

UNIVERSITY OF WISCONSIN-LA CROSSE

Graduate Studies

UTILIZING THE HEALTH BELIEF MODEL TO EXAMINE AND PROMOTE BLOOD
LEAD SCREENING FOR CLIENTS ENROLLED IN THE TREMPPEALEAU COUNTY
WOMEN, INFANT AND CHILDREN (WIC) PROGRAM

An American Psychological Association (APA) Project Report Submitted in Partial Fulfillment
of the Requirements for the Master of Public Health Degree

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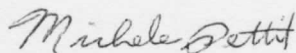
Abstract

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TREMPEALEAU COUNTY WOMEN, INFANT
AND CHILDREN (WIC) PROGRAM

By Nicole Thill

We recommend acceptance of this graduate project report in partial fulfillment of the candidate's requirements for the Master of Public Health degree.

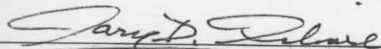
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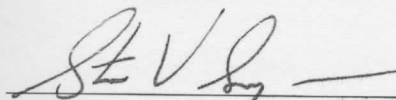


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Abstract

Thill, N. Utilizing the Health Belief Model to examine and promote blood lead screening for clients enrolled in the Trempealeau County Women, Infant, and Children (WIC) program. Master of Public Health, May 2013, 51pp. (M. Pettit)

Childhood lead poisoning is a serious public health issue. Just last year the Centers for Disease Control and Prevention (CDC) lowered the blood lead level of concern from 10 mcg/dL to 5 mcg/dL. As a result, the number of children with elevated blood lead levels increased substantially. This report will apply the Health Belief Model to lead poisoning and lead testing among children enrolled in Trempealeau County's Women, Infant, and Children (WIC) program. This was done through examining the literature as well as conducting key informant interviews among Trempealeau County Health Department staff and parents of children enrolled in the WIC program. The information collected was then used to create an educational video, poster, and brochure, which were available at the WIC clinics in Whitehall, WI. Additionally, surveys were handed out to determine if the materials were effective in educating parents on lead poisoning and lead testing based upon the Health Belief Model. The ultimate goal of this project was to educate WIC parents on the dangers of lead poisoning, and promote blood lead testing.

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SECTION I

INTRODUCTION AND OVERVIEW

Statement of Purpose

The purposes of this project are to examine childhood lead poisoning in detail, increase parents' awareness of the adverse effects of lead poisoning in children, identify barriers to getting tested and work to overcome these barriers, and increase the percentage of Trempealeau County children enrolled in the Women, Infants, and Children (WIC) program who receive blood lead testing. These purposes will be fulfilled through reviewing the literature, as well as examining data from the Wisconsin Blood Lead Registry (WBLR) and Wisconsin Department of Health Services. The findings will be used to promote blood lead testing through an educational brochure, a poster, and a short video presentation (Prezi). The rationale for using these materials is based on a 2005 study that determined parents of young children eligible for Medicaid prefer to learn about lead poisoning from low-literacy brochures, videos, and television ads (Polivka & Gottesman, 2005). The brochure will be available at WIC clinics and the health department. It will be handed out to anyone who requests information on lead in children. The Prezi will be shown at WIC clinics and will be uploaded on Trempealeau County Health Department's webpage. The poster will be displayed at WIC clinics, the health department, events such as health fairs, and in display cases throughout the community as requested (such as in libraries, healthcare facilities, the courthouse, schools, and daycares).

Rationale for Conducting the Project

WIC clients were chosen as the target population for this project because they are more likely to live in poverty and in older homes. Even though lead was banned from being put into paint in 1978, the effects of lead-based paint are still around today. “Over 40% of homes built between 1940 and 1959 and over 65% of homes in the United States built prior to 1940 still contain hazards due to leaded paint” (Goodwin, 2009, p. 5). According to the Centers for Disease Control and Prevention (CDC), Trempealeau County, Wisconsin has a total of 11,482 housing units, of which 4,609 were built pre-1950 (Centers for Disease Control and Prevention, 2009b).

Additionally, Trempealeau County has seen decreases in the number of WIC clients that have their blood tested for lead. In 2011, only 17 children enrolled in WIC had their blood tested for lead (Source: Kate Hansen, personal conversation, December 21, 2012). Testing includes both capillary and venous tests, as well as tests performed at WIC clinics and elsewhere such as family clinics.

I am a very strong supporter of primary prevention, or preventing lead poisoning from happening in the first place. With the ban of lead-based paint and other environmental health interventions and policies, primary prevention has been successful (CDC, 2004; Goodwin, 2009). Even though the number of children who have elevated blood lead levels is decreasing, I would like to see high lead levels become eradicated. To that end, secondary prevention (i.e., screening children for lead) becomes important as well.

In December 2012, I spoke with Kate Williams, who works in the WIC department at the Trempealeau County Health Department. She agreed with the importance of testing children for lead. She said that children already are given a capillary blood test for iron, and that it would be

very simple to test for lead at the same time. She also said testing for lead previously occurred more often at WIC clinics; however, there was a problem getting reimbursed from Wisconsin Medicaid for the lead tests performed at the Trempealeau County Health Department. More recently, a Memo of Understanding (MOU) has been signed between Wisconsin Medicaid and the Trempealeau County Health department in order to resolve this issue. Kate would like to see more clients get tested for lead now that they are able to receive reimbursement again. Currently, blood lead testing is covered by Medicaid and by most private insurance plans (CDC, 2012). The Trempealeau County Health Department is only able to bill Wisconsin Medicaid; however a large majority of Trempealeau County WIC clients are also on Wisconsin Medicaid.

Review of Literature

Introduction

All children in the United States are exposed to lead. In fact, many children are exposed to lead before they are even born (Agency for Toxic Substances and Disease Registry, 2007). There is a greater risk of lead poisoning for children because their bodies are still developing and growing (American Academy of Child and Adolescent Psychiatry, 2012). The purposes of this literature review are to examine childhood lead poisoning in detail, identify sources of lead exposure, and describe adverse effects of lead on the health of children. The findings from this literature review will be used to promote blood lead testing through an educational brochure that will be distributed to anyone who requests information on lead in children at WIC clinics and at the health department, a poster that will be displayed at WIC clinics and the Trempealeau County Health Department, and a short video presentation (Prezi) that will be shown at WIC clinics and uploaded on the health department's webpage. The overall goal of this project is to promote

blood lead testing of children who reside in Trempealeau County, with a focus on children enrolled in the WIC program.

