD, PhD; Brenda Poirier, MS, RN, PNP-BC
Duke Diet and Fitness Center: Howard Eisenson, MD; Kathy Murray, MSW
Occupational and Environmental Health: Kelly Velotta, MS, RD, LDN (Live for Life)

Department of Medicine -

Division of General Internal Medicine: Christy Boling, MD; Leonor Corsino, MD, Santanu Datta, PhD, MBA; Jennifer McDuffie, RD, MPH, PhD; Eric; William Yancy, MD, MHS

Department of Pediatrics - Sarah Armstrong, MD; Michelle Bailey, MD, FAAP

Department of Psychiatry –

David P. FitzGerald, PhD, Medical Psychology
Janet Whidby, PhD**,** Associate Clinical Professor of Psychiatry and Behavioral Sciences, Division of Medical Psychology

Graduate Medical Education - Gwen Murphy, RD, PhD (secondary appointment)

DUHS - Amy Yancy-Mangum, MSN, NNP / PNP, Assistant Director, Dept of Advanced Clinical Practice

DURHAM COUNTY

Durham County Health Department – Helen Bell, Nadine Goodwin Blake, Carlene Byron, Barron Damon, , Luch Harris, Melva Henryl, Rosanna Panizo, Ellen Reckhow, Sheila Ryba,

Nutrition Department: Becky Freeman, MPH, RD, LDN; Barbara Rumer, MPH, RD, LDN; Casey Wardlaw-Czaplinski, MPH, RD, LDN
Partnership for a Healthy Durham, Obesity and Chronic Illness Committee: Becky Freeman, MPH, RD, LDN; Jennifer McDuffie, RD, MPH, PhD; Gwen Murphy, RD, PhD; David Reese, MBA; Casey Wardlaw, MPH, RD, LDN
School Board: Minnie Forte-Brown, Chair; Heidi Carter, MS, BS, Vice-Chair
School Health Advisory Committee: Heidi Carter, MS, BS; Becky Freeman, MPH, RD, LDN; Gwen Murphy, RD, PhD; Barbara Rumer, MPH, RD, LDN; Casey Wardlaw-Czaplinski, MPH, RD, LDN

Durham Parks and Recreation - Annette Smith, MS
Community Health Coalition - Sharon Baker, JD
Durham Congregations, Associations and Neighborhoods - Ivan Parra, MS
Durham Congregations in Action – Spencer Bradshaw, Hank Eichin
Durham Council of Parent-Teacher… - Trilby McClamy, President; Linda Demarest, School Health Advisory Representative
Durham Partnership for Children – Trish Vandersea

Durham Public Schools; Nadine Goodwin Blake, Cassandra Fogg, Pete Shankle
El Centro Hispano – Colleen Blue, MPH
El Pueblo, Inc. - Florence Simán, MPH
Healthcare for All NC-Jonathan Kotch MD, Founder
Inter-Faith Food Shuttle - David Reese, MBA
NC Coalition of Hispanic Pastors – Sandi Velez
Shrink-A-Thon- Nancy Eichin- Wellness Coach, and HealthyLife Shrinkathon leader
Structure House - Peggy Norwood, MS
Union Baptist Church – Janet Morton
YMCA of the Triangle - Nick Errato, BS

Services Provided by Team

- Professionals at the DCHD who work in the school system providing the Dine for Life curriculum who will also teach workshops for teachers and parents and teach community members to provide exercise classes;
- IFFS staff who provide the Operation Frontline, Mobile Farmer's Markets and Backpack Buddies programs and community organizations who provide facilities and equipment for these programs;
- DPS staff who agree to include nutrition and exercise-oriented lesson plans in their curriculum for other subjects, e.g., science and math, or supervise student/teacher walking groups at lunch-time, recess, or before or after school;
- DPR, Salvation Army and John Avery staff who will work with AHL to ensure that all overweight and obese children who need an after-school program for physical activity have access to one;
- PTA members and other parents who volunteer to supervise walking buses and carpools to and from school and after-school activities as well as those who agree to teach workshops or lead activities (e.g., fairs or field trips) on the topics of nutrition and exercise;
- Faith institutions and other organizations who agree to sponsor weight control and exercise classes for their congregations and other community members;
- El Centro, El Pueblo, the NC Hispanic Coalition of Pastors, and the Community Health Coalition - organizations that will help AHL ensure that our programs are culturally sensitive;
- Durham CAN, Durham for Obama (DFO) and other advocacy organizations who will work with AHL to make improvement in school wellness policy and the safety, walk-ability and bike-ability of Durham neighborhoods a priority in local and state government;
- Community volunteers, especially retired health professionals, who will serve as mentors (navigators, point-people?) for overweight and obese youth whose parents are not able to be as involved as they would like to be in order to help their child.

