Sample Application

2009 National Leadership Grants for Museums

Demonstration Category

Children's Museum of Manhattan
New York, NY

National Early Childhood Obesity Prevention Program

Children's Museum of Manhattan
Abstract

The Children's Museum of Manhattan (CMOM)—in partnership with the Association of Children's Museums (ACM) and with the cooperation of the National Institutes of Health (NIH)—will close a critical gap in national obesity-prevention efforts by building the capacity of museums to provide community-wide leadership in the fight against childhood obesity.

CMOM proposes a three-year national leadership *Early Childhood Obesity Prevention* project to adapt the NIH's *We Can!* curriculum for children under 8 and their parents (*We Can!* currently targets children over the age of 8). After rigorous review and evaluation of the *We Can*! adaptation, CMOM will produce an *Early Childhood Obesity Prevention Kit* which will be made available to museums nationwide. The *Kit* will contain multiple experiential platforms: a sequential early childhood health curriculum; replication plans for a modular health exhibition specially designed for small museums, libraries and health centers; and, evaluation findings that will inform the practices of children's museums, health professionals, educators and other community stakeholders. Ultimately, research findings from the proposed project have the potential to influence the NIH to change national policy by expanding the *We Can!* program to include children ages 8 and younger.

The project is designed in response to three primary needs:

- The children's museum community is looking for tested, standardized program models and tools that will increase their capacity to provide leadership in preventing the spread of childhood obesity.
- Health and medical professionals are struggling to reach and engage children and families early enough with effective programs that result in improved nutritional habits and lifestyle choices.
- The museum community would benefit from validation of their effectiveness in tackling complex social issues that impact families.

The project intends to have national impact on four levels:

- Increase the capacity of museums to provide leadership in obesity-prevention efforts by creating and disseminating a set of scientifically-based, replicable, early childhood health programs, exhibits and resources.
- Improve childhood obesity-prevention efforts by providing consistent messaging across a number of venues, and connecting the medical and health community to a network of museums and community organizations.
- Demonstrate the impact of a museum-led community-wide response in tackling critical social issues (in this case childhood obesity) by disseminating research and best practices.
- Influence national policy by providing the necessary scientific research to the NIH about the efficacy of early childhood intervention, with the hope that NIH will expand *We Can!* to include children under 8.

CMOM's *Early Childhood Obesity Prevention* will increase the capacity of museums—children's museums in particular—to support the needs of their audiences by having access to new content, products, networks and research that will enable them to implement effective early childhood obesity prevention programs. With the full support and cooperation of the NIH and ACM, the project reflects the needs of museums of all sizes and community organizations that are seeking tested, family-based obesity-prevention programs, while contending with varying capacities and limited resources.

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Narrative

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INTRODUCTION

The Children's Museum of Manhattan (CMOM)—in partnership with the Association of Children's Museums (ACM) and with the cooperation of the National Institutes of Health (NIH)—will close a critical gap in national obesity-prevention efforts by building the capacity of museums to provide community-wide leadership in the fight against childhood obesity.

CMOM proposes a three-year national leadership *Early Childhood Obesity Prevention* project to adapt the NIH's *We Can!* curriculum for children under 8 and their parents (*We Can!* currently targets children over the age of 8). After rigorous review and evaluation of the *We Can*! adaptation, CMOM will produce an *Early Childhood Obesity Prevention Kit* which will be made available to museums nationwide. The *Kit* will contain multiple experiential platforms: a sequential early childhood health curriculum; replication plans for a modular health exhibition specially designed for small museums, libraries and health centers; and, evaluation findings that will inform the practices of children's museums, health professionals, educators and other community stakeholders. Ultimately, research findings from the proposed project have the potential to influence the NIH to change national policy by expanding the *We Can!* program to include children ages 8 and younger.

ASSESSMENT OF NEED

Over the past three decades, the prevalence of childhood obesity has become a local and national epidemic, calling for renewed efforts to reach young people early and effectively. The Centers for Disease Control (CDC) report that the incidence of obesity among American children ages 2-12 has doubled; among adolescents it has tripled. A 2003 survey conducted by the New York City Department of Health and Mental Hygiene indicates that 21% of children in New York City are obese by the time they enter kindergarten. These numbers are even more staggering for children living at or below the poverty line: 40% of Head Start children are obese, with African American and Hispanic children the most affected. Nationally, the numbers are just as daunting. Recent statistics from the Trust for America's Health indicate that the epidemic is worsening with an increase in obesity rates in 31 states, and five of the top ten "fat" states—Mississippi, Alabama, West Virginia, Louisiana and Kentucky—are also among the poorest. While obesity trends are alarmingly high across the board, there exists a dire need to reach ethnic minorities and children living in low-income areas.

Obesity and its causes—poor nutrition and lack of physical activity—start early and can result in chronic diseases that last a lifetime. Early detection and preventive measures are crucial in stemming the costly and dangerous consequences of obesity, including high blood pressure, high cholesterol, cardiovascular disease, and diabetes. With all this in mind, the obesity epidemic is now ranked by the U.S. Surgeon General as one of the top health problems facing the nation.

Unfortunately, public education campaigns to convey information—which primarily have been targeted to school-aged children—have not yet achieved the desired results of healthier lifestyle choices. While significant attention and resources have been devoted to teaching children about the importance of a healthy diet, nutrition and physical fitness in school, this knowledge needs to be reinforced and modeled by parents in the home, and incorporated into children's lives beyond school hours. Research from the NIH, Institutes of Medicine and others indicate that obesity prevention efforts are most effective when they: are directed at parents and engage families, where attitudes and behaviors are rooted and modeled on a regular basis; reach children when they are very young; and are part of an integrated, community-wide approach.