Problem Statement

Just last year, the CDC updated its reference range of acceptable blood lead levels in children from 10 ug/dL to 5 ug/dL (which stands for micrograms per deciliter). This was the first change since 1991, over 20 years ago. As a result, over 200,000 additional children in the United States may have blood lead levels that are in “the range of concern” (American Academy of Pediatrics, 2012). In Wisconsin alone, “This change increases the number of Wisconsin children in 2010 considered at risk for cognitive deficits and other lifelong health problems, from just over 1,000 children to more than 9,000 children” (Wisconsin Department of Health Services, 2013, p. 1).

Since the mid-1970s, human exposure to lead in the United States has decreased by 90% (Hood, 2002); however, lead exposure is still a major concern today. There currently is no safe lead level in children. The best strategies for addressing childhood lead poisoning are education and primary prevention, a process that involves eliminating dangerous sources of lead in a child’s environment *before* he or she becomes exposed (CDC, 2012).

Effects of Lead Exposure in Children

The effects of lead exposure in children are serious and can permanently affect children (United States Environmental Protection Agency, 1999). Lead exposure can affect health and school performance, and can even lead to long-term behavioral issues such as criminal acts.

Health Effects

Although sometimes hard to recognize and detect, lead poisoning is very serious and may have adverse health effects, especially among children. In many instances, lead exposure does

not have any obvious symptoms, and often goes unrecognized. This is frightening because lead can affect nearly every system in the body (CDC, 2013). Often times, children who are lead poisoned may appear healthy until the body has accumulated dangerous amounts (Mayo Clinic, 2011). Initial symptoms of lead poisoning may include: loss of appetite, irritability or crankiness, vomiting, constipation, abdominal pain, weight loss, fatigue and learning difficulties (Mayo Clinic, 2011). Additionally, according to the United States Environmental Protection Agency (1999), low exposures to lead in children may result in damage to the nervous system, attention deficit disorder, hearing damage, decreased muscle and bone growth, poor muscle coordination, and speech and language problems. Unfortunately, these symptoms of lead exposure often are mistaken for other illnesses. Health effects of higher levels of lead may include developmental delay, seizures, behavioral disorders, and in extreme cases, even death (Brown, Raymond, Homa, Kennedy, & Sinks 2011).

Unborn children are at risk for lead poisoning as well if their mother is exposed to lead, especially high levels. Developing fetuses exposed to lead may succumb to low birth weight or premature birth (AACAP, 2012). Symptoms of learning difficulties or slowed growth are seen in newborns that were exposed to lead before birth (Mayo Clinic, 2011). Some of the effects of fetus exposure to lead may continue past childhood (AACAP, 2012).

School Performance and Behavioral Issues

Lead may severely affect children's school performance in many ways. According to the American Academy of Child and Adolescent Psychiatry (2004), children may be inattentive, irritable, or hyperactive even when exposed to small amounts of lead. When children are exposed to high levels of lead, problems with learning and reading may occur. In extreme cases, serious

brain damage, coma, or death may occur. In addition, numerous studies have shown that as blood lead levels increase, IQ points decrease (Gilbert & Weiss, 2006).

Sources of Lead Exposure in Children

Lead can be ingested or snorted into the body and can be found in blood, bones, or soft tissues. Once in the body, it can remain there for decades (Gavaghan, 2002). Some of the most common sources of lead exposure are listed below.

Lead-Based Paint

Many older homes have lead-based paint in them. Historically, lead was put into paint because it helped the paint to last longer and cling to surfaces better (United States Environmental Protection Agency, 1999). However, lead was banned from being put in paint in the United States in 1978 (Gavaghan, 2002). This ban significantly lowered blood lead levels in the majority of children. However, lead-based paint currently is still the largest source of lead exposure for children in the United States (Mayo Clinic, 2011). The most common source of lead-based paint is houses built before 1950 (Gould, 2009).

Lead enters children's bodies by ingesting paint chips that have fallen off the wall or inhaling the dust particles. If the paint is in good condition, there usually is not a problem. The problem arises when the paint begins chipping, peeling, and/or cracking (EPA, 1999). Additionally, even if walls or surfaces have been painted over with non-lead-based paint, the lead-based paint still can be a problem once the paint becomes chipped and exposed. Some areas of a home that may not appear to be areas of concern may in fact be lead hazards if they are used often or if children put their mouths on them (EPA, 1999). Some of these areas include doors, windows and window sills, stairs, porches, and fences (United States Environmental Protection Agency, 1999).

Gasoline

Gasoline formerly was the number one source of lead exposure in humans. By 1936, leaded gasoline was sold at more than 90% of all gas stations. Finally in 1972, the United States Environmental Protection Agency proposed taking lead out of gasoline. In the early 1990s, lead completely was taken out of gasoline in the United States. Some people believe adding lead to gasoline was one of the greatest public health disasters of the 20th century because of the knowledge that was available about the adverse effects it could have on health (Gilbert & Weiss, 2006).

Soil

Laidlaw, Mielke, Filippelli, Johnson, and Gonzales (2005) suggested that soil is a high contributor to blood lead level. Lead is still in the soil from the fumes from gasoline. Even though leaded gasoline has been outlawed for over 20 years, it does not decompose, so the soil remains contaminated (“Looking for Lead,” 1999). Several studies also have shown that lead in soil is more concentrated in inner cities rather than on the outskirts of cities or in the country because of increased traffic (Laidlaw et al., 2005; “Looking for Lead,” 1999). Laidlaw’s study also suggested that children have higher blood lead levels in warmer months when they are outside playing and house windows are left open because this leads to increased contact with soil.

Water

Lead enters water through the corrosion of plumbing materials containing lead. “Three factors that influence the level of lead in drinking water are the presence of lead in plumbing materials, the pH of finished water, and the presence or absence of mineral scale in plumbing” (Brown et al., 2011, p. 68). The 1986 Safe Drinking Water Amendments required new homes to

be built with lead-free plumbing (although they may still contain up to 8% lead). These new houses brought the lead exposure down for people living in them, however even today, some people live in homes built before 1986 that still contain plumbing materials made of lead. Warm water typically contains higher levels of lead, so it is safer to use cold water for drinking or making food (CDC, 2009a).

Definition of Key Terms

Blood Lead Level (BLL) - The amount of lead in the blood; measured by ug/dL (micrograms per deciliter) (CDC, 2012).

Chelation Therapy- A process whereby medication is given in order to eliminate lead and other heavy metals from the body through urination (McGill, 2013).

Finished Water- Water that has been treated and is ready for human consumption (Symons, Bradley, & Cleveland, 2000).

Lead- A widely used heavy metal that is very toxic to humans when inhaled or ingested (Wang et al., 2005).

