

Assessing Childhood Obesity Programs in Low-Socioeconomic and Diverse Communities

Joan R. Griffith, MD, MHA, MPH

Funding/Support: This project was funded by the Robert Wood Johnson Foundation (grant #053828). The work was completed at Harvard University School of Public Health, Boston, and the National Initiative for Children's Healthcare Quality, Cambridge, Massachusetts.

Background: Childhood obesity disproportionately affects low-socioeconomic and diverse communities. After a national children's health care quality organization announced a request for programs addressing the prevention and treatment of childhood obesity, 80 programs were received. The objective of this study was to identify a best practice for addressing childhood obesity in low-socioeconomic and diverse communities.

Methods: A secondary analysis of the 80 programs was conducted in spring 2007 using a framework developed after a mini literature review using PubMed and Google, a review of the recommendations from the 1998 national childhood obesity expert committee, and 5 semistructured interviews with childhood obesity key informants.

Results: The key informants unanimously recommended that obesity reduction programs in low-socioeconomic and diverse communities should combine 4 themes: lifestyle changes, family-centeredness, prevention, and early community involvement. These 4 themes were combined in 50% of the 80 programs.

Conclusions: An evidence-based best practice for reducing childhood obesity in low-socioeconomic and diverse communities could not be identified utilizing the 4 themes recommended by the key informants. Preliminary data suggest that 1 academic program may offer promise for addressing childhood obesity in low-socioeconomic and diverse communities and improved data collection.

Keywords: children/adolescents ■ obesity ■ socioeconomic status ■ diverse communities

J Natl Med Assoc. 2009;101:421-429

Author Affiliation: Department of Pediatrics, University of Toledo Health Science Campus, Toledo, Ohio.

Corresponding Author: Joan R. Griffith, MD, Chief, Division of General Academic Pediatrics, University of Toledo Health Science Campus, 3120 Glendale Ave, Ste 1600, Mail Stop 1202, Toledo, OH 43614-5811. (joan.griffith@utoledo.edu).

INTRODUCTION

Childhood obesity affects children disproportionately.^{1,2} The overall prevalence rates for white children for 1976-1980, 1988-1994, and 1999-2002 were 4.9%, 10.3%, 13.6%, respectively. The rates for African Americans were 8.7%, 14.1%, and 20.5%; and for Hispanics the rates were 9.9%, 15.1%, and 22.0%, respectively.¹ The persistent and increasing childhood obesity disparity represents a focal point for policy makers, researchers, clinicians, and funding agencies seeking to reduce childhood obesity.¹ To date, there have been no published reports of evidence-based, universally effective innovations to reduce/prevent obesity among low-socioeconomic and diverse communities.³⁻⁵

Two crucial components of a comprehensive strategy to eliminate health disparities are effective data collection and evaluation.⁴ In a review of 23 ethnically inclusive childhood obesity studies, fewer than half of the studies reported outcome evaluation data.¹ While it has been acknowledged that increasing the visibility and funding of interventions will contribute to reducing childhood obesity,¹ interventions should be evidence-based, monitored and rigorously evaluated.

For any program to be considered a "best practice," the program, upon rigorous evaluation, should demonstrate success, have had an impact, and can be replicated. The goal of this study was to determine if a best practice for childhood obesity in low-socioeconomic and diverse communities could be identified among study programs. To achieve this goal, we analyzed the collection and monitoring data presented by childhood obesity program leaders. It is not the intent of this paper to be an exhaustive review of the literature—rather, to stimulate discussion among program leaders and funders seeking to address childhood obesity in low-socioeconomic and diverse communities and to foster research policy changes.

METHODS

The study comprised a secondary analysis of a convenience sample of 80 programs submitted to the National Initiative for Children Healthcare Quality (NICHQ) in response to a request for programs focusing on the prevention and treatment of childhood obesity.

NICHQ anticipated presenting its first national, non-monetary recognition award for programs addressing childhood obesity. The 80 programs were initially evaluated on the following criteria: innovation, program design, potential for outcomes or outcomes/evidence, replicable and sustainable approach, and minority or underserved population. Criteria were scored as excellent, very good, good, poor, and inadequate.

