



Caregivers of underserved minority populations: views and opinions of the role of schools in BMI screening, education and communication

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## Abstract

A pilot study exploring caregiver views of the role of schools in students' health.

## Abstract

To date, 20 states in the United States require school-based body mass index (BMI) screening for school-aged populations and for some the requirements include caregiver notification of the findings. Few studies have provided empirical data indicating whether or not caregivers accept or act on BMI communication from schools. Therefore, an exploratory pilot study was conducted in a culturally diverse urban school district to determine how a required (BMI) screening and notification were viewed by caregivers. Most caregivers reported that they felt schools did not have a role in the evaluation of their child's BMI or interventions and did not find the latter an acceptable means of communication regarding their child's weight status. This was especially true for Hispanic cultures. Implications for service delivery include more culturally sensitive communication and individualized communication especially for overweight and obese children. Health disparities can be reduced by tailoring communication to different racial and ethnic groups to meet their cultural expectations and beliefs.

## Keywords

ethnic & racial disparities; obesity; underserved populations; caregiver beliefs; BMI

## Cover Page Footnote

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## **Caregivers of Underserved Minority Populations: Views and Opinions of the Role of Schools in BMI Screening, Education and Communication**

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### **ABSTRACT**

To date, 20 states in the United States require school-based body mass index (BMI) screening for school-aged populations and for some the requirements include caregiver notification of the findings. Few studies have provided empirical data indicating whether or not caregivers accept or act on BMI communication from schools. Therefore, an exploratory pilot study was conducted in a culturally diverse urban school district to determine how a required (BMI) screening and notification were viewed by caregivers. Most caregivers reported that they felt schools did not have a role in the evaluation of their child's BMI or interventions and did not find the letter an acceptable means of communication regarding their child's weight status. This was especially true for Hispanic cultures. Implications for service delivery include more culturally sensitive communication and individualized communication especially for overweight and obese children. Health disparities can be reduced by tailoring communication to different racial and ethnic groups to meet their cultural expectations and beliefs.

**Keywords:** ethnic & racial disparities, obesity, underserved populations, caregiver beliefs, BMI

### **INTRODUCTION**

It is well documented that obesity in the U.S. is a major public health concern. In 2010, 16.7% of children and adolescents were obese (Ogden, Carroll, Kit & Flegal, 2012). The reasons are multifactorial, complex and often poorly understood. However, two factors exert a major influence in the lives of youth: their caregivers and school environments. Caregiver influence may assist youth with maintaining health through managing dietary and lifestyle choices, and by role modeling, especially in young children, although this influence usually lasts only into adolescence (O'Dea, 2003). Because youth spend a considerable amount of time in schools, there is enormous potential for school personnel to shape the health of children through health promotion and education; they can help youth develop healthy lifestyles through positive nutrition and exercise habits. Since the primary role of schools is to educate youth, education aimed at healthy lifestyles should be a component of every comprehensive school program. Moreover, school-based obesity prevention programs have shown promise in combating the obesity epidemic and include; school

curriculum that includes healthy eating, physical activity with increased sessions for physical activity and improvements in nutritional quality of the food supply in schools, environments that support children eating healthier foods and being active throughout each day (Waters, et al. 2011).

