

Making Connections To Make a Difference

Moderator: Roberto Salazar, Administrator, Food and Nutrition Service, U.S. Department of Agriculture, Alexandria, VA

Welcome

Roberto Salazar, Administrator, Food and Nutrition Service, U.S. Department of Agriculture, Alexandria, VA

I continue to be so impressed with what I am hearing from individuals in terms of efforts and initiatives across the country, your continued dedication to all of the Food and Nutrition Service programs, and, in particular, all of your efforts to make such a difference in the lives of all of our program participants.

Making a difference is what this next session is all about, and we are fortunate to have a panel of very outstanding speakers to help us put that policy research to work for us in meaningful and applicable terms.

Interventions That Make a Difference: What Works in Communities of Color

Shiriki Kumanyika, PhD, MPH, Associate Dean for Health Promotion and Disease Prevention; Director, Graduate Program in Public Health Studies; Professor of Epidemiology, Department of Biostatistics and Epidemiology; University of Pennsylvania School of Medicine, Philadelphia, PA

I preface my remarks by noting that the answers to the question of what makes a difference are in communities themselves and will never be exactly the same from one community to another. The whole question of what works as best practices is easy to ask, but few interventions that have been tried in communities of color have been formally evaluated and we don't even know what actually works within these specific circumstances. We have, from an evidence-based point of view, a very limited literature on this topic. Following are some of my thoughts on how we can think about formulating interventions that are actually effective in communities of color.

What is it that we should try in communities of color and why should we try these types of things, as opposed to other types of programs? To clarify our thinking on this topic, we should ask first why we need a special focus on communities of color and what we mean by "success" when it comes to interventions in these communities. Next, we should consider what theoretical base we have to guide the development of interventions that are designed to be effective in communities of color and, finally, what evidence is actually available.

It is impossible to give a summary description of communities of color. Across the major ethnic groups that we call the communities of color in this country, there is a lot of diversity. For example, some of the sources of diversity within and across the different communities of color include:

- ◆ Ancestry
- ◆ Country of birth
- ◆ Years in U.S.
- ◆ Cultural practices and beliefs
- ◆ Region
- ◆ Neighborhood
- ◆ Childbearing
- ◆ Household composition
- ◆ Income and wealth
- ◆ Education
- ◆ Literacy
- ◆ Occupation
- ◆ Health care access
- ◆ Health care use
- ◆ Genetic/biological differences

This diversity underscores that, although we can talk about intervention process and provide some guidelines, what actually works in a community is going to be a function of the characteristics of that specific community. This goes for any community.

Why do we focus on communities of color as a special focus? There are personal, professional, policy, and programmatic reasons. On a personal level and professional level, we focus on communities with which we are less familiar. On a policy level, we have a special obligation to serve communities with lower socioeconomic status or social disadvantage because of race/ethnicity. Communities of color may have more or different needs in terms of eating patterns, disease burden, level of services and resources available, or cultural factors. That is why, from a protection point of view, we have a special obligation to make sure that programs work in communities of color.

On a programmatic level, we focus on communities in which—for a variety of reasons—we have less certainty that what we think will work in another population will actually work in these communities. There is some evidence from controlled trials that programs that work in the white population don't always work as well or work at all in African Americans for example. Sometimes you can't even get people in communities of color to come to the program. Effective recruitment is the first definition of success. In addition, communities of color are often more segregated, i.e., live in communities where most or a large proportion of the other residents are of the same racial/ethnic group. We can, therefore, identify them as specific communities. There are potential negative but also positive aspects of this clustering of people of color from a programmatic perspective. They may be isolated, but

also may be more closely knit and cohesive. They are easy for us to target, but they are also easy to target by marketers, as you may know. Hence, we have to consider that we might be dealing with communities where there is more potential for working within a close group, but also a possible lack of some other types of resources or a lesser ability to escape certain adverse circumstances. There is increasing evidence that the environments for following our advice (to eat healthy and be more physically active) are less favorable in many communities of color, as I will discuss. So, the answer to the question of “what works” would change if we could fix the environments that are impacting upon these communities. Our educational strategies and health promotional strategies would work a lot better if the environments for following the advice could be enhanced.

There are many ways to define success. Here is a short list of definitions that are implied or explicit in the literature:

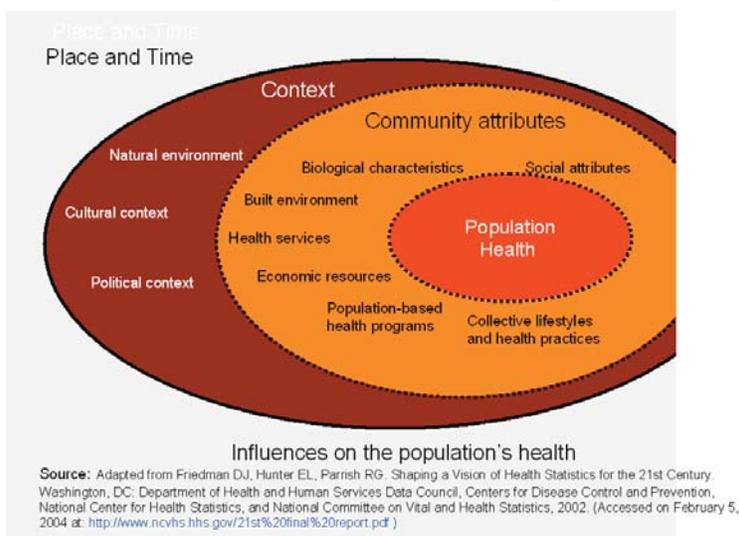
- ◆ Inclusiveness—Can *they* come?
- ◆ Acceptability—Will *they* like it?
- ◆ Attendance—Do *they* come?
- ◆ Retention—How many drop out?
- ◆ Feasibility—Can this be replicated?
- ◆ Sustainability and scalability—Can *they* keep it going?
- ◆ Who are “*they*”—or is it “*we*”?

First, we want to see how inclusive the programs are. If you want to get a fantastic result from a study, you exclude a lot of people from eligibility who might have difficulty with your program and only enroll a highly motivated, “pure” group that makes your data look really good. But for communities of color, we want inclusive studies that reach the population in need, not a selected population appropriate for a laboratory experiment. Can everybody come? Is what you are offering acceptable to those who come? Will they enjoy the program or feel that they are benefiting from it? Do they continue to attend once they enroll in the program? How many drop out? Can the program be replicated by community organizations? Is it sustainable and scalable to a level that would reach the whole community? These are all ways of considering whether a program is successful.

Notice that “they” is in italics above in the listing of questions about success. This is to stimulate your thinking about the “we vs. they” issues. How are we viewing communities of color—as outsiders coming in with a program? Or, are we involving community residents such that they feel ownership of the program? The most successful programs will be those for which community members and programmers feel common ownership.

What theory do we have to guide us? It is difficult to find theory that focuses on cultural appropriateness as such; cultural issues are not addressed in most behavioral theory. However, commonly used behavioral theories relate to individuals. For communities, we should start with models of communities and conceptualizations of community processes.

I take a population health approach to looking at communities. For example, as shown in the figure below, many community attributes and broader contextual factors are relevant at any given place and time. Community attributes include biological and social characteristics, and also the built environment—the health services, resources, health programs, and lifestyle. The outer layer of the context that surrounds the communities includes the natural and political forces and the cultural context that is impacting on the community.