Mineral Scale- Accumulation of minerals on the surfaces of pipes and other water system components (Symons et al., 2000).

Pb- The chemical symbol for lead.

PbB- Abbreviation for blood lead level.

Ways to Prevent Lead Exposure

According to the Centers for Disease Control and Prevention (2009), there are ways to prevent lead exposure in children. One way is to make sure children are not near peeling paint or any surfaces that may contain lead-based paint. Also, children or pregnant women should not be in a house that is being renovated if the house was build prior to 1978. This may expose the lead-based paint that has been covered. The dust and paint chips could put children at risk. If children are outside playing, it is best to keep them away from bare soil that may contain lead. This can be resolved by having them play in sandboxes, or covering the bare soil with grass seed

or woodchips. When children come back in from playing outside, they should wash their hands. Another way to prevent lead exposure is to keep a clean house. Windows and windowsills are common places for lead-based paint chips and dust containing lead, and should be wiped regularly. Floors should be mopped and vacuumed frequently to get rid of dust or paint chips that may have fallen to the floor as well (CDC, 2009a).

Programs to Prevent Childhood Lead Poisoning and Promote Screenings

In 2004, the CDC identified eight components to a successful comprehensive program for primary prevention of childhood lead poisoning.

1. Identify high-risk areas, populations, and activities associated with housing-based lead exposure.
2. Use local data and expertise to expand resources and motivate action for primary prevention.
3. Develop strategies and ensure services for creating lead-safe housing.
4. Develop and codify specifications for lead-safe housing treatments.
5. Strengthen regulatory infrastructure necessary to create lead-safe housing.
6. Engage in collaborative plans and programs with housing and other appropriate agencies.
7. Evaluate and redesign existing Childhood Lead Poisoning Prevention Program (CLPPP) elements to achieve primary prevention goals while ensuring adequate secondary interventions.
8. Evaluate primary prevention progress and identify research opportunities.

(CDC, 2004, p. 11)

Another successful lead poisoning prevention program in Wisconsin began in 2010 in Milwaukee. It was a collaborative lead-poisoning program consisting of WIC agencies,

Medicaid, and Medicaid managed care organizations (MCOs). The objective of the program was to address childhood lead poisoning by increasing screening rates for childhood blood lead poisoning and improving overall health of children in the population. The program consisted of free lead and iron testing (which are done using the same capillary blood sample). Tests were conducted at WIC clinics, and results were obtained in three-minutes. The program was very successful, resulting in an increase of screening rates by 41% during the first 10 months. Additionally, 300% more children living in the area were identified as having elevated blood lead levels. Since these children received early screening, they subsequently received proper case-management and follow-up. “This sustainable program has proven that blood-lead testing is an ideal complement to WIC’s core services and mission: the program bolsters WIC’s nutrition goals, while dramatically improving blood-lead testing rates – a critical step in eliminating lead poisoning, ensuring a healthy start for WIC children, and allowing Medicaid MCOs to serve their members better” (Bolton, M., Castro, N., Grossman, C., & Morse, R., n.d., p.1).

Ways to Determine if Children have Elevated Blood Lead Levels

“The CDC recommends that all children be screened for exposure to lead” (AACAP, 2012, p. 1). A blood test is the simplest and least expensive way to determine if a child has a high level of lead in his/her blood (Gould, 2009). These tests can be performed at doctor’s offices or public health departments, including Trempealeau County Health Department.

Application of the Health Belief Model

The Health Belief Model was developed in the 1950s by psychologists Hochbaum, Rosenstock, and Kegels as an attempt to explain and predict behaviors (University of Twente, n.d). The Health Belief Model consists of four original core constructs: perceived susceptibility, perceived severity (seriousness), perceived benefits and perceived barriers. Three additional

constructs--cues to action, motivating factors and self-efficacy--were added later on after additional research was conducted (Hayden, 2009; University of Twente, n.d). Each of the six key constructs are applied to blood lead screening and explained further below. The Health Belief Model was chosen over other models because it is an intrapersonal model that focuses on individuals' perceptions of disease, as well as factors individuals take into consideration when deciding whether or not to take a preventive action.

Perceived Susceptibility

Perceived susceptibility refers to a parent's perception of the likelihood of his/her child(ren) being lead poisoned. Unfortunately, perceived susceptibility among most people is low due to lack of awareness and knowledge. One study involving focus groups found "only 3 of the 16 participants were able to provide partial explanations of common sources of lead exposure while 80% of the participants were unaware of the sources of lead poisoning" (Vallejos, Strack, & Aronson, 2006, p. 146).

Perceived Severity

Perceived severity refers to a parent's perception of seriousness of lead poisoning. Similar to perceived susceptibility, perceived severity of lead poisoning is low as a result of lack of awareness and knowledge. It has been proven that physicians do not always discuss lead poisoning with parents (Polivka & Gottesman, 2005). If parents are unaware that lead poisoning is even an issue of concern, they are not going to know how serious it may be.

Perceived Benefits

Perceived benefits refer to a parent's perception of the effectiveness of blood lead testing to prevent childhood lead poisoning. Limited research has been done to identify parents' perceived benefits for screening their child(ren) for lead. A 2005 study found that parents and

caregivers see a high benefit to engaging in lead poisoning preventive behaviors. In-person interviews were conducted with primary caregivers of children ages 1-6. Results indicated parents did see a positive benefit to preventing lead poisoning by engaging in adequate hand-washing, ensuring children play in safe areas, and dusting with a damp cloth (Polvika & Gottesman, 2005).

Recent research has determined that there are significant social and economic benefits to eliminating lead hazards and preventing lead poisoning from occurring. Additionally, it is much more cost-effective to be tested for lead and treated earlier on, rather than waiting until the blood lead level is higher. Blood lead tests are relatively inexpensive, versus chelation therapy which can cost thousands of dollars. In addition to being expensive, chelation therapy can be very painful and time-consuming (Gould, 2009). Unfortunately, due to lack of published research, it is unclear whether or not parents see the cost-effectiveness as a benefit to blood lead testing.