The secondary analysis was completed in spring 2007 and sought to identify best practice programs addressing childhood obesity in low-socioeconomic and diverse communities. The framework for the analysis was devised after a limited literature review using PubMed and Google, a review of recommendations from the 1998 national expert committee on childhood obesity prevention, evaluation and treatment, and 5 semistructured interviews with key informants in the area of childhood obesity.

Literature Review

Three limited PubMed and Google searches on the key words *childhood obesity and minority children*, *childhood obesity and low-socioeconomic communities*, and *childhood obesity and communities of color* were completed. Thirty-one articles and abstracts were reviewed.

Review of 1998 Recommendations From Expert Committee

In September 1998 Sarah Barlow and William Dietz published the expert recommendations for obesity evaluation and treatment in pediatrics.⁶ These recommendations were the most available and up-to-date at the time of the study and served as the guidelines for assessing program design/focus. The committee used the terms *overweight* and *obesity* interchangeably and recommended that children and adolescents with a body mass index (kg/m²; BMI) greater than or equal to the 95th percentile for age and gender should undergo an in-depth medical assessment and treatment. The committee also recommended that children whose BMI fell between the 85th and 95th percentile for age and gender should be evaluated carefully with attention to secondary complications of obesity.

Semistructured Interviews

The interview format represents a modification of an interview that was developed for a previous NICHQ project (verbal discussion with participating project director). The interview required approximately 30 to 45 minutes and consisted of 5 sections: introduction by interviewer, description of interviewee/organization's activities, the interviewee's assessment of perceived needs/priorities in health care policy regarding childhood obesity, the interviewee's recommendations for designing a program to address childhood obesity in low-socioeconomic and diverse communities, and conclusion.

Analysis of Programs

The analysis of the 80 programs was begun in March 2007 and was completed in May 2007. To determine whether any of the 80 programs were addressing childhood obesity in low-socioeconomic and diverse communities the analysis comprised 3 components:

1. Program characteristics: (a) type of program (academic or nonacademic hospital/clinic, health care plan, community health center, school-based, pre-school, camps, private organization, etc); (b) documentation of low-socioeconomic level; (c) documentation of participant's race/ethnicity; (d) program focus (ie, comprehensive, physical activity only, nutrition only, physical activity and nutrition, BMI only); (e) involvement of family; (f) community outreach; (g) potential for success; (h) documentation of outcomes based on race/ethnicity; (i) geographic region
2. Documentation of race/ethnicity/outcomes: (a) participant's race/ethnicity. Documentation of race/ethnicity was either present or absent. If present, the percentages for each race/ethnicity were summed for a total ethnicity percentage; (b) participant's outcomes. Documentation of outcome was either present or absent based on whether or not the outcomes were documented and the percentage/number of participants achieving the outcomes was noted; (c) documentation of outcomes by race/ethnicity. If documentation of outcomes was present, programs were assessed to determine if the outcome was reported based on participant's race/ethnicity.
3. Documentation of key informant themes. Programs with documentation of participant's race/ethnicity were further evaluated to determine whether the recurring interview themes were included in the program focus.

RESULTS

Structured Interviews

Five interview sessions were conducted and 1 of the sessions had 2 participants (ie, 5 interview sessions and 6 interviewees). The interviewees included 4 physicians, 1 dietitian, and 1 registered nurse. The organizations represented included a Public Health Department in an urban city, a nationwide health care plan, a national expert who is a member of several committees on childhood obesity (American Medical Association, Centers for Disease Control, American Academy of Pediatrics and the Clinton Foundation) and an author of a book on childhood obesity. Four interviewees were randomly selected from a list of names provided by the project director, and 2 were selected by the author after listening to their presentations at the annual meeting of NICHQ in March 2007. When asked to describe their ideal program for addressing childhood obesity among low-

socioeconomic and diverse communities, the interviewees' lists had 4 recurring items. The 4 recurring themes during the key informant interviews were that programs for reducing childhood obesity among low-socioeconomic and diverse communities should focus on healthy eating and activity as opposed to weight loss, have a family-centered approach, address prevention, and have community involvement in the early stages of intervention planning. Using this information, the secondary analysis of the 80 programs was completed.

