

Lead poisoning awareness among children of refugee families from Burundi and Rwanda living in Manchester, New Hampshire

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I dedicate this thesis to my wife Anne, my son Prince
and my daughter Annette. We went through a tough
life together and achieved a lot together. Without
their support I could not be where I am now.

Thank you

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Abstract

The intent of the project is to raise the awareness of parents regarding lead poisoning among children of refugee families from Burundi and Rwanda living in Manchester, New Hampshire. The City of Manchester, NH, received 21 refugees from Burundi and 65 from Rwanda between 1997 and 2006 (New Hampshire Refugee Program, n.d.). Most of them came from refugee camps. The project intends to improve the ability of refugees from Burundi and Rwanda to address lead poisoning issues in order to prevent lead-related illnesses and deaths among them. To accomplish this, the project will increase knowledge of the nature and prevention of lead poisoning and also increase availability of information on how to do a visual inspection.

Refugees are resettled in Manchester without lead poisoning knowledge. Upon arrival, they do not receive enough education on this issue in order to protect their families. Children under six years old are the ones who are easily affected physically and mentally by lead poison. In order to address the problem, the project will undertake the following activities: Develop didactic material on lead poison, visit refugees in their homes and conduct workshops. This will be done in collaboration with The Way Home, a nonprofit organization helping people with housing issues.

I. Community Context

1.1. Community Profile

New Hampshire is one of the states of the United States of America. It is located in the Northeast of the country. Manchester is the biggest city in New Hampshire. According to the U.S Census Bureau, in 2006, it had 108,720 people, 54,215 female and 54,505 male. It also accommodated different races. There were 99,092 white, 3,670 Black or African American, 95 American Indian and Alaska Native, 2,935 Asians, 1,384 some other race, 1,544 two or more races. The U.S. Census also gave the economic picture of Manchester. In the same year, the median household income was an estimated \$55,314; per capita income was an estimated \$25,278; families below poverty were 9.8% and individuals below poverty were 13.3% (US Census Bureau, 2006; also see Table 1 in Appendix, p. 69).

The U.S. Census points out how Manchester gives a high priority to education. The city focuses on increasing educational opportunities for all ages and nationalities and improving standards of achievement in schools. In 2006, educational attainment included the following: Of 11,771 people between 18 and 24 years old, 49.2% have some college or a degree. Of 72,399 people, 25 years

and over, 53.7% have attended college or have a degree (US Census Bureau, 2006; also see Table 2 in Appendix, p. 71).

The New Hampshire Refugee program, in its article, "Who are refugees?" stated that since the early 1980s, more than 6,000 refugees were resettled to New Hampshire. They come from more than 30 nations and represent different ethnic groups. "For the most part, refugees adjust well to New Hampshire life. They frequently find employment within the first few months of arrival in New Hampshire, and they actively participate in the life of the communities where they make their new homes. Many eventually become naturalized US citizens." Between 1997 and June 2006, the total number of refugees who arrived in New Hampshire was 4,063. Among them, there were 1,512 Africans (New Hampshire Office of Energy and Planning, n.d., also see Table 3).

Table 3

This table shows refugees' resettlement to New Hampshire by country of origin between 1997 and 2006.

	1997-1999	2000-2006	Total
Totals	1,442	2,631	4,063
Africa	218	1,294	1,512
Algeria	3	6	9
Burundi	0	21	21
Cameroon	0	6	6
Congo	0	30	30
Egypt	0	6	6
Eritrea	0	3	3
Ethiopia	1	17	18
Liberia	27	216	243
Nigeria	52	7	59

Rwanda	21	44	65
Sierra Leone	3	50	53
Somalia	19	61	80
Somalia (Bantu)	0	373	373
Sudan	92	428	520
Togo	0	21	21
Zimbabwe	0	5	5

During the Federal Fiscal Year 2002 - 2006, the number of refugees resettled in the City of Manchester was 1159 (New Hampshire Office of Energy and Planning, n.d., also see Table 4).

Table 4

Refugee Resettlement by Municipality: Federal Fiscal Year 2002 – 2006						
	FY 02	FY 03	FY 04	FY 05	FY 06	TOTAL
Manchester	182	195	471	165	146	1159
Laconia	33	5	8	15	55	116
Concord	11	38	75	126	54	304
Franklin	13	6	0	2	0	21
Boscawen	0	0	1	0	0	1
Hooksett	3	0	0	0	0	3
Hanover	2	0	0	0	0	2
Allenstown	0	0	0	0	0	0
Portsmouth	0	0	0	0	0	0
Milford	4	0	0	0	0	4
Hillsborough	0	0	0	0	0	0
Keene	0	0	0	0	0	0
Haverhill	5	0	0	0	0	5
Acworth	0	0	0	0	0	0
New London	0	0	0	0	0	0
Franconia	0	0	0	0	0	0
Charlestown	0	0	0	0	0	0
Henniker	0	0	0	0	0	0
Conway	0	0	0	0	0	0
Berlin	0	0	0	0	0	0
Nashua	0	0	0	2	5	7
Warner	0	0	0	2	0	2
Peterborough	0	0	1	0	0	1
	253	244	556	312	260	1625

Not all African refugees adjust and find jobs easily. Most of them come from refugee camps and are not well educated and, of course, do not speak English.

There are many of them who are helped by the resettlement agencies to find jobs but after a while they get fired without any reason—according to them. Then they turn to welfare programs for assistance because after four months, the resettlement agencies no longer assist them. They are on their own. African refugees also face what most call “culture shock.” They come from a variety of cultures which are very different from the American one and this makes it difficult for them to adjust to the industrialized country of the United States of America. This does not only affect African refugees, it also affects Americans. Both sides have to balance and try to understand and respect each other.

All houses built before 1978 in the old City of Manchester have lead paint. This exposes families whose children are under six years old to lead poison. The Health Department of Manchester and The Way Home are working hard to screen children and educate families about lead poisoning.