Perceived Barriers

Perceived barriers would include anything that may get in the way of parents testing their children for lead poisoning. Polvika and Gottesman (2005) conducted three focus groups to identify barriers to blood lead testing from the perspective of parents of young children eligible for Medicaid. They asked participants if they were aware of the dangers of high blood lead levels, their reason(s) for not having their child(ren)'s blood lead level tested, what factors would motivate them to have their child(ren)'s blood lead level tested, and if they would like to know any additional information regarding blood lead testing (Polivka & Gottesman, 2005). Two of the more common barriers were parents not knowing the dangers of lead poisoning and not knowing whether or not their children were tested. Several parents stated doctors took a blood test, but did not inform them why they were collecting the blood. Additionally, some physicians

did not discuss the importance of blood lead testing to parents. Other participants identified transportation as a barrier. They stated it would be easier if the test was performed along with other services such as the yearly physical or preferably, if the provider could come to their home to do the blood draw. Other participants mentioned cost as a barrier, stating blood lead testing should be free. A few participants mentioned it is traumatic for children and some providers did not make their children feel safe and comforted. Another participant simply stated that if parents do not want to have their children stuck (with a needle), then they will refuse the procedure.

In another study by Vallejos et al. (2006), focus groups and interviews were conducted on people in a Mexican immigrant community. One participant had a fear of asking their doctor to test their child's blood lead level because they were afraid their doctor might question their motivation for having the test done. The study also determined that many parents are not aware that lead poisoning often does not produce any visible effects. As a result, parents are unaware that their child(ren) may in fact be lead poisoned (Vallejos et al., 2006).

Cues to Action and Motivating Factors

Cues to action and motivating factors refer to environmental and external triggers that impact parents' decision making process, and lead them to decide they should test their child(ren) for lead. Many parents are not aware of the dangerous effects of lead poisoning; the largest cue to action is for parents to receive education on lead poisoning and information on blood lead testing. Once parents are educated on the issue, they hopefully will see the benefits of having their children tested. Polvika and Gottesman (2005) found parents of young children eligible for Medicaid favored learning about lead poisoning from television ads, brochures (low-literacy level) and videos. They also suggested having flyers and brochures available in waiting rooms, and distributing them to parents of young children between the ages of six months to

three years of age. Another recommendation they made was to mail reminder cards and/or make phone reminder calls to parents about having their child's blood lead level tested. Vallegos et al. (2006) determined the Latino community prefers to learn about lead from door to door outreach, health fairs, public service announcements on the radio, educational workshops, and from their child's school.

Self-Efficacy

Self-efficacy refers to a person's confidence in his/her ability to do something (Bandura, 1977; Hayden, 2009). This construct does not really apply to blood lead testing since neither the parent nor the child(ren) need to do anything. The test is performed by the health care professional.

Bland, Kegler, Escoffery, and Halinka Malcoe (2005) gathered data on preventive behaviors to childhood lead poisoning and the ability to engage in those preventive behaviors. Behaviors included: ensuring children wash their hands before eating, dusting with a damp cloth, getting children's blood lead levels tested in the last year, and ensuring children play in safe areas. Answers to interview questions indicated that "caregivers reported feeling very confident in their ability to dust with a damp cloth and ensure that their child(ren) gets his or her blood tested for lead each year until the age of seven. Caregivers reported the lowest self-efficacy for the behavior ensuring children play in safe areas away from mine tailings" (Bland et. al, 2005, p. 75).

Conclusions

Lead at all levels affects children. It is very important to take precautions to prevent lead exposure. If parents believe their children may be suffering from high lead levels, it is important

to have them tested and treated by a physician. Parents should contact the health department or their physician for more information.

Implications

All studies in this area have shown adverse effects of lead exposure on children. The discrepancy is what the “safe” level should be. Some of the researchers proposed that the reference level determined by the CDC needs to be reconsidered. Prior to the change from 10 ug/dL to 5 ug/dL for the blood lead level of concern, many of the studies showed the current level of 10 ug/dL to be too high. Some researchers believe it needs to be lowered because health risks are still too high at this level. However, the CDC was not in agreement until just recently in May 2012. “They argue(ed) that a program targeted at levels below 5 ug/dL offers little benefit for the increased costs that would be incurred. They also claimed that there are no effective clinical interventions known to lower children’s blood levels” (Gilbert & Weiss, 2006, p. 2). Even though the CDC has lowered the reference level to 5 ug/dL, there is still talk about there being no “safe” level (CDC, 2013, April 5)

Perhaps the largest implication is that lead poisoning prevention has seen substantial decreases in funding. “Congress has allocated less money for CDC lead poisoning prevention funding, which has dropped from as much as \$29 million in fiscal year 2011 to \$2 million in fiscal year 2012, said Ruth Ann Norton, executive director of the Baltimore-based Coalition to End Childhood Lead Poisoning, of which APHA is a member” (McGill, 2013, p. 29). As a result of the decrease in funding and resources, the Wisconsin State Health Department has not yet changed its follow-up procedures based on the CDC’s new recommendations. Its only *requirement* is follow-up on children with blood lead levels ≥ 10 ug/dL, however follow-up for levels between 5 and 10 ug/dL is *recommended* if time and resources enable it to happen

(Wisconsin Department of Health Services, 2013). Additionally, the Trempealeau County Health Department has yet to change its policies and procedures regarding following up on high blood lead levels. The department tries to do as much follow-up as possible given the resources provided, however sometimes full case management (i.e., home visit and property investigation) are not plausible. Still, phone calls are made and letters containing educational materials are mailed to parents or guardians to let them know that their children's levels are elevated and to refer them for follow-up with their physician.

Suggestions for Further Research

An excellent research topic would be to study the effects of lower lead levels on children to determine if it would be beneficial to change the reference level at which CDC recommends public health actions be initiated to less than the current 5 ug/dL. Even today, this reference level is still being challenged because there is no safe level (CDC, 2013, April 5)

Additional suggestions for further research would be to determine the most effective ways to educate parents on the effects of lead and to determine the most effective ways to increase screening for lead among children. Many positive things have been done to lower the exposure level, but there is still work to be done. After all, primary prevention is the best protection. It is much easier to eliminate lead in an environment before a child becomes poisoned.

SECTION II

METHODS

Activities and Procedures

The Health Belief Model was used to examine childhood lead screening rates among children enrolled in the Trempealeau County WIC program. Each of the six constructs of the Health Belief Model was applied to childhood blood lead testing and reflected throughout the development of the materials explained below.

Information collected from the literature review and key informant interviews (refer to Appendices A and B) were used to create the materials including the English brochure, Spanish brochure, poster, and short Prezi video. Once I created the English brochure, I used an online translator to make the same brochure in Spanish. I worked with two people who speak Spanish, so I had them proofread it to make sure it was translated correctly. Next, I created an educational poster. The last thing I created was a video using Prezi. Once these materials were approved by all people involved (e.g., project advisor, health department director, WIC staff, etc.), I began sharing the materials at WIC clinics. Additionally, the materials were put on the Trempealeau County Health Department's webpage.