Little is known about the relationship between caregivers and schools. Although there is some limited evidence suggesting parents may support school-based obesity prevention (Sutherland, Gill & Binns, 2004), it is not clear which elements of prevention they support or to what degree. Studies have shown that caregivers may have an inaccurate perception of a child's weight and the consequences of excess weight (Howard, 2007). One study showed as many as 86% of parents of obese and overweight children misclassify their children as overweight or normal weight (respectively) (De La O, et al., 2009) and a recent meta-analysis showed half of parents underestimated their children's overweight/obese status and a significant minority underestimated children's normal weight an effect moderated by visual methods methods (Lundahl, Kidwell & Nelson, 2014). Further, studies indicate caregiver knowledge deficit regarding childhood obesity and associated future health risks (Young-Hyman, Herman, Scott & Schlundt, 2000), and often there is a cultural acceptance of large body habitus (De La O, et al., 2009, Young-Hyman, Herman, Scott & Schlundt, 2000). Therefore, caregivers may be unaware of the potential health implications of obesity, either because they do not realize their child(ren)'s weight is unhealthy, or do not view excess weight as problematic. Parental support of school-based obesity treatment and prevention efforts is important since this support is essential to obesity prevention programs (De La O, et al., 2009). If caregivers do not view weight as problematic or do not feel the schools have a role in preventing or treating it, essential components of the partnership are missing. Studies focusing on parental attitudes and beliefs regarding the role of schools in assisting children to achieve and maintain optimal health are limited by design and external validity as many lack underrepresented populations in their samples. Therefore, the purpose of this study was to explore what caregivers (parent or guardian) of school-aged children/adolescents from culturally diverse backgrounds believe is the role(s) of the school in assisting them to maximize their child(ren)'s health. Specific research questions addressed by this study were:

- (1) What are parental perceptions regarding the role of the school in optimizing family health, specifically in the area of achieving and maintaining a healthy weight?
- (2) How do parents from culturally minority groups want the results of school health screenings, specifically BMI, communicated to them?

### Background

The first step in decreasing the obesity epidemic is acknowledgment that a problem exists. Simply stated, caregivers and children, depending on developmental level, need to understand the child is carrying excess weight. The next phase is recognition of the actual and potential problems associated with excess weight. If caregivers are unaware of their child's excess weight, or that it is problematic, they are not likely to engage in behaviors to improve weight or change behaviors that contribute to the problem. Barriers to moving through these first two phases are well documented. Caregivers may not be aware of excess weight for many reasons. Some children, specifically older children, may lack primary health care or if they have it, their providers may not be comfortable discussing weight with families. (Steele, Yalena, Jensen, Pankey, Davis & Aylward, 2011). Jain and colleagues (2001) demonstrated that parents had different ways of determining if their child had a weight problem such as, growing out of clothing too quickly, teasing by other children or physical limitations associated with certain activities. Since these

measures are somewhat subjective and may not be experienced in the same way by children, it is important to consider more objective measures of weight status, such as BMI.

In an effort to increase awareness about the weight of school children, the Commonwealth of Massachusetts Department of Public Health's (MDPH) has amended the regulations on physical examination of school children (105 CMR 200.000) to include BMI screening guidelines as part of its Comprehensive School Health Program. Among other regulations, there is a requirement that schools screen, record and report the BMI for all students in grades 1, 4, 7 and 10 (and for those of comparable age). In addition to reporting aggregate school and community population data to the MDPH, schools are also required to supply individual level student data to students, parents or guardians. This must include:

- Direct, confidential notification of the child's screening results even if the child or adolescent is within normal BMI range
- Provision of easily understood informational materials that explain BMI screenings to parents or guardians
- Identification of resources that support healthy eating and active living in the community
- A referral to the student's health care provider if the BMI is abnormal ( $< 5^{\text{th}}$  or  $> 85^{\text{th}}$  percentile)