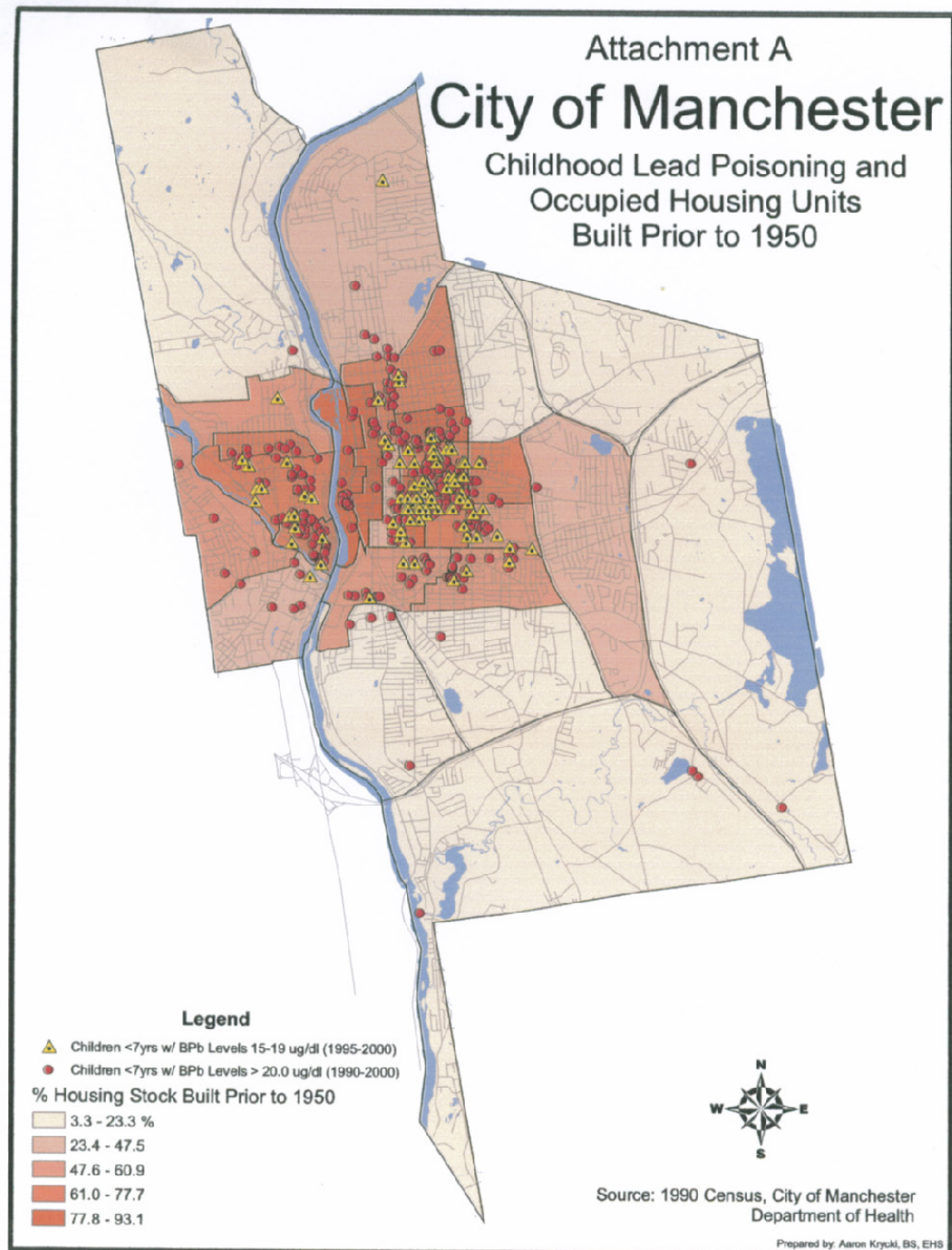
1.2. Community Needs Assessment

Lead is a heavy metal used in paint, water and bullets, among other things. It was also being put in gasoline which is why it is found in the soil because of the exhaust from vehicles. If the soil has lead poison, the only way to protect children is not to allow them to play in the bare soil (Personal communication, Sandra Roseberry, October 06, 2006).

The producers of lead and the manufacturers of lead paint were well aware of the danger of their product and how it was harmful to young children. Despite that, they continued to use it in residential housing until 1978 when the use of lead paint was banned countrywide (Personal communication, Sandra Roseberry, October 06, 2006).

The map of Manchester, from the City of Manchester Department of Health, shows in which areas are a large number of housing units built prior to 1950. It also shows how severely children under seven years were affected (Manchester Health Department, September 2002; also see Manchester map).

City of Manchester map



In 2005, the Centers for Disease Control (CDC) wrote about a Sudanese child who died because of lead poison in New Hampshire in 2000. It said that after that death, the New Hampshire Department of Health and Human Services started a program of screening and monitoring refugee children. This program recommended 1) capillary blood lead testing for refugee children aged 6 months to 15 years within 3 months after arrival in New Hampshire; 2) follow-up venous testing of children aged <6 years within 3-6 months after initial screening; and 3) notation of refugee status on laboratory slips for first tests. In 2004, Manchester Health Department focused on 37 African refugee children with elevated blood levels and the findings indicate that Blood Lead Levels (BLL) became elevated after resettlement for nearly 30% of refugee children with two tests. This suggested that lead exposure for these children occurred in the United States (CDC- MMWR, 2005).

Refugees coming from Africa do not know what lead poison is and its causes. They need to be educated about it in order to prevent it from harming their children. The results of the survey done with refugees from Burundi and Rwanda and conducted by the Project Director in December 2006 showed that among sixteen refugees from Burundi and Rwanda who participated in the survey, two said that it was their first time hearing about lead poisoning. The rest said that they heard about it while they were already in Manchester.

Not knowing English is one of the serious problems refugees encounter upon arrival in USA. Many refugees from Africa who live in Manchester do not speak, understand or write English. The survey showed that six refugees from Burundi and Rwanda do not understand English well or at all, six do not speak English, and six do not read English. Therefore, it will be advisable to use native languages or interpreters while educating the African refugee communities about lead poisoning.

1.3. Project target community

As it was mentioned before, the City of Manchester is an old city with houses which contain lead paint. This puts refugee children at risk. Between 1997 and 2006, the City of Manchester had 21 refugees from Burundi and 65 from Rwanda (see Table 3). Before moving to the United States, most of these refugees were living in refugee camps where the problem of malnutrition was rampant among refugee children. Even those who lived in big cities like Nairobi, without a job to support them, faced the same problem. Prior to their resettlement, the International Organization for Migration (IOM) gives them an orientation course about the country of resettlement; but the dangers of lead poison are not part of what they are taught.

The English language is a big challenge for African refugees resettled in the USA because most of them are not educated and it is difficult for them to integrate. This issue was noted by Ugbe (2006) who said that the literacy rate in many Sub-Saharan African countries, where most of African Refugees come from, is still below 50% due to inadequate education opportunities and some historical factors that have delayed human development in the whole continent. He divided them into two categories. The first category is comprised of refugees who cannot read or write. The second category can be divided in two groups:

1. Refugees who may have had formal schooling in foreign languages but are illiterate in English
2. Persons well educated in English in their home countries, but “whose spoken English (with a heavy accent) most ordinary Americans would consider hard-to-comprehend” (Ugbe, 2006, p.43-44).

II. Problem Analysis

2.1. Problem statement

In its article, *20 children test positive for lead poisoning*, of August 16, 2006, Boston.com discussed lead poisoning in Manchester and how it was especially affecting refugees. It related how six Somali refugee families were moved out of their apartments after 20 children tested positive for lead poison. The state inspectors who inspected the apartments found out that lead was outside the building. The article went on saying that “more than 50 refugee children in Manchester had suffered from lead poisoning during fiscal year 2005, according to a report on the city's refugee population. Three of those children required hospitalization. In 2000, a 2-year-old Sudanese refugee died after ingesting lead paint in a Manchester apartment. Health officials said she is the last known person to die of lead paint poisoning in the United States” (Boston.com, 2006).

2.2. Causes and effects of the problem

A. Causes

During an interview with the parents of the sick child, two refugee families were asked their view about the problem of lead poison and its causes. Burundian parents whose child was affected said that they have a language barrier which makes things difficult for her to follow up and express her concerns before they got worst. When she arrived here in Manchester, she was put in a very old house and the paint was peeling everywhere; and she did not know anything about lead poison before the child got sick. The wife was told that the lead poison was in the dust and paint chips and the child became sick because parents were not mopping the floor of their apartment properly every day, and washing their child's hands before eating (Personal communication, parents of the sick child who prefer to remain anonymous, November 2006).

A Somali householder, who was also interviewed, mentioned the same problem of not speaking English and lack of knowledge of lead poison. She went to school in Somalia until third grade. She uses interpreters to communicate but sometimes interpreters are not available or do not do a good job. When she arrived in Manchester, she was placed in an apartment. When her five children

became sick, people came to her apartment, did the tests and found out that it was because of lead poison found in the house paint. She was moved to another apartment. While she was living there the children's primary doctor found out that the BLL had increased. After testing, lead poison was found in the water. The family was moved somewhere else. Again, the BLL of her children continued to increase. This time, she was told that the problem was not the house; lead poison was in the soil outside the building. The agency was taking her wherever it wanted. She did not have a choice (Personal communication, the mother of the five children who prefers to remain anonymous, November 2006).