Program Analysis

Program demographics. The 80 programs were submitted from various geographic regions: south (39%), northeast (28%), midwest (16%), and west (16%) and one (1%) from out of the country (United Kingdom). Programs included 24 academic hospitals/clinics (30%),

8 health care plans (10%), 5 community health centers (6%), 16 nonacademic hospitals/clinics (20%), 9 school-based programs (11%), and 18 others (23%) such as preschool programs, private organizations, and special camps. Thirty-one (39%) of the programs provided documentation of the low-socioeconomic status of the participants in their program using percentage below the federal poverty level or other proxies such as the percentages on Medicaid; enrollment in Women, Infants, and Children; eligibility for the free lunch programs; or eligibility for public assistance. Twenty-six of all programs (33%) provided objective data on the race/ethnicity of children participating in the programs (Table 1). The mean minority enrollment was 71.5% (standard error of mean = 4.39; 95% CI, 62.5-80.5). When objective data were not provided, the programs used subjective descriptive terms such as "medically underserved," "majority of

Table 1. Composition of Programs Documenting Race/Ethnicity

Program No.	White	African American/Black	Hispanic/Latino/Mexican American	Asian American	American Indian	Armenian	Other
7	6%	11%	77%	2%		2%	
14		100%					
15	40%	51%	4%				5%
19	27%	55%	15%				
					3% (Native American, Asian, other)		
24	7%	49%	37%		7%		
25	44%	53%	4% (Hispanic, Asian/other)				
26	69%	15%	8%				8%
28a		100%					
28b			100%				
28c	96%						
30			85%				
32	49%	30%	14%				7%
36		33% (African American, Latino)					
40	6%	84%	10%				
43	50%	25%	25%				
46		76%					
47	52%	12%					
49					15%		
50		28%	67%		100%		
52	22% (White, Armenian/Russian)	6%	54%	15% (Asian/Pacific Islander)			3%
58	25%	50%	25%				
60		88%	8%				
62a		60%	3%				2%
62b		35%	23%				
66	39%	54%	5%				
67	18%	63%	17%				2%
73	49%	42%	4%				4%
77	31%	66%	1%				
80		60%	3%				2%

Table 2. Comparison of Programs Based on Intervention Themes^a

Program No. (Location)	No. of Participants	Age Range, y	Intervention Components	Duration of Intervention	Expected Outcome Measures
2 (California)	42 clinics, 500 pediatricians, 750 000 children	2-18	Nutrition, physical activity, environment	2 years	BMI, documentation, screening for overweight, provider counseling skills, effectiveness of quality-improvement strategy
3 (New York)	4676 children	Elementary school	Nutrition, physical activity	Calendar school year	BMI, minutes of physical activity per week
5 (New Hampshire)	2100 children	9-10	Nutrition, physical activity	Weekly throughout calendar school year	Surveys on health knowledge and risk, pedometer steps
7 (California)	85 children	8-16	Nutrition, physical activity, family support	6-12 weeks	Blood pressure, BMI, lipids, glucose, insulin, knowledge
9 (Massachusetts)	1000 children	1-20	Nutrition, physical activity, family support	3 months	BMI
11 (Pennsylvania)	Not provided	1-21	Nutrition, physical activity	8 weeks	Weight, BMI, waist/neck circumference, blood pressure, nutrition behaviors, screen time
15 (Ohio)	Not provided	4-18	Nutrition, physical activity, family support	12 weeks	Family retention/satisfaction, weight, BMI, lipid
18 (Virginia)	72 registered members	17% <18	Physical activity	Ongoing	Increase percent of children participating, document BMI changes
20 (Maine)	1500 pregnant women and children <5 years; 40 clinicians	0-5	Nutrition, physical activity	1 year	Number of clinicians "taking on" the message and "transmitting" it to patients; number of patients "hearing" the message
21 (Texas)	Not provided	6-18	Nutrition, physical activity	Not provided	Liver tests, fasting glucose, lipids, thyroid tests, C-reactive protein, EKGs, echocardiograms, exercise stress tests,
22 (Maine)	69 000 patients and families 70 providers	5-18	Nutrition, physical activity, prevention	18 months	BMI percentile, blood pressure, lipids, documentation of recommendations for behavior change/goal setting
24 (Massachusetts)	165 children	3-13	Nutrition, physical activity, family support	"5 visits"	Nutrition and physical activity, readiness to change, BMI, program satisfaction survey
26 (Indiana)	15 children	6-14	Nutrition, physical activity, family support	10 weeks	BMI, resting heart rate, blood pressure, percent body fat lipids, depression screen, abdominal girth