Descriptions of Duke Special Programs and Community Organizations

Big Brothers, Big Sisters of the Triangle: The mission of Big Brothers Big Sisters of the Triangle, Inc. (BBBST) is to help children reach their potential through professionally supported, one-to-one relationships with measurable impact. The goal is accomplished through the establishment of long-lasting and one-to-one mentoring relationships utilizing targeted program components to address the needs of our children. Big Brothers Big Sisters of America (BBBSA) has been the nation's premiere name in youth mentoring; as the affiliate serving the Triangle region of NC (Raleigh, Durham, & Chapel Hill), we provide these services to at-risk youth ages 6-14 primarily from low-income single parent homes.

Community Health Coalition (CHC)*: The Mission of the CHC is to reduce the rate of health disparity between African American and the general population.*
Since 1981 the Community Health Coalition, Inc. has conducted projects and sponsored programs designed to provide culturally sensitive and specific health education, reduce the incidence of and prevent disease, and improve the quality of health amongst African-American residents living in Durham, NC. The CHC has sponsored screenings for breast cancer, diabetes and hypertension; CHC has provided health education around infant mortality, breastfeeding, diabetes, cardiovascular disease, hypertension, HIV/AIDS and now adult and childhood obesity. CHC conducts health awareness programs in the local African American churches and through its 'Morning Glory' and 'Morreene Road' health literacy projects. The CHC through its partners, Durham Academy of Medicine, Dentistry and Pharmacy, The Old North State Medical Society is developing a data base of volunteers, a Board Development Program, and a Strategic Plan.

Duke Diet and Fitness Center: Strives to improve the well-being of those who seek our assistance for prevention and treatment of overweight, physical inactivity, and associated health problems. We provide our clients with information and skills based on the best available medical evidence, in order to help them adopt, and maintain, healthier lifestyle habits. Our emphasis is on nutrition, physical activity, and stress management, but we consider other medical, psychological, and social factors as appropriate to preserve and improve an individual's overall health. While service to our clients is our first priority, we welcome opportunities to share our experience and expertise with other health care practitioners and students and with the larger community. All services are provided consistent with our core values:

- Our residential experience is offered in an individualized supportive environment
- Multidisciplinary collaboration provides the most effective treatment
- Our staff exhibit the highest levels of competence and professionalism

Treatment goals are accomplished in a spirit of collaboration with the client

Deleted: ¶

Duke Children's Healthy Lifestyles Program: The Healthy Lifestyles Program (HLP) is a multidisciplinary referral clinic for the management of childhood obesity in children and teenagers aged 0-22 years. This highly successful program, in its second year of operation, cares for approximately 500 families per year. Treatment includes an initial screening for the causes and consequences of obesity, an intensive lifestyle intervention phase lasting six months, and a maintenance program that continues until adulthood. For patients who do not respond to lifestyle intervention, pharmacotherapy (medications to help lose weight) and bariatric surgery (weight loss surgery) are available options for selected adolescents. Healthy Lifestyles is based on the

latest evidence for creating and achieving realistic goals for optimal weight to reduce risk for cardiovascular disease

Durham Congregations, Associations and Neighborhoods (CAN): CAN is a broad-based, interfaith and ecumenical coalition that uses the model of leadership development and community organizing of the Industrial Areas Foundation. It brings people and their institutional networks together to create positive, non-violent change around issues that impact the whole of our community. Durham CAN is a vehicle for people of all backgrounds and experiences, regardless of faith tradition, income or where your neighborhood is, to unite for the common good of Durham. Durham CAN provides an opportunity to develop skills as a leader within a parish or neighborhood, a city, or a county, and to seek change through participatory reflection, action and evaluation on a variety of issues. Durham CAN is a vessel where the 'average person', with others, can wrestle with the important needs that affect where we live, work, worship and recreate, and be pro-active in shaping what Durham looks like.

Durham County Health Department (DCHD): The mission of the **DCHD** is to preserve, protect and enhance the general health and environment of the community. The Nutrition Services Division has long worked to educate residents of all ages on lifestyle changes to improve nutrition and health. For the past 5 years, obesity prevention, particularly during childhood, has been a major focus. Public Health Nutritionists have developed special expertise and curricula in nutrition education for school-aged children through their DINE for LIFE (Durham's Innovative Nutrition Education for Lasting Improvements in Fitness and Eating) program, and deliver services during the school day and after school. The DCHC can provide training and consultation for the after school program volunteers to conduct nutrition activities with students. With funding from Durham's Partnership for Children, DCHC also conducts a Nutrition Consultation Project, focusing on child care nutrition and physical activity as well as Healthy Smiles Healthy Kids, a dental/nutrition education project for pregnant women and young children (overlays with obesity prevention); both will also collaborate with this project. Clinical nutrition services are available for individualized nutrition/dietary guidance upon referral.