The Senior Public Health Specialist at the Manchester Health Department interviewed said that lead exposure is normally not through eating paint chips; it is from lead dust produced through break down and friction of windows or doors. Lead persists in the environment; it stays in the soil for hundreds of years. People who live in substandard housing and are near the poverty level are at much greater risk due to exposure and nutrition. Refugee children are more likely to absorb lead due to nutritional deficits and possibly genetic factors, reasons why CDC are looking into this issue. And those who renovate their homes can also cause a problem to their children through unsafe practices. Some cultural practices increase risk such as food, remedies, pottery or metal, eating on the floor or near lead sources, and some cosmetics or hair dyes.

The Senior Public Health Specialist said that lead exposure is normally not through eating paint chips; it is from lead dust produced through break down and friction (rubbing) of windows or doors. Lead persists in the environment; it stays in the soil for hundreds of years. He talked about people who live in substandard housing and are near or below the poverty level. These people are at much greater risk, due to exposure and nutrition. Refugee children are more likely to absorb lead due to nutritional deficits and possibly genetic ones, reason why CDC is looking into this issue. He mentioned that those who renovate their homes can cause a problem to their children, through unsafe practices. He pointed out again that some cultural practices can also increase risk such as remedies, pottery or metal with food, eating on the floor or near lead sources, and some cosmetics or hair dyes. He also mentioned that "there are trained professionals who can test for lead and lead hazards; without a mandate, there is no incentive to test. The absence of knowledge of a lead hazard is a lack of responsibility in many property owners' minds. Property owners are engaged at the Property Association Level. People who only own a few units may not be aware of the problem. Other states require property owners to test for hazards before a property is rented or sold. This is not the case in New Hampshire. In this state, the pressure to change must come from the public or industry: mortgage lenders and insurance companies. There is not enough. The landlords are aware of the problem but they just do not want to address it. It is the responsibility of the government to enforce the law. There is also a serious lack

of funds to abate lead hazards. To de-lead the 10-15000 units in Manchester with potential lead hazards would cost around 100 million dollars” (Personal communication, Senior Public Health Specialist who prefers to remain anonymous, October and November, 2006).

B. Effects

The Burundian family interviewed said that when lead poison started affecting her daughter, she was having a high fever, and spent some time in a coma. The child has become mentally disabled. She cannot even follow in class. She laughs inappropriately, cries a lot; she is not stable, and moves a lot. The mother cannot look for a job. Since her daughter became sick she does not leave her. She said that no one will stay with her child because she is sick and cries a lot and she is like “a mad person.” The mother has to keep an eye on her (Personal communication, parents of the sick child who prefer to remain anonymous, November 2006).

The Somali lady interviewed also said that the doctor told her that lead poison affected the brain of her children. One of them is not stable, he moves a lot, throws everything out of his way, and falls asleep very late at night. The two older children do not have a very high BLL. She does not work because all Mayi Mayis—people from her tribe—she contacted refused to stay with her children

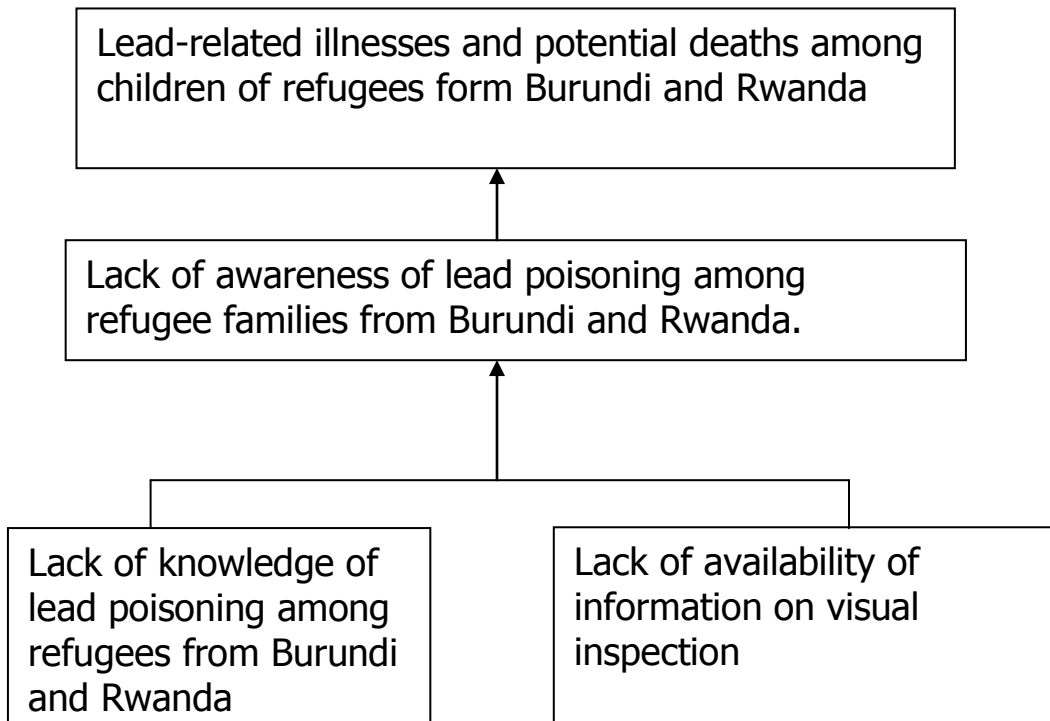
saying that one of her children touches everything even the stove and he goes to the toilet and puts his hands into the toilet (Personal communication, the mother of the five children who prefers to remain anonymous, November 2006).

The Public Health Specialist from the Manchester Health Department also said, in his interview, that “people need to realize that exposure to lead at small amounts may have significant effects on learning and behavior. And this will increase special education funding. Exposure to lead can affect the potential economic output of a child over a life time. Lead is toxic at any level. When it becomes more severe it also requires hospitalization and it can lead to coma, death or long-term serious damage. Lead is a neurotoxin affecting brain development. It causes a long-term decrease of IQ—learning capacity—and development delays. Lack of awareness of lead and its effects and strategies to identify and correct hazards is a huge problem (Personal communication, Senior Public Health Specialist who prefers to remain anonymous, November, 2006).”

Richard Rabin (n.d.) also said that acute lead poisoning in children is very painful, one of the symptoms being severe cramps in the stomach. The poisoned child becomes intensely irritable and has convulsions and tremors. Chronic lead poisoning leads to a gradual deterioration of numerous parts of the body. The nervous system in general is affected and the result may be nervousness, insomnia and neuritis. The kidneys and blood vessels are also

affected. In general, lead poisoning is apt to lead to chronic invalidism (Rabin, n.d).

Problem tree



2.3. “CEDness” of the project

Community

The target community is the key to the success of the project with its support and participation. It is a marginalized community of newcomers; members do not know much about the city and its culture and are starting a new life. They share space, identity and interest. Refugees who live in Manchester have the problem of lead poisoning. They did not know anything about lead poisoning when they were resettled from Africa to the United States of America. And this problem is affecting especially their children under 5 years old. The project will help them to learn how to protect their children against lead poisoning.

Economic

Community members are economically affected because of the lack of knowledge about lead poisoning. After decreasing lead-related illnesses and potential deaths, refugee families from Burundi and Rwanda will potentially be able to increase their income and that of the community as a whole by going to work instead of staying at home or hospital taking care of the sick child (ren).