Thinking about communities leads one to recognize a need for three types of programs; these are complementary:

- ◆ Population or community-wide programs that reach everyone without the need for any selectivity or screening;
- ◆ Programs for selected subpopulations identified at the group level as being high risk, through targeted and tailored interventions;
- ◆ Programs for individuals identified as high risk, through screening and targeted and tailored interventions.

There are also models available for helping to identify specific environmental variables that might be less favorable in communities of color or socially disadvantaged communities. The ANGELO model, developed by researchers in Australia and New Zealand, is one such model. Dr. Toni Yancey and I have applied this model for looking at evidence documenting differences in the environments in communities of color.

Sociocultural factors in the environment are where many people focus first, because we are very conscious of the differences in sociocultural perspectives and traditions that characterize communities of color. These differences may include ideas about fasting and feasting and norms associated with past or current exposure to food insecurity. Experiences with food insecurity influence the way people view food and overeating. The high prevalence of obesity in many of the communities may influence (and reflect) body image, female roles in relation to food, and the tendency to respond to what is available in the environmental context. Being able to survive by consuming what is around you is the hallmark of survival.

However, if the environment around you is not favorable to healthful eating, as it provides foods that are not wholesome, people might still take their cues from what is available. Trying to alter that environment has not always been possible.

The documentation of limited access to food in communities of color is becoming undeniable. So, if we are really trying to change nutrition in communities of color and we are not focusing on food access, we are missing the point. Targeted marketing includes disproportionate advertising of high-calorie/low-nutrient-density foods in communities of color and this is one, indirect way of limiting access. In addition, marketing is not just advertising but also influences what products are placed in communities, the excess of fast-food outlets, limited availability of supermarkets, limited shelf choices in the grocery stores, the overall excess availability of high-fat food, and less private and public transportation to buy food somewhere else. Environmental options (parks, recreation centers, safe streets) are related to physical activity levels, but transportation is also related to food access.

With respect to the economic environment, many factors work against the availability of healthful food in low-income communities of color: low neighborhood demand for low-calorie and low-fat foods, which has market implications; low family incomes and cash flow; other household expenses; little home-grown food; and financial incentives offered to under-resourced schools by commercial food vendors. A lot of this is common sense once it has been pointed out. I mention it here to raise awareness that before we go into a community, or while we are looking at a program, we should ask whether we have analyzed all of the elements that are working against people in following nutrition advice.

Finally, we need some kind of scheme for thinking about cultural appropriateness. Of the ones that are available, the framework of Matthew Kreuter and colleagues is very useful. It looks at five different layers or levels of cultural appropriateness or cultural tailoring:

- ◆ At the most superficial or *peripheral* level, you are packaging something or “coloring in the pictures,” so to speak, for appeal to a given group.
- ◆ At the *evidential* layer, you try to focus the education on showing how the topic specifically relates to a particular group, e.g., obesity or heart disease or a type of cancer is more common in this population; therefore, you should be more interested in addressing these issues.
- ◆ At the *linguistic* level, you ask how to make things linguistically and literacy appropriate; that is, provide programs and materials in the dominant or native language of the group.
- ◆ Community-based strategies are *constituent-involving* strategies, where you draw directly on the experience of the group; that is, indigenous staff, paraprofessionals, or “natural helpers,” and involve lay community members in planning and decisionmaking.
- ◆ Addressing the *sociocultural* level involves trying to embed or place the program within the ethos and context of the particular group in question. This is perhaps the most difficult to do effectively.

What does the evidence look like? It is, you could say, half empty/half full. There is much opportunity for creating evidence about what works in communities of color. Toni Yancey and I, in the review I mentioned before, looked at articles from 1970 through 2003. Not all were published articles; we tried to identify unpublished studies that might describe community-based programs. We used stringent inclusion criteria for studies considered -focusing on programs that had focused on a whole community. The study had to have a healthy, whole-population approach or representative sample of a clearly defined community. The population involved had to be an underserved ethnic group or results reported on an ethnic-specific basis, target lifestyle changes related to obesity (which included eating and physical activity), and employ multiple health promotion strategies.

We found 23 programs, published and unpublished, that were available by 2003 across all of the different populations of color. Not all had outcome results. Some were just program descriptions. There had been a doubling of programs in the latter calendar period but this may have been due to a particular set of linked studies funded by the California On the Move Initiative. So small is this literature that you could go out and do 10 evaluated programs and probably double or triple the formal evidence base. There were no conclusions possible from that review about what works. We don't have much to go on.

Community mapping (where residents inventory food store availability and food availability within stores, perhaps comparing their neighborhood with another neighborhood) involves community participants in identifying where the food is, and what is and is not there. This approach has been reported in many articles published since 2003, often funded by the CDC's Reach 2010 program. This strategy directly addresses environmental food access issues and raises community awareness. We don't know yet if it works and how it can be linked to effective interventions, but this approach seems worth attention as part of a best practices package. It is locality-specific and has a high potential for reaching and involving community residents.

I also wanted to mention examples from some studies I have been involved in related to obesity prevention in children. The GEMS program, which is Girls health Enrichment Multi-site Studies, is funded by the National Heart, Lung, and Blood Institute. The first phase involved pilot studies at four sites, and two of the studies are winding up full-scale trials on 200 or 300 girls each now.

The GEMS pilot studies attempted to improve nutrition and physical activity in African-American girls, pre-adolescents, to reduce the possibility of excess weight gain. Strategies tried were: a summer camp and Internet approach in Houston; after-school programs in Memphis focusing on parents directly or on girls directly; after-school programs and a parent component in Minnesota; and a dance class and home TV reduction program in the Stanford group. The Memphis and Stanford groups are the ones doing full-scale trials.

When you summarize the results of these studies, there is encouraging news about the potential benefits of doing well-designed studies, supported by qualitative research and with

some community involvement in the interventions with girls and with their parents. In the summary of the GEMS results (see figures below), the “+” signs mean that the effect we saw in a 12-week pilot was in the right direction. The “*” means that the result was statistically significant. There are more pluses than minuses here, meaning that most of the key indicators changed in the right direction.

GEMS Phase 1 Results

Variable	GEMS Phase 1 Field Center				
	Baylor	MEM/P	MEM/C	MINN	STA
Total energy intake per day (kcal)	+	+	+	+	-
Percent of energy from fat (%)	+	+	+	+	+
Fruit, juice and vegetable servings	+	+	+	-	
Sweetened beverages servings	+	+*	+	+	
Water servings	+	-	+	-	

P < .05

See: Kumanyika SK, Obarzanek E, Robinson TN, Beech BM. Phase 1 of the Girls health Enrichment Multi-site Studies (GEMS): Conclusion Ethn Dis. 2003 Winter;13(1 Suppl 1):S88-91.

We were able to see improvements in energy intake, percent energy from fat, fruit juice and vegetable servings, and decreases in sweetened beverages and increases in water. This is beginning evidence that this actually will work, at least with children, and it was very well received. The methods used in GEMS may be examples of best practices—there is nothing magical about them. It is about making things fun and making them relevant in the targeted community based on extensive explorations about community perspectives.

I included the TV data from GEMS, even though we think of TV reduction as a strategy that has been proven effective for physical activity. However, many meals are eaten in front of the TV and there is a lot of advertising that may especially encourage unhealthy eating in African-American children. A large study recently published in the *Journal of Nutrition Education and Behavior* found more advertising for lower nutritional products targeted to African-Americans through television. If we could use the TV reduction strategies, for which there are good models—Tom Robinson and others have done this—we might be able to reduce exposure to advertising that helps to create and sustain food habits that are not recommended. In Tom Robinson’s study, they were able to reduce screen time altogether, total household television use, the number of meals eaten with the TV on, and dinner with the TV on.