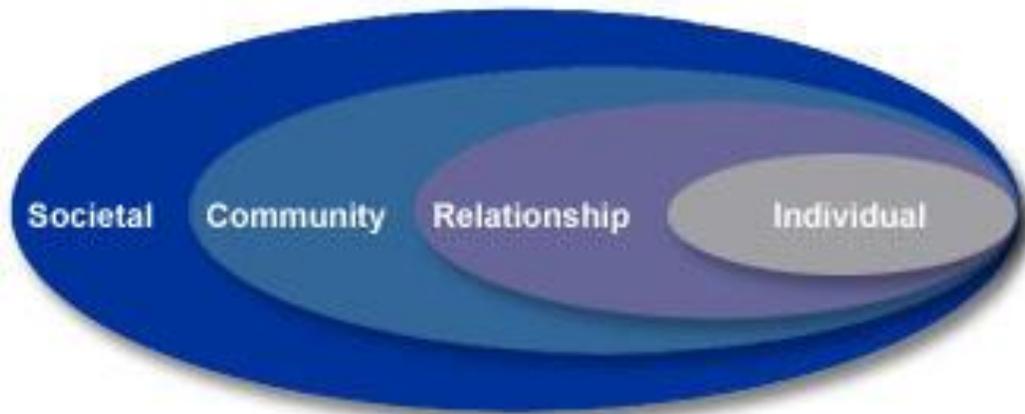
In spite of the serious obesity epidemic in the US, as of 2007 only 11 states mandated similar BMI screening and reporting for students. In 2011, that number increased to 20 although only nine require parent notification of screening results (Linchey & Madsen, 2011). This may be because such regulation can be met with resistance, as was the case in Fall River, Massachusetts. When the regulations took effect in 2010 and in spring 2011, once screenings and parent notification were completed, overwhelming, albeit anecdotal, reports from school nurses across all schools in the district were consistent; the BMI information sent home was not well received by families, specifically by those whose children were overweight or obese. This was not surprising given that research indicates parents of overweight children, who are most in need of the information, are more likely to report discomfort when they receive letters about BMI values (Kubik, Fukerson, Story & Rieland, 2006). This may also be because school personnel (teachers) may blame parents for youth's unhealthy behaviors (Power, Bindler, Goetz & Daratha, 2010).

There is little evidence in the extant literature that describe caregiver expectations regarding the role of the schools when a child has an actual and /or potential health problem, especially as it pertains to weight. The regulations are imposed and, as such, may not be a welcome addition to the school health program, especially given the negative stigma associated with being overweight. In addition, regulations do not stipulate *how* information about BMI should be relayed leaving considerable latitude to schools to inform caregivers in a way that best meets their population needs. Since parents in this community seemed to dislike the school- to-home communication regarding their child's weight, the question is how would caregivers like school health personnel to convey health concerns, specifically those related to weight.

### Social Ecological Model

The CDC adaptation of the Social Ecological Model (CDC, 2011) has provided the theoretical framework from which to explore the problem of childhood obesity for this research project (Figure 1). The theory posits that health behaviors result from an interaction among a variety of personal, environmental and social factors at various levels within a community structure. This project was guided with a focus on exploring the interdependency of societal components (parents, schools, community) on the health of children as suggested by this theory (Stokols, 1996).

**Figure 1:** CDC adaptation of the Social Ecological Model



## **METHODS**

### Focus Group

To try to determine the role caregivers felt schools should play in helping their family achieve and maintain optimal health, exploratory focus groups were conducted to learn not only *how* participants felt about school involvement in their children's health, but also *why* they felt this way. A focus group method was chosen because of the explanatory nature of the aims. Focus groups provide several advantages; they do not discriminate against people who cannot read or write; they encourage participation from those who are reluctant to be interviewed individually; and they encourage contributions from people who may feel they have nothing to say (Krueger & Casey, 2000).

### Recruitment

Participants were recruited from health fairs, social media, afterschool care agencies and parent-school liaison personnel. The school district from which the population was drawn has nine elementary schools, four middle schools, one high school with one alternative high school serving high-risk students. Two elementary schools have student enrollment of just over 300, while four, serve more than 700 students each. The three mid-sized elementary schools range from 463 to just under 600 students. Middle school enrollment ranges from 495 to 634 while the high school has a student population of 2,200. Sixty-five percent of the students are white; 19% are Hispanic; 6.8% are African American; 4% are Asian; and 4% report being multi-racial. Although 78% (7,832 students) in the district qualify to receive free or reduced-cost lunches

### Human Rights

Institutional review board approval was obtained through the University of Massachusetts, Dartmouth. Informed consent was obtained by the principal investigator who facilitated the

groups. Participants were asked to read and sign consents in the language of their choice, English, Portuguese or Spanish. A Portuguese and Spanish interpreter was available to read the consent to those who did not read and write in Portuguese or Spanish while the researcher conducting the groups assisted those who spoke English when needed. Participants were informed of the nature of the study, the expected time required and that they could drop out at any time during the group meetings. Additionally, the consent included attestations that they were aware they would be audio taped, and their quotes could be used anonymously to illustrate themes as they emerged from the data.