Development

The project addresses an undesirable condition which is lack of awareness of lead poisoning. The change process will be through home visits and workshops and the participation of community members is the key to the success of the project. By educating the target community about lead poisoning, the project will be able to help the community members be healthier people, have the ability to learn, socially adapt, go for higher education, earn a livable wage and be able to contribute to the community.

III. Literature Review

3.1. Literature on problem, causes and effects

A. Problem

According to Manchester Health Department (2002), "Lead poisoning remains the nation's most prevalent, preventable childhood health problem. Each year in the City of Manchester as many as 125 children may be identified with elevated blood lead levels." Although a good job is being done in order to eliminate lead poisoning, children continue to pay the price of being exposed to this toxin. Blood lead levels which were once considered to be safe are now associated with deficits in intelligence. The death of a Manchester child from lead poisoning, together with the number of children who continue to be identified with elevated blood lead levels shows the need to promote prevention of lead poisoning" (Manchester Health Department, 2002, p. 2).

The U.S Environmental Protection Agency pointed out that "Since lead-based paint (LBP) debris is considered a hazardous waste, the cost of disposing of LBP debris as a hazardous waste is often an obstacle for families who are deciding on whether or not to have lead abatement work performed in their homes" (U.S Environmental Protection Agency, n.d.).

Mac Daniel (2001) in his article, *Lead paint kills young refugee*, said: "After the death of a girl, the landlord was not blamed for the girl's death, he pleaded guilty to failing to tell Sunday's parents of the lead paint danger and then trying to cover up that failure." The New Hampshire Assistant Attorney General John C. Cruden mentioned that "Landlords who fail to notify tenants about the dangers of lead paint perpetuate the hazards of lead poisoning." As part of the 1992 federal lead paint disclosure law, landlords were required to notify tenants occupying units built before 1978 about the dangers of lead paint. "The law requires signed disclosures that the tenants had been notified at the time of signing a lease" (Daniel, 2001).

The Environmental Protection Agency (EPA) of New England agrees that the issue of lead paint disclosure violation continues to be one of the main problems Manchester's homeowners are facing. It is also affecting refugees who are new in the Manchester community and do not know the federal law which requires sellers and landlords selling or renting houses built before 1978 to provide lead hazard information to tenants or buyers (The Environmental Protection Agency of New England, 2002).

EPA has taken appropriate measures for sellers and landlords who violate that law. The following are some of the cases:

- “According to EPA's complaint, Senecal Properties in 1998 leased a rental unit in Manchester. The lessees received no information about the presence of lead in the unit leased. Several days later, Senecal sold the building without disclosing the presence of lead or the existence of the abatement order to the purchaser. In five other lease transactions, Senecal failed to obtain the dates of lessees' signatures on a form acknowledging the lessor's disclosure of information about lead” (The Environmental Protection Agency of New England Press Releases, 2002).
- “Lacerte Realty of Manchester, NH, has agreed to pay a \$9,240 penalty for failing to notify three home buyers in southern New Hampshire of risks from exposure to lead paint, as required by federal law. The case is among a half-dozen lead-related civil and criminal cases EPA New England has taken since launching an initiative to make sure landlords and property owners are complying with federal lead disclosure laws. The initiative has included more than 80 inspections around New England, as well as compliance assistance workshops” (The Environmental Protection Agency of New England Press Releases, 2003).

- “EPA is seeking nearly \$60,000 in penalties from two Manchester, N.H.-based landlords for violations of federal lead paint disclosure laws....William and Johanna Morin violated the federal Lead Disclosure Rule when they failed to disclose information about lead paint to tenants who rented the couple’s apartments between July 2003 and July 2005. EPA is seeking a penalty of \$57,640 for the lead disclosure violations” (The Environmental Protection Agency of New England Press Releases, 2006).
- “In the complaint, EPA's New England office alleges that Juliet Ermitano violated the federal Lead Disclosure Rule by failing to disclose information about lead paint to tenants who rented apartments between September 2004 and July 2006. ...Ms. Ermitano owned 32 rental units in five apartment buildings in Manchester. The Manchester properties were all built in the late 1800s or early 1900s and are located in the urban center of Manchester” (The Environmental Protection Agency of New England Press Releases, 2007).

B. Causes

According to Manchester Health Department (2002), in 1998, the City of Manchester was declared a high-risk community for lead by the NH Department of Health and Human Services. The decision was based on following factors:

- The city had abundance of old housing stock, with 80% of the dwellings in six center city tracts being built prior to 1940.
- Housing shortage.
- Lead screening rates were low.
- The test which was done in 2000 revealed that 11.0% of the 1,571 children were classified as having iron deficiency, placing them at increased risk for lead absorption.
- Poverty is a significant risk factor. Most of families with low income lived in substandard older housing and might have less access to health care and were less likely to have a diet rich in iron and other nutrients.

“Manchester children are almost twice as likely to live in poverty as the other children in the State of New Hampshire (12.2% vs. 7.0%). Children residing in center city dwellings are five times more likely to live in poverty compared to all New Hampshire children (35.0% vs. 7.0%) (Greater Manchester Area Community Needs Assessment, 1997). According to the 1990 Census Data, there were 2,795 persons younger than 18 years of age, living below poverty in the City of Manchester. This represents 12.6% of the 22,180 persons under 18 for whom poverty status is determined” (Manchester Health Department, 2002, p.16).

Richard Rabin (n.d.) mentioned that those who got lead poison from window sills, porch railings, cribs, toys and other painted surfaces in the home were hospitalized suffering from severe stomach cramps, paralysis, blindness, and convulsions; and many died. He added that "The most common sources of lead poisoning in children are paint on various objects within the reach of a child and lead pipes which are used to convey drinking water. Children have been poisoned from activities ranging from kitchen remodeling to opening and closing windows to playing on the porch." He also talked about other issues such as poor housing, certain genetic predisposition, political paralysis, cultural and dietary practice, and poverty and neighborhood viability (Rabin, n.d.).

CDC (2005) tried to give a brief definition of lead hazards: "Lead hazards are defined as surface with lead paint present and with at least one of the following properties: chipping or peeling paint, a chewable surface, or a surface that creates friction on impact (e.g. windows and doors), increasing the likelihood that dust is generated." There were also other risk factors like living in old homes, behaviors that could increase the chance of ingesting lead, a lack of awareness of the danger of lead, and evidence of chronic and acute malnutrition. Using a December 2003 nutritional survey conducted in a refugee camp in Kenya, CDC showed how malnutrition is common in refugee populations. It indicated that 95% of children aged <6 years were anemic (7). As it is well

known, anemia can enhance lead absorption and thus increase risk for elevated BLLs (CDC- MMWR, 2005).

Glen Bolduc (2006) said that "According to the U.S. Environmental Protection Agency, exposure to lead through drinking water is relatively uncommon. The greatest exposure to lead comes from swallowing or breathing in lead paint chips and dust. But in the world of water contamination, lead, copper and other metals that leak into water from corroded pipes happen all too often" (Bolduc, 2006).

A report to the governor and to the general assembly in Iowa (2001) mentioned that "Lead-based paint in a home becomes a lead hazard as it deteriorates and lead-based paint chips end up on the floors and in window wells throughout the home as well as in the soil around the exterior of a home. The paint chips also crumble and become part of the dust on the floors and windows troughs" (A Report to the Governor and to the General Assembly, 2001).