GEMS Phase 1 Results

Media Use	Stanford
Girl's television, videotape and video game use	+
Total household television use	+*
Ate breakfast with the TV on	+
Ate dinner with the TV on	+*

P <.05

In conclusion, I hope that I have stimulated your thinking and energy for creating strategies that work in communities of color. First, what works depends on your definition of success, and we want definitions that are inclusive of the whole community and that have good sustainability and scalability.

Secondly, none of the literature out there implies that there is any substitute for good program design or good theory. Sometimes, the programs have substituted the cultural adaptation for the theory and other program design elements, and that doesn't work. You have to add the cultural component to the other theory and the program design considerations.

We want to give priority to population-wide programs—not exclusively, but to make sure that we can alter environments. Cultural appropriateness and community involvement are important for process, but there is as yet no evidence at the community level that the culturally appropriate programs work better than any other programs. Finally, I think that participatory approaches can be recommended, because they improve participation, ownership, and sustainability. But, what works is actually what we already know: well-thought-through programs tailored to the population that you would like to reach. Thank you.

Key References

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Promoting Healthy Eating: What Research Says That Parents Need To Know

Jennifer Orlet Fisher, PhD, Assistant Professor, Department of Pediatrics, Baylor College of Medicine, Houston, TX

Today I would like to talk about what we know about children's eating. The studies that I will share with you are not so much concerned with what children are eating, as much as with why children eat what they eat and how much they eat. In other words, we are interested in considering the question, "Is healthful eating born or made?" Without explicitly composing the question as such, I think both parents and nutritionists are constantly challenged by this issue when feeding young children. And it is one at the very heart of efforts to encourage the development of healthy eating habits among children. As a mother of twin boys, I know I catch myself thinking things like—"his appetite is just like his father's" or "I am surprised he ate that because the rest of us don't like it." So, what does the research say? Until several decades ago, very little was known about the processes that guide the development of eating behavior. However, growing evidence supports the perspective that our eating behavior reflects both unlearned predispositions and environmental factors that surround eating.

To begin, what is unlearned? We know from the classic studies of Sam Fomon, in the 1970s, that infants are sensitive to the energy content of foods that are consumed.

By 6 weeks of age, infants show the capacity to adjust food intake in response to its energy content. Infants fed a concentrated formula containing 100 kcal/ml consumed smaller volumes of formula than those infants fed a relatively dilute formula containing 54 kcal/ml, so that energy intake was fairly constant across conditions.

These data demonstrate that humans are capable of self-regulating energy intake from a very early point in development. We also see evidence of this ability in preschool age children. Studies done by Leann Birch used a slightly different study design in which preschoolers were required to consume beverages containing either a few calories or approximately 150 calories 20 minutes prior to a self-selected meal. Evidence of self-regulation was indicated by the degree to which children adjusted self-selected intake in response to the energy content of the beverage consumed as a first course. The low- and high-energy beverages were of equal volume and looked and tasted fairly similar. So, there were no overt differences based on appearance and taste. The results showed that children adjusted their subsequent intake so that there were no energy differences across conditions. What was particularly interesting about the findings was that children showed more precise regulation of intake in the laboratory setting than their mothers when given the same task. These studies reveal how energy intake is regulated at a meal. Studies of preschool children carried over longer periods—the course of a day—have produced similar findings.

What these studies tell us is that under tightly controlled laboratory conditions, children can regulate energy intake. An important qualification of the findings, however, is the

observation that the ability to self-regulate has been shown to vary widely across children in the laboratory setting. And there is limited evidence that children who show more accurate self-regulation are leaner than children who show less ability to respond to cover changes in the energy content of foods consumed. What these data cannot tell us is the extent to which children are allowed to exercise the ability to self-regulate eating in their usual environments.

In addition to having unlearned predispositions in terms of how much to eat, we know that children come into the world hard-wired to perceive taste in particular ways. Specifically, we see that within a few days after birth infants show preferences for sweet tastes, reject bitter tastes, and appear to have a neutral response to salt until the weaning period when the taste of salt begins to be preferred. Recent work also shows that young children show heightened preferences for sour. Julie Mennella at the Monnell Chemical Senses Institute observed that levels of sourness in food disliked by adults were largely accepted by young children.

What do taste preferences mean for eating? The prevailing thought is that taste preferences have evolved over time to ensure survival where children seek out the sweet taste in foods that often accompanies energy and reject bitter tastes that may signal the presence of potential toxins. Indeed laboratory studies show that children learn to prefer flavors that they come to associate with high amounts of fat and sugar. Alternatively, numerous research examples indicate that vegetables are less readily accepted by children.

We also know that there is considerable between-child variability in terms of how a given taste or flavor is perceived. Another recent study by Mennella and colleagues revealed that allelic variation in the newly identified TAS2R38 gene influences the perception of bitter tastes. Children who had one or two copies of the bitter-sensitive allele were much more likely to detect the taste of bitter in a very weak solution, as compared to children who had no copies of that gene variant. The implication of this work is that genetic predispositions not only affect the way that children experience taste, but may also influence the development of food preferences.

Evidence that children are hardwired to prefer foods that are high in fat and sugar and need to be nudged—some a lot more than others—to consume foods that we would like them to consume in greater quantities seemingly paints a dreary picture of efforts to positively influence the development of healthful preferences and eating habits.

However, there is also evidence that ingestive behavior is modified by the environment in which it occurs from the earliest points in development. In fact, humans begin to learn about the flavors of the diet of their culture before birth. In a fascinating study by Mennella and colleagues carrot juice was consumed by some mothers during the last trimester of pregnancy and during early breastfeeding. The results revealed that infants who had exposure to carrot in utero or through breastmilk were more likely to accept the flavor of carrots in their first exposure to carrots than were infants who had not had prior exposure to the flavor of carrots. Thus, humans are not born as blank slates of ingestive behavior, but rather begin life with varied experience with the taste and flavors of their culture.

The notion that environmental factors have significant influence on eating behavior was not given a great deal of attention, until the scientific community came to recognize that increases in prevalence of pediatric overweight over the past three decades have occurred too quickly to be produced by genetic factors alone. Subsequently, overweight is thought to occur when susceptible individuals are placed in environments that promote behaviors that favor weight gain.

When we think of the current dietary environment, these are the sorts of ideas that initially come to mind: large portions of inexpensive energy-dense foods are found in all venues of everyday life, from restaurants and grocery stores to schools, workplaces, recreational and entertainment outlets, as well as every gas station and convenience store in between. For young children, however, the family eating environment is primary because the influences of the larger dietary environment are filtered through the family.

Families and family life have notably changed in recent decades; where we have a greater number of children living in single-parent families and households where there are grandparents present. This means that social influences surrounding eating are different than in generations past. We have also seen a greater number of mothers who are out in the workplace and, consequently, greater percentages of young children in daycare settings. These trends suggest that children are eating at a greater distance from the hands that have traditionally fed them.

What do we know about the way that families influence children's eating? Caregivers select the foods of the family diet, control social influences surrounding eating, and directly interact with children in a manner that affects food acceptance and regulation and has implications for overweight and nutrient adequacy.

To begin with, we know that parents are important providers. There have been numerous studies showing that children learn to prefer what is familiar to them. In a study by Birch and colleagues, preschool aged children were served novel foods as a series of snacks—either a sweetened, salty, or plain version of jicama or tofu. The results revealed that children came to like the version of the food to which they had been repeatedly exposed whereas their preferences for the other versions decreased somewhat over time. Researchers have successfully used the principle of repeated exposure in a short-term, home-based intervention with parents to increase preschool aged children's preferences for fruits and vegetables that were previously disliked.