In response to the deepening childhood obesity crisis, leading national health agencies joined to create NIH's *We Can!* (**W**ays to **E**nhance **C**hildren's **A**ctivity & **N**utrition!) obesity-prevention program in 2005. Based on years of research and strategies recommended by public health experts, nutritionists and physicians, *We Can!* became the NIH's nationwide community-based approach to reach children 8-13 and their parents, teachers and community leaders. Today nearly 1,000 *We Can!* sites exist across the United States and data from the first *We Can!* evaluation showed significant positive outcomes in meeting behavioral objectives. *We Can!* has helped lead the way in building family awareness and the dietary and physical activity habits that contribute to good health. However, in high-risk communities disparities in race, ethnicity and economic status—and limited access to affordable fresh food, traditional educational and health services, and safe outdoor play areas—further impede successful intervention efforts.

Current obesity-prevention research suggests that nutrition and exercise habits are formed during the critical early childhood years, when children follow examples set by their first teachers and role models—parents and caregivers. During these formative years, it is critical to intervene in order to provide children with a healthy foundation for lifelong

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learning, and their parents with the tools and resources necessary to support small, but important daily improvements at home.

Responding to this thinking, many leading health agencies are seeking community partners to help reach young families, especially those at highest risk, with targeted, culturally relevant messages to impact young children *and their parents*. Numerous local, state and national health advocates—including the NIH, New York State and New York City Departments of Health, the U.S. Surgeon General's office, and the Community Health Care Association of New York State (CHCANYS)—have asked CMOM to coordinate an effort to reach families in New York City with innovative, behavior-changing health programs. The results of this work were recently recognized by the Acting U.S. Surgeon General when he awarded the *Healthy Kids for a Healthy Future Community Champions Award* to CMOM, CHCANYS and the NIH for our creative partnership to help stop childhood obesity.

ACM—the umbrella agency for children's museums nationwide and CMOM's project partner—has also linked with NIH's *We Can!* obesity-prevention effort. Its IMLS-funded *Good to Grow!* obesity-prevention initiative mobilized children's museums to respond to the epidemic, helping to reach parents and caregivers in home and community settings with *We Can!* educational materials and activities to encourage healthy eating, increase physical activity and reduce time spent watching television. While many children's museums participating in *Good to Grow!* have implemented creative health programs and campaigns, these efforts do not extend to children under five, a component that is increasingly important for success.

CMOM has examined trends and issues facing children's museums and the health community to better understand and respond to their needs. CMOM has attended CHCANYS "Defining New Directions" annual clinical conference (2008) and ACM's annual conference and *Good to Grow!* sessions (2008), and conducted a literature review and informal interviews with colleagues and representatives from more than 30 museums and science centers. CMOM has identified these key needs and concerns (Please see Supporting Document 1):

- In general, there is a clear need for a **sequential early childhood health curriculum, with a special emphasis on children ages 2-5, and their parents**.
- In general, there is a **gap between research and current obesity-prevention practice** when serving the needs of young children and families, particularly in high-risk communities.
- Most ACM members are committed to being part of the solution, but **variance in size, capacity and resources limit implementation of comprehensive early childhood health initiatives.**
- Museums are looking for **community engagement models** that are successful with high-risk audiences.
- Museums cited challenges in mounting exhibits on health, and many expressed interest in renting/purchasing a **smaller, adaptable, affordable exhibit that demands less technology capacity.**
- Smaller children's museums and science centers would like a **versatile exhibit** that works as a whole or in modules; that can be exhibited or shared with local community partners, such as neighboring libraries or schools.
- The entire **museum community** would benefit from research findings that **validate their effectiveness** in tackling complex social issues that impact families.

Responding to these issues—and recognizing the specific needs of families with children of varying ages—CMOM will develop a continuum of early childhood obesity prevention programs adapted from *We Can!*. The project will result in an *Early Childhood Obesity Prevention Kit* that will enable museums with varying capacities to adapt and replicate early childhood obesity prevention programs. The *Kit* will be shared widely through ACM's *Good to Grow!* initiative and NIH's network of *We Can!* community partner sites.

NATIONAL IMPACT AND INTENDED RESULTS

This project responds to the current needs of the museum and health communities as outlined in the above assessment, while specifically addressing challenges that children's museums face in replicating programs and exhibits. These traditional challenges are further exacerbated by the current economic climate: how can museums balance greater public demand against diminishing resources? The impact is evidenced by recent national conference calls convened by ACM to generate strategies that respond to the economic crisis: Sixty museums participated—an indication of the seriousness and complexity of this issue. In order for museums to fulfill their missions and enhance their ability to serve families and communities, there is the need to develop creative solutions that will close the gap between resources and capacity. Although this project is tightly focused on obesity-prevention, it carries with it larger implications for how museums can

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face the challenges ahead. Now more than ever, it is imperative that community organizations and institutions collaborate and leverage resources through strategic partnerships.

The project intends to have national impact on four levels:

1. Increase the capacity of museums to provide leadership in obesity-prevention efforts by creating and disseminating a set of scientifically-based, replicable, early childhood health programs, exhibits and resources.
2. Improve childhood obesity-prevention efforts by providing consistent messaging across a number of venues, and connecting the medical and health community to a network of museums and community organizations.
3. Demonstrate the impact of a museum-led community-wide response in tackling critical social issues (in this case childhood obesity) by disseminating research and best practices.
4. Influence national policy by providing the necessary scientific research to the NIH about the efficacy of early childhood intervention, with the hope that NIH will expand *We Can!* to include children under 8.

CMOM envisions significant changes in the field as a result of the project. It will increase the capacity of museums—children's museums in particular—to support the needs of their audiences by having access to new content, products, networks and research that will enable them to implement effective early childhood obesity prevention programs. With the full support and cooperation of the NIH and ACM, the project reflects the needs of museums of all sizes and community organizations that are seeking tested, family-based obesity-prevention programs, while contending with varying capacities and limited resources.