C. Effects

The Manchester Health Department (2002) explained that lead is highly toxic and could affect many systems and organs throughout the body. It is particularly harmful to the developing brain and nervous system and this shows why young children and fetuses are most vulnerable to lead poisoning. High blood lead level

can be the cause of coma, seizures and even death. "At lower levels, lead may cause adverse effects on the kidneys and circulatory system and can damage the central nervous system, resulting in reading and learning disabilities, hyperactivity, cognitive impairment, and behavioral problems" (P.7). A study conducted by The Environmental Health Center at Cincinnati Children's Hospital Medical Center, in collaboration with the University of Cincinnati researchers, concluded that "exposure to lead in childhood could lead to antisocial or even criminal behavior in adults. Both prenatal and postnatal exposure to lead was associated with antisocial behavior in children and adolescents." And a theory published by the University of Rochester linked childhood lead exposure to osteoporosis. Scientists also have reported that exposure to lead interferes with bone formation and increases the risk of osteoporosis later in life" (P.8) (Manchester Health Department, 2002).

According to Richard Rabin (n.d.) the symptoms of lead poisoning of children are severe cramps in stomach, intense irritability, convulsions and tremors. Long-term exposure to lead leads to body part deterioration. Nervousness, insomnia and neuritis are the results of a severely compromised nervous system. Lead poison also affects the circulatory system and the kidneys. Over time it turns children into invalids (Rabin, n.d.).

Glen Bolduc (2006) said: "In babies and children, excessive exposure to lead can result in delays in physical and mental development, according to the EPA, along with slight deficits in attention span and learning abilities. In adults, it can cause increases in blood pressure. Adults who drink this water over many years could develop kidney problems or high blood pressure" (Bolduc, 2006).

According to a report to the governor and to the general assembly in Iowa (2001), childhood lead poisoning has significant effects on the health of children and on community health. Lead is harmful to the developing brains and nervous systems of children under 6 years. High blood lead levels expose children to severe brain damage or even death. "At blood lead levels as low as 10 micrograms per deciliter (ug/dl), children's intelligence, hearing, and growth are affected. A number of studies have estimated that a child's IQ will drop by one to three points for every increase of 10 ug/dl in the child's blood lead level." Lead poisoning can also be associated with an increase in number of children with developmental deficits and learning disorders in communities. This places an unnecessary and expensive burden on the education system. The presence of lead-poisoned children also requires substantial community public health resources for medical and environmental case management services" (A Report to the Governor and to the General Assembly, 2001).

3.2. Literature on solutions

According to CDC, banning unsafe work practices and requiring basic safeguards for remodeling and paint repair work is a key to preventing childhood lead poisoning in older housing. Stopping unsafe methods of removing paint will reduce the amount of lead contaminated dust. The unsafe methods that should be prohibited are “dry sanding or scraping, open flame burning, operating a heat gun above 1,100 degrees, machine sanding without a HEPA attachment, and stripping in poorly ventilated areas using volatile strippers on surfaces containing lead-based paint.” Work area containment and careful cleaning will also prevent the dispersal of any lead dust. “When coupled with occupant protection activities, adherence to lead-safe work practices for routine remodeling and repair work can help prevent children’s exposure to lead dust hazards” (CDC, n.d.).

CDC (2005) also mentioned that a Manchester Health Department (MHD) pays a home visit to a child with the blood lead level of $\geq 15 \mu\text{g/dL}$. During the home visit, a MHD staff administers parents’ questionnaires about their children's habits, diet, and potential sources of lead exposure, both inside and outside of the home. For children with BLLs $\geq 20 \mu\text{g/dL}$, the New Hampshire Childhood Lead Poisoning Prevention Program (NHCLPPP) performs investigations to find out if there are lead hazards in or around the house. In addition, MHD took into

consideration the height and weight measurements recorded up to 1 year before immigration on International Office of Migration medical examination forms. This helped MHD staff to identify and manage children with growth retardation, chronic malnutrition or chronic illness. "To control and prevent lead poisoning, NHDHHS is proposing state adoption of expanded medical and environmental protocols and has implemented active case finding of refugee children who have not had blood lead testing. In addition, CDC and NHDHHS are planning a study to obtain more information about risk factors for elevated BLLs among refugee children, which will help guide lead poisoning prevention strategies for refugee children." Providing lead-hazard training for refugees, resettlement case workers, health-care providers, and other agencies serving refugees can help prevent lead poisoning among refugee children (CDC- MMWR, 2005).

CDC (n.d) again noted that "In order to provide the clearest legal basis for code officials to confront lead hazards, local and state codes should state explicitly that deteriorated lead-based paint and dangerous levels of lead in dust and bare soil constitute violations of the housing or health code. Specifically referencing lead hazards in the housing or health code will alert enforcement officials and property owners alike that such hazards constitute code violations and must be corrected" (CDC, n.d).

Richard Rabin (n.d.) said: "To protect the nation's children a large number of those homes will eventually have to be deleaded. The new regulations of the Department of Housing and Urban Development require federally-funded housing that certain basic precautions be taken to minimize lead exposure to the occupants. To use a lead-free paint on their beds, toys, furnishings and interior decorations. Children who have been exposed to lead should have a diet rich in calcium and vitamins. Fruits are very desirable and sunshine aids greatly. Of course, we must insist that individual property owners provide lead-safe environments, even though they may not have put the lead on their properties" (Rabin, n.d.).

According to Sherwood Research Associates, "Under federal law, anyone selling or renting property must give buyers and renters information on lead poisoning and get a signed acknowledgment that they provided the information" (Housing News Highlights, 2001).

The Grist Magazine (2003) published that "Malevolent behavior, to be sure, but at least as much to blame for children's exposure today is policy makers' failure to heed the lesson of the 1978 leaded paint ban: lead poisoning is fundamentally an environmental, not a medical, problem. In pursuing a strategy that focuses on diagnosing poisoned children (the effect) rather than identifying toxic houses (the cause), we have guaranteed that children will continue to be poisoned for

years to come. We must break this cycle by directing resources toward identifying toxic houses before they poison children” (Grist Magazine, 2003).