Observational studies on this topic also reveal that children's diets reflect what is made available to them. In one example, we looked at influences on young girls' milk intake during middle childhood. Girls who were served milk always or almost always consumed roughly twice as much milk as those girls who were never or rarely served milk. Those findings are consistent with other research showing that the availability of fruits and vegetables in the home as well as children's accessibility to fruits and vegetables are positively correlated with

children's intake of those foods. So the observational research says children's diets reflect what is available and the laboratory research says that this is because children come to like what is familiar.

Children not only learn what to eat via repeated exposure but may also learn about how much to eat. For example, large food portions are thought to promote energy intake. Until recently, however, there has not been much empirical data to indicate the extent to which large portions are truly obesigenic.

In one laboratory study, we served an age-appropriate portion of macaroni and cheese to preschool children at lunch on a number of occasions. The amount provided was between the 50th to 70th percentile of nationally representative intake of macaroni and cheese at a single eating occasion. On other occasions, we doubled the serving size of the macaroni and cheese served to children at lunch. We found that children ate about 25 percent more of that entree when served the larger portion size. You might be thinking, why is this interesting? So what if kids eat more when given more. However, we saw that children only tended to finish about two-thirds of the smaller size. So, the reason children ate more of the larger portion did not appear to have anything to do with a "need" for more food.

Behavioral observations made by our staff revealed that children were largely unaware of the size difference between small and large portions, arguing against the interpretation that children ate more of the large portion because they recognized it as being larger. What caught our interest was the finding that portion size effects on macaroni intake were not accompanied by an increase in the total number of spoonfuls consumed, but rather attributable to increases in the average size of each bite taken. Taken together, the results suggest that visual cues associated with larger portion sizes may "trick" our eyes into taking larger bites.

Although this finding has been seen twice, there has been some discussion about the age at which children become susceptible to large portions. In the first published report, younger preschool age children's intake appeared to be unaffected by portion size.

We have recently completed the first study specifically designed to evaluate age-related changes in 2-9-year-old children's response to large entrée portions. We observed that children as young as 2 years of age consumed 29 percent more when served large portions. Finally, we have seen that serving large portions across successive meals results in an increase in daily energy intake, suggesting that large portions overwhelm children's regulatory capacity. At the end of a 24-hour period, we saw a 150-calorie increase in children's energy intake from large portions. They partially compensated for increased intake of the large portion foods by decreasing their intake of other foods. However, that compensation was incomplete. As a result, total daily intake was 6 to 9 percent greater when large portions were served at successive meals than when more age-appropriate portion sizes were served. Interestingly, we collected the same type of data from the mothers of those children and observed effects of a similar magnitude.

One unexpected and hopeful finding from this line of research involved children's intake when allowed to self-determine portion size. When given a large entrée portion in an individual serving dish and allowed to serve themselves, both younger preschool age kids and older preschool age children served themselves less and ate less than when the large portion was served directly to them by adults. Though the findings are somewhat preliminary, we believe that allowing children to self-serve their intake may circumvent the intake-promoting effects of being exposed to large food portions.

Next, I would like to move on to consider parents as eating role models. A number of laboratory-based studies have demonstrated that young children's choices are affected by observing the choices of their peers. In a recent study by Hendy, children's intake of novel foods—in this case it was dried cranberries and mangos—increased when those foods were provided in the presence of a teacher who enthusiastically consumed those foods. Thus, children not only learn about eating through repeated experience, but also through observation. I think we would certainly expect that social learning affects how much children eat as well as what children eat, although we know much less about modeling effects on the regulation of intake.

Finally, parents provide direct instruction in an attempt to socialize their children to the eating norms of their culture. One aspect of feeding interactions that appears to have importance for eating behavior is the extent to which those practices afford children autonomy in eating. Think about autonomy as a continuum where, on one end, are feeding practices that involve little structure and/or limit setting, offering children a great deal of autonomy. On the other end of the spectrum, you could have highly over-controlling types of feeding practices.

Much of the research on feeding practices has focused on the overly-controlling end of the spectrum. As a result, many of the anticipatory guidance messages have been crafted around those findings. There is a great need to understand whether more autonomy is better than less and what type of autonomy is optimal. Additionally important is the need to understand other aspects of the feeding relationship that shape the development of eating behavior. Fortunately, this field is rapidly expanding, with a growing number of researchers actively investigating feeding practices and their effects on development. So I will return to what is known.

Highly controlling practices, involving restriction and pressure to eat, have effects that are paradoxical to those intended. In a well-known study, children were seen at a series of snacks in which they were asked to consume an initially novel beverage in order to receive a reward. The reward was very successful in promoting immediate consumption. However, by the end of the study, children indicated a decreased preference for the beverage relative to a control. Thus, while effective in the short term, food rewards do not appear to foster long-term preference but rather act to devalue foods.

Another study involving encouragement to eat focused children's attention on the amount of food remaining on the plate. When children's attention was directed to environmental cues such as the time remaining on the clock or the amount remaining on the plate, they showed decreased ability to precisely self-regulate energy intake at the meal.

The effects of overtly restrictive feeding practices can also be opposite of those intended. In a laboratory-based study, children were seen on a number of occasions in which they had unrestricted access to a wheat cracker and a relatively more preferred goldfish cracker for the entire duration of a 15-minute snack. Halfway through the study, the rules were changed. The preferred goldfish cracker was placed in a jar in the middle of the table and was only available to children for 5 minutes of the 15-minute snack. We compared children's responses to the goldfish crackers during the first part of the experiment in which access was unrestricted to children's responses during the second phase of the study in which the cracker was freely available for only 5 minutes. On a minute-per-minute basis, the restrictive sessions resulted in increases in children's selection and intake of the crackers as well as in comments like, "I love goldfish crackers. Can I have more goldfish crackers?"

An interesting aside is that animal research has shown similar effects of restricting access to preferred foods on ingestive behavior. In one study, non-energy-deprived rats that received a preferred food on alternating days of the week ate more on a given day than rats given daily access to the food.

The laboratory findings on restriction are consistent with those of observational research with middle-income non-Hispanic white families in which parents reported their use of restriction in feeding their daughters. Girls whose parents reported using greater levels of restriction in child feeding showed greater intakes when palatable foods were provided in an unrestricted setting. What is important to point out about those findings is that greater levels of intake were observed, even though girls were tested following a meal, when no longer hungry. Another analysis from the same study showed that 5-year-old girls who perceived greater levels of restriction from their parents reported more negative emotions about eating those foods.

Similar findings are emerging from a study of 300 Hispanic families with about 1,200 children. In that study, we saw that mothers who were reporting greater levels of restriction had children who were reporting more negative evaluation of eating and greater levels of secretive eating.

To conclude, the implications of the laboratory research are fairly straightforward. Caregivers can support the development of healthful eating by making healthful foods repeatedly available and accessible to their children, and by not only sharing meals, but also by eating the foods they would like children to eat. These strategies appear to set up the eating environment to support success and, by facilitating intake, may offer the added benefit of reducing conflict surrounding feeding. Supportive feeding strategies involve schedules and limit-setting, but are ultimately guided by children's hunger and fullness to negotiate when eating begins and ends.