As outlined above, many children's museums have expressed interest in health exhibitions, but lack the resources to rent or create their own. By disseminating plans for a modular and flexible exhibit, the project enables smaller museums with limited resources to provide families with high quality interactive health-related learning experiences. By reinforcing the *We Can!* curriculum, museum exhibitions/programs will echo community health initiatives already underway, thereby cementing the relationship between museum and community. The exhibition, in conjunction with programming and professional development workshops, offers children's museums a complete package that will help them better serve their audiences, reach families with consistent messages backed by research and tested programs that aim to shift behavior, and motivate families to make improved choices about nutrition and physical activity.

The project links two national initiatives—NIH's *We Can!* and ACM's *Good to Grow!*—and builds on their efforts by developing, evaluating and disseminating content that will enable museums to more effectively participate in local and national obesity-prevention efforts. The project demonstrates innovation and efficiency by leveraging existing resources and systems of support to create new synergies between local and national efforts. Through ACM's network of several hundred museums and NIH's 1,000 *We Can!* community partner sites, the project has the potential to have a significant impact on museums and community organizations that lack adequate capacity to develop their own early childhood health programs and exhibits, or who simply want the benefit of having access to a model and set of products that have been tested, vetted and approved by a national committee of experts. Museums will have the option of "buying in" at a level that best suits their needs. Museums can benefit from using the stand-alone early childhood health curriculum, replicating some, or all, of the exhibit components, or simply having access to the program results when they are made available. In this way, it is CMOM's hope that the project will result in self-sustaining, local obesity-prevention initiatives.

Simultaneously, the project will help the health and medical communities extend their reach and impact by connecting them to a network of experts who can reach families with innovative programs that have the potential to curb the epidemic of obesity from the very start. As the health community struggles to reach families early enough with important prevention strategies, the proposed program takes an important step forward in addressing current gaps in service, and in linking the disparate obesity prevention efforts of schools, libraries, social services, and the health communities. CMOM's comprehensive initiative will align the museum community with local, state and national health agencies to help children develop the foundation needed for a healthy life. In this context, museums can provide important evidence of the vital role they play contributing to systemic change.

Ultimately, the proposed project, undertaken with the support and cooperation of the NIH, has the potential to impact national policy by showing the effectiveness of beginning obesity-prevention work with children as young as two years of age and their parents. By spearheading the adaptation of the NIH's *We Can!* curriculum for younger audiences, and creating programs that are carefully coordinated with the children's museum community, health providers, and national health agencies, CMOM aims to demonstrate the effectiveness of a model that positions the children's museum as

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community convener, educational expert, content creator and key delivery agent on the continuum of services for children and families. The project aims to generate new research and best practices that explore and, ideally, affirm the emerging role of museums in tackling complex community issues. In this context, the project can provide evidence of the vital role museums play contributing to systemic change.

With the potential to influence policy on a national level, and build the capacity of hundreds of museums and community partners across the country, the proposed project highlights the leadership museums provide for families and lends credibility to an approach that positions museums as centers of community engagement. The results of this project have the potential to elevate the perception of museums. It is our hope that the success of this project will lead key decision-makers in the fields of child development, health, education and policy to a new appreciation of the positive and lasting impact that museums have on families and communities.

PROJECT DESIGN & EVALUATION PLAN

As mentioned above, the goal of the proposed initiative is to demonstrate, test and disseminate an effective museum model for early childhood obesity prevention. The project design is rooted in:

- Health content produced by and with the NIH.
- A program delivery model of experiential platforms, based on learning from the Museum's prior IMLS-funded programs and exhibit successes in early childhood.
- A team of researchers, health and museum professionals, and community-based educators to develop and test the platforms for efficacy, usability and practicality.
- A built in dissemination and sustainability network of children's museums (through ACM) and community health organizations (through the NIH).

The content is based on six *We Can!* principles that will be adapted for children under 8 and their parents: 1) eating *smaller portions*; 2) eating at least *5 servings of fruits and vegetables a day;* 3) utilizing food to create *energy balance*; 4) balancing food intake and increasing *physical activity*; 5) limiting sweetened beverages and *drinking water*; and 6) getting *adequate sleep* to improve health and body function. These messages are building blocks in a healthy life, understandable to young children and their parents, and can be communicated effectively across multiple experiential platforms.

The delivery system is based on the success of CMOM's IMLS-funded *PlayWorks*™ exhibit, in which the multiple benefits of using play to teach young children *in the presence of their parents* are brought to life through exhibit components and literacy-based classes, both in a museum setting and off-site in high-need neighborhoods. The theoretical underpinnings and methodology behind *PlayWorks*™ were published in *Working with Young Children: A Resource for Early Childhood Educators.* This early childhood training manual contains more than 50 lesson plans and parent activities, and has been tested and refined through a four-year outreach program with East Side House Settlement in the Bronx. These efforts formed the basis for a sustainable and replicable early childhood training model, and has since expanded to CMOM's citywide partnership with the City University of New York's Institute of Professional Development to train childcare providers—a vivid demonstration of the effectiveness of using museum exhibitions and approaches to address a need in early childhood.

The versatility of the *PlayWorks*™ model was shown in 2006, when CMOM took its design and educational concept to New Orleans to create an adaptation called *Play Helps*™ for children and families affected by the Katrina disaster. Built in collaboration with the Louisiana Children's Museum (LCM), *Play Helps*™ provided valuable evidence of the flexibility, adaptability and efficacy of CMOM's early childhood model. A modified, locally-run and supported version of *Play Helps*™ continues to be successful with children and families in Louisiana.

The scientific content of *We Can!* will be delivered through the following experiential platforms:

I. An **early childhood obesity-prevention curriculum** (ages 2-5), for use in museums and community settings, with special focus on effectiveness among low-income urban families who are at greatest risk for obesity.
II. **A permanent health exhibition and classroom space** at CMOM, and **exhibit replication plans** that enable small museums to fabricate individual stand-alone components or to reproduce the exhibition in its entirety.
III. **Museum-based programs for families** that expand on the exhibit's adapted *We Can!* obesity-prevention messages; **programs for professionals** that teach the adapted *We Can!* messages and lesson plans for more effective work with children under eight.