### Data Collection

#### Quantitative Data

A total of nine focus groups were conducted at nine different sites by the Principal Investigator (PI) of the study. Adults from the groups were asked to devote two hours of their time to the group, although the average group session lasted only about 90 minutes. Because all the participants had children, childcare was provided during the groups, and a light dinner was provided for the adults and children and an age-appropriate activity for the children. To better identify the population participants were also asked to complete a demographic form that included their children's weight, height, genders and ages from which a new variable, BMI percentile, was calculated. Demographic variables also included marital status, income, educational level, race, ethnicity, participation in free/reduced lunch programs and health insurance status. In addition, a question regarding Internet access and where access was attained (library, home, office, mobile device) was included. Parents were also asked about their children including gender, age, height and weight from which BMI was calculated. All forms were translated into English, Spanish and Portuguese and were completed with the aid of a translator or the researchers conducting the groups. Although participants were encouraged to complete all variables on the form, those who were reluctant were not required to do so for inclusion in the study in order to foster trust with the researchers.

#### Qualitative Data

Once the group was assembled and consents obtained, the demographic forms were completed and the digital audio recorders activated. After verbal consent was obtained, the ground rules for discussion were reviewed. The rules were displayed on a poster and referred to as needed and stated:

Group dialogue was confidential.

Group members would respect one another.

One member at a time would speak.

Following, an ice-breaker activity, caregivers were asked to give one word that described their families' health. From that, participants were asked, individually, to elaborate on their response in an effort to encourage all members to speak and become comfortable with the group format. A semi-structured interview guide was then used to ask questions of the group (Figure 2) and discussions followed each question. Participants were asked to elaborate more and each group member was asked to respond to each question by the group leader.

Group leaders brought participants back to the original question if dialogue strayed from the general topic of that question. However, once all questions were asked and answered, group members were encouraged to discuss whatever they wished, ask questions and comment on the study in any way.

#### Data analysis

Consistent with Kreuger (2000), Transcript-Based Analysis was used to analyze data. Audiotapes were transcribed verbatim, and the names of participants were changed to pseudonyms that matched the participants' racial and ethnic background. Transcripts were read and categories developed based upon themes of participant responses to interview questions. Each theme was coded and combined with another researcher who took field notes. Supporting quotes from participants' responses were included for each category. Data that did not fit original themes was omitted and reviewed by another researcher to consider revision of themes; however no new themes emerged from this process. Although data saturation was reached after the sixth focus group, collection continued to ensure no new themes emerged.

## **RESULTS**

### Population Studied

Although the original study design called for four focus groups comprising six to eight members per group, (target sample total was 24-32), secondary to challenging recruitment, a total of nine groups at six different sites were conducted, and a sample size of 28 was ultimately attained with a range of 2-7 people per group. Two groups were conducted with participants who spoke primarily Spanish and Portuguese with only the questions being translated from English. The entire study sample qualified to receive free lunch. Although 40% of participants came from families with two adults, poverty level was further reflected in annual household income where 93% of those enrolled lived on less than \$35,000 annually. Caregivers enrolled in the study were primarily (93%, n=28) female with a range in age from 23 to 56, a mean age of 35.1 years (SD 7.31) and a mode of 30 years of age. The sample was representative of an underserved, minority population with 55% (n=12) of respondents Hispanic. Most (89%) had health insurance for the children. For more sample data, see Table 1.

**Table 1:** Caregiver Descriptive Characteristics (N=28)

Age	Mean 35.1	SD 7.31	Range 23-56
Gender	Female (n=26, 93%)      Male (n=2, 7%)		
Ethnicity*	Hispanic (n=12, 55%) Non-hispanic (n=10, 45%) Portuguese (n=10, 36%)		
Race*	White (n=14, 67%) Black/African American (n=4, 19%) Mixed (n=3, 14%)		
Marital Status	Single (n=12, 43%) Married (n=10, 36%) Widowed (n=1, 3%) Divorced (n=5, 18%)		
Education	Less than 9 <sup>th</sup> grade (n=3, 11%) 9-11 <sup>th</sup> grade (n=4, 15%) HS/Tech School (n=19, 71%) College degree (n=1, 3%)		
Income	< \$15,000 (n=15, 56%) \$16-\$35,000 (n=10, 37%) \$36-\$55,000 (n=2, 7%)		

Children of caregivers

To learn more about the family composition in the families enrolled in the study, caregivers were asked demographic data about their children. Table 2 depicts the data for children enrolled in this study. Children ranged in age from 2 to 18 since data was collected on all children as long as one of the children was enrolled in the district's public schools. Of interest, although 48% of the sample was in the overweight or obese category, only 8% of caregivers described their children as overweight or obese.

**Table 2:** Children's Data (N=59)

Age (years)	Mean <b>8.81</b>	SD 3.8	Range 2-18
Gender	Female (n= 31, 52%)      Male (n=28, 48%)		
<b>BMI by weight category (n=31*)</b>	Underweight (n=4, 13%) Normal (n=12, 38%) Overweight (n=5, 16%) Obese (n= 10, 3%)		

### Qualitative Data Themes

#### Themes on the roles of the school regarding overweight and obese youth.

Caregivers viewed the schools as major contributors to their children's lives based almost solely on the amount of time spent in the schools' care. However, they viewed the role of the school as limited. For example, health education, promotion and prevention were not viewed as a primary function of the schools. Caregivers were primarily concerned with and wanted to be alerted to *actual* problems associated with being overweight and obese if they interfered with any level of school performance. When asked if it was appropriate for the schools to assess children's health status, specifically weight, participants told the focus group leaders: Implications of excess weight

*"Well if it's not affecting them in any way because they can probably be overweight, but they are still getting all the sports done, they are still going fine; [school] works fine so, if it's not really affecting them..... I don't know because, like certain schools and certain teachers have their preferences for who they want in their classes so that can probably just be their issue."*

*"If it's something that you know and it is bothering the child and they [schools] see it affecting the child, then you have to accept it and see what we can do to change it, but it's not affecting the performance then.....— a lot of people can be overweight and it doesn't affect them when they do something, so it depends."*

*"It's different when it affects their education. Like, a hearing thing would affect their education."*

Weight was a sensitive topic for families. Many felt as if the family should address the child's weight and this was not within the purview of the school staff.

#### Addressing weight is not a role of the school

*"Well, I say I would like to think of myself as intelligent enough to know when my child's overweight..... Let me be a parent, let me help my child's learn good eating habits at home"*

*"She feels it's really the responsibility of the parents to intervene and to show their kids good habits and those types of things."*

Relatively few participants told us that schools had a responsibility to educate youth about a healthy lifestyle. Of interest, some participants said they felt schools should better support parents through education, especially regarding nutrition, at home.

*"It's easier for somebody sometimes outside of the house to say it because they take it differently."*

*"Educate the people more. If you have healthy parents, you will have healthy kids."*

Almost universally, all caregivers felt the school's role included a responsibility to provide healthy foods for children at school, although no participants brought up a responsibility for

exercise throughout the school day. For some, this was simply a pragmatic way of keeping children healthy, and they felt the school nutrition program overall was "broke." There were very few who said they felt schools should be not only providing students with good nutrition, but also doing so for the purposes of role modeling healthy food choices and reinforcing healthy eating.

Providing good nutrition is a role of the school

*... "I do expect them to have healthy options, and I approve of them keeping candy, cookies and sodas out of the classroom and out of the lunch room."*

*" She said that the examples should be set at school, since this is where they spend eight hours a day, so what is the point of her going and spending a lot of money on healthy foods if, when they are here they are not going to eat healthy."*

Themes on communication from the schools to caregivers.

*Language matters to families....*

Although the school district policy is to provide guidance and counseling in a student's primary language, this did not always occur. One theme was echoed many times by those who did not speak English as well as for those who did. Of interest, only 60% of participants spoke English as their primary language in the home. The remaining were equally (50%) divided between Spanish and Portuguese.

*"She says they send information home, but never once in Spanish.... she doesn't have anyone to turn to that speaks Spanish in the schools to double check, to ask questions."*

*"They did give me some paper, but I did not understand it. I thought it was something I had to pay."*

*.....and so does culture.*

Participants were not always in favor of cultural variations in food and noted that that the American foods were not as healthy or as authentic as their own. This was especially prevalent in those from other countries who felt as if their children were being "Americanized" into eating *our* foods that were less healthy and not culturally sensitive. This was interpreted by some as disrespect for their culture.

*"They have been here for less than a year, and she noticed that his eating habits are changing; he used to eat soup, and now he doesn't want to eat that anymore, or other healthy things that she cooks."*

*"They are not respecting the different ethnicities. Just like there's a large Portuguese population here so, at least once a week, they should serve soup."*

*"It's not accommodating the group's necessities....they try to be culturally diverse and offer the kids Mexican food for instance, but it's not done right. It's made for Americans, not for the Hispanic kids."*

What you communicate is important but how you communicate is also

Caregivers' perceptions of the responsibility of school health personnel to evaluate students' weights were varied, although many felt it was not the personnel's concern unless there were specific problems (e.g. lack of ability to perform physical exercise in class) associated with it. Almost universally, participants had opinions on how information should be communicated to caregivers, but there were no common themes among the groups. What did emerge is that caregivers did not always perceive the letter sent home by the school in the way in which it may have been intended to be received, and for most it was a sensitive issue to receive notification about their child's weight.

*"They come home with these notes saying I'm fat more or less, and they know how to read; they're not oblivious, and that's embarrassing; and it's bad for their self-esteem.... for me, it's not appropriate to send a letter home saying your son is overweight."*

*"She actually got a letter saying that she needed to take him to the doctor because he is morbidly obese."*

*"She was upset about it and she showed it to everybody and it really was just a letter that said 'Dear Ms. XX, your son has been diagnosed with obesity and we recommend that you have him see a physician and start a weight loss program immediately for his health and benefit'. ... It was cold and totally inappropriate."*

*"...but she said it was hard to understand, because even though it was targeted to parents, it was a doctor speaking; I was going through the translation, but it was really hard to understand since they were talking in more scientific terms. "*

*"The way the letter is stated it makes you feel like you're not doing your job as a parent, and I think that's the wrong approach to come across. If it was awareness, it might be a different story, but to come across like she's saying, to say, you're not doing a good job. That's not their call. That's not their call at all."*

#### Preferred methods of communication

Currently, the schools send a standard form letter (Figure 2) supplied by the MDPH to caregivers, and for the most part these forms were not well regarded by participants. Personalized modes of communication, such as phone and dialogue/conversation, were preferred, although it was acknowledged by some that this may not be pragmatic. Most participants agreed that if a phone call was not possible, individualized communication in the form of written documentation would be appropriate. Some participants told group leaders they had never received a report of any kind from the school and assumed screens were normal unless they received a letter, although they too preferred a phone call follow-up if things were abnormal.

*"I think with the high rate of obesity, if the nurse was to speak with every single parent whose child was overweight that's all she would do every single day."*

*"When I call them [the doctor] and they want the paper as proof to bring it to the doctor, you know since it is that serious."*

## DISCUSSION

This research explored caregiver views of the roles of children's schools in achieving optimal health for children, specifically in the area of achieving and maintaining healthy weight. The themes represented caregiver views on the roles of the schools, which were primarily associated by most to supply optimal dietary options for youth; they recommended limited roles in other areas, specifically health promotion. Although the school lunch program for this district had recently (2010) been revised based on the new guidelines Healthy, Hunger-Free Kids Act of 2010, caregiver perceptions of the school lunches overall were negative, and most parents did not approve of the school lunch program. When asked about the option to send their children to school with food from home, participants cited economics as a primary motivator for using the school-based nutrition services. Of note, 100% of this sample population participated in the school free or reduced-cost lunch program; whereas 78% of the district's total population is eligible for free or reduced-cost lunch.

Caregivers in general did not view BMI screening as a role of the schools. Similarly, physical activity and health education (parent or child) was not viewed as a role by most, although few did cite nutrition education as an important element for children and parents. Of interest, MDPH regulations on Physical Examination of School Children, 105 CMR 200.000, include provisions that parent/guardians must be notified of BMI screenings but can opt out of screening and/or notification by sending a written request to the school. However, the caregivers in our study did not opt out of screenings, and this may be because of the passive consent process or because they underestimate their child's weight. As such, they may not understand the likelihood of an overweight or obese finding in their child. This lack of understanding highlights the importance of screening in all children and keeping caregivers informed of their children's weight. Research supports that parental concerns about weight are correlated with decreased screen time, improved child diet, and an increase in child's physical activity compared with parents who report no concern (De La O et al., 2009). Regardless, there is documentation in the literature that parental support of a school-based BMI screening program exists in a suburban metropolitan school in the Midwest (Kubik, Fulkerson, Story & Rieland, 2006). It was also found that parents were supportive of school-based BMI screening programs, although they were less likely to be so if their child was considered overweight. However, although this study was well done, the population was primarily white and lacked racial and educational diversity thus limiting generalizability to the population studied in Massachusetts. Of note, the Midwest study also included parental feedback on the development of the BMI communication letter. In the Massachusetts district a state-supplied form letter is used to communicate weight status to families (Figure 2).

Studies of caregiver perceptions of obesity-related health risks have found that anywhere from 32% to 90% of caregivers of obese children do not accurately perceive their child's weight as obese. Further, even when caregivers do correctly perceive their child (ren)'s weight as excessive, they may not perceive health risks associated with excess weight (De La O, et al. 2009). Many participants in this study cited only diabetes as a potential future health risk associated with excess weight and, when asked, did not cite other potential health issues such as cardiovascular disease as health risks. Health behavior theories suggests that in order to initiate dietary and exercise behavior changes targeted at weight reduction, individuals and families must perceive the high likelihood of health risk associated with excess weight. In this study, many of the participants did not view excess weight as problematic if it was not interfering with their child's daily activities

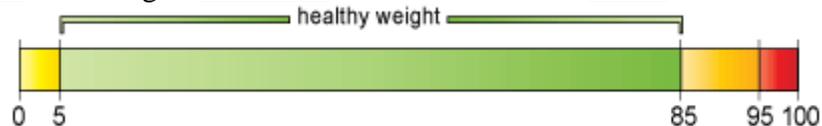
and/or learning. Therefore, they did not feel there was a role for schools to intervene unless it was interfering with *school* performance. Parents in this study preferred individual communication as opposed to form letters sent to the home. Very few acknowledged that lack of time would prohibit individual counseling regarding weight status between school health personnel, students and their families. In addition to time constraints, lack of institutional support, personal weight challenges and establishing relationships with families and fear of reactions from families (Steele, Yalena, Jensen, Pankey, Davis & Aylward, 2011) may be barriers. In fact, the impetus to conduct this study stemmed from a high level of frustration on the part of district nurses who experienced all these barriers in the school district where this study was conducted.

**Figure 2:** Template for Reporting Individual Screening Results Screening Results for Parents and Guardians

Dear Parent or Guardian:

Your child, *[insert name of student]*, was weighed and measured as part of our school's BMI Screening Program. A Body Mass Index (BMI)-for-Age percentile was also calculated. The purpose of the BMI Screening Program is to inform you about your child's weight status and let you know if your child is in a healthy weight range, overweight, obese, or underweight. The result of your child's BMI screening is strictly confidential, and will not be discussed with anyone other than you. Your child's measurements were:

Height: \_\_\_\_\_ Weight: \_\_\_\_\_ BMI Percentile: \_\_\_\_\_



-  underweight, less than the 5<sup>th</sup> percentile
-  healthy weight, 5<sup>th</sup> percentile to less than the 85<sup>th</sup> percentile
-  overweight, 85<sup>th</sup> to less than the 95<sup>th</sup> percentile
-  obese, 95<sup>th</sup> percentile or greater

If your child's BMI is below the 5<sup>th</sup> percentile he/she may be underweight. If your child's BMI is above the 85<sup>th</sup> percentile, he/she may be overweight or obese. You should share these results with your child's health care provider. If your child does not have a regular health care provider or you don't have health insurance for him/her, please contact us for information about obtaining health insurance coverage or finding a provider.