Laboratory studies are extremely helpful for understanding the directionality of effects, in other words, understanding what happens when you attempt to change one facet, holding all others constant. In the case of studies on restriction, we were able to address the chicken-and-egg dilemma by demonstrating that restrictive feeding practices have direct effects to increase food selection and consumption. However, we also know that children's eating does not occur in a vacuum. A universal goal of child feeding is to promote the well-being and the health of the child. However, the specific practices that parents use and the meaning of those practices for children's eating reflect the unique socio-economic and cultural perspective of the caregiver. Therefore, imperative to our understanding of children's eating behavior is that the findings of laboratory investigations be used in concert with those of investigations performed outside the lab that seek to understand the broader context in which feeding practices arise.

On Making School Lunch an Academic Subject

Alice Waters, Founder of Chez Panisse Restaurant and the Chez Panisse Foundation, Berkeley, CA

Time was, just about everyone on earth had to spend the better part of their lives hunting and gathering and growing food; and just about everyone had to spend a good part of every day cooking and sharing food with some kind of extended family. Food is no longer integrated into everyday experience, as part of our culture. Sure, there are a few times when we celebrate, like Christmas, and Thanksgiving, but the celebration of food prepared and shared with family is not a daily ritual any more. The shared enjoyment of the sensual pleasure of eating is just not an everyday part of life for us. Here we tend to think of food more and more as our own private fuel, and less as an occasion for getting together. For most of us, eating dinner is not primarily about the pleasure of the table, but in fact people's desire for pleasure can actually be the biggest motivator for healthy eating.

Only in today's world – a world that's increasingly noisy, fast, and out-of-control – only in today's hectic world could the preservation of simple pleasure become an urgent issue. And it is an urgent issue, because so many of us no longer have that moment in the day to sit down and communicate, around the dinner table. In fact, we may be raising the first generation in history that doesn't have to take part in the family meal. This deprives our children of what I believe is the most important educational experience of all. The dinner table. The place where we learn by experience the art of sharing. The place where we learn consideration, generosity, and patience. The place where we learn to control our natural greed. The place where we learn to cultivate our gift for empathy.

I learned these values almost unconsciously at my family table as a child. But many children grow up today without any kind of family meal. Some studies say that as many as 85 percent of all children don't sit down and eat with their families at dinnertime.

Instead of family meals, the meals of children are likely to be cooked by strangers and to consist of highly processed foods that are produced far away. And while they are eating, they are absorbing messages – fast food messages – that come with this food. These are a set of values that are indoctrinating our children, telling them that speed is a virtue above all others; that food is cheap and abundant; that abundance is permanent; that resources are infinite; and that it's okay to waste.

Our system of public education currently operates in the same strange, no-context zone of hollow fast-food values. In school cafeterias, students learn how little we care about the way they eat – we've sold them to the lowest bidder. At best we serve them government-subsidized agricultural surplus; at worst we invite fast food restaurants to open on school grounds. I believe that we have the obligation and the opportunity to restore the daily ritual of the table and bring kids into a new relationship to food through the public school system. Only through public education, because of its democratic reach, can we touch every child.

For the last 10 years, we've been experimenting with a program called the Edible Schoolyard at the Martin Luther King, Jr. Middle School, in Berkeley. King School is a public school with about 1,000 students in the sixth, seventh, and eighth grades. It is an astonishingly diverse group, socially, economically, and culturally – over 20 languages are spoken in the students' homes. A decade ago, this school was surrounded by large schoolyard covered with blacktop. The school's cafeteria had been closed because it was no longer large enough to accommodate all the students. Microwaved, packaged food was sold from a shack at the end of the parking lot.

Members of the community began talking with parents and teachers. What if we tore out the acres of blacktop? There was enough room for an enormous garden. What if the students took care of it and planted an edible landscape? What if they used their harvest to learn to cook and then sat down and ate together in a renovated cafeteria and lunchroom?

Well, this is what we've done at the Edible Schoolyard, which today, consists of a 1-acre organic garden and a kitchen-classroom. In the garden, students are involved in all aspects of planting and cultivation; and in the kitchen-classroom, they prepare, serve, and eat food, some of which they have grown themselves. These activities are woven into the curriculum and are part of the school day. A new ecologically designed cafeteria is being built as we speak and the program is preparing for the transformation of the school lunch. When the cafeteria is finished next year, lunch will be an everyday, hands-on experience and an essential part of the life of the school.

Such a lunch curriculum is not a new idea in education. A century ago here in America, John Dewey recognized how participatory education nourishes democracy and opens minds. In his own experimental school, he had a kitchen laboratory. And Waldorf schools and Montessori schools, among others, practice similar experiential, value-oriented approaches to learning. Children learn lessons that last from their own experience. For example, The Edible Schoolyard has shown that if you offer children a new dish, there's no better than a

50-50 chance they will choose it. But if they've been introduced to the dish ahead of time and have helped prepare it, they will all want to try it.

Learning is supposed to be a pleasure, and a food-centered curriculum is a way to reach kids in a way that is truly pleasurable. At first, the kids may not quite believe that they are allowed to have so much fun outside in the garden. But before long, they all know what compost is. And they all know what's ripe and what's not ripe, and when. This is knowledge they have learned, without even realizing it, from experiences like picking the raspberry patch clean every morning. While they are touching, and smelling, and tasting, so much information floods in – because they are using all of their senses. What better way to learn about fractions than by measuring out 27 aromatic spices to make an Indian curry? What better way to learn the principles of design than by making a garden plan or by composing a menu?

And when you eat together, as part of your school day, and you're passing food down the table, you turn to the person next to you and see them in a different way. Somehow, in the growing and harvesting and cooking and serving, the generosity of offering something releases the values of caring and cooperation. The volume goes down.

This is the beauty of a sensory education: the way all the doors into your mind are thrown wide open at once. As Esther Cook, the Edible Schoolyard teacher, has said, "The senses are truly the great equalizer. They are the key to a beautiful life, a really fulfilling life, and they are available to anybody."

At Yale University, food is being integrated into the curriculum with the same intention. They have a thriving garden now that has over 300 varieties of fruits and vegetables, tended by over 200 student volunteers. The lucky students who live at the residential college with the greenest dining hall are the envy of their classmates. The hope is that this program will be institutionalized throughout the University and that it will become a model for sustainable food programs and food-based curricula in universities across the country.

Imagine what it would mean for agriculture and rural economies if every school and university had a lunch program that served its students only local products that had been sustainably farmed! Twenty percent of the population is in school! If all these students were eating lunch together, consuming local food, agriculture would change overnight to meet the demand. Our domestic food culture would change, too, because people would grow up learning how to cook affordable, wholesome, and delicious food. Think of that. Good food would then become a right, not a privilege.

To make this a reality we need more pilot programs at all levels. When these models are good enough, we will have the momentum to seek the mandate and the public funding to make them a reality throughout the country. This will cost money. Maybe the greatest obstacle we're going to encounter is learning to pay the real cost of food, which means learning to pay up front and learning to provide a good living to the people who are

preserving the resources of our planet and nourishing us at the same time. Consider that, right now, school lunch costs us \$7 billion a year. But we're paying \$117 billion a year for the health care costs associated with obesity alone.

A year ago, the Berkeley Board of Education voted unanimously to embark on a pilot program for the entire school district! And now we have an amazing opportunity to design a curriculum that's never been taught in the public schools before. The Berkeley public school district, the Chez Panisse Foundation, the Center for Eco-literacy, and the Children's Hospital in Oakland have formed an alliance called the School Lunch Initiative, which will develop a school lunch curriculum for every Berkeley school. This means that we will be feeding nearly 10,000 kids in 16 schools. Our superintendent of schools, the curriculum director, and teachers from all levels of the district are coming together to breathe life into this idea and to make sure that it meets the highest educational standards.