Durham for Obama (DFO): DFO was formed in 2008 to organize the local grassroots effort to elect U.S. President Barack Obama and now serves to support our nation's Plan to Renew America's Promise in resourceful ways that empower Durham and all of its residents.DFO is a volunteer grassroots organization dedicated to local, regional, and global cooperation and progress. Founded in February 2008, DFO leads and supports initiatives that combine community and democratic ideals with direct action to meet the civic demands of the city and county of Durham, in recognition of its character and history, which are rich with tradition, struggle, and promise.

Durham Parks and Recreation: Strives to make its programs, services, and facilities accessible for all individuals and families, regardless of race, color, religion, gender, national origin or ability level. DPR operates and maintains 66 parks, 14 miles of trail, 14 recreation centers, and 4 special use facilities. Of these facilities, DPR has 5 recreation centers with gymnasiums, 3 dance studios, 2 indoor pools, 3 outdoor pools and one 1 indoor walking track. The Special Programs/Inclusion unit provides many programs designed to meet the needs of citizens with

disabilities, i.e. Beepball (Blind Softball), Camp Discover and Camp Explore (designed for youth too old for other camps or who need a smaller program or different activity level than found in traditional camps), Special Olympics, and much more. These programs are tailored for participants based on their disability. And we also make accommodations within other DPR programs for persons with special needs.

Durham Partnership for Children: ?mission The Transition to Kindergarten Plan includes conducting an assessment of incoming kindergarten students on each of the five domains of development, one of those domains being health and child development. As part of this initiative, Kindergarten Health Assessments (KHA) were collected and analyzed from all 29 elementary schools in Durham County reflecting approximately 2,300 5-year-old children. The KHA forms, mandated by most states, are used to identify children at school entry with any health problems, including high BMI, that may interfere with school performance. The results from the KHA project will be shared with the community in the spring of 2010.

Durham Public Schools: A public school system with two elementary Montessori schools, a health sciences academy, its own School of the Arts, and many more offerings. That's Durham Public Schools, a school district where parents have educational choices for their children. DPS is a leader in the state for its small high school options. And the district has three National Middle Schools to Watch, among only 29 middle schools in North Carolina to achieve this recognition. Middle and high school improvement has been at the forefront for DPS, and the district has the results to prove this. Raising achievement for all students is the key priority in DPS. This includes a focus on Advanced Academics to ensure that more academically rigorous offerings will be made available to a greater number of students. Science also is getting a boost in DPS, with new initiatives and partnerships to improve science education. Durham's reputation as an arts community is clearly reflected in our schools, where students are performing and pursuing the arts throughout the school year.

Eat Smart, Move More, NC (ESMM NC): The mission of ESMM NC is to reverse the rising tide of obesity and chronic disease among North Carolinians by helping them to eat smart, move more and achieve a healthy weight. a statewide movement that promotes increased opportunities for healthy eating and physical activity wherever people live, learn, earn, play and pray.

ESMM NC works to help communities, schools and businesses make it easy for people to eat healthy food and be physically active. The program also encourage individuals to think differently about what they eat and how much they move, and to make choices that will help them feel good and live better. ESMM NC is guided by the work of a leadership team comprised of statewide partners working together to increase opportunities for healthy eating and physical activity.

El Centro Hispano: El Centro Hispano is a grassroots community based organization dedicated to strengthening the Latino community and improving the quality of life of Latino residents in Durham, North Carolina, and the surrounding area. El Centro Hispano accomplishes its mission through education, community support, leadership development, community organizing and by establishing alliances with other communities and organizations.

El Pueblo: El Pueblo is a North Carolina non-profit statewide advocacy and public policy organization dedicated to strengthening the Latino Community. This mission is accomplished through leadership development, proactive and direct advocacy, education, and promotion of cross-cultural understanding in partnerships at the local, state, and national levels. One program, Líderes de Salud, is an innovative lay health advisor (promotores de salud) program with the overall goal of improving the health and well-being of Latino children and families. A promotores curriculum addresses immunizations, dental care, asthma, obesity, diabetes and a brief description of the US healthcare system.

Health Care for All NC: Health Care for All North Carolina works to educate about and advocate for the "Right to Health Care", so that access to appropriate health care on a regular basis is assured for all North Carolinians regardless of age, sex, race/ethnicity, marital or employment status, pre-existing medical condition or geography. The HCFANC stands ready to provide resource materials, speakers, and discussion leaders for meetings of health professionals or the general public including: religious groups, civic organizations, business leaders, unions and other open forums. The provision of humane, comprehensive and equitable health care at a cost that this country can afford is still within our grasp.