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Across all three experiential platforms, *We Can!* is taught in consistent language and the components work independently or as part of a comprehensive program. The project will culminate in a comprehensive *Early Childhood Obesity Prevention Kit* that brings together these platforms and published research findings in print and electronic formats.

CMOM's project will be supported by a strong team of professionals: *content* will be an authorized adaptation of the NIH's *We Can!* curriculum; *evaluation* will be conducted primarily by the Michael Cohen Group (MCG), an experienced provider of research design, implementation and evaluation in the fields of education, health and early childhood; *health advisement and coordination support* will come from the Community Heath Care Association of New York State (CHCANYS), a coalition of local health clinics in low income neighborhoods and long term partner of CMOM; *on-site pilot studies* will be conducted at East Side House in the South Bronx and at the Louisiana Children's Museum in the Lower 9th Ward of New Orleans, LA; *national advisement and dissemination support* will be provided by ACM and NIH. The proposed program has been designed in consultation with all of these partners and CMOM's health Advisory Board (please see attached Advisory Board list; Supporting Document 2). A critical aspect of the project is the involvement of these partners in the ongoing assessment and remediation of curriculum, exhibit and program elements based on research data. As explained later, the sustainability and impact of the project is anchored by linking the project to the dissemination networks and support systems of the ACM and NIH.

What follows is a detailed presentation of CMOM's project design and evaluation plan, presented by project platform. For a detailed chronology of project activities, please refer to the attached Schedule of Completion.

I. Field Testing of Curriculum for Children Under 5 and Their Parents

In order to address the need for early intervention programs that target children ages 2-5 and high-need families, CMOM will pilot a sequential, early childhood obesity-prevention curriculum in two high-need communities: in the South Bronx (NYC) at East Side House Settlement (ESHS), which will launch in spring 2010 and continue for three years; and in New Orleans, LA with the Louisiana Children's Museum (LCM), which will run from spring of 2011 through the end of the funding period. The benefit of staggering the two tests is to apply learning from the Bronx pilot to the LCM program. The objectives of the pilot are:

- to gain critical insight into the health beliefs, knowledge and practices of high-need families;
- to measure the effectiveness of the early childhood model successful in *PlayWorks*™ in teaching *We Can!;* concepts and bringing about behavior change among children under 5 and their parents; and,
- to evaluate the impact of museum visits on families, and professional development training on teachers.

The project will build upon CMOM's program at East Side House Settlement (ESHS) in the Bronx, which has a 90% retention rate and documented improvement in children's school-readiness skills (including growth in verbal ability, interest in books, and increased social skills). Past experience at ESHS and New Orleans has provided CMOM with the opportunity to refine the curriculum, and has resulted in a trusted, sustained and successful relationship between CMOM and the two pilot sites. Research protocols have been developed with MCG and reviewed by NIH to ensure validity. In the Bronx and New Orleans, 20 parents and their children will participate at each of three sites (60 total); 40 families will be given the full curriculum plan described herein and a third control group of 20 families will receive CMOM's standard literacy program with only the addition of *Parent Handouts,* which are used to support weekly health lessons and track family learning at home. Feedback from the *Parent Handouts* will be incorporated into MCG's evaluation of the pilot.

A sample adaptation of the six core *We Can*! concepts, and resulting 10-week early childhood lesson plan has been reviewed by the NIH and is attached. (Please see Supporting Document 3) In addition to teaching *We Can!,* each lesson reflects state and local early childhood performance standards, so that children are always gaining school readiness skills in addition to health messages, and places emphasis on parent participation and retention of ideas and strategies over time.

Following review and evaluation by NIH, these lesson plans will culminate in an *Early Childhood Obesity Prevention Manual,* to deliver curricula, parent resources, and research findings. All materials will be translated into Spanish in the final year of the grant, and will become part of the *Early Childhood Obesity Prevention Kit* mentioned above.

The following excerpt from a lesson on Portion Control demonstrates the multiple objectives met in CMOM's approach to teaching families:

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***We Can!* Portion Control Message**	Appropriate portion size and balanced diets are essential to building a healthy body. Recognizing the difference between hungry/empty and satisfied/full makes portion size easier to understand.
Portion Control Activities for Parents and Children to Enjoy Together	Together, children and parents create a "healthy meal plate" (½ vegetable, ¼ protein, ¼ starch) of colorful "food" using Model Magic™. They dance the *Head to Toe Balance Dance* and share an interactive reading of the book "I Will Never NOT EVER Eat A Tomato" by Lauren Child. Each activity supports the healthy portion size/food content message. Before class ends, children and parents make yogurt parfaits using a see-through container that visually reinforces portion relationships and serving sizes. Parents take the healthy recipe home to enjoy again.
Objectives for Children	The concepts of measurement, scale and size are applied to food portions and plate/bowl sizes. Children learn the difference between full and empty, satisfied and hungry and the importance of a variety of foods on the plate.
Objectives for Parents	A *Parent Handout* offers portion control activities and fun ways to reinforce that message at home. The handout will recap the lesson's points; give hints for making new practices easier (i.e. using smaller plates for all meals); repeat the "Fact of the Week" (i.e. children model parents – even their eating habits); offer a health tip (i.e. it takes 20 minutes for your stomach to tell your brain that you are full); illustrate one of the new strategies (i.e. wait for your child to ask for seconds—then give vegetables instead of a starch); and include the recipe of the day. Every family will receive a copy of the book that was read, prompting continued discussion and practice at home.
Outcomes	**Attitudes:** Children have a positive attitude about healthy foods and model parents' behavior. Parents are aware of their influence over food choices/habits, and the importance of forming healthy habits early in life. **Behaviors:** Smaller portion sizes introduced at home; fruits and vegetables substituted for less healthy choices; smaller plates replace larger ones; parents encourage the whole family to stop eating when full, limiting seconds and eating fruit for dessert.

In the fall of 2009, ESHS will recruit the first 60 parents to participate in the 10-week program that will start in spring 2010. Simultaneously, LCM will identify and select a community partner site; review the early childhood obesity-prevention curriculum; plan training for educators who will lead their program; and, refine the project plan for the launch of their pilot in spring 2011. As determined by MCG, Bronx and New Orleans staff may be involved in the fine-tuning of the individual evaluation plans.

In spring 2011, CMOM will add professional development training at ESHS, providing their teachers with one 3-hour training session to preview the pilot curriculum and teach ways to reinforce key messages during their daytime hours with the children. Teachers will receive all of the supplies needed to replicate the training successfully in the classroom, including curricula, art materials and children's books.

In summer 2011, the permanent exhibit based on *We Can!* will open at CMOM. In fall 2011, the Bronx families and teachers will take two trips to CMOM to experience the exhibit and take part in on-site programs. Evaluations in Year 3 will focus on the addition of the exhibit/program experience for Bronx participants, as well as the success of the professional development trainings. CMOM will provide participating families with free memberships to the Museum.

II. Museum Exhibition, Classroom & Related Programs

CMOM will mount a new permanent health exhibition based on the *We Can!* adaptation and informed by research from the outreach pilot sites, formative evaluation and prototyping. The 1,500 square foot exhibition will open in summer 2011. The exhibition will be an immersive environment where children ages 2-8, and their families will explore how and why food, sleep and physical activity work together to power the body and fuel the mind. The exhibition will deliver the six adapted *We Can!* messages in an engaging, developmentally-appropriate way through unique, hands-on, parent-child activities that reinforce the central role of family in establishing lifelong healthy habits.

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CMOM's approach reflects more than a decade of experience, most notably with its breakthrough exhibition *Body Odyssey*, which offered families the chance to learn about the scientific aspects of the human body. *Body Odyssey* was successful on many levels, attracting thousands of visitors, and eventually traveling the United States, New Zealand and Australia. Accompanying classes and school programs developed for the exhibit continue to be popular at CMOM today.

CMOM has developed preliminary exhibition concepts (please see Supporting Document 4), and identified small museums/science centers interested in partnering on the development process and replicating the exhibition. Preliminary concepts follow:

1. *You are What You Eat:* This area will be designed to teach children and families how different foods and nutrients impact our bodies, minds and energy levels, and the relationship to digestion. For example, to demonstrate *We Can!* Portion Control concepts, an interactive popcorn blower will blow seemingly different amounts of popcorn from three different sized bowls into measuring cups to reveal that the same amount of popcorn exists in all three. Or, by rotating plates of food on a "lazy susan," families will learn that using smaller plates/bowls is an easy strategy for eating only the amount of food your body needs (an individual's optimal serving size is roughly equivalent to the size of that person's clenched fist!). Parents and children will also learn, in grossly fun ways, about the science of digestion, and the vital relationship between the digestive system, the food we eat, and good health. (*We Can!* messages: smaller portions; 5 servings of fruits and vegetables a day; energy balance; drinking water.)
2. *Energy Balance:* This area will focus on the balance between food intake and physical activity. A series of interactive stations will demonstrate how activities like jumping rope, wheeling a wheelchair and balancing on a scooter provide excellent opportunities to burn calories, and build muscle and heart health. As visitors challenge themselves at each station, they learn about the positive effects of physical activity on the body and the need to balance caloric intake. (*We Can!* messages: energy balance; increasing physical activity.)
3. *Busy Bodies Sleep*: This area will be designed to educate visitors about the benefits of adequate sleep and the harmful effects on a body deprived of sleep, such as weight gain, and how nutrition and fitness impact the body's ability to rest. Visitors are challenged to think about their sleep needs, patterns, habits and environment. (*We Can!* messages: getting enough sleep.)

During the concept development phase, the exhibition team will meet with content experts and small museum advisors. As with all CMOM exhibitions, formative evaluation will be conducted to test the content and activity design of individual exhibition components. Particular attention will be given to ensuring that the exhibition is developmentally appropriate and engaging for both adults and children. An interpretive plan and design drawings will specify the experiential and content goals, enabling evaluators to assess the success of individual components. The exhibition will be developed to work as a whole or as a series of stand-alone components.

During the final design phase in spring of 2010, prototypes will be tested and a set of design control drawings will be created for competitive bidding. As the physical design is refined, final exhibition plans will be reviewed by the Advisory Board and NIH, and translated into Spanish. Throughout, partners will review the plans to ensure the exhibition meets the needs of small museums. The exhibition will be installed at CMOM in spring 2011, following modest reconfiguration of internal non-load bearing walls.

In fall of 2011, small museum advisors will meet to view the exhibition, review summative evaluation findings, and make recommendations for the exhibit replication plans. The plans will be made available to small museums as a cost-effect way to construct a quality health exhibition, and will include blueprints, graphics, promotional materials and a comprehensive, easy-to-follow assembly manual.

III. Museum-Based Family Programs & Professional Development– A 500 square foot classroom adjacent to the exhibition will be renovated to support daily family health programs and professional development workshops. The classroom will serve as a programming space for children and their parents to participate in educator-led activities that reinforce and deepen the exhibit's *We Can!* health messages (please see Supporting Document 5 for sample programs). In the final year of the grant, the project will expand to include intensive 3- hour professional development workshops for teachers, museum and library professionals, healthcare practitioners and childcare providers. All teachers will receive supplies to facilitate lessons in their classroom. CMOM's exhibit and classroom space will serve as a permanent resource

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for parents and educators who want to improve their ability to be effective advocates and role models for good health, and as a facility for ongoing research on the effectiveness of museum-based early childhood health programs.

Evaluation Plan & Evaluation Criteria

The evaluation plan is designed along two complementary tracks: 1) quantitative assessment of off-site curriculum pilots, and 2) evaluation of exhibit and related museum programs. The evaluations will be conducted by two independent evaluators, corresponding to their respective research strengths and capacities: MCG with expertise in children's education, will conduct a three-year evaluation of the early childhood curriculum pilots; and BliP Research, which has conducted previous evaluations of CMOM exhibits, will conduct the evaluation of the exhibition and the family and professional development programs.

The project and evaluation design are intended to isolate variables and test the effectiveness of each delivery platform as a standalone experience, or as a cumulative experience which combines museum-based programming, off-site outreach, and an immersive exhibition. In this way, the research will evaluate the efficacy of the museum model.

Evaluation of Pilot

A six part evaluation of the pilots will include: initial qualitative exploration using interviews and observations to establish baseline data; quantitative pre-test; observation and documentation of program implementation; quantitative post-test of each 10-week session (three groups of 20 families per session); follow up interviews to assess the integration and endurance of project's quantitative and qualitative impact; and evaluation of visits to the Museum. Based on MCG's experience, a 10-week model has been validated as both a significant and realistic period for an intervention, based on knowledge of the audience and their capacity to commit time and attention to the program. Please see attached MCG Research Protocol (Supporting Document 6).

The objectives of this evaluation are to:

- assess the effectiveness of the project in terms of what is learned by children and their families;
- assess children's and families' behavioral changes in food choice and physical activity;
- assess attitudinal changes that relate to nutrition and health;
- explore and document participants' experience in and attitudes towards obesity prevention;
- compare the effectiveness of the interactive, activity-based method of education developed by CMOM with a more conventional method of dissemination of information about health and nutrition; and,
- assess the impact of Museum visits when added to the 10-week program.

At the conclusion of the three-year grant, relevant research findings will be synthesized in a final report, and included in the *Early Childhood Obesity Prevention Kit* and related dissemination materials.

Evaluation of Exhibition

During the pre-project period and concept design phases, exhibition developers will observe on-site health programs, and conduct informal qualitative research to test graphic images and mock-ups of potential exhibit activities for usability, content acquisition and appeal. During the design phase, full-scale working prototypes of key components will be taken on to the "exhibit floor" and exhibit developers will observe and test how parents and children interact with them, questioning visitors as needed. The goal of this informal, iterative testing is to improve the physical design and signage. The full exhibit will be evaluated in conjunction with accompanying programs.

The objectives of this evaluation are to:

- assess children's and families' comprehension of the content after viewing the exhibition;
- assess visitors' engagement with the core elements of the exhibition;
- assess visitors' motivation for attending the exhibit and attitudes about nutrition and health; and,
- assess change in children's and families' behaviors in food choices, sleep and exercise habits.

BliP Research will create a program of quantitative and qualitative methodologies that will include participant observations (written, video, and still photo observations); intercept surveys (parent surveys will be self-administered and children's surveys will be administered one-on-one by researchers); mini focus groups; and follow-up interviews (by phone 2-4 weeks after participants visit the exhibition). Findings will be shared with partner museums and used to determine modifications for small museum construction packages.

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PROJECT RESOURCES: BUDGET, PERSONNEL, MANAGEMENT

With support from CMOM's Board of Directors and Executive Director, Andrew S. Ackerman, CMOM has assembled a strong management team to successfully carry out this three-year project. Day-to-day project management will be carried out by a new temporary full-time Project Manager position that will report to senior staff members and Project Directors, Leslie Bushara, Deputy Director for Education, and Karen Snider, Deputy Director for Exhibitions. Ms. Bushara and Ms. Snider worked together to design this project, drawing on nearly a decade of experience working together on major CMOM exhibitions and projects including the IMLS-funded *PlayWorks*™. The project will be CMOM's primary focus for the next three years and Ms. Bushara and Ms. Snider's departments will devote significant time to the implementation of the project. CMOM junior staff will assume increased program responsibility in order to allow the leadership team to dedicate time needed. Ms. Bushara created the early childhood literacy curriculum in the Bronx, where the Pilot Program will be tested; CMOM's highly successful Shelter Program for homeless mothers and their children (now being replicated nationally); the *Play Helps* initiative with LCM; and the development and expansion of CMOM's professional development programs. Ms. Snider has led CMOM's exhibition team for almost 10 years, with projects such as the IMLS-funded *PlayWorks*™, traveling exhibits *Monkey King* and *Oh, Seuss, Off to Great Places!* and the NEH-funded *Gods Myths and Mortals.* The project's senior leadership team will be supported by second temporary full-time position of Health Educator, Lizzy Martin, who is already working in this role with seed support from a private foundation. CMOM's highly qualified education, design and support staff will contribute to this project. Mr. Ackerman leads a disciplined museum administration, accustomed to careful financial management and a strong work ethic. He has led CMOM since 1990, with prior leadership positions at the NY State Council on the Arts and the Jewish Museum. Mr. Ackerman is a former President of the Association of Children's Museums. See attached Resumes and Project Staff.

CMOM's Board has designated health as one of the Museum's three core initiatives for the next five years, along with early childhood education and creativity. A Board sub-committee has been assigned to work with staff to insure that the necessary support is provided. The Project Manager will coordinate with CMOM's partners in this project all of whom have previously worked with the Museum and are leaders and strong managers in their own right. Janet Rice Elman, Executive Director of the Association of Children's Museums for nearly 20 years, has helped establish the children's museum sector nationally and internationally; most recently she created the national *Good to Grow!* program with the NIH. Ms. Elman readily offered ACM's strong support for CMOM's leadership in the proposed initiative and will take an active role in promoting and disseminating the results of the program through *Good to Grow!*. John Sanchez, Executive Director for East Side House Settlement, has worked closely with CMOM for more than 3 years, and will serve as the primary project liaison for the Bronx pilot. Julia Bland, Executive Director of the Louisiana Children's Museum worked closely with CMOM to implement and sustain the *Play Helps*™ program and will lead the pilot efforts in New Orleans. In choosing both of these institutions (ESHS and LCM), we have selected partners with successful track records making deep commitments in their communities. The project will be guided by the advice and input of a national Health Advisory Board consisting of experts from the fields of pediatrics, children's museums, public health and education. Please see attached Letters of Support (Supporting Document 7).

The NIH has authorized this project and as noted in the attached schedule of completion, will be called upon at key points to vet and approve curricula and *We Can!*-related content and/or outcomes. Janet de Jesus, Nutrition Education Specialist for the National Heart, Lung & Blood Institute, will serve on the Advisory Board, and has agreed to evaluate curricula and exhibit plans to help CMOM prepare to submit curricular adaptations for NIH policy review and official consideration. Please note, since it is a federal agency the NIH is prohibited from providing a partnership statement; however, the NIH is fully committed to this project and has allocated staff time over the next 3 years to assist in its success. Please see attached Memorandum of Understanding (Supporting Document 8).

The three-year project budget requests 46% of the total cost from IMLS, with cost sharing spread over the funding period consistent with the overall budget. CMOM's costs are tightly controlled and reflect the Museum's deep commitment to the Project. The total budget provides nearly equal funding to programs and assessment (51%) as it does to the exhibition (49%), including a substantial investment in evaluation.

DISSEMINATION

In Year 3, CMOM will create a dissemination plan to be facilitated by ACM, with an emphasis on developing resources, tools and information that will incorporate the results of the program into the *Good to Grow!* initiative and website (www.goodtogrow.org). CMOM will work with ACM to integrate project results into the *Growing Healthy Museums* "Healthy Happenings" partnership toolkit, which will help museums build and strengthen partnerships with community

Sample

organizations interested in planning and launching health programs. Project results will be made available through ACM's print and electronic communication channels, including "Making the Case for Children's Museums," ACM's resource for those seeking information on how to build capacity and demonstrate leadership. CMOM will prepare the *Early Childhood Obesity Prevention Kit*, and all related program materials, for publication and dissemination through ACM and NIH *We Can!* channels. The sale of the Exhibit Replication Plans will be set at a modest fee (under $10,000), and the early childhood health curricula will be available at no charge through CMOM, ACM and NIH.

CMOM will work with NIH to disseminate results through the NIH website; network of more than 1,000 *We Can!* national community partner sites; *We Can!* website; and local network of 50 New York community partners (schools, libraries, after-school programs, hospitals, pediatric and health centers). Project results will be used by the NIH to initiate an internal review process to assess the agency's position on expanding *We Can!* to include children ages 2-8 . In advance of any approval by the NIH for an official *We Can!* curriculum for children ages 8 and under, CMOM has been given permission to disseminate the NIH evaluated curricula and all resulting *Kit* materials from the IMLS-funded program, including lesson plans, exhibition designs and parent resources.

CMOM will disseminate results and promote the IMLS-funded project to a broad network of partners, including: Alliance for Healthier Generation, American Heart Association, CHCANYS, American Academy of Pediatrics, American Dietetic Association, NYC Department of Health and Mental Hygiene (NYC DOHMH), and New York Road Runners Association. CMOM will author and present a white paper/published article on the emerging role of museums in tackling complex community issues that impact families. Publication of articles and relevant research findings will extend across museum literature (Hand to Hand, Exhibitionist, Museum News, and Curator) and the scientific, health and early childhood communities (Kiwi Magazine, Parenting, Future of Children). CMOM will promote the IMLS-funded project and exhibit through its network of more than 350,000 visitors and members, website, and corporate sponsors. CMOM exhibits and programs are consistently featured in Time Out New York, New York Family, and through citywide billboard campaigns with the New York City Metropolitan Transit Authority and Van Wagner kiosk advertising.

CMOM will maintain records of meetings, key decisions, and feedback from project partners and the Health Advisory Board. Project development processes and best practices will be documented and shared with other museums, science centers, and community-based organizations who are interested in planning and implementing obesity prevention initiatives. The results of the project will be synthesized in final evaluation reports from the MCG and BliP Research, and distributed to all project partners, Advisory Board members and IMLS. In 2012, CMOM will present evaluation findings and program results at national conferences including ACM and AAM, and will extend its reach beyond museum associations to include ASTC, NAEYC, CHCANYS and AAP conferences to ensure the broadest possible impact.

SUSTAINABILITY

Sustainability is linked to institutionalizing the project within a museum and a community. CMOM will capitalize on its national and local partnerships to embed the project in existing networks of support. CMOM has invested resources to develop and sustain these partnerships; IMLS funding will relieve smaller museums of having to create products and networks, thereby allowing them to focus on implementing effective programs. Further, the results of this project will help CMOM and other museums make the case for funding as they seek support from foundations and government agencies.

As a result of IMLS providing essential seed funding for the early childhood obesity prevention project, CMOM will have a fully developed exhibition and completed the R&D on all programs. CMOM will leverage IMLS funding to sustain and expand the obesity-prevention project through partnership contracts with CHCANYS and NYC DOHMH. Current and ongoing support from the Laurie M. Tisch Illumination Fund will cover the costs of full time staff and materials, with the contracts generated by our partners covering the part time employees and other field costs. CMOM anticipates that program costs will decrease over time as the project is further institutionalized. CMOM will allocate additional support as needed through its unrestricted revenue sources and earned income from membership fees.

CMOM has also initiated a corporate sponsorship campaign to provide targeted support for the continuation of health programming (both on-site and off), and the ongoing maintenance and updating of the permanent exhibit. CMOM is committed to supporting the project beyond the duration of IMLS funding, and as such will raise additional support through current and prospective funders, including: the Booth Ferris Foundation, JP Morgan Chase Foundation, Stella and Charles Guttman Foundation, NYC Department of Cultural Affairs, NY Community Trust, United Way of NY, and William Randolph Hearst Foundation.