Table 2. Comparison of Programs Based on Intervention Themes (*cont*)

Program No. (Location)	No. of Participants	Age Range, y	Intervention Components	Duration of Intervention	Expected Outcome Measures
28 (Texas)	144 children	Third-graders	Nutrition, physical activity	3 months	Child, teacher, and parent surveys on changes in awareness of nutrition and physical activity
31 (West Virginia)	50 providers out of 700 responded	10-21	Nutrition, physical activity, support	One time survey	Provider surveys
33 (Massachusetts) planning phase	Not provided	Not provided	Nutrition, physical activity	Not Provided	Sense of control over bodies, awareness of healthy living and eating, experience change and resources to prevent relapses
34 (North Carolina)	200 practices	2-17	Nutrition, physical activity	Not provided	Number of toolkits mailed to requesting providers
36 (Georgia)	2400 family members	6-12	Nutrition, physical activity, support	6 weeks	Physical activity assignments, total screen time, number of sugared beverages, number of family meals at home, nutrition knowledge and attitude/behaviors
38 (Maryland)	Not provided	7-11	Nutrition, physical activity,	6 weeks	BMI, family health knowledge, family intent to change behavior
39 (Pennsylvania)	370 families	2-17	Nutrition, physical activity	5 years	Biomarker changes, efficiency, stakeholder/participant satisfaction
40 (Georgia)	100 youth	8-18	Nutrition, physical activity	12 weeks	BMI z score, fasting insulin, lipids, eating habits, physical activity logs, attendance
41 (Minnesota) planning phase	Not provided	Not Provided	Nutrition, physical activity, family support	Monthly	Education, FBS, lipids, community surveys (expected)
43 (North Carolina)	480 children in 24 rural practices	0-11	Nutrition, physical activity, family support	5 years	Percent body fat, BMI, diet, physical activity, microalbuminuria, psychosocial measures, proportion of providers involved in policy activities
48 (West Virginia)	3900 fifth-graders; 2000 kindergarteners; 502 second-graders, 700 ninth-graders	Kindergarteners; second-, fifth-, ninth-graders	Nutrition, physical activity	School year	BMI, health knowledge, attitude and behavior change, lipids, blood pressure
50 (New York)	Not provided	10-14	Nutrition, physical activity, family support	14 weeks	Knowledge, Attitudes and Behavior survey; BMI; blood pressure; lipids; hemoglobin A _{1c}
51 (North Carolina)	10000 children	Grades K-5	Nutrition, physical activity, policy	School year	BMI, number of minutes of moderate physical activity, selection/consumption of fruits/vegetables during lunch

Table 2. Comparison of Programs Based on Intervention Themes (*cont*)

Program No. (Location)	No. of Participants	Age Range, y	Intervention Components	Duration of Intervention	Expected Outcome Measures
54 (New York)	210 children and family members	3-5	Nutrition, physical activity, family support	24 weeks	Number of children enrolled, average session attendance for child, percent of children receiving medical exams, percent of children overweight, average parent workshop attendance BMI, behavior
55 (Oklahoma) planning phase	Not provided	Not provided	Nutrition, physical activity	Not provided	
56 (New Jersey)	13 school districts, 5000 children	Not provided	Nutrition, physical activity, family support	School year	BMI, knowledge and behavior change assessments, pedometer readings Not provided
57 (West Virginia) planning phase	Not provided	Not provided	Nutrition, physical activity, family support	Not provided	
58 (Missouri)	100 children	2-17	Nutrition, physical activity, family support	7 clinic visits per year; 24 weekly session Plus a 12-week patient educational curriculum	Height, weight, BMI, BMI z scores, percent overweight, waist circumference, blood pressure, steps per week, dietary intake logs, psychosocial variables
59 (Washington)	42 children	8-14	Nutrition, physical activity, family support	3 months (twice weekly 90 minutes)	Nutrition knowledge, behavior, self-confidence
60 (Illinois)	300 families	8-19	Nutrition, physical activity, family support	6 weeks	Weight loss
61 (New Mexico)	383 providers and staff	12-18	Nutrition, physical activity	12 months	Number of trained providers/staff, documentation of BMI
64 (Washington, DC)	208 clinicians	2-18	Nutrition, physical activity, family support	4 years	Documentation of BMI and percentile, pedometer measurements, questionnaires and focus groups Not provided
69 (North Carolina)	123 referrals; 2015 patient contacts	2-18	Nutrition, physical activity, family support	2 years	
75 (Tennessee)	3838 providers; 341 478 children <18 years	Not Provided	Nutrition, physical activity, family support	1 year	Number of providers who have accessed obesity toolkit site, number of members who accessed walk works Web site, number of persons receiving parental/family outreach