Evaluation

The primary evaluation method will be analyzing data collected from the survey instruments. Separate surveys were developed for evaluation of the poster and video (see Appendix C). All of the questions will be answered using a Likert Scale. A question will be asked and participants will select strongly agree, agree, neutral/unsure, disagree, or strongly

disagree. Under each question will be a space for participants to add comments if they choose to do so. Data will be tallied and graphs will be created to visualize the results. Additionally, the comments listed on the survey instruments will be taken into consideration. Based on results from the evaluation tools, the educational materials may be modified for future use.

Additionally, I will keep track of the number of brochures handed out as well as the number of times the Prezi video was viewed. My goal is that 75% of WIC clients who attend a WIC appointment during April 2013 will have been exposed to one or both of the educational materials I created.

I also will compare the numbers of children who received a blood lead test last year (2012) to the numbers of children who received a blood lead test this year (2013) during the month of April. I hope to see the numbers increase this year, in part, to the additional lead education that will be provided to parents at WIC clinics.

Project Timeline

This project began as soon as I received approval from my project advisor, Dr. Pettit and the Institutional Review Board at the University of Wisconsin-La Crosse. Sections I and II were completed on January 31, 2013.

Once approval was granted, I began collecting data on WIC clients in Trempealeau County. I then was able to use this information in addition to the information discovered in the literature review to create a brochure. I worked hard to ensure the brochure was simple and easy to read as many of the WIC clients have limited reading skills. Next, with the assistance of a Bilingual Public Health Nurse, the brochure was translated into Spanish since many of the WIC clients in Trempealeau County do not speak or read English. Next, I sent both the English and Spanish versions of the brochure to my graduate project advisor as well as my committee

members to gain approval. Once the brochure was approved, I was able to begin working on the poster.

The poster was designed on the computer using Microsoft Publisher. It was easier to complete on a computer rather than on paper so that changes could be made if needed. Once it was completed, I sent an electronic copy to my committee for review. Once approved, it was printed and attached to a tri-fold display board so that it would be easy to transport and be self-standing. Next, I was able to begin creating the video clip.

Since I have not had much experience with making video clips, this was the most difficult part for me. It was decided that Prezi would be the format of the video because I wanted it to be more of a slideshow rather than myself talking. I wanted to make it interesting and fun, so I used music in the background. In addition to the music, I incorporated statistics and pictures. At the end of the slideshow, I provided my contact information if participants wanted to contact me for additional information. I was unfamiliar with the program, but I knew I could consult the Information Technology Systems department at the University of Wisconsin- La Crosse and/or the Information Technology department at the Trempealeau County Courthouse for assistance if needed. Luckily, due to helpful instructions on the internet, this was not necessary. The end product of the video ran just over 4 minutes. I felt this was an appropriate length because I was able to incorporate all of the information I felt necessary to educate the clients as well as keep it short enough to keep their attention.

Table 1. Project Timeline

| OBJECTIVE | DEADLINE |
|--|---|
| Complete sections I and II of project | 01/31/2013 |
| Submit application for IRB approval to conduct key informant interviews | 02/04/2013 |
| Conduct key informant interviews | 03/10/2013 |
| Develop brochure in English and Spanish | 03/15/2013 |
| Design educational poster | 03/22/2013 |
| Complete Prezi | 03/29/2013 |
| Hand out brochures, display poster, and show video to clients at all WIC clinics (I will not be present at all of the clinics, however the materials will be available and WIC staff members will be present. My contact information will be provided for clients who have additional questions) | ***This will be begin week of 04/01/2013 and continue until well past the end of the project. |
| Present findings | 04/09/2013 |
| Finalize report | 04/26/2013 |

SECTION III

FINDINGS

Key Informant Interviews of Health Department Staff

I had the opportunity to interview three people who work at the Trempealeau County Health Department. These interviews consisted of the director/health officer for the Trempealeau County Health Department (Pat), a contracted dietician (Mary), and a nutrition assistant (Sue). Pseudonyms have been used to protect the identities of the interviewees. Unfortunately, the WIC department has been without a WIC director since last October, so I did not get to interview the WIC director. There were plans to hire one at the beginning of the year, but plans fell through and now the new WIC director will not start until April 15th. Pat has been responsible for the WIC director's duties since the previous WIC director left. These duties are in addition to her current job responsibilities of director/health officer. Mary works only during the WIC clinics, and is not present on office days. She has been working with the Trempealeau County WIC program for several years, so she is very familiar with the program and the families enrolled in the program. Sue is the person who does the blood lead testing. Capillary blood tests are done at the health department and results are available within minutes. Out of all the people I interviewed, Sue is the person who gets to work the most with the WIC clients.

When I asked the question, "Do you think most WIC parents understand the severity of lead poisoning?," all three of the staff members answered "no." Pat said she thinks most of the public does not have an adequate understanding of lead poisoning unless they have been

educated and affected. Sue believes most parents do not think lead poisoning will happen to their child(ren) and that most people see the education regarding lead poisoning as just another public service announcement.

The staff members also did not think parents understand the benefits of having their children tested for lead. Pat and Mary mentioned that they weren't sure if parents saw the severity of lead poisoning. Sue mentioned that parents may be concerned with the amount of blood needed for the test. Pat said she is not sure if her staff does a good job educating parents as to why blood lead testing is done.

All three people stated that targeting WIC patients for blood lead testing is a good idea. Three very good points were made regarding this question. Pat approved because it is the right population in terms of age and access. Sue mentioned the demographics of most patients, which are typically low-income families that live in low-end housing. Generally, the WIC clients do not live in homes built after 1978, and as a result, are at risk for being exposed to lead-based paint. Mary said it was a good idea because the children are already getting a finger poke to test hemoglobin levels, and if the hemoglobin is low, it would be nice to know if high blood lead levels are contributing to it. Also, since the child is already getting a capillary blood test done, why not just test for both hemoglobin and lead at the same time? It would not involve any more pain for the child, maybe just slightly more blood that would be needed.

When asked, "Do you think clients living in Trempealeau County who are enrolled in the WIC program are more likely to have higher blood lead levels than children not enrolled in the WIC program?," Pat said "no." She felt children not enrolled in the WIC program were just as likely to have high blood levels. She did, however, feel WIC clients were a good group to target for this project because the children are at the age where they begin crawling around and putting

things in their mouth, and hence they are at the appropriate age to be tested. Both Sue and Mary said yes, that children who are enrolled in the WIC program are more likely to have higher blood lead levels than children not enrolled in the WIC program. They attributed their belief to the fact that WIC clients are more likely to live in poverty, making them more likely to live in older homes, containing lead-based paint, older piping, etc.