We know from experience that we can make big changes in curricula, even when it costs a lot to do so. Forty years ago, a presidential commission in America told us our children were physically unfit and that we had to launch a national physical fitness program. The country responded by building gymnasiums, buying equipment, and training new physical education teachers; and physical education was made a required part of the curriculum in every school. What an enormous financial investment that was!

Today we are worried anew over the health of our children. Although the fast food corporations would like to persuade us otherwise, we're in the midst of a serious epidemic of child obesity. As you undoubtedly know, at the present rate of increase, one out of every three children can be expected to develop diabetes – and for Hispanic and African-American children, the rate is even higher: one out of two. Children's Hospital in Oakland has estimated that 4,000 children in Berkeley and north Oakland are currently at risk, and their clinic can only take care of 150. So we must respond – by bringing children, all children, into a new relationship with food – from kindergarten through high school. We can do this in the school system.

Perhaps the best and most radical way is to give credit for school lunch, just as credit is given for physical education or for math or science. We need to take food out of maintenance, and move it into academia. Doing this would add a new dimension of integrity to the lunchroom, placing it on a par with the classroom, and breathing new life and dignity into learning how to eat.

We should certainly try to improve diets by making school lunches more nutritious and by getting the vending machines out of the hallways. These are good first steps, but they only get us part-way there. We can't be sure the kids are even eating, let alone understanding what nourishment is all about. Kids are wary of unfamiliar foods – besides, they can always buy packaged junk before and after school. And the kids who need a good lunch the most are the least likely to take advantage of it when it's only offered in a take-it-or-leave-it way.

But when lunch is a class that every school child in America must take, when they have to get involved themselves, for credit – when they follow food from the garden to the kitchen to the table, doing the work themselves – something amazing happens. They want to taste everything! They get lured in by something beautiful, something that smells good, something that appeals to their senses. They're hungry for the food, but even more than that, they're hungry for someone to care about them. And this happens naturally when we share food. When the hearts and minds of our children are captured in this way there is going to be a revolution in public education – and a revolution in public health – a **Delicious Revolution!**

From Policy to Practice - Combating Obesity - The Arkansas Model

Joe Quinn, Director of Policy, State of Arkansas, Office of the Governor, Little Rock, AR

There are many, many things going on in this country that remind us that the whole gamut of health issues that we have talked about today is tremendously important. I saw kids' faces over the past 2 weeks that will, in some ways, haunt me, but in some ways energize all of us to continue this fight for a better America. So, it is nice to be here and to be talking about something other than the sometimes deeply troubling issues of the past couple of weeks.

Let me ask a question. How many people in here have a kid in K through 12, your own children? How many do not? Okay. To those of you who do not, I want you to do something for me. I am here as the Governor's Director of Policy. I am also the father of a third grade boy and my daughter is in kindergarten. I could bore you and tell you about my kids, but we will skip over that.

We have heard great stuff about how we should feed our 14-month-olds and some fascinating concepts of what we should be doing in the cafeteria. But for those of you who do not have a kid in K through 12, go walk through a school. Just go take 30 minutes, park your car at an elementary school and walk through it.

Take the 30 minutes. You know why? You'll be shocked because it is really troubling. Maybe it has been a while. Maybe your kids are in college. Maybe they are doctors and lawyers and maybe they have long since moved on, and maybe you come to conferences like this and talk about these issues sometimes in the abstract, as we tend to do when we come inside the Beltway.

But go to a school and look, because it is really troubling. School is tough to begin with. I was not the captain of the basketball team. I was not the quarterback of the football team. I did not date the head cheerleader. When you are a kid, it is tough. If you are an overweight kid, it is doubly tough. It is tremendously tough. And we owe these kids who are turning obese at such an early age. We owe them something. We are losing a generation. It is

brehtaking, what is happening in this country. So, go walk through a school and just take it from the abstract to looking in their faces.

I love my kids' school. My children's school is a third of a mile from my front door. My wife and I are very engaged in the PTA. We are involved. We are close to their teachers. We love the principal. You know, we are immersed in public education. But, if your kids are older or if you don't have kids yet just go look, because it puts it in perspective.

I also pose a rhetorical question. We have heard great data. We have heard great research. I pose this rhetorical question. My son, Jimmy, my third grader, will occasionally catch my wife's mother, BeBe, as my kids call her, having a smoke out behind the garage. Jimmy will come to me with wide eyes, somewhat misty-eyed, because he loves BeBe. And he will say to me, "Daddy, BeBe is going to die." I resisted the urge to say, "Well, we all are," and I said, "Jimmy, why are you saying that?" And he goes, "Because she smokes." And so, we had a little talk.

My kindergarten daughter, Eva, when we get in the car in the driveway will screech like a banshee if everybody doesn't have a seatbelt on. She is my early warning seatbelt detector system. This kid has just started kindergarten. We have brainwashed her that seatbelts are mandatory and necessary and you will die without a seatbelt. We have brainwashed my third grade son that smoking is bad. I have a question: Why have we done so little to hit them with a nutrition message that has the same impact? Why have we not been able to? When you take very smart people who are involved in America's health and America's education systems, and when you put smart health policy people in the room with smart communication people, you can do messages. We have put the money into smoking, we have put the money into seatbelts--and it has worked.

Just use my two kids as a little focus group. It has worked like crazy. I mean, this kid has just started kindergarten and she knows that seatbelts are a lifesaver. We have done nothing to tell her about broccoli and green vegetables and lettuce and tomato. We have done nothing to tell her that maybe French fries in excess are bad.

I think there is a contradiction there that I often wonder about. I think there is little doubt that obesity in this country is the new smoking, and childhood obesity is a subset in the obesity discussion that you are all involved in from day to day. But we are headed down a new road. It is a fascinating point in history to look at the differences between how we went down the smoking road and how we are going to go down the obesity road. I think there are a lot of things that are happening right now.

Our health care system is dealing with private insurance issues, Medicaid reform issues, obesity issues, and wellness issues. We can't afford to continue to do what we are doing. We have to stop pretending they are separate issues, because when that 18-month-old child lives in a family where the most predominant vegetable fed to the child is a McDonald's French fry, and that kid becomes an overweight elementary school student and morphs into

an obese teenager--because they sure don't have an innovative program in the cafeteria where they are growing their own vegetables--there is a far higher likelihood that that child is going to end up on Medicaid. Let's stop pretending they are different issues.

On the plane coming up here yesterday, I read about a new study in *USA Today* from the *American Journal of Health Promotion* yet again defining how obesity and overweight citizens are costing everybody's health plan far more. We have accepted the fact in this country that if I smoke and you breathe my secondhand smoke, that is bad for you. We are just now realizing that if an individual on my health plan is obese and costs that health plan four times what I cost the health plan, I have the right to complain about that the way you have a right to complain about my secondhand smoke.

These are new areas for us where we are going to decide directions we go. Let me throw a couple of numbers at you about Medicaid in Arkansas, and why a Southern traditionally agrarian State deals with these issues in a huge way. We have 2.7 million citizens. We have 717,000 on Medicaid. More than half of the people on Medicaid are children. Obviously, many of the families accessing Medicaid are also accessing food stamps. So, the numbers are huge.