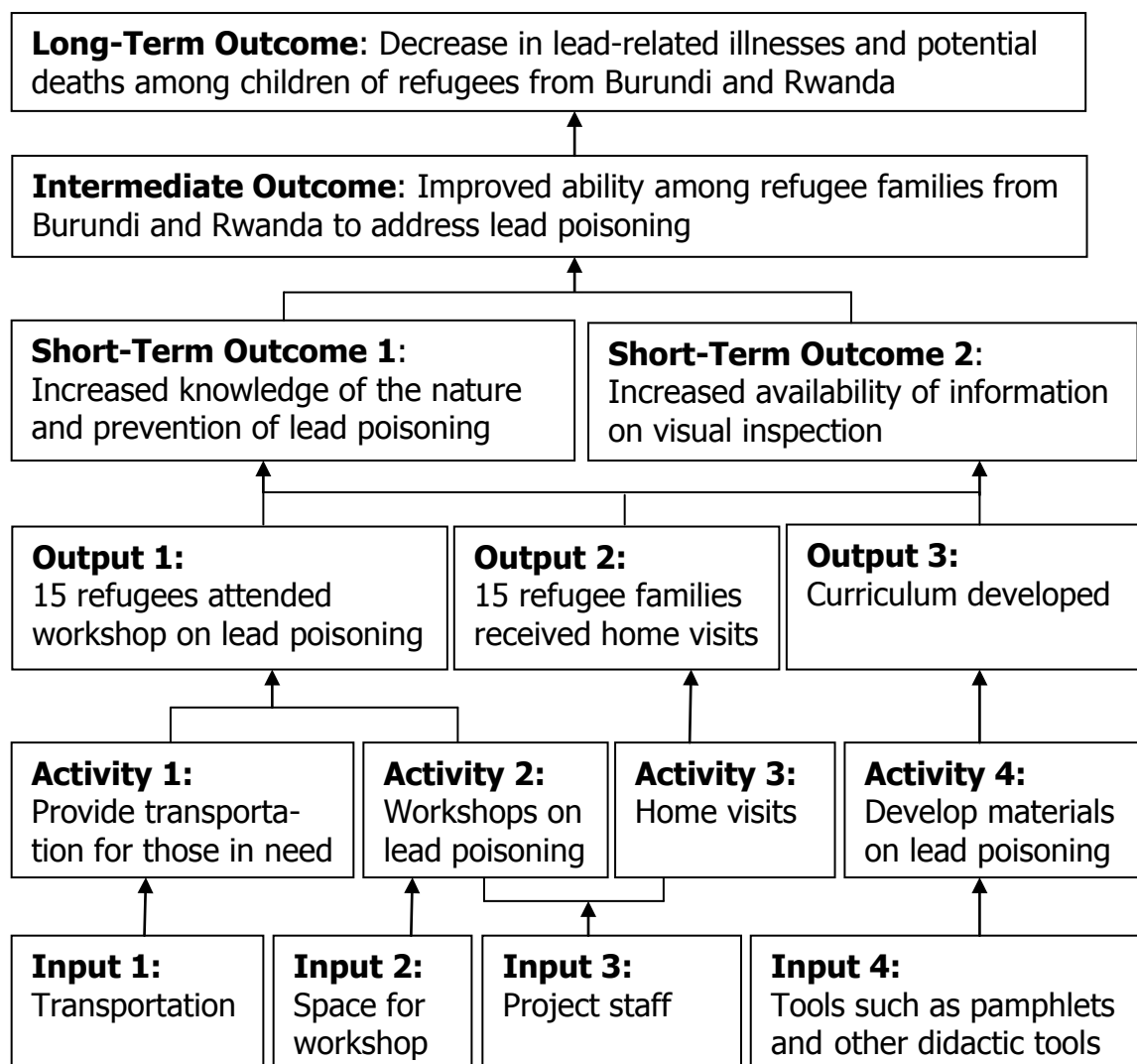
In her article, *The Challenge of Providing Healthy Homes to a Refugee Population*, Louise Classon (2007) continues to mention that: “The Department of Housing and Urban Development (HUD) recently announced the allocation of \$31 million in grants to 12 state and local communities to protect children and families from dangerous lead-based paint hazards in homes. The City of Manchester, New Hampshire received a \$1.8 million grant....Serving Greater Manchester and other parts of the state, The Way Home is a non-profit whose mission is to help lower-income families and individuals obtain and keep decent, safe, and affordable rental housing” (Classon, 2007).

During her interview with Classon from News.com, Fern Gookin, Project Manager for Lead Hazard Control and Housing rehab with The Way Home said that The Way Home collaborates with community partners, including local refugee support agencies, who work on lead-poisoning prevention. Those community partners focus on outreach and education. The Way Home staff visits the refugee community and The way Home is planning to identify a multi-lingual refugee to work as peer educator of lead poisoning. “The Way Home also gives advice on finding lead-safe housing to any low-income refugee, immigrant, or members of the general population looking for help” (Classon, 2007).

The lead poisoning prevention bill will expand inspections and help property owners get rid of lead paint. This Senate bill was approved on July 12, 2007. If this bill is reinforced, it will be a kind of protection for tenants and buyers whose children have been facing the danger of lead poisoning from old houses (For details of this bill, see appendix p.76).

IV. Project Design/Logic Model

The project will decrease lead-related illness and deaths among refugees from Burundi and Rwanda by improving the ability among them to address lead poisoning. The project will fulfill this by increasing knowledge of the nature and prevention of lead poisoning and increase availability of information on visual inspection.



In order to reach these short-term outcomes, 15 refugees from Burundi and Rwanda will attend workshops on lead, parents will be encouraged to raise their concerns and ask questions and the curriculum will be developed. In order to produce these outputs, the project will perform activities such as providing transportation for those in need, holding workshops on lead poisoning, doing home visits and developing materials on lead poisoning. The project will also need staff and the staff will need tools such as pamphlets—which will be translated into Kirundi and Kinyarwanda—and other didactic tools, space for workshops and means of transportation in order to perform those activities.

V. Methodology and implementation plan.

5.1. Project “beneficiaries”: African refugees from Burundi and Rwanda

Refugees from Burundi and Rwanda are resettled to the United States of America (USA) through different agencies. A large number of those refugees come from refugee camps. Few of them were living outside of camps. Because of the increasing insecurity in recent years in Burundi and Rwanda, the number of those fleeing has increased dramatically. Countries hosting them are overwhelmed and they cannot take care of them. Therefore, UNHCR becomes responsible for everything they need such as food, firewood, shelter, education and security. It is not only Africa, Europe and Asia are also battling the problem of influx of refugees. The increase in the number of refugees worldwide causes financial crises. UNHCR is no longer in a position of taking care of refugees in a sufficient way. The number of refugees increases but the money allocated to the agency is not increased. That is why children under 5 years old are experiencing malnutrition problems in refugee camps.

For different reasons, some of these refugees are resettled to a third country to start a new life. Among them, there are 15 refugee families from Burundi and Rwanda living in Manchester, New Hampshire; who will participate and benefit

from lead education. Before their resettlement, they did not receive any information about lead poison. The lead poison topic was not even part the orientation they went through before their flight to the U.S.A.

5.2. Host organization / group: The Way Home

As a community-based non-profit housing service agency, The Way Home has assisted over 15,000 households since 1988. They have written contracts for more than 3,750 security deposits and rental guarantees totaling over \$1.6 million. Since 1988, they assisted low-income individuals and families obtain and maintain safe and affordable housing. They respond to the housing needs of their clients by:

- providing direct housing-related services
- establishing a supportive, long-term relationship with clients
- acting as an advocate for low-income housing issues
- empowering individuals to speak up for their families' safety
- training families to become good tenants
- preventing foreclosures for homeowners

The Way Home's Licensed Lead Abatement Contractor works to prevent homelessness for families with children at risk from unsafe housing by educating property owners, tenants, and public health officials on reducing in-home environmental health hazards, such as lead poisoning, thereby making housing safe for children.

5.3. Project staff:

5.3.1. Bizimana Samuel Rugizecyane. Mr. Rugizecyane is the director of the project. Being and working with refugees for almost 8 years before resettled to the United States, he speaks 5 languages which will be a valuable tool of communication during workshops, home visits and translation of pamphlets and other documents needed for the implementation of the project. He is currently working on his Master in Science in Community Economic Development from Southern New Hampshire University. In order to be well equipped for the work, he took the on-line training on lead paint visual inspection and became a certified lead paint visual inspector.

5.3.2. Sandra J. Roseberry. Mrs. Roseberry is the mother of three grown children; two of them were severely lead poisoned. One child was poisoned as a toddler and the other one before she was born. Mrs. Roseberry is now working with The Way Home as Lead Poisoning Prevention Specialist lead paint specialist. She will prepare and teach during workshops. She is in charge of lead paint education and prevention.

5.4. Other stakeholders:

5.4.1. Landlords. In accordance with the Law of the State of New Hampshire about lead paint, landlords have to provide those interested in renting their unit with a document explaining about lead poison and asking the person to sign a document acknowledging that he/she was told about the existence of lead poison in the unit. Landlords do not take time explaining what lead paint is and what should be done to protect the family renting the unit. To remove lead paint in the house or apartment is very expensive. Most of the landlords prefer to leave their houses the way they are, putting a number of innocent children at a risk of contracting the disease. This may affect the landlord financially because once the family discovers that lead poison is affecting their child (ren), it moves from that unit. This project will benefit the landlords because parents renting their units will be aware of how to protect themselves and their children against lead poison and it will no longer be a cause for them to leave the unit and The Way Home will work with them to see how the abatement can be done.