Table 2. Comparison of Programs Based on Intervention Themes (*cont*)

Program No. (Location)	No. of Participants	Age Range, y	Intervention Components	Duration of Intervention	Expected Outcome Measures
76 (Delaware)	10 primary care clinics, 14500 patients	0-18	Nutrition, physical activity, family support	2 years	Frequency of use, usability, acceptability, feasibility of Web site
77 (North Carolina)	43 children	1-18	Nutrition, physical activity, family support	6 months	Weight, height, BMI, skin folds, blood pressure, fasting insulin, glucose, hemoglobin A _{1C} , lipids, liver enzymes, thyroid tests
78 (Florida)	Not provided	7-17	Nutrition, physical activity	4-8 weeks	BMI
80 (California)	516 children	9-17	Nutrition, physical activity, family support	10 weeks	Weight, BMI, body composition, liver enzymes, lipids, Hemoglobin A _{1C} , fasting blood sugar, dietary habits

Abbreviation: BMI, body mass index.

° Bold means outcome data were included in the program application.

patients are monolingual Spanish speakers who are very low income,” “low-income, multicultural communities,” “all ethnicities,” and “ethnic minority communities.”

Program interventions and data collection. Thirty-four of all programs (43%) were comprehensive, defined as demonstrating 3 or more of the following aspects: multilevel interventions, multisector interventions, community collaboration, partnerships, advocacy, policy, legislation, etc. None of the programs focused only on physical activity, 1 (1%) focused only on BMI, and 4 (5%) focused only on nutrition.

Programs with key informant themes. Forty-one of the 80 programs (51%) included all 4 of the recurring themes from key informants (Table 2). Twenty-three of the 41 documented the participant’s socioeconomic level (56%). Twelve of the 41 documented the participant’s race/ethnicity (29%). Twenty-six of the 41 documented outcomes (63%) and 2 of the 26 reported outcomes based on race/ethnicity (8%)—both were from academic hospitals/clinics (programs 7 and 24). At the time of the study, the number of participants who had completed the required fifth visit was too small to make comparison between the presurvey and postsurvey for program 24. Program 7 had a 67% completion rate and documented outcomes.

Programs without the 4 themes. Thirty-nine of the 80 programs did not include all 4 of the recurring key-informant themes (49%). Twenty-two of the 39 documented outcomes (56%), and 3 of the 22 documented outcomes based on race/ethnicity (14%). Nine of the 39 programs documented the participant’s socioeconomic level (23%).

Programs with outcome data. Forty-nine of the 80 programs provided outcome data (61%). Twenty of the 49 programs were from academic hospitals/clinics

(42%), 2 were in pilot phases (4%) and 41 had been operational for several years with start dates ranging from 1998 to 2005 (84%).

Programs without outcome data. Of the 39 programs that did not provide outcome data, 5 were in planning phases (13%), seven were in pilot phases (18%), and 19 had been operational for several years with start-up dates ranging from 1997 to 2005 (49%). Fourteen of the 24 academic hospitals/clinics focused on treatment only (58%). Nine of the 16 nonacademic hospitals/clinics focused on both prevention and treatment. Six of the 10 school-based programs focused on prevention only (60%). Four of the 5 community health centers focused on prevention and treatment (80%).