We saw the first presentation today: How do we target specific communities? Those are very sophisticated questions and we have to get better at managing those questions. We have to stop pretending that the family of a certain income with two little matching kids who have a primary care physician, and maybe dad does go and jog, and maybe mom does go to an aerobics class, and they have income above a certain level--we have to stop pretending that those issues are the same as the unwed mother of three who is struggling just to sort of make life work as it is. She has a whole different set of issues and she has very little time to think about exercise or nutrition.

So, targeting the message is an important part of this. We have to continue to get better at targeting the message.

I would also gently remind you that it was 41 years ago when we first rolled out the Surgeon General's report on smoking. Forty-one years. Medicaid had not yet been signed into law. LBJ was president. The Vietnam War had not yet reached its peak. Forty-one years ago. That is how long it took us to get where we got to on smoking. I think it is a reminder that to truly change public attitudes in this country takes a tremendously long time, but I don't think we have 41 years ago. I don't think we have 41 years in obesity.

When I walk through Fulbright Elementary, on Pleasant Valley Drive in West Little Rock, Arkansas, and I see these overweight kids, it reminds me that I don't think we can afford 41 years for those children's sake--because we are going lose a generation.

We are raising the first generation that will not have as good health as their parents. Go to Arkansas Children's Hospital, where 41 years ago they never saw a case of diabetes that

was not about genetics. There was no such thing as diabetic behavior in young children as a result of eating habits 41 years ago.

My Governor, my boss, Mike Huckabee, lost 110 pounds. What started us down this road as he headed to become chairman of the National Governor's Association was a trigger moment. When we did focus groups for Healthy Arkansas—which is now becoming Healthy America—we did focus groups with overweight people and we looked for the trigger moment that could better define what would start to change behavior.

The governor's trigger moment? He sat at the funeral of a predecessor of his; a good friend of his, a guy who had been governor, and this gentleman was very overweight. Governor Huckabee was at his own doctor shortly after this funeral and the doctor looked at him and said, you know, you probably have another 10 years the way you are taking care of yourself—and I will tell you they are not going to be a very pleasant 10 years. You are obese, you are diabetic, you have all kinds of problems with your knees, you are going to have hip problems, you are going to have a gamut of cardiovascular problems. So, that is what you need to be thinking about.

That was his trigger moment. So I think when we talk about research and where we are going in this country, be it minority communities or children or what is happening in the school lunch line, we have to find trigger moments, and that was the trigger moment for the governor.

As the governor lost the weight, it got my attention, and I always tell the story because I think this story reminds all of us of what we are up against. The governor lost the weight. All of a sudden, we were on ABC, Good Morning America, and he was getting all of this attention about the weight loss.

Occasionally calls would come through to me, as policy director, from people calling our front desk. I took a call one morning from a woman. I have this rule. No matter what kind of mood I'm in, no matter how busy I am, no matter what is going on in my life, when a member of the public calls the governor's office and I take it, I take a breath and for five minutes I'm really going to listen to your problem. And the woman said to me—I could tell she was really sad, she was almost crying—"I have been obese for many, many years. I am diabetic. I have watched what the governor has done. I find it inspiring. Tell me what he did."

I said, "Well, ma'am, I would be happy to describe it as a civilian, but I'm not an M.D. and what is best for you, you should probably discuss with your own physician." She actually sobbed a little bit and said, please, tell me what he did.

And I said, "Okay, let me tell you what I think as a civilian. Let me sort of describe it to you. He went to his doctor. He had a complete medical work-up. He started doing a little liquid shake supplement with breakfast and lunch and then, basically, ma'am, he started eating lettuce and tomato; he didn't even put dressing on it. He ate very healthfully. He ate a little bit of fish and a little bit of chicken."

I said that he was tremendously disciplined with his diet and lost 40 pounds. And then he went back to his doctor and the doctor said, okay, you are at least down to a level where I think you can start to get some exercise. And every morning at 5:00 a.m., the governor got out of bed and he started walking, and he walked for 3 months every morning at 5:00 a.m. and he lost like another 30 pounds.

I said that then he got so bored one morning walking that he just started to jog, and when he started jogging he got with a running guy and, next thing you know, he has lost 110 pounds. And, ma'am, he is going to run a marathon next month.

So, if you had to ask me in summation, he dramatically changed his eating habits, he got off the couch, he dramatically changed his exercise habits and that is what I think he did. And now he has no diabetic symptoms and the weight is gone. There was a pause on the other end of the phone and the woman said to me, "But what did he really do?"

I was in a hotel room one night getting ready to talk to a group like yours, and it was late at night and I was sitting alone in the room making notes. And on comes at midnight a television commercial for one of those diet pills, and this one says, "If you only want to spend \$5.00 to lose weight, we are not for you. If you want to lose real amounts of weight, we are for you and you need to send us \$120." I thought it was the most bizarre approach to how to get inside of people's heads. In other words, we cost more because you want to lose more. If you just want a little bit, don't mess with us.

You laugh and the ads are ridiculous, but there are plenty of people—like the woman who called me—who think there is an easy way, and are responding to those god-awful late-night television ads. A reminder once again that folks like you who are dealing with this issue day to day, you have many different target audiences and many different issues.

I want to run through some of the specific things we have done. As we say in the office, we will get down in the weeds. Let me tell you some of the things that we have done in Arkansas to address the obesity issue.

We were the first State in the country to measure body mass index. We got the law passed. We created essentially an in-State think tank and we went to every school and did the body mass index of every child in the state. Logistically, it was a huge undertaking. We found that 38 percent of our children are either overweight or at risk of overweight.

We used our prison system to develop the little machine that we can pop them on, do the height and do it all within 30 seconds. We developed privacy systems so my kid and your kid would not see what the other weighed, and then we started to send the reports home in their backpacks at the end of the school day. And this issue drove me crazy.

Then we started to hear from parents who didn't think the kid's weight was any of our business, and they would say it is not fair. You are putting his BMI in his backpack and you are invading little Johnny's privacy—to which I would say we have always done the report

cards that way, and you never complained about little Johnny's Algebra grade or little Johnny's score on the reading test. We have never heard that about privacy.

So suddenly, the grades didn't matter, but the BMI in the backpack did. So the BMI started going home in sealed envelopes in the mail. So we measured body mass index, which gave us a baseline.

Government has always been horrible at defining the baseline. Government took billions of dollars and threw it against the wall and said, you need a mammogram, I need a prostate check, do this, don't do that. But we have never defined the baseline. We have always been really bad about saying here is where we are today, here is what we want to do, here is what we will spend, here is the outcome we will want.

Now, that is kind of a simple concept, but with the body mass index measured of each kid in our State we now have some baselines. We can't affect real change without good baseline data. When you listen to the research on what preschool kids are eating, you start with the baseline. The kid was here; the kid went here. Government has never been very good with the baseline. So, BMIs started to give us a baseline.

We created some simple common sense things that didn't cost a lot of money. We put a web page up with all of the health resources in any community. You could scroll your little pointer, get the resources, and get where the walking trails are in the state. This is a true story, as God is my witness. I was meeting with the walking trail guys one day. I found that we have four guys in the State whose job is to manage and promote walking trails. So I'm in this meeting and I'm trying to wrap the meeting up and I said to the guy, "Hey, give me a list of the walking trails. We are going to put it on the new website."

And he said, "Yeah, I'll get you the list." I said, "By street address, right?"

And he said, "Well, actually we do it by longitude and latitude." And I said, "Let me ask you a question. How is the person in Pocahontas or Cercie going to find the walking trail by longitude and latitude?" And the guy says to me, "Well, I'll tell you. Some of them are in State parks. It is just easier to measure this in longitude and latitude."