All three interviewees did not think the majority of parents with children enrolled in the WIC program were concerned with lead poisoning because they did not think many of them were educated on the risks associated with lead poisoning and the effects it can have on children. Pat responded, “How do they know to be concerned when they do not know about it?”

When asked, “What do you think parents of children enrolled in the WIC program see as barriers to getting their child’s blood lead level tested?,” I received different responses from each of them. Pat said she does not think there are barriers. Mary said lack of knowledge on the importance of testing, and if they are aware, then lack of money or insurance may be a barrier. Sue said, “More time spent upsetting their child, memories of actual blood draws, and not knowing that we can do it much more simply. We could use the same finger-poke as the hemoglobin test.”

Several barriers were mentioned when I asked the question, “What do you see as barriers to the health department testing more children’s blood lead levels?” Pat mentioned cost for supplies, lack of reimbursement from Medicaid, decrease in federal funding for blood lead testing, and the legislative body does not see the importance of testing and investigating homes of children with elevated blood lead levels (because funding keeps getting cut). Mary and Sue had slightly different responses. I attributed the differences in their responses to them working in the WIC program and working with the WIC clients. They seemed more concerned with time.

Mary mentioned it may disrupt the flow of the clinic, and more time may need to be scheduled for each appointment (and as a result less people will be able to be seen in a day). Sue said other people would need to be trained in how to do the testing, it would be more paperwork for the financial manager who already has more than enough work, time would need to be spent educating families on the importance of testing, and if levels were elevated, then a nurse would need to assess the child(ren) and/or an environmental health staff member would need to go to the home and identify lead sources. If the child's levels were really high, then a lead risk assessor would need to examine the home. Since the Trempealeau County Health Department does not have a lead risk assessor, they would need to contract with one. This would be an additional cost to the county.

All three interviewees agreed that educating parents about lead is something that should be done. I asked for specific examples of ways to educate parents and some of the responses were to survey the parents, create a quarterly WIC newsletter that could include information on lead, and develop informational boards that could be put in the display cases on the first floor of the courthouse, health department waiting room, and in the exam rooms at the health department. The nutrition assistant said it is important to use facts and simple words the parents would understand, and to consider ways to reach parents who may be illiterate or non-English speaking.

Key Informant Interviews of WIC Parents/Guardians

There were plans to interview 3-5 parents or guardians of children enrolled in the WIC program. Unfortunately, only two interviews ended up being conducted. There was a third one lined up, but the mother cancelled three times and ultimately decided not to participate. I was very surprised by the information that was provided during the interviews. Both interviews were with mothers of children. The first mother, Laura, had six children, 2 of which were under 5

years old. None of her children had ever had their blood lead level tested. She said they never had to have blood lead testing done because they never lived in an older home. The second mother, Maria, had one child, who has had its blood lead level tested and it came back normal.

Neither mother was concerned about lead poisoning or blood lead testing. Additionally, when asked if they would like to receive additional information on either topic, both said no. When asked the question, “How likely do you think your child(ren) is to have a high blood lead level?,” both parents stated “not very likely.” Neither parent had any concerns about lead poisoning or blood lead testing. Additionally, neither parent saw any barriers to getting their child’s blood lead level tested. Laura even mentioned that she is aware that both the clinic and WIC provide the service.

Both parents did recognize benefits to blood lead testing. Laura said it would not affect her children, but children who live in older homes. She shared a story about her cousin’s child who was lead poisoned as a result of living in an older home. She said the child is now a teenager and is still suffering with emotional issues. Maria said if the test results came back high, then she could take the necessary steps to get rid of the lead in her home. She then told a story about when she bought her house last summer. The realtor provided her a brochure on lead-based paint, but told her she did not have to read it. Since her child was already tested for lead, she did not read it because she was not concerned with lead poisoning.

Table 2. Application of Findings to the Health Belief Model

| | Literature | Key Informant Interviews with Health Department Staff <i>n</i> = 3 | Key Informant Interviews with Parents of Children in the WIC Program <i>n</i> = 2 |
|--------------------------|--|--|--|
| Perceived Susceptibility | Perceived susceptibility to lead poisoning is low- a result of lack of | Two people said yes; children enrolled in WIC are more likely to have elevated blood | Neither parent thought their child(ren) were at risk for having an |

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| | <p>awareness and knowledge (Vallejos, et al., 2006).</p> | <p>lead levels (parents are low income, and more likely to live in an older home)</p> <p>One person said no, children enrolled in WIC are not more likely than other children to have elevated blood lead levels</p> | <p>elevated blood lead level</p> |
| <p>Perceived Severity</p> | <p>Perceived severity of lead poisoning is low-lack of awareness and knowledge (Vallejos, et al., 2006).</p> <p>Doctors do not always discuss lead poisoning with parents, so parents do not think it is a serious issue (Polvika & Gottesman, 2005).</p> | <p>All three staff did not think parents saw lead poisoning as a serious issue</p> | <p>One of the moms believed lead poisoning to be a serious issue; the other mom did not</p> |
| <p>Perceived Benefits</p> | <p>Limited research has been done on parents' perceived benefits to testing their child(ren) for lead</p> <p>Parents/caregivers saw a benefit to engaging in preventive behaviors (Polvika & Gottesman, 2005).</p> <p>It is cost-effective to identify an elevated level and treat it early on versus having a child undergo chelation therapy when the blood lead level gets to a dangerous level</p> | <p>Staff felt as though parents do not understand the benefits of blood lead testing including becoming aware of the child(ren)'s blood lead level and receiving medical care if levels are high and/or having someone come into the home to identify the lead source(s).</p> | <p>Both parents identified benefits of blood lead testing including knowing child(ren)'s blood level, receiving treatment if needed, and taking the necessary steps to remove the lead source from the home if needed.</p> |