Inter-Faith Food Shuttle: Interfaith Food Shuttle is a member of Feeding America, the Nations Food Bank Network and is one of the seven food banks located in North Carolina. Using their 220 food donor and human service agency partners, food is recovered and distributed to low-income residents. The Food Shuttle strives to establish equitable distribution of all food through the following services:

1. Food Recovery and Distribution from grocery stores to soup kitchen or pantry, including the Mobile Farmer's Market;
2. The Culinary Job Training Program for people from disadvantaged backgrounds to help provide food to others in need;
3. The Comprehensive Food Stabilization Program so that fresh, perishable foods are not lost before they can be redistributed;
4. Children's Nutrition Program to feed children in need outside of school hours, i.e., in summer, on weekends and after school;
5. Nutrition Programs including Operation Frontline (low income cooking classes), food demonstrations and nutrition education events.

John Avery Boys and Girls Club: To inspire and enable all youth of Durham, ages 6-18, particularly those from disadvantages circumstances, to engage in viable youth development programs and activities, to realize their full potential as productive, responsible and caring citizens.

Lifestyle Medicine Clinic: For type 2 diabetes and obesity, the Duke Lifestyle Medicine Clinic helps people lose weight and reduce or eliminate insulin dependence. The treatments used include diet, exercise, medication, and a very low calorie diet (VLCD) meal replacement program. Using weight loss as the first-line treatment for type 2 diabetes, the Lifestyle Medicine emphasizes the importance of lifestyle (nutrition, activity, stress management) as a treatment for many illnesses including obesity and type 2 diabetes.

LIVE FOR LIFE: Duke University's employee health promotion program. LIVE FOR LIFE is a contracted service and available to most Duke employees. LIVE FOR LIFE's mission at Duke University is to support the goal of the Office of Human Resources in 1) provide programs and services to help Duke's people successfully accomplish the organization's missions, 2) assist and support Duke's managers in recruiting and retaining top-quality, diverse and healthy staff and to help develop an effective, productive workforce, and 3) promote a work culture and environment that supports healthy and safe behaviors/lifestyles.

NECD Leadership Council: The Northeast Central Durham Leadership Council is a group of community leaders, activists, business owners, and residents of Northeast Central Durham. The 18-member group boasts a high level of diversity, dedication, and distinction that isn't often found in grass-roots community organizations. This group represents more than 10 neighborhoods within NECD. Council members learn from each other as they work together to define and realize goals for NECD's revitalization.

Operation Breakthrough: Operation Breakthrough's mission is to promote individual and family self-sufficiency, through advocacy, referrals and directly providing comprehensive high quality services to low-income families and individuals within Durham County. We are committed to uniting with other resources, whenever possible, to assist families in achieving a status of self-sufficiency.

The Head Start programs promote school readiness by enhancing the socialand cognitive development of children through the provision of educational, health, nutritional,social and other services to enrolled children and families. They engage parents in their children's learning and help them in making progress toward their educational, literacy and employment goals. Significant emphasis is placed on the involvement of parents in the administration of local Head Start programs.

The **Partnership for a Healthy Durham**: a certified Healthy Carolinians Coalition that is housed at the Durham County Health Department, has a strong history of maintaining a collaborative network of over 200 providers and community members to improve the health of Durham's citizens. One of the Partnership's most active groups, the Obesity and Chronic Illness (OCI) committee, strives to provide a community-based approach to address the growing problem of obesity, including overweight children. The committee recognizes that these problems contribute to the development of and complications associated with many chronic illnesses making it imperative to work with the many resources within the community to prevent childhood obesity.

PEACH: The goal of the Partnership for the Advancement of Children's Health is to address environmental insults in children of colorwho live in deteriorated housing and low-income communities. We are the only grassroots lead-based paint education and prevention organization in Durham.

Salvation Army Boys and Girls Club of Durham: To enable all young people, especially those who need us most, to reach their full potential as productive, caring, responsible citizens. The Boys and Girls Club provides: a safe place to learn and grow, ongoing relationships with caring, adult professionals, life-enhancing programs and character development experiences, hope and opportunity. It is also a haven for church related activities, continually encouraging youth in their spiritual journey, faith and love for a God who intimately cares for them. Programs include: Smart Moves (addressing social issues like drug, alcohol, sex, health) Power Hour (Homework Help and Tutoring) Healthy Habits (Gym class, Social Games and Nutrition) Gang Prevention, GameRoom, Library and Computer Lab, Athletic Teams, Devotion and Bible Studies as well as Financial, Career and College help for highschool students.