5.4.2. Community Leader: Refugees who came from the same country or ethnic group organize themselves and form community organizations. On the top of the community there is a community leader. The community leader will be a big help for both the community and the project. The project staff will first meet

with the community leader before visiting community members in their homes. This will build confidence in community members while talking to strangers as well as the project staff who are going to talk to the community members. The community leader will also be happy to see his members learn and benefit from lead poisoning education.

5.4.3. Resettlement Agencies: Most of refugees from Burundi and Rwanda resettled in Manchester, New Hampshire, are brought by The International Institute of New Hampshire. Upon arrival in Manchester, refugees are given cultural orientation. The project will work with resettlement agencies to see how lead poison awareness can be part of new arrivals' the orientation program.

5.5. Project roles, tasks, responsibilities:

The project will educate refugee families from Burundi and Rwanda about lead poisoning. The education will be through workshops and home visits. The Way Home will provide the place for workshop and child care for children whose parents will be attending workshop. The Way Home will also identify those houses with lead paint and work with landlords to see what can be done about the abatement. Transportation will be provided by the project staff for the community members who do not have transport in order to attend workshops.

5.6. Implementation schedule/timeframe

This is an implementation schedule of the project which starts in March 2007 and ends in April 2008.

Activities	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	Outputs
Meeting with The Way Home staff															Collaboration with The Way Home
Meeting with Burundian and Rwandese community leaders															Introduction to the community
Develop materials on lead poisoning															Curriculum
Translation of lead poison documents															Documents to be used during workshops and home visits
Printing the translated documents															Documents to be used as didactic tools
Home visits															15 refugee families to learn about lead and how to do visual inspection
Workshops															15 refugees to attend workshops on lead poisoning

5.7. Budget

Project budget 04/ 2007 – 04/ 2008

The Way Home, as a host organization, will provide one of the project staff and all what the project needs in order to be implemented; only refreshments during workshop and transportation will be provided by the project director.

Below is an estimation of what would the project cost in case it has to look for funds or apply for grants.

Personnel costs	
Bizimana Samuel Rugizecyane (project director)	16,560
Sandra Roseberry	10,400
Total personnel	\$26,960
Non-personnel cost	
Working space and utilities	2800
Materials and supplies	1,060
Printing costs	5,00
Refreshments during workshop	240
Transport	100
Total non-personnel costs	\$4700
Total project cost	\$ 31,660

VI. Monitoring plan

6.1. Monitoring indicators

Monitoring is a very important process for the project. It will help the project team to ensure that the project is making satisfactory progress towards the project goals. The project team will be able to revise the project plan in order to find out what was accomplished so far and make changes if necessary.

Taking into consideration the project's logic model, the project has 3 outputs:

Output 1: 15 Refugees attended workshop on lead poisoning.

Output 2: 15 Refugee families received home visits

Output 3: Curriculum developed

These outputs are indicators which will help measure activities to be implemented by the project team composed by Mr. Rugizecyane (the project director) with the help of Ms. Roseberry from The Way Home (host organization).

6.2. Methods, tools, forms

In order to easily keep track of the data, the project team made available a form, called Tenant Advocacy Database, which will help them to record the fresh information after each home visit. The Tenant Advocacy Database Form will help the project director in his monthly monitoring report. Each of the two project staff members will fill his/her own form and both forms will be compared during their meeting one hour before the next home visit to confirm if the project team gathered the same and correct information. (Find form on page 68: Appendix)

On top of this Tenant Advocacy Database, there is a monitoring report which is done each and every month during the implementation timeframe.

6.3. Team/tasks

The monitoring of activities will be done monthly by Mr. Rugizecyane. The monthly monitoring will help the project team to find out if there is a smooth implementation of the project. In case there is a problem, it will be an opportunity to make necessary adjustments before it is too late.

6.4. Monitoring schedule

The monitoring of the project is done every month, from the start (03/01/07) until the end of the project (04/30/08). (Also see the monitoring sample in Appendix, p.72)

VII. Evaluation plan

The evaluation stage helps the project team to find out if the outcomes were fully achieved, partially achieved or not achieved. One of those outcomes was to increase knowledge of the nature and prevention of lead poisoning among refugee families from Burundi and Rwanda. In order to accomplish this, the project team paid 17 home visits to refugee families and presented 3 workshops. Through those home visits, the project team was able to accomplish another outcome by providing information on visual inspection and showing them how to do it.

The increased knowledge of the nature and prevention of lead poisoning and the increased availability of information on visual inspection through home visits and workshops helped refugee families from Burundi and Rwanda to improve their ability to address lead poisoning. The project staff, with the help of The Way Home, talked to some of the landlords and one of them agreed to de-lead 3 apartments on Cedar Street. After de-leading one apartment, people who were working on that apartment left debris and old paint chips outside on the balcony, exposing family members to lead. During the follow up visit, the family complained and showed to the project team what was left on the balcony by the workers. The family did not remove the dirt because they knew that it was full of

lead. The family also took the project team in the room where the work was not well done: inside the closet there were still chipping paint and cracks on the wall. The project team called and explained to the landlord what was done by his workers. The landlord promised to take care of the issue and he did.

Some of refugees from Burundi and Rwanda who have been living in Manchester for more than 6 months told the project director that they wanted their children to be retested. So far, the project director arranged appointments for 3 families to have their 6 children's blood tested for lead. The result showed that the blood lead levels for their 5 children were low (< 3 ug/dl) and one was 3.6 ug/dl.

The improved ability among refugee families from Burundi and Rwanda to address lead poisoning was the key outcome to the project team in order to accomplish its goal of decreasing lead-related illnesses and potential deaths among Refugees from Burundi and Rwanda. Since the project started, there were no deaths which occurred because of lead poison and the number of children with high blood lead level did not increase and there were no new children in the community who were developing illnesses due to lead poison.

7.1. Evaluation variables and indicators

In order to evaluate the outcomes, the project will need the following indicators:

a) The number of children who became sick or died because of lead poisoning.

This indicator will help the project team to measure the decrease of lead-related illnesses among refugees from Burundi and Rwanda.

b) The number of lead poisoning incidents will be needed by the project team to find out if there is an improved ability among refugees from Burundi and Rwanda to address lead poisoning.

c) The increase in post-test scores compared to pre-test scores will be used by the project team to measure the increased knowledge of the nature and prevention of lead poisoning.

d) The number of those who are not able to do visual inspection. This indicator will help the project team to measure the increased availability of information on visual inspection.

7.2. Data gathering methods, tools, forms

The project team will use different data gathering methods such as document review, survey, pre- and post-testing and key informant interview.

7.3. Data analysis

The project team conducted a survey among refugees from Burundi and Rwanda in December 2006 which showed that among 16 refugees who participated in the survey, 2 said that it was their first time hearing about lead poison. The

remaining 14 said that they heard about it while they were already in Manchester.

From April 2007 to March 2008, the project team was able to visit 17 refugee families from Burundi and Rwanda and conduct three separate workshops on lead poisoning. One workshop was for women. Four refugee women from Burundi and Rwanda and 2 from Somalia and Liberia attended the workshop (The latter were invited by Women For Women Coalition, a non-profit organization which helped the project organize the workshop.) Another workshop was for men and 7 refugee men from Burundi and Rwanda attended the workshop. The third workshop was attended by some of those who participated in the last workshop, and 2 other men were new.