I said, "Hey, I have a unique idea. What about if we create systems where the public can actually find the resources? How about that?"

So, after this struggle we got this great website with resources and walking trails on it. Now, I tell that story for a reason. That may sound so simplistic and so commonsense to you, but if you start to go home and poke around some of how people can find health information, you will find we often make it far more complicated than it needs to be. So I'm proud of my little web page, and we drove hits through the roof. We are now one of the most hit web pages in State government—but again, that was a comprehensive list.

We created a voluntary Healthy Arkansas Restaurant Award. We had dozens of restaurants apply. You can get the sign on the door. The governor gives you a plaque if you are a gold-level health restaurant. So, we are doing things to promote the healthy restaurant concept, which is a fascinating time in that discussion.

Have you seen this Ruby Tuesday's story? They went to the whole health menu, but then they weren't sure it wasn't hurting sales. So they backed off the whole health menu. There is this sort of discussion among the restaurant chains. We are into the second generation of promoting health in the restaurants. So now you are going to see a discussion of what it is really doing to sales.

But we did a Healthy Arkansas Restaurant Award. We have asked the United States Department of Agriculture to give us permission to take our BMI data and overlay it with the names of children on food stamps to better identify the school districts where we think we have a higher preponderance of overweight or at-risk of overweight children than elsewhere. Can we geographically define them?

Anecdotally, we have all tended to believe in this country that overweight is more prevalent in lower socioeconomic groups. I think this is a study where there could really be some cutting-edge stuff. I happen to believe that we would find that the overlay would show us that childhood obesity cuts across all socioeconomic lines right now. So, we are working on that.

We asked our health department to sit down with local leaders in 75 counties and actually have a conversation; actually talk. We actually recognized that if you are in Point Set County and you are in Sebastian County, you have a better idea of who the resources are or who the experts are in your county and we could tap into that in a stronger fashion.

We have gone after corporate underwriting to fund TV and radio messages. We did a great project with Radio Disney. The project was saying to kids that you need five fruits and vegetables a day and five bursts of energy a day, and it worked.

We went to Radio Disney. We went to the targeted radio station for the kids. You know what I love about the balloon thing that we did for 5 minutes? We spend a lot of time in this country talking about PE, physical education. I hear all the time from educators, and the governor has been aggressively pushing the educators for years to do a better job. So sometimes they are not crazy about us. I tell you that first.

But they always want to talk about resources for more PE teachers, space availability in the gym and all types of issues like that. What has occurred to me over the past year, dealing almost exclusively with this issue, is if you take a guy who is fun and funny for 5 minutes and play dumb balloon games with those kids, you get them out of the chair in the classroom where they are, you get them moving and you get a burst of energy.

You don't have to walk them down to the gym. You don't have to spend any money. If we can do innovative, motion-oriented programs that they can do right in the classroom where they are located and if we convince the teachers and the administrators that that is worth the 5 minutes, I think that we can make huge inroads.

And you know what? What are we doing now? We are teaching badminton and golf in PE half of the time where you can get your credit. I think as a society we need to be thinking more about innovative stuff that we can do in the classroom on a low-cost level that doesn't further burden the education system.

I am sympathetic. As an educator said to me one day--an educator who wasn't crazy about me --"Joe, there is six and a half hours in our day and every time you guys in the governor's office tell us to put something new in, we have to take something out."

Now, I do tend to agree, to a certain extent, with that. But the balloon? The dance? The hip thing? Great. We should be exploring more things like that, and we are trying to go there.

We gave State employees \$20.00 a month off the cost of health insurance if they would go to a website and answer questions about their health. They can do the same thing for their spouses. That's \$240.00 bucks a year if you give us this information on a sort of a health, self-assessment web page. Again, it gives us a baseline, and the baseline is critical.

The employee taking the test is asked about eating, exercise, alcohol, tobacco use, how often they wear a seatbelt--a gamut of questions like that. Down the road we will continue our data work on that. We will take that data and extrapolate it, and we can do a lot of things with it.

I also think we are at a fascinating time in this country's history. We have spent billions of dollars and 20 years developing databases, and every single time we go try to do something unique and different, what do we hear? Well, you have got a HIPPA problem there.

I mean, we have the data now and we can turn to smart people at great universities and say, hey, guys, help us analyze the data. You know, this employee who does or does not wear a seatbelt or does or does not binge drink, let's analyze how we can help that employee and how we can create a better snapshot of our employee workforce. And we turn to the great universities for help, but every time now we are hearing about HIPPA.

So, we are fighting privacy issues that we think very often aren't really privacy issues because we are not trying to do anything by name. We are just trying to use the pool of data as a whole. So I think that is an issue that we are all working on.

We are continuing to develop incentive programs for State employees who do the right thing health-wise. You have got to have incentives, you have got to have tools and that is critical.

We are doing a worksite wellness program among State agencies where you can accumulate health points, and eventually, we will give you 3 days off with pay if you hit a certain level with your health points.

So again, it is all about incentives and tools. You can't say to someone I want you to profoundly change your life if we are not going to offer incentives and tools to go with that.

We have dropped the co-pays on wellness visits to the doctors for our State employees. In short, we have eliminated financial barriers to routine checkups and we can spot more expensive diseases at an early stage.

We have dealt with the vending machine issue that we seem to get hammered with no matter which way we go. We have recently toughened up our vending machine access a great deal. But I heard the clapping over there. I want to tell you my political reality on that.

The principal of Central High School in Little Rock, Arkansas--the school that was at the heart of the integration battle in 1957, and is now a national registrar of historic places--who is a very respected educator, a very respected woman, is sort of leading the fight against us because if we take away her vending machine proceeds, it cuts into the money that she can use to buy band uniforms.

So she went to her 200-plus teachers, most of whom have master's degrees and all are articulate people and told them, I'm going to cut this from your classroom, I'm going to cut this from your classroom and I'm going to cut this from your classroom without my vending machine money. So, there are political realities to these issues that we see on the governor's office side of this that are sometimes not as simple as they appear on the surface.

Governor Huckabee has now taken over as chairman of the National Governor's Association. We are doing a Healthy America initiative, featuring a lot of the things that I have talked about today in terms of how we reach people through schools, through workplace, through parks and public places. I think we are defining how we get information to people and how we continue to build on these different pipelines with different types of incentives.

Looking back on the past 40 years we screamed at smokers and we banished them to back alleys, but in many, many ways we ignored the biggest problem of all: the health problems that come with poor eating and little exercise.

I don't have a Ph.D. I don't have a master's in health. My dad is a physician. Much to his chagrin, I knew I was never going to get through organic chemistry and I knew I was never going to get an M.D. Dad still regrets that. But I don't need an M.D. to know this: If you eat right, if you exercise roughly three times a week and if you don't use tobacco, you're going to live longer.

I don't understand how a cancer cell starts. I can't tell you much about how leukemia works. I probably can't tell you much about how you measure sophisticated medical tests. But again, those three things: If you exercise three times a week, if you change how you eat and if you don't use tobacco, you are going to live longer.

The message comes down to something as simple as that, and it is a question of how we get the message to people and how we reach them with incentives and tools.

Because you are here today I think it is pretty safe to assume that you obviously care about these health issues. We all need to work together in this fight for a healthier America. We need you engaged if we are going to save this generation of children.

And when you leave here, just ask yourself just two or three questions. Why have we won the battle with seatbelts? Why have we won the battle in telling kids about smoking, but we have done such a horrid job winning the battle with nutrition? And take 30 minutes and go walk through a school.

Thank you very much.