Programs with outcomes based on race/ethnicity. Of the 26 programs that reported data based on race/ethnicity, 14 reported less than or equal to 75% total minority enrollment (54%). Two of these programs focused on prevention only (8%), 7 focused on treatment only (27%), and 5 focused on both prevention and treatment (19%). Prevention strategies included preventing progression from normal weight to at risk, preventing progression from at risk to obese, and preventing the development of secondary clinical complications from being obese. Twelve of the 26 programs that documented race/ethnicity had a total minority enrollment greater than or equal to 76% (46%), and 4 of these represented academic hospitals/clinics (33%). Two of the 4 focused on treatment only (50%) and 2 focused on prevention and treatment (50%).

DISCUSSION

The results of this study suggest that childhood obesity programs that include lifestyle changes, family-centeredness, prevention, and early community involve-

ment may lead to a higher percentage of documented outcomes compared to programs that did not include these themes (68% vs 57%). Similarly, the percentage of programs that documented the participant's socioeconomic level was higher for programs that included the 4 themes compared to programs that did not (56% vs 23%). However, the percentage of programs documenting outcomes by race/ethnicity was lower for programs that included the 4 themes compared to programs that did not (7% vs 14%). The sample sizes (2 and 3, respectively) were too small to attribute the meaning of this finding. The percentage of programs documenting the participant's race/ethnicity was approximately the same for programs that included the 4 themes and the programs that did not (30% vs 33%). Again, the sample sizes were too small to ascribe significance to this finding. Congruent with previous studies,^{1,3} our results imply that improvement in data collection/documentation by childhood obesity program leaders is the lynchpin to the identification of evidence-based effective interventions. Research is critical for strategy development, analysis of target population and segmentation, message(s) development and choice of channels, as well as program monitoring and evaluation.⁷ Future research would also benefit from more consistent, clearly defined variables as they relate to data gathering.

Fifty percent of the study programs were developed in hospitals/clinics. This may suggest that there is a stronger interest in childhood obesity intervention at hospitals and clinics. Wang et al stated that schools are key settings for promoting lifelong healthy eating and physical activity.⁸ The authors concluded that school-based prevention programs are urgently needed in the low-socioeconomic status minority urban communities.⁸ In our study, 11% of programs represented schools and 60% of the school programs focused on prevention. Eight of the 9 schools did not document the participant's race/ethnicity.

Similar to the results reported by Yancey et al,¹ a majority of the 80 programs failed to provide documentation of the participant's race/ethnicity. Therefore, our findings offered limited insight into the identification of promising strategies for reducing obesity among low-socioeconomic and diverse communities. To demonstrate intervention effectiveness, it has been suggested that childhood obesity programs have controls as in most scientific studies.^{1,3} The majority of the study programs were not controlled studies and, of those that were, few reported statistically significant outcomes. Among the 80 programs, there were various definitions of prevention and a lack of clear criteria of what constitutes an ethnically inclusive program. For programs that documented the participant's race/ethnicity, the percentage of ethnicity enrollment data varied from 28% to 100%. Yancey et al¹ did not discuss whether there was a critical mass of enrollment to be classified as ethnically inclusive.

The documentation of outcomes and evaluation were not consistent among the study programs. Program evaluation may attribute the effectiveness of effort, but more often it is used to measure the degree to which the programs are delivering services in a way that scientific studies have indicated is associated with improved outcomes.⁹ Even if it were possible to discern the causal contribution of the program interventions to the reduction in BMI and obesity-associated morbidities, variations in program focus and small sample sizes complicated our analysis. Program administrators used different guidelines, definitions, and methodologies for various aspects of their programs. Some programs emphasized infrastructure while others stressed service delivery. Resources for evaluation may have been a concern as 1 program stated that their evaluation process was stopped secondary to lack of funding.

Developing a comprehensive childhood obesity program is a challenge that is further complicated by the requirement for effective data collection.^{1,3,4,10,11} While many programs are automating their case management systems, most rely on manual data entry to collect at least some important evaluation measures.¹ The limited time and resources available to community-based childhood obesity program leaders may complicate data collection, analysis and evaluation. Data collection problems may have contributed to the ongoing delay in identification of the best practices.