| | | | |
|--|--|--|---|
| <p>Perceived Barriers</p> | <p>Parents are unaware of the dangers of lead poisoning (Polvika & Gottesman, 2005).</p> <p>Parents are unaware if their child(ren) have received a blood lead test (Polvika & Gottesman, 2005).</p> <p>Transportation (Polvika & Gottesman, 2005).</p> <p>Cost (Polvika & Gottesman, 2005).</p> <p>Trauma for children (Polvika & Gottesman, 2005).</p> <p>Fear of asking doctor because they do not want doctor to question their motive (Vallejos, et al., 2006).</p> <p>Lack of awareness of signs/symptoms (Vallejos et al., 2006).</p> | <p>There were three different responses from staff regarding barriers parents may face to having their child(ren)'s blood lead level tested</p> <ol style="list-style-type: none"> 1. Fear of upsetting their child, lack of awareness of how easy the test is and how little blood is needed 2. Lack of knowledge on the importance of testing and possibly money or insurance 3. No barriers <p>Staff also identified barriers the health department may face</p> <ol style="list-style-type: none"> 1. Time 2. Disruption of clinic flow (may need to schedule more time for each client) 3. Lack of trained staff 4. Not enough time to follow up on children whose blood lead levels are elevated 5. Additional paperwork to complete 6. Cost of contracting with a certified lead risk assessor (if needed) 7. Cost for supplies 8. Trouble receiving Medicaid reimbursement 9. Decrease in federal funding for the lead program | <p>Both parents said there were not any barriers to getting their child(ren)'s blood lead level tested</p> |
| <p>Cues to Action and Motivating Factors</p> | <p>Receiving education on lead poisoning and lead testing (Polvika & Gottesman, 2005).</p> | <p>Education</p> <p>Bring awareness to the issue</p> | <p>Neither parent identified any cues to action or motivating factors to having their child(ren)'s blood lead level tested.</p> |

| | | | |
|--|---|---|--|
| | <p>Effective methods for educating parents include: flyers, brochures, TV ads, videos, mailed reminder cards, phone calls from physician, booths at health fairs, etc. (Vallejos et al., 2006).</p> | <p>Survey parents</p> <p>Provide information in a WIC newsletter</p> <p>Informational boards</p> <p>Use simple words parents will understand</p> <p>Consider ways to reach illiterate or non-English speaking populations</p> | |
|--|---|---|--|

Data Collected from Surveys

The materials will be available at the Whitehall WIC clinics (the primary WIC location) throughout the month of April. I would have liked the materials to travel to all of the WIC locations, however due to the lack of WIC staff, this is unable to happen. Kate has to load and take all of her supplies (e.g., computers, printers, etc.) to the WIC clinics by herself until a WIC Director is hired. She said she does not even take the blood lead testing supplies along because she already has too much to pack and take with her. Since the Whitehall location is the primary WIC clinic site, I think I will still be able to obtain enough data. Additionally, since the site is at the health department, clients will be able to have their blood lead tested during their WIC appointment should they choose to do so.

The surveys were an addition to the graduate project to meet an independent study requirement. Due to time restraints, data from the surveys will be presented in a separate report.

SECTION IV

DISCUSSION, CONCLUSIONS, RECOMMENDATIONS

Discussion

While working on this project, I learned more information and skills than I ever thought I would. I did not have very much knowledge of lead poisoning prior to completing this project, which is why I chose to do this project. One of my responsibilities as the Public Health Specialist at the Trempealeau County Health Department is to follow-up on children with elevated blood lead levels. I make phone calls to parents, send informational materials to the parents, and make home visits to identify things in the home that may be contributing to the elevated blood lead level. From a personal standpoint, I wanted to learn more about childhood lead poisoning in order to become a better resource at the health department. I had the opportunity to dig deep into the literature and learn an extensive amount of information on lead poisoning and blood lead testing. Also from a personal standpoint, I wanted to work with a population with which I did not have very much experience working. This project enabled me to work with WIC clients, comprised of parents and young children.

From a professional standpoint, I was able to collaborate with the WIC department on this issue. I learned all about the WIC program, including its mission and goals. This was exciting because even though the WIC program is a part of the health department, it is typically separate and does not have much interaction with the people who work in public health. This project also helped me to grow professionally because I was able to apply all seven of the

National Commission for Health Education Credentialing (NCHEC) Areas of Responsibility for Health Educators, which will be further discussed below.

Area I: Assess Needs, Assets and Capacity for Health Education

I assessed needs, assets, and capacity for health education regarding lead poisoning and blood lead testing by reviewing the literature and through conducting key informant interviews. During this phase of the project, I was also able to plan the assessment process, identify both existing resources and resources needed to complete the project, identify stakeholders (both the members of my project team and key informants), identify sources of data, and collect qualitative data (through the key informant interviews). Additionally, the Health Belief Model was applied to identify perceived susceptibility, perceived severity (seriousness), perceived benefits, perceived barriers, cues to action, motivating factors and self-efficacy. Application of the Health Belief Model went along with competency 1.4: Examine Relationships Among Behavioral, Environmental, and Genetic Factors that Enhance or Compromise Health (National Commission for Health Education Credentialing, 2010). In this project, I identified factors that may influence the decision of whether or not to test a child's blood lead level.

Area II: Plan Health Education

The planning stage took up a significant amount of time. It was during this stage that I was able to involve group members in the planning process, develop goals and objectives, and develop a timeline for the project. I began by identifying the people I would like to be on my team. My team consisted of Dr. Pettit (project advisor), the Director/Health Officer of the Trempealeau County Health Department, a Bilingual WIC Nutrition Assistant, an Environmental Health Specialist, and two public health nurses, one of which speaks Spanish. Next, I identified the outcomes I wanted this project to achieve and assessed available resources. Lastly, I

developed the strategies and interventions and identified a scope and sequence for implementation.

Area III: Implement Health Education

It was during the implementation stage of the project that I was able to create the poster, video, and brochure. The Health Belief Model was applied, and materials were based on information I retrieved while reviewing the literature and conducting key informant interviews. Additionally, I was able to apply Competency 3.2: Monitor Implementation of Health Education (NCHEC, 2010). I did this by monitoring progress to ensure my project was following the timeline and assessing progress in achieving project objectives.

Area IV: Conduct Evaluation and Research Related to Health Education

I currently am in the process of conducting evaluation as part of the independent study that I have done in addition to the project. I began the project by developing the evaluation plans. This was done by examining evaluation designs in the literature. I then decided surveys would be the best evaluation tools in order to get the information for which I was looking. Next, I created the evaluation tools. The tools included questions based on the Health Belief Model and some general questions regarding childhood lead poisoning. I am in the middle of gathering the data now. At the end of the month, I will interpret the results.

Area V: Administer and Manage Health Education

Obtaining acceptance and gaining support for this program among the health department staff has by far been one of the most challenging aspects of the project. It is not that the staff does not support blood lead testing; it is that it takes time, resources, and money to do. It is not just the testing itself that takes time, but it is the billing as well. Another challenge is the lack of staffing. Currently, the WIC staff is just trying to succeed in their program without having a

director. Adding in this new idea of promoting blood lead testing is at the bottom of their priority list. I have had to really step up as a leader and state the importance of blood lead testing. I have also had to explain how this project aligns with the WIC mission and goals. So far, it appears that I have gained some support. I am hoping this support continues once the materials are distributed and more WIC clients receive blood lead testing during WIC clinics.