BMI does not tell the whole story about your child's weight status. Many factors other than height and weight can influence your child's weight such as family history. Also, BMI does not distinguish between muscle and fat. For example, if a child is very athletic and has a lot of muscle, his or her BMI may be high even though he or she is not overweight. Please see the information that has been included with this letter to help you understand what your child's BMI means and what you can do to help keep your child healthy and physically active. More information is available in the Department of Public Health's website

[www.mass.gov/massinmotion/](http://www.mass.gov/massinmotion/) If you have any questions, please call me at *[insert phone number]*.

*[Insert signature]*

### Limitations and Strengths

Although the purpose of the study was to understand district and community perspectives, the study is limited by lack of generalizability beyond the school district in which it was conducted. An additional limitation is the relatively small sample size, as well as the exploratory nature of the study. The most important strength of this study includes the high diversity of the sample population. Moreover, this study fills an important literature gap in understanding how caregivers perceive the roles of schools and how to better form partnerships with families to achieve sustainable solutions to help decrease overweight and obesity in school children.

### Implications for Practice, Policy & Research

The results of this study suggest there is a need to address BMI screenings differently in various racial and ethnic groups. It may not be adequate to send a general form letter to all families; regardless of the use of the appropriate language, the letter may not be received in the manner in which it was intended. Increasing initial communication with families may decrease frustration and remove the barriers of establishing relationships with families. This may be especially pertinent when addressing various ethnic and minority groups and families whose child or children have been categorized as obese. District wide support to implement practice solutions that work in the community and school should include culturally sensitive specialized training to assist nurses in how to best communicate with families and districts, particularly with sensitive topics such as obesity.

Policy and regulation surrounding BMI screening and notification should be re-examined. It is unclear if parental notification of BMI screening yields a decrease in BMI in youth. Madsen (2011) found that parental notification rates did not result in decreased BMI and the caregivers in this study did not act on the letters given to them. This suggests that resources may be better utilized in policy and programs aimed at reducing obesity rather than parent notification, although it is reasonable to inform parents rather than take measurements and do little, if anything with them. Of note, the state of Massachusetts changed their regulations in 2013 to exclude written parental notification of BMI, although screening is still mandatory. More research needs to be done to determine the optimal way to utilize screening results, particularly in different ethnic groups.

### Future research

It was clear that effective communication with diverse populations is important to best assist families to move toward a healthy lifestyle. Future research should focus on determining ways to meet families' needs while conserving resources to maintain high quality health services to students. School health staff may want to explore formative focus groups from which to base their form letter rather than use the standard state-supplied letter. Similarly, integral members of the school team, such as students, administrators and teachers have beliefs regarding the school-based evaluation of students' weight, and these should be explored. There is some literature to support that compared with parents and health professionals, teachers are the least supportive of school-based obesity prevention (Sutherland, Gill, & Binns, 2004). This should be explored further in schools, and perceived barriers to implementation of school-based obesity prevention also explored.

## **CONCLUSION**

Families seemed genuinely interested in doing what was best for their family's health. However, in general, they did not necessarily view health promotion as a role of the school. In fact, caregivers perceived the form letter regarding weight concerns sent from school as offensive in some regards and certainly did not perceive it as a health promotion effort. Additionally, caregivers from different ethnic backgrounds said they did not feel as if the school district was doing enough to accommodate their ethnic heritage and their children were more Americanized, which contributed to the poor dietary intake.

This study is one of the few to elucidate the family perspectives on the roles of schools in children's health. Nurses are well positioned to understand and work with families and, as such, school nurses should incorporate this knowledge into their practice when they communicate with families regarding children's health, specifically about sensitive topics such as weight. Within the guise of their jurisdiction's regulations and policies, a more individual approach to communication should be considered. Although individual conversations are time intensive, it is an opportunity to support families by promoting health and build relationships.

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