Further research to determine the level of assistance childhood obesity program leaders need to improve their data collection and program evaluation is paramount for eliminating childhood obesity disparities. Redefining policies regarding research priorities, primary and secondary partners, and funding for diverse communities will be worthwhile.³ The author readily acknowledges that even though our data did not specifically address the social and physical environments as barriers or promoters of behaviors/opportunities for healthy nutrition and physical activity, we know that these entities may play a crucial role in the development/prevention of obesity. These environments represent areas for further research. Similarly, though the study programs appeared to focus on individual outcomes, we acknowledge that many obesity prevention programs in low-income communities of color have focused on population-based prevention strategies aimed at bringing health food and improved options for physical activity into these communities. This highlights another area for future research.

It was anticipated that this study would identify for policy makers, providers, advocates, and other stakeholders a best practice among childhood obesity programs in low-socioeconomic and diverse communities. Variations in documentation of data collection among programs prevented the achievement of this goal. Nonetheless, the 4 identified key informant themes may be relevant components for future initiatives to reduce

childhood obesity in low-socioeconomic and diverse communities. Our preliminary data suggest that 1 academic program may offer promise for addressing childhood obesity in low-socioeconomic and diverse communities and improved data collection.

The strengths of our study included the diversification of the categories of programs assessed and that our results were congruent with the findings from previous studies. A number of considerations may limit interpretations drawn from this study. The small sample size reduced the generalizability of results. The study selection was not random. Consequently, there was potential for selection bias as the programs were voluntarily submitted. Also, the number of key informants was small, and there was uncontrolled quality of data in the study cohort. It would be advantageous if this study could be replicated using a larger sample size.

ACKNOWLEDGMENTS

Special acknowledgment goes to the staff at NICHQ, the faculty of The Commonwealth Fund Harvard University Fellowship in Minority Health Policy, and the interviewees who assisted with the project.

REFERENCES

1. Yancey AK, Kumanyika SK, Ponce NA, et al. Population-based interventions engaging communities of color in eating and active living; a review. *Prev Chronic Dis*. 2004;1:A09.
2. Kumanyika S, Grier S. Targeting interventions for ethnic minority and low-income populations. *Future Child*. 2006;16:187-207.
3. Flynn MAT, McNeil DA, Maloff B, et al. Reducing obesity and related chronic disease risk in children and youth: a synthesis of evidence with 'best practice' recommendations. The International Association for the Study of Obesity. *Obes Rev*. 2006;7:S7-S66.
4. Perez, TD. The Civil Right Dimension of Racial and Ethnic Disparities in Health Status. National Academy of Sciences, 2003. *Unequal Treat: Confronting Racial and Ethnic Disparities in Health Care*. <http://www.nap.edu/catalog/10260.html>. Accessed April 23, 2007.
5. Caprio S. Treating Child Obesity and Associated Medical Conditions. *Future Child*. 2006;16:209-224.
6. Barlow SE, Dietz WH. Obesity evaluation and treatment: Expert Committee recommendations. *Pediatrics*. 1998;102(3). <http://www.pediatrics.org/cgi/content/full/102/3/e29>. Accessed April 23, 2007.
7. Yancey AK, Ortega AN, Kumanyika SK. Effective recruitment and retention of minority research participants. *Annu Rev Public Health*. 2006;27:1-28.
8. Wang Y, Tussing L, Odoms-Young A, et al.. Obesity prevention in low-socioeconomic status urban African-American adolescents: study design and preliminary findings of the HEALTHY-KIDS Study. *Eur J Clin Nutr*. 2006;60:92-103.
9. CDC. Framework for program evaluation in public health. *MMWR Morb Mortal Wkly Rep*. 1999;48:1-13.
10. Jeffery RW. Population perspectives on the prevention and treatment of obesity in minority populations. *Am J Clin Nutr*. 1991;53:S1621-1624.
11. Story M, Evans M, Fabsitz RR, et al. The epidemic of obesity in American Indian communities and the need for childhood obesity-prevention programs. *Am J Clin Nutr*. 1999;69:S747-754. ■



**REUSE THIS
CONTENT**

To photocopy, e-mail, post on Internet or distribute this or any part of *JNMA*, please visit www.copyright.com.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.