At the end of the project, the project team will be able to analyze the data gathered using descriptive statistics. This data analysis method will help the project team to find out if a) the number of those who attended workshops, b) the number of those who received home visits, and c) lead poison awareness score change would be associated with the project outcomes.

7.4. Evaluation team/tasks

In order to know if the project has met its goal or not, the evaluation has to be done. The project director is responsible for that evaluation. The project team

will measure the outcomes and will need indicators to measure and verify those outcomes. It will also identify gathering methods and sources of information, and set the time frame for the evaluation.

7.5. Evaluation schedule

The long-term outcome will be measured 1 month, 6 months and 1 year after the end of the project. The intermediate outcome will be measured 1 month after the end of the project and both short-term outcomes will be measured 1 month after the end of the project.

OUTCOMES	INDICATORS	DATA GATHERING METHOD(S)	SOURCE(S)	TIMEFRAME
<i>Long -Term Outcome:</i> Decrease in lead-related illnesses and potential deaths among children of refugees	Number of children who became sick or died because of lead poisoning	Document Review	Manchester Health Department records	1 month, 6 months and 1 year after end of project
<i>Intermediate Outcome:</i> Improved ability among refugee families to address lead poisoning	Number of lead poisoning incidents	Survey	Participants	1 month after end of project
<i>Short-term Outcome 1:</i> Increased knowledge of the nature and prevention of lead poisoning	Increase in post-test scores compared to pre-test scores	Pre- and post-testing	Participants	1 month after end of project
<i>Short-term Outcome 2:</i> Increased availability of information on visual inspection	The number of those who are not able to do visual inspection	Key informant interview	Participants	1month after end of project

VIII. Sustainability Plan

8.1. Sustainability Elements

The host organization, The Way Home, is a well-known organization in dealing with housing issues such as lead abatements and it already has a lead poisoning outreach program. Lead Poisoning Awareness among refugees is an issue which is of concern in the whole country. Conferences are being held to discuss what can be done to help refugee children who are resettled in United States before they are affected by lead poisoning. This can only be done through awareness. The project team attended a conference organized by CDC, which was held in Worcester, Massachusetts, on March 21, 2007. The theme was "Preventing Lead Poisoning among Refugee Children".

As long as the number of refugees who are resettled to Manchester, New Hampshire, continues to increase, there will be a need to teach them about lead poisoning and resources are available through The Way Home and Manchester Health Department.

8.2. Sustainability Plan

The project benefits are sustainable. During home visits and workshops community members will learn how to protect their children against lead poisoning. They will be encouraged to do a regular visual inspection of their houses or apartments. What community members learn will not stay only within the community; they will share it with extended family members and friends within or outside their community.

After eradicating lead poisoning in their community, Burundian and Rwandese families, will increase their income and that of the community as a whole by going to work instead of staying at home or hospital taking care of the sick child(ren).

The project will help them to be healthier people, to learn, to adapt socially, to go for higher education, to earn a livable wage and to be able to contribute to the community. People who work impact the community positively because money is put into it. If people do not work, the community has to help them. Lead poisoning prevention will lessen the negative impact and increase the positive one.

IX. Conclusions & Recommendations

9.1. Results

The project team developed materials on lead poisoning. These materials were used to prepare the curriculum which was used to teach about lead poisoning and provide information on visual inspection.

9.1.1. On Short-term Outcome 1: Increased knowledge of the nature and prevention of lead poisoning

The project team was able to visit refugees from Burundi and Rwanda who live in Manchester, New Hampshire, in their homes. Among them, 17 refugee families—the project target number was 15—from Burundi and Rwanda received home visits.

The project was also able to do workshops on lead poisoning. And 13 among 15 refugees—the project target number—from Burundi and Rwanda were able to attend the 3 workshops. The first workshop was not done in July 2007 as scheduled; it was done on August 18, 2007, because a non-profit organization called Women For Women asked the project team to help them organize a workshop for African refugee women and it was not ready for July. The second

one was done on January 26, 2008, instead of October 2007. This gap was caused by a project staff member who went to a meeting in Philadelphia; when she came back she felt sick and took one week off. Two weeks after she came back from her sick leave, she said that her job with The Way Home would end on November 17, 2007. And she told the project director that The Way Home—the host organization—might discontinue the Education Outreach Program. The third workshop was done on February 23, 2008, instead of January 2008. In order to help community members arrive at the meeting place, the project director provided transportation to those who lived far away and did not have any means of transportation.

During the third workshop, there was a new Burundian who came in February not knowing about lead paint. One of the participants was asked to do the presentation for him. Later, the presenter went on to explain to him what the rest of community members had been learning about lead poison during home visits and workshops. This was clear evidence that all participants understood the dangers of lead.

The Rwandese community did not fully participate. Only 3 families from Rwanda compared to 14 from Burundi received home visits and one Rwandese attended a workshop compared to 12 Burundians who attended. The shortage was caused

by lack of interest, lack of time and canceling appointments for unknown reasons on the part of Rwandese community members.

The project team encountered unexpected difficulties such as taking community members to the emergency room or to clinical appointments, helping with shopping, taking them to various offices such as welfare department and Southern New Hampshire Services (SNS), and taking them where they pay rent and children for lead testing.

The International Institute of New Hampshire (IINH) is a resettlement agency which resettles refugees in Manchester. It was not happy with what the project was doing because the project was exposing IINH's failure to protect refugees from lead poison by placing them in old houses full of lead hazards. The Institute coordinator complained to the State Refugee Coordinator that "people" were visiting refugees, threatening them, taking their pictures and telling them that lead poison would kill their children. The State Refugee Coordinator talked to The Way Home Coordinator about the issue. She knew that it was only The Way Home which had a Lead Poisoning Education Outreach Program.

During a subsequent meeting with the State Refugee Coordinator and other agencies, the project staff member who attended the meeting explained to the audience what the project team was doing during home visits. Now, however,

despite this explanation, most of the refugee families from Burundi who are resettled to New Hampshire by IINH are being taken to Nashua.

There was another issue of community members not honoring appointments.

There was a time the project team member called a man and arranged a home visit. On the day of the visit, the project team went and did not find anyone at home. When the project team member called the following day to find out what had happened, there was no justifiable reason. Despite that, the home visit was arranged again and it was successful. A second family asked the project member, who called to arrange for a home visit, to call before going to their house and on the day of the visit the team member called and no one answered the telephone. When the team member called the following day, the wife said that the husband did not want to be visited.

During the implementation of activities, the project team learned a lot about the community it was serving. These refugees were new in the City of Manchester; they did not speak, read or understand English. They did not have means of transportation and had to go to many appointments. Whoever was working with them had to understand that he/she would be involved in many issues. Refugees needed various kinds of help because they were starting a new journey and needed someone to assist them in order to have a good start.

Another lesson the project team members learned was to be ready for the opposition, especially when there are other people who are doing almost the same thing. The project team needs to be prepared for how others will react to their activities.

9.1.2. On Short-term Outcome 2: Increased availability of information on visual inspection

The 17 refugee families from Burundi and Rwanda that were visited were also able to get information on how to do visual inspection. Using available tools such as pictures, pamphlets and other didactic tools the project team showed them how to visually inspect their homes. The project also used their homes as real examples, showing them places with chipping and peeling paint and other hazardous places with potential lead poison.

One family responded to this teaching by practicing what they learned during the first visit. During the follow up visit, they reported to the project team by showing them the chipping paint on the wall in one of the closets left by the workers who were there to de-lead the apartment.

9.2. Conclusions and Recommendations

9.2.1. Prospects of Attaining Intermediate and Long-Term Outcomes

Taking into account the attainment of short-term outcