

**Report On**  
**Effectiveness of Interventions in Obesity Reduction in Children**  
**Ages 2 to 5 Years**  
**In Clinton County, Missouri**



**Public Health**  
Prevent. Promote. Protect.

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**September 30, 2011**

## **Forward**

In October 2007, the Clinton County Health Department began a three year contract with the Missouri Department of Health and Senior Services entitled the Maternal Child Health (MCH) Services Contract. The focus of this contract is the facilitation of improved health outcomes in expectant mothers, new mothers, and young children. After an analysis of health factors within Clinton County, the Health Department chose to focus it's efforts on Obesity Prevention in Children ages 2 – 5 years. The contract was extended for a fourth year in 2011 with the terminal deliverable being this report on the outcomes achieved during the four year period.

Obesity is a growing epidemic in the United States. In 2007, 35% of Missouri's Children ages 10-17 years were overweight or obese. Trends of childhood obesity continue to increase. Health risks associated with obesity are numerous. A child who is obese stands an 80% chance of being obese as an adult. Obesity ultimately leads to increased chronic illness, increased healthcare costs, and shorter life expectancy.

## Summary

The Clinton County Health Department, in cooperation with multiple public and private partners during the 2008 – 2011 Maternal Child Health Contract:

- **Collaborated with multiple partners to develop a unified education effort within the county focusing on healthy diet, exercise, and obesity prevention.**
- **Provided educational activities to 100% of the children within Clinton County ages 2-5 years through multiple providers and programs.**
- **Improved and developed working relationships with multiple partners including local government, educators, healthcare providers, and private businesses.**
- **Provided thousands of health education contacts with parents and children involved with programs provided by the Health Department.**
- **Broadened efforts to include the participation of nearly 100 participants in a health focused weight loss initiative, with the goal of facilitating life-long changes in diet and exercise within the home.**
- **Carried the relationships developed during the program to the next Maternal Child Health initiative, focusing on injury prevention – safe sleep practices in infants and youth.**

# Project Focus

## **Priority Problem Area:**

Reduce obesity among children, adolescents, and women

## **Target Population:**

Clinton County Health Department MCH program will target Clinton County Children ages 2 to 5 years. Clinton County has approximately 900 children in this age group. Children in this age group are developing life-long habits and easily adopt new ideas. Primary focus will be given to WIC clients, Day Care Attendees, Parents as Teachers participants including parents and caregivers.

# Plan of Action

## Identification:

- 1.) CCHD will identify information, data and resources that will help CCHD MCH Advisory group to identify children that are at risk of becoming obese. We will complete an inventory of the groups, programs, businesses that are presently working on obesity or nutrition interventions activities.
- 2.) CCHD will be the lead agency to work with schools and local leaders to identify curriculums and activities that are presently taking place that address the issue of obesity and will share the findings with the MCH Advisory group. CCHD will work with local agencies, businesses, and private providers to improve identification and sharing of relevant health data. An improved communication system utilizing e-mail/fax will be developed. CCHD will work with local parents organizations (PTA or PAT) to advocate for nutrition curriculum be provided during parent visits/conferences or student class time.

## Assessment:

- 1.) CCHD will work with MCH advisory group in developing a consensus on data collection, analysis and transmission/reporting of efforts regarding reducing the risk of obesity and develop intervention strategies for issues directly impacting children with targeted efforts surrounding obesity.
- 2.) CCHD will provide the leadership role for the MCH advisory group to work with the Clinton County Extension and Outreach to develop and prepare reports from data collected to present to community leaders and policy makers on the issue of obesity and how it is impacting maternal child health.

## Referral:

- 1.) CCHD will work with WIC, day care providers, P.A.T., local health care providers and University Extension Outreach for resources and referral of clients, including but not limited to, nutrition education.
- 2.) Other community partners that will be enlisted to participate in the referral network include schools, American Heart Association, YMCA. To support programs and activities in communities across Clinton Co.

## Assurance:

- 1.) CCHD will collaborate with local partners (schools, American Heart Association, American Lung Association) to provide educational opportunities in the community targeting obesity and nutrition issues. CCHD will make available satellite programming for community and local health professionals to encourage use of best/promising practices. CCHD will utilize DHSS LMS system to provide educational enhancement for CCHD staff and community partners.
- 2.) CCHD will work in cooperation with local partners (schools, planning and zoning, churches, parks and recreation departments, and local law enforcement) and city/county officials to create communities with an environment that encourages physical activity such as walking, hiking, and bicycling which reduce the risk of obesity.

**Education:**

- 1.) CCHD will provide appropriate educational material and resources for nutrition education services to the community to reduce the risk of obesity. Local partners will include the Cameron Regional Medical Center, ministerial alliance in each community, local schools and businesses. An educational media campaign will help create awareness of the increased health problems caused by being overweight and lack of physical activity (heart disease, stroke and diabetes). CCHD will utilize TelATask Auto Dialer to deliver nutrition telephone messages with appointment or workshop reminder calls.
- 2.) CCHD staff will volunteer to serve on other community groups providing the opportunity to disseminate and gather MCH health issues input. CCHD will report to the Clinton County LEPC the finding of MCH Advisory Group and request LEPC support nutrition and/or physical activity policy and best practice initiatives that have been identified to be implemented.

**Evaluation:**

- 1.) CCHD will request University Extension Outreach to assist CCHD with developing/improving evaluation process needed to evaluate program outcomes. The partnership with UEO will improve CCHD and MCH Advisory group the ability to determine community baseline levels and to evaluate local interventions and programs to determine the impact on the health status of the target population related to reducing the risk of obesity.
- 2.) CCHD will provide the leadership role in collaboration with the local university to analyze evaluation outcomes. These outcomes will be shared with the community and local city/county government representatives for program planning. The MCH Advisory Group will have ongoing review of the local outcome trends and other best practice interventions that are effective in reducing the health risk of obesity.

**Milestones:**

have met at least one time. CCHD will provide local data regarding the health issues of Clinton County children age 2 to 5 and it will be reviewed by the MCH Advisory Group.

By July 2008, MCH Advisory Group will have developed, with the assistance of the University of Missouri Extension Outreach, a survey to gather nutrition and physical activity curriculum/ education provided in Clinton County. Clinton County WIC, the P.A.T. programs in Cameron, Plattsburg, Lathrop and Gower school Districts and the county Head Start Programs will have completed the survey.

**Annual Outcome:**

By September 30, 2008, the MCH advisory group will have an inventory of county programs and agencies that are addressing the issue of reducing the risk of obesity. The MCH Advisory Group will have met at least 3 times to review the activities and policies that are in place and to review best practice interventions that have proven effective outcomes for behavior changes, exercise and good nutrition.

**Milestones:**

By January 2009, the MCH Advisory Group will have identified at least 3 obesity best practice programs for children age 2 to 5 years that will be supported by Clinton County CCHD and LEPC.

By July 2009, CCHD will provide leadership role for the MCH Advisory Group in working with and provide training to the county WIC program and local school districts P.A.T. to implement identified best practice program in clinic and home visit activities.

**Annual Outcome:**

By September 30, 2009, CCHD will report county WIC program and one P.A.T. has adopted and implemented an MCH Advisory Group suggested best practice for reducing the risk of obesity in children. WIC and P.A.T. will be trained on how to implement the practice and the health indicators that will need to be collected and shared with CCHD, on a monthly basis, to be entered in MCH health database to be analyzed. MCH Advisory Group and CCHD will present the annual report to County LEPC Committee for review and comment.

**Milestones:**

By January 2010, P.A.T programs in Cameron, Lathrop, Plattsburg and Gower will have incorporated a best practice program to reduce the risk of obesity in the curriculum they provide to the families in their program. CCHD will meet at least annually with P.A.T. programs to review and discuss their Obesity Best Practice curriculum. CCHD will report findings to MCH Advisory Group.

By July 2010, Cameron and Plattsburg Head Start programs and one daycare facility will incorporate the MCH Advisory Group identified best practice program to reduce the risk of obesity in their student curriculum. CCHD will meet at least annually with Clinton County Headstart programs to review and discuss their Obesity Best Practice curriculum. CCHD will report findings to MCH Advisory Group.

**Annual Outcome:**

By September 30, 2010, CCHD will present the MCH Advisory Group findings of the accumulated evaluation of outcomes on the key health indicators that are attributed to obesity to the County Health Board, County Commission, County Health Care providers and County LEPC. Clinton County Children, age 2 to 5 years of age, will have improved rates in each of the health indicators that were identified by the MCH Advisory Group in 2007 and the implementation of a proven outcome based best practice.

**FY2011 Extension:**

- January 2011 Milestone: By December 31, 2010 CCHD/MCH will plan/schedule to conduct parent nutrition/physical activity workshop at Cameron Headstart, Plattsburg Headstart and P.A.T. (Cameron, Gower, Plattsburg, Lathrop) parent night. A trained CCHD professional health care worker will present the workshop. Parents will be provided handouts and resources. Pre and post surveys will be conducted. A second Post survey will be one month after workshop.
- September 2011 Annual Outcome: By September 30, 2011 CCHD/MCH will prepared a final report and provide the report to County Health Board of Trustees, County Commission, County Health Care providers and the report will posted on health department website. The report will provide the statistics for Clinton County Children between the ages of 2 to 5 years of age showing the effectiveness of the interventions implemented since 2007 to reduce the prevalence of overweight children in Clinton County.

# Project Outcomes

## Identification & Assessment:

The Health Department conducted an analysis of available data, as well as conducted a survey of Healthcare Providers, Educators, Parents, Emergency Services, and the General Public. A noted area concern within each community was the growing number of overweight and obese within the community.

Data analysis within Clinton County is somewhat difficult. With a 2010 census population of 20,743, significantly significant trends within subsets of the population are rare. That said, an analysis of data did show an increase chronic illnesses secondary to obesity. These include COPD (chronic obstructive pulmonary disease), Heart Disease, Diabetes, and Stroke. Data that directly correlates these trends with increases in obesity in Clinton County are not available, and are assumed.

Public perception plays an important role in addressing contemporary public health issues. A growing desire to improve the health of the population, and reduce obesity within the community made leveraging partners and building momentum within the project easier. A continued desire for public change will hopefully contribute to the sustainability of the project's programs, which have been passed to partners to carry forward from this point.

## Programs & Actions:

A common focus within this project was education, and sustainability. The Health Department is unique within the community because of its ability to tie major non-related partners including education, government, healthcare, childcare, and the public.

The Health Department met face to face and collaborated with multiple partners within Clinton County. Current nutrition education and physical activity programs were discussed, and shared among partners. The result of this collaboration was a unified message program that was used by the Health Department nurse educator, Parents as Teachers educators, Childcare facility managers, and Healthcare providers. This resulted in nearly 100% participation of children ages 2 – 5 years in an educational program promoting good nutritional choices, and healthy physical activity levels.

The Health Department also focused on the premise that healthy outcomes in children within the focus age group were only likely if the whole family unit adopted similar habits. Actions taken to address healthy lifestyles in parents included educational programs at community health and resource fairs, and education within home by parents-as-teachers educators focused on whole family nutritional practices. The Health Department partnered

with a local restaurant and other partners to sponsor a biggest-loser weight loss challenge. Nearly 100 participants in two rounds of events participated in a group weight loss event. It is important to note the focus and educational effort of the programs where healthy lifestyle changes and safe sustainable weight-loss. Each weekly check in with participants included an educational program and group support in creating community-wide change in personal and family habits. After the conclusion of the second round of the program was concluded, it was left to continue as an annual event with the private business partner.

### **Challenges:**

Two obstacles encountered over the course of the project where the lack of verifiable data allowing for confirmation of improvement over the course of the project period, and a cut in programs during the period that reduced the ability for some partners to fully participate as planned in the program.

Data sources used during the project included MICA and Missouri Kids Count. While neither source provides data specific to obesity and rates of overweight persons within the population, trends can be extrapolated by tracking specific long term illnesses associated with obesity. The length of the contract period did not allow for a change in rates to be noted.

Budget cuts in local schools led to reductions in Parents as Teachers programs, and the elimination of parent's nights at all but one school district within the county. This challenge was overcome by providing in-school educational activities by school nurses, PAT staff, and the Health Department Nurse educator. Further education was provided by the Health Department Nurse educator at each licensed child care facility within the county.

### **Conclusion:**

This four year project allowed for educational efforts to reach nearly all of the children within the target population during the project period. Furthermore, collaboration and integration of educational efforts by multiple partners allowed for a unified educational effort, resulting in a more effective program. The Health Department believes that its' efforts were ultimately successful, as measured by the percentage of target population reached. We hope to continue this success as the next Maternal Child Health period begins.