SEEDS: SEEDS is a non-profit community garden whose goal is to teach people to care for the earth, themselves and each other through a variety of garden-based programs**.**

Shrinkathon: A SHRINK-AThon operates much like a "walk-a-thon" or a "bowl-a-thon", but instead of "walking" or "bowling" participants shed excess pounds**.** (Picture children trying to raise money for their school, as they ask family and neighbors to pledge 50 cents for every lap they walk. But now instead of children, think of adults working in teams to lose weight while supporting a variety of worthy non-profits.)

We all know many worthy causes that are in need of financial support and most of us recognize the need to shed a few pounds or just generally get healthier. The SHRINK-A-Thon™ combines these two needs, and thus creates a powerful win-win situation (or, as we like to call it, a "lose"-win). As we work together to lose weight, we raise money for charity. Everyone benefits!

Structure House: Structure House is a multi-disciplinary, residential obesity treatment facility located on Pickett Road in Durham. It is primarily a cognitive-behaviorally based treatment program focusing upon changing the individual's relationship to food in order to achieve long term success in managing weight. In addition, participants in the Structure House program receive education and personal counseling in the areas of nutrition and exercise as they relate to their individual needs and capabilities. There are a variety of health professionals on staff with expertise in working with the obese adult and obesity related issues, such as exercise physiologists, registered dietitians and psychologists who could contribute to curriculum development for the community program or teach our volunteers as needed.

Take Off Pounds Sensibly: TOPS Club, Inc. is a nonprofit, noncommercial, weight-loss support organization based in Milwaukee, Wisconsin, USA, with chapters located worldwide. Its two-fold objective is to encourage healthy lifestyles through weight-management support groups and to sponsor obesity research. Most members refer to the organization simply as "TOPS," an acronym for "Take Off Pounds Sensibly." TOPS' mission is to support our members as they take and keep off pounds sensibly.

Weight Watchers: Weight Watchers developed the "four pillars of healthy weight loss" based on years of scientific research and analysis. And our 45 years of experience helping people lose weight has taught us that each element is equally important. Weight Watchers doesn't teach you how to diet. We are dedicated to inspiring and helping you adopt a healthier way to live. For life. So you can successfully learn how to lose weight and keep it off by living , not dieting.

YMCA of the Triangle: The mission of the YMCA of the Triangle is to put Christian principles into practice through programs that build healthy spirit, mind and body for all. For 150 years, the **YMCA of the Triangle** has been providing facilities, programs and services that build healthy spirits, minds and bodies for all. Many people think of the YMCA as a building, but it is so much more. In fact, more than half of all participants take part in YMCA programs outside our facilities. Program sites include schools, churches, community centers, parks and many others. There are three facilities in Durham: Downtown Durham, Lakewood, and the Wellness Center at the American Tobacco Historic District.

APPENDIX K.

DURHAM PUBLIC SCHOOLS

Curriculum and Instruction

Oversight Committee
c/o Suzanne Schneider
Project Leader
Durham Health Innovations
Duke Center for Community Reasearch
Box 2914, Duke University Medical Center
Durham, N.C. 27710

12-4-09

Dear Dr. Schneider and the DHI Oversight Committee:

As Wellness Coordinator of Durham Public Schools I would like to take a moment to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies For a Lifetime Team. I have been working with this group for the last few months and have been extremely impressed with the work they are doing in Durham. I am very excited to see what we can accomplish if they continue to help Durham Public Schools and the Durham Community. This is a chance for all of Durham to come together to serve the children in our schools, adults, neighborhoods, and all residents of Durham. The work that is being done already by this impressive group of people and partners must be completed. We look forward to the future and continued work with this group.

Respectfully,

Larry McDonald

Director of Health and Physical Education

Pete Shankle

Wellness Coordinator

Michael D. Page
Chairman
702 Basil Drive
Durham, NC 27713
Email: mpage@co.durham.nc.us

Ellen W. Reckhow
Vice Chairman
11 Pine Top Place
Durham, NC 27705
Email: ereckhow@aol.com

COUNTY OF DURHAM
BOARD OF COMMISSIONERS

Joe W. Bowser
P.O. Box 51874
Durham, NC 27717
Email: jbowser2@nc.rr.com

Becky M. Heron
4425 Kerley Road
Durham, NC 27705
Email: bmheron@co.durham.nc.us

Brenda A. Howerton
3325 Tarleton West
Durham, NC 27713
Email: brendahowerton10@yahoo.com

December 1, 2009

Oversight Committee
c/o Suzanne Schneider, PhD, Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

Dear Dr. Schneider and the DHI Oversight Committee:

The East Durham Children's Initiative (EDCI) is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime Team. We are excited about the potential of working with the impressive list of Duke and Durham community partners they have assembled to implement this program of preventive health interventions. We believe it will not only serve the children at Y. E. Smith, their families, and the East Durham neighborhood, but it will also be an important pilot for Durham County.

There are many ways that EDCI can collaborate with the DHI – AHL project.

- Parents and children can be introduced to good nutrition during our Baby College classes in the neighborhood. EDCI has funding from Glaxo Smith Kline to fund Baby College for the next three years.
- Parenting classes will continue at Y.E. Smith Elementary School affording an excellent opportunity to continue parent education about nutrition and exercise.
- Y. E. Smith is one of seven schools in DPS to have a child and family team including a full time nurse and social worker. This creates the infrastructure to support the AHL project.
- Holton Career and Resource Center can serve as a wonderful hub of activity for the initiative since there is easy access to the Duke Health Clinic and the community center which includes a full gym. EDCI will be seeking funds to provide additional programming for children and families at the center including recreation and fitness opportunities.

The DHI – AHL project complements what we are proposing for EDCI and would be a great opportunity for parents and children in the area. We look forward to collaborating and supporting the project in any way we can.

Sincerely,

Ellen W. Reckhow
Vice-Chair and Co-Chair of EDCI

COUNTY OF DURHAM
HEALTH DEPARTMENT

December 2, 2009

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

Dear Dr. Schneider:

The Durham County Health Department is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime (AHL) Team. We are eager to continue working with Duke and Durham community partners to implement the proposed preventive health interventions.

Given that our mission is "to preserve, protect and enhance the general health and environment of the community" and that we provide nutrition and physical activity education to improve health, mutual benefits through this plan are obvious. Over the long term, the proposed evidence-based interventions are expected to lead to lifestyle changes that will help decrease the prevalence of obesity in Durham County. As obesity and its related chronic illnesses decrease, so should their cost burden to our community.

We strongly support this endeavor and urge its most careful consideration.

Sincerely,

Gayle B. Harris, MPH
Health Director

Y. E. Smith Elementary Museum School

"Failure is not an option!

Cassandra Fogg, Principal

Asha Watkins, Asst. Principal

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Durham Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

Date 12/3/09

Dear Dr. Schneider and the DHI Oversight Committee:

Y.E. Smith is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime Team. We will be happy to work with the impressive list of Duke and Durham community partners they have assembled to implement this program of preventive health interventions. We believe it will serve the children in the school system, their adult family members, their neighborhoods, and eventually all the residents of Durham County.

Toward this end, Y.E. Smith will contribute in the following ways:

1. space as needed
2. assist with student records
3. provide support for implementation

In the spirit of collaboration on this important and exciting program, we are open to consider how we might help meet other needs as they arise.

Educationally yours,

Cassandra Fogg, Principal, Ed.S.

DURHAM
1869
CITY OF MEDICINE

CITY OF DURHAM
Durham Parks and Recreation
101 CITY HALL PLAZA | DURHAM, NC 27701
Physical Address: 400 CLEVELAND STREET | DURHAM NC 27701
919.560.4355 | F 919.560.4021
www.durhamnc.gov

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

November 30, 2009

Dear Dr. Schneider:

Durham Parks and Recreation (DPR) is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime (AHL)Team. We will be happy to work with the impressive list of Duke and Durham community partners the team has assembled to plan the implementation of this program of preventive health interventions. We believe it will serve both the children in the school system, their neighborhoods, and eventually all of Durham.

The mutual benefits are obvious. It is well known that children perform better scholastically if they are well-nourished and physically fit. Families who are playing together and learning to resolve conflicts in a healthy manner are more apt to remain intact, thus lessening the potential for their children to become troubled adolescents. Also, teaching parents healthier cooking techniques and providing a readily accessible supply of fresh produce, or a healthy alternative to fast food if there is no time to cook, will allow parents to feed their families more nutritious food and serve as better examples of healthy living to their children. All of these lifestyle changes will help to decrease the prevalence of obesity in Durham, thus lessening the cost burden of obesity-related chronic illness to our community.

Sincerely,

Rhonda B. Parker
Director
Durham Parks and Recreation

Durham C.A.N. (Congregations, Associations and Neighborhoods)
1926 Holloway Street, Durham, NC 27703
(919) 530-8515, (919) 683-1477 fax www.durhamcan.org

November 30, 2009

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

Dear Dr. Schneider and the DHI Oversight Committee:

Durham Congregations Associations and Neighborhoods (CAN) is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime Team. CAN is a non-partisan network made of area congregations, associations and neighborhoods. We will be happy to work with the impressive list of Duke and Durham community partners they have assembled to implement this program of preventive health interventions. We believe it will serve the children in the school system, their adult family members, their neighborhoods, and eventually all the residents of Durham County.

Toward this end, Durham CAN will contribute in the following ways:

1. We will support specific policy changes connected with the project
2. We will support specific educational activities connected with the project
3. We will promote activities and events organized by the project

In the spirit of collaboration on this important and exciting program, we are open to consider how we might help meet other needs as they arise.

Respectfully,

Ivan Parra
Lead organizer

SEEDS
706 Gilbert Street
Durham, NC 27701
919.683.1197
www.seedsnc.org

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

November 30, 2009

Dear Dr. Schneider and the DHI Oversight Committee:

SEEDS is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime Team. We will be happy to work with the impressive list of Duke and Durham community partners they have assembled to implement this program of preventive health interventions. We believe it will serve the children in the school system, their adult family members, their neighborhoods, and eventually all the residents of Durham County.

Toward this end, SEEDS will contribute by supporting the gardening component of the program in whatever way we can. This may include:

- having our youth gardeners help with the children's gardens,
- advising school garden coordinators,
- providing workshops to elementary school classes, teachers and parents in our Urban Earth program

In the spirit of collaboration on this important and exciting program, we are open to consider how we might help meet other needs as they arise.

Sincerely,

Lucy Harris

Lucy Harris
Executive Director

El Pueblo, Inc.

Civic Participation • Cultural Program • Leadership Development
Advocacy • Education • Health • Public Safety • Youth Program

El Centro Hispano

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

November 24, 2009

Dear Dr. Schneider:

El Pueblo, Inc. and El Centro Hispano, Inc. are pleased to endorse the Durham Health Innovations business proposal from the Achieving Healthy Bodies for a Lifetime Team. We will be happy to work with the extensive list of Duke and Durham community partners that has been assembled to address the growing rates of obesity in Durham County.

El Pueblo, Inc. is a non-profit Latino statewide organization dedicated to strengthening the Latino community in NC. El Centro Hispano, Inc. is a community-based organization dedicated to strengthening the Latino community and improving the quality of life of Latino residents in Durham and the surrounding area. El Pueblo and El Centro Hispano have an extensive history of working together to develop strong connections with Latinos in our state as well as powerful partnerships to work to address the challenges faced by our communities. Through our lay health promoter training programs, our agencies have developed a pool of enthusiastic and talented community leaders in Durham and Wake Counties who are eager to promote the importance of disease prevention, especially in the areas of obesity and diabetes prevention.

To support to this initiative, our organizations will assist with:

1. The dissemination of information regarding the program; and
2. Guidance for those working in this initiative when designing a realistic approach to reach the Latino community.

In the spirit of collaboration on this important and exciting program, we are open to considering how our organizations might be able to help all of those working on this endeavor, as needs arise and when realistic for our organizations.

Sincerely,

Florence M. Simán
Director of Health Programs
El Pueblo, Inc.

Colleen Blue
Director of Programs
El Centro Hispano, Inc.

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

12/1/09

Dear Dr. Schneider and the DHI Oversight Committee:

Big Brothers Big Sisters of the Triangle is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime Team. We will be happy to work with the impressive list of Duke and Durham community partners they have assembled to implement this program of preventive health interventions. We believe it will serve the children in the school system, their adult family members, their neighborhoods, and eventually all the residents of Durham County. We look forward to achieving great success together for the children and families of Durham.

Toward this end, Big Brothers Big Sisters will contribute in the following ways:

1. Provide training to mentors and parents
2. Provide children with available mentors
3. Give children an opportunity to participate in our Sports Buddies program.

In the spirit of collaboration on this important and exciting program, we are open to consider how we might help meet other needs as they arise.

Respectfully,

Barron J. Damon, MA
Vice President of Partnership Development
Big Brothers Big Sisters of the Triangle

DUKE UNIVERSITY MEDICAL CENTER
Department of Medicine, Division General Internal Medicine

December 1, 2009

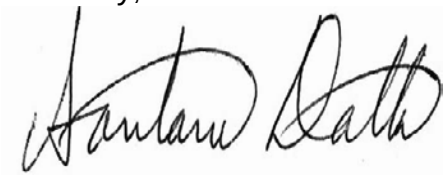
Jennifer McDuffie,
Project Coordinator
Achieving Healthy Bodies for a Lifetime (AHL)
Durham VA Medical Center, HSR&D (152)
508 Fulton St.
Durham, NC 27705

Dear Jennifer:

I am pleased to serve as the health economist on the obesity team of Durham Health Innovations for the project “Achieving Healthy Bodies for a Lifetime.” Stemming the rapid increase in childhood obesity is such an important current public health topic. A community-based approach that involves various stakeholders working together on the common goal of reducing childhood obesity—and the spillover effects it can have on the rest of society— is a worthy endeavor to undertake. In order to achieve this goal, schools, parents, children, and others need to be provided with a list of options that they feel are “doable.” Key elements in deciding which option(s) to implement are how much each option is likely to cost and what is the potential cost mitigation or cost savings in the future as a result of implementing the option(s). I will work with the obesity team to derive cost estimates for the intervention options and also the potential cost savings from preventing obesity.

I look forward to collaborating on this interesting project, which I believe can lead to improvements in the public health of children in a cost-effective manner.

Sincerely,



Santanu Datta, PhD, MBA
Assistant Research Professor
Department of Medicine
Duke University Medical Center

Health Research Science Specialist
Center for Health Services Research in Primary Care
Durham VA Medical Center

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

11/30/09

Dear Dr. Schneider:

The Duke Diet and Fitness Center is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime (AHL) Team. We are enthusiastic about this project and eager to work with the Duke and Durham community partners assembled by the AHL team to plan the implementation of this program of preventive health interventions. We believe it will serve the children in the school system, their adult family members, their neighborhoods, and eventually all of Durham County.

Toward this end, the Duke Diet and Fitness Center will support this project in the following ways:

1. contribute ideas during the implementation planning process;
2. provide 500 subscriptions at no charge to the online weight loss program at dukediet.com to be utilized as determined best by the AHL Team
3. provide meeting space at the DFC at no charge (scheduled in advance)
4. Technical/Training Assistance in the treatment of obesity and in promotion of increased physical activity – format of educational and training sessions and extent (number of participants, setting and duration of education/trainings, etc) to be determined. It is anticipated that these services can be provided at cost.

In the spirit of collaboration on this important and exciting program, we are open to considering how we might help meet other needs as they arise.

Respectfully,

Howard Eisenson MD
Executive Director
Duke Diet and Fitness Center

STRUCTURE
· HOUSE ·

Gerard J. Musante, Ph.D., ABPP
Founder and Director

Yeshesvini Raman, M.D.
Consulting General Internist and Psychiatrist

Lee S. Kern, M.S.W., L.C.S.W.
Clinical Director

Anna L. Stout, Ph.D.
Associate Director of Research & Clinical Programs

Beatrice Hong, M.D.
Consulting Endocrinologist

Weight Management

Diabetes Management

Nutrition Counseling

Exercise Counseling

Stress Management

Smoking Cessation

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December 2, 2009

Oversight Committee
c/o Suzanne Schneider, PhD, Project Leader
Achieving Healthy Bodies for a Lifetime
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

Dear Dr. Schneider:

Structure House is pleased to endorse the Achieving Healthy Bodies for a Lifetime proposal from the HEALTH Team. We will be happy to work with the impressive list of Duke and Durham community partners they have assembled to plan the implementation of this program of preventive health interventions. We believe it will serve the children in the school system, their neighborhoods, and eventually all of Durham County.

Toward this end, Structure House will contribute in the following ways:

1. contribute ideas during the implementation planning process;
2. provide input on clinical treatment and prevention of obesity;

In the spirit of collaboration on this important and exciting program, we are open to consider how we might help meet other needs as they arise.

Respectfully,

Gerard J. Musante, Ph.D., ABPP
Founder

Oversight Committee
c/o Suzanne Schneider, PhD
Project Leader
Durham Health Innovations
Duke Center for Community Research
Box 2914, Duke University Medical Center
Durham, NC 27710

11/20/09

Dear Dr. Schneider and the DHI Oversight Committee:

TOPS Club, Inc. (Take Off Pounds Sensibly) is pleased to endorse the Durham Health Innovations proposal from the Achieving Healthy Bodies for a Lifetime Team. We will be happy to work with the impressive list of Duke and Durham community partners they have assembled to implement this program of preventive health interventions. We believe it will serve the children in the school system, their adult family members, their neighborhoods, and eventually all the residents of Durham County.

Toward this end, TOPS Club, Inc. will contribute in the following ways:

1. Establish weekly weight-loss support chapter meetings for Durham County residents.
2. Supply all weight-loss support chapters with meeting content guidelines, an overview of chapter structure, and educational program materials focusing nutrition, physical activity and wellness.
3. Provide local guidance and support from TOPS Field Staff – local Area Captain and state Coordinator.
4. Provide annual officer training sessions facilitated by local Area Captain.
5. Publish all public meeting locations, dates and times on the TOPS website, www.tops.org.

In the spirit of collaboration on this important and exciting program, we are open to consider how we might help meet other needs as they arise.

Respectfully,
Laura Wickwar, TOPS Area Captain #5588