Area VI: Serve as a Health Education Resource Person

This is the area of responsibility where I get to disseminate the materials I have created. The poster, video, and brochures will all be available at WIC clinics. This is a time where I can really promote blood lead testing. Due to lack of staffing in the WIC department, I will step up and serve as a lead resource person. I will educate the parents on lead poisoning and blood lead testing and answer any questions they may have. Additionally, if people call the health department requesting additional information, I will be the person with whom they can talk. My research on the topic gives me confidence in my ability to perform this area of responsibility.

Area VII: Communicate and Advocate for Health and Health Education

This area of responsibility is one that will continue on well past the end of the project. I will continue to promote blood lead testing using a variety of strategies, methods, and techniques. Additionally, I will not stop advocating for lead poisoning prevention. Despite lack of funding for lead poisoning prevention, I still see the importance of it. I hope we continue to see the number of lead poisoned children decline, and I hope that the children who are lead poisoned will be identified early and will get the proper case management that they need before they have adverse health effects. I will continue to promote blood lead testing, and I hope other staff at the health department will as well.

Conclusions

While progress has been made, and the number of children who have elevated blood lead levels is decreasing, childhood lead poisoning is still a very serious problem for those children who have high levels. It is very important not forget to educate parents on this issue. Education and awareness are still very much needed to hopefully someday put an end to this issue.

From a personal standpoint, I learned an abundant amount of information on the topic of childhood lead poisoning. I feel confident in my abilities to educate families on the effects of lead and blood lead testing. Additionally, after completing the project, I see an even bigger need for health education. I also feel more confident in my abilities to lead an entire project, start to finish.

Recommendations

The information collected in this project could be very useful for others in the field. I am willing to share the information I gathered as well as the materials that were created. The poster, brochures, and video could also be used to target all children; there is nothing in the materials that makes them exclusive to children in the WIC program. I am willing to share the materials with other health departments, physicians, and/or other professionals working to educate others on childhood lead poisoning. One recommendation regarding the materials is that they be developed at grade 9 reading level or below (University of North Texas Health Science Center, n.d.). One way to determine the reading level is to use the Flesh-Kincaid tool on Microsoft Word. After reviewing the materials further, it was identified that the reading level was slightly higher than what it should have been. Reading level is an issue because parents of children enrolled in the WIC program may not understand certain parts of the information presented in the brochure, on the poster, or in the video. Another recommendation is to use plain language.

Plain language involves writing in simple, easy to understand language. The ultimate goal of plain language is that the reader can find what they need, understand what they find, and use the information to meet their needs (Plain Language, n.d.).

For people looking to do a similar project, I would definitely recommend collaborating with other professionals on the issue rather than working on it single-handedly. The program will be that much more effective with the pooling of staff and resources. Another recommendation is to develop a strong plan before starting any program. I would recommend that the program focus on eliminating the barriers mentioned earlier in this report and also barriers identified by professionals and the target population. The final recommendation is to develop a precise purpose, and thoroughly communicate it to clients.

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APPENDIX A

INTERVIEW QUESTIONS FOR TREMPLEALEAU COUNTY HEALTH DEPARTMENT STAFF

Interview Questions for Trempealeau County Health Department Staff

Do you think most WIC parents understand the severity of lead poisoning? Why or why not?

Do you think parents understand the benefits to having their children tested for lead? Why or why not?

What do you think about targeting the clients in the WIC program for blood lead testing (rather than a different target population)?

Do you think clients living in Trempealeau County who are enrolled in the WIC program are more likely to have higher blood lead levels than children not enrolled in the WIC program?

Do you think most WIC parents are concerned about their children having an elevated blood lead level? Why or why not?

What do you think parents of children in the WIC program see as barriers to getting their child's blood lead level tested?

What do you see as the barriers to the health department testing more children's blood lead levels?

What trends are you noticing regarding lead poisoning or blood lead testing among WIC clients?

What additional information may be helpful for this project?

APPENDIX B

INTERVIEW QUESTIONS FOR PARENTS/GUARDIANS

Interview Questions for Parents/Guardians

What are your initial thoughts about blood lead testing?

What more would you like to know about blood lead testing?

How likely do you think your child is to have a high blood lead level?

How concerned are you about your child having an elevated blood lead level?

What concerns, if any, do you have about lead poisoning?

What concerns, if any, do you have about blood lead testing?

What do you see as the barriers to getting your child's blood lead level tested?

What do you see as the benefits to getting your child's blood lead level tested?

What other factors might impact your decision to have your child tested for lead poisoning?

How many children do you have? How many of them have had their blood lead tested?

APPENDIX C

EVALUATION/SURVEY QUESTIONS

Please help us evaluate our materials and make them more helpful for other families. Completion of this form is completely voluntary, and you may choose to decline participation. Leave the question blank if you do not want to answer a particular question, or if you did not view the material in question. Your responses will remain completely anonymous.

Using the following scale, circle the response that best represents your opinion

- 1- Strongly Disagree
- 2- Disagree
- 3- Neutral/Not Sure
- 4- Agree
- 5- Strongly Agree

POSTER QUESTIONS

My knowledge on childhood lead poisoning increased after viewing the poster.

1 2 3 4 5

Comments:

The poster adequately identified the benefits to getting my child’s blood lead level tested.

1 2 3 4 5

Comments:

The poster adequately addressed barriers to blood lead testing and ways to overcome those barriers.

1 2 3 4 5

Comments:

I am more likely to have my child’s blood lead level tested after viewing the poster.

1 2 3 4 5

Comments:

The poster was easy to read and understand.

1 2 3 4 5

Comments:

VIDEO QUESTIONS (if video was viewed)

My knowledge on childhood lead poisoning increased after viewing the video.

1 2 3 4 5

Comments:

(Continued on back)

The video adequately identified the benefits to getting my child's blood lead level tested.

1 2 3 4 5

Comments:

The video adequately addressed barriers to blood lead testing and ways to overcome those barriers.

1 2 3 4 5

Comments:

I am more likely to have my child's blood lead level tested after viewing the video.

1 2 3 4 5

Comments:

Content of the video was easy to understand.

1 2 3 4 5

Comments:

GENERAL QUESTIONS

What other questions do you have regarding childhood lead poisoning?

What additional information would you like to know about childhood lead poisoning?

What additional information would you like to know about blood lead testing?

Would you like a follow-up phone call from the health department? (Circle one) Yes No

If you answered yes to the previous question, please leave your name and phone number on a separate sheet of paper (to keep your evaluation responses anonymous) and someone will contact you.

Thank you for taking the time to complete this form! ☺