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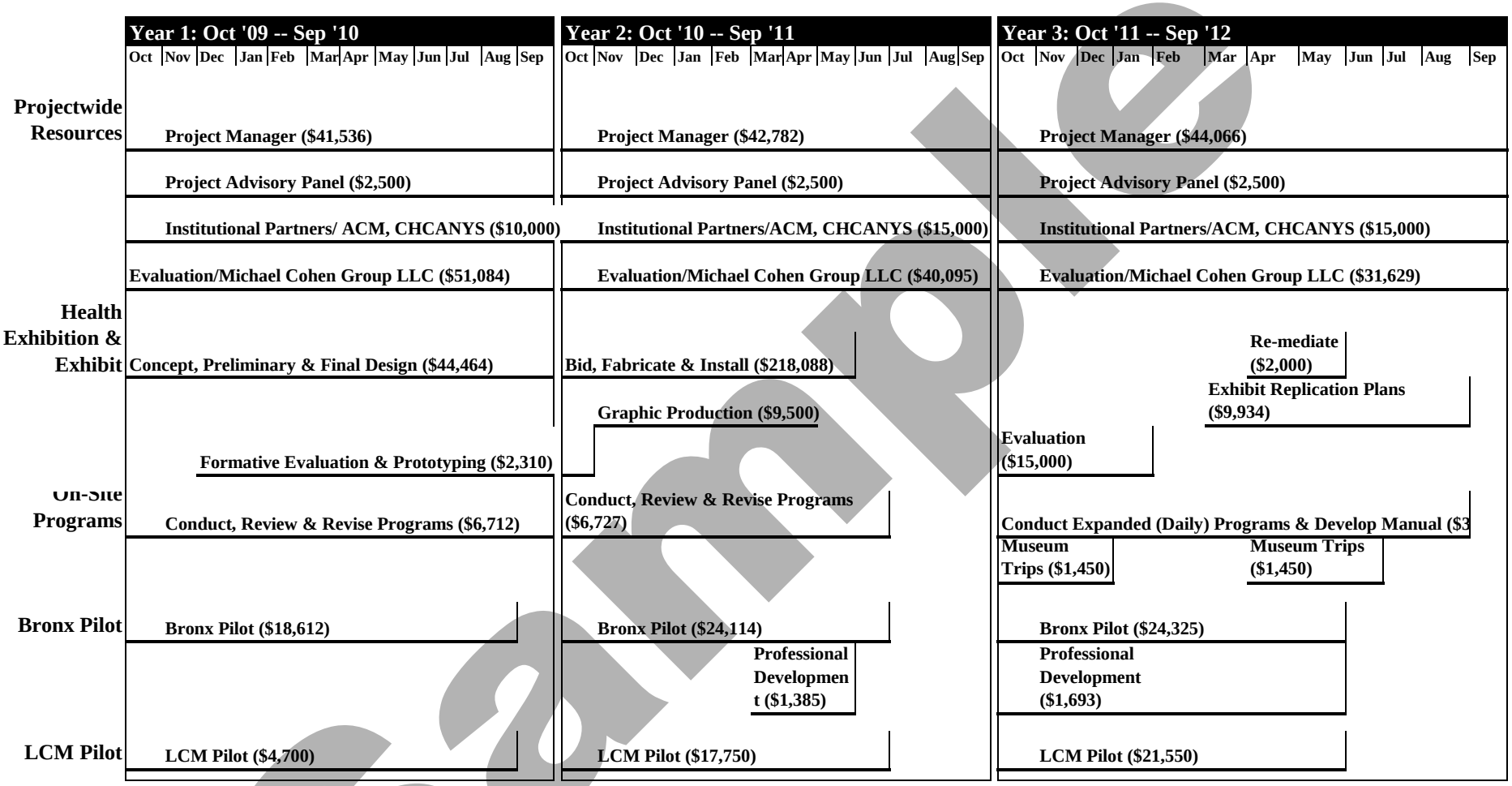
BUDGET FORM: Section B, Summary Budget			
NAME OF APPLICANT ORGANIZATION	CHILDREN'S MUSEUM OF MANHATTAN		
	$ IMLS	**$ COST SHARE**	**$ TOTAL COSTS**
1. Salaries and Wages (Full Time)	$ -	$ 255,998	**$ 255,998**
1. Salaries and Wages (Temporary Project Staff)	$ 199,417	$ 117,817	**$ 317,234**
2. Fringe Benefits	$ 32,270	$ 63,662	**$ 95,932**
3. Consultant Fees	$ 35,610	$ 23,610	**$ 59,220**
4. Travel	$ 14,362	$ 14,362	**$ 28,723**
5. Materials, Supplies and Equipment	$ 48,456	$ 36,956	**$ 85,411**
6. Services	$ 441,363	$ 233,882	**$ 675,245**
7. Student Support	$ -	$ -	**$ -**
8. Other	$ 2,600	$ 2,600	**$ 5,200**
TOTAL DIRECT COSTS	$ 774,077	$ 748,885	**$ 1,522,962**
TOTAL INDIRECT COSTS - 15%	$ 54,066	$ 80,067	**$ 134,133**
TOTAL COSTS (Direct and Indirect)	**$ 828,143**	**$ 828,952**	**$ 1,657,095**
Project Funding for the Entire Grant Period			
1. Grants Funds Requested from IMLS	$ 828,143		
2. Cost Sharing:			
a. Applicant's Contribution	$ 828,952		
b. In-Kind Contribution	$ -		
c. Other Federal Agencies*	$ -		
d. TOTAL COST SHARING	$ 828,952		
3. TOTAL PROJECT FUNDING (1+2d)	$ 1,657,095		
Percentage of total project costs requested from IMLS	50%		
*If funding has been requested from another federal agency, indicate the agency's name:			

Sample

CHILDREN'S MUSEUM OF MANHATTAN: Schedule of Completion



Total direct project costs requested from IMLS for Year 1: $181,918.

Total direct project costs requested from IMLS for Year 2: $379,152.

Total direct project costs requested from IMLS for Year 3: $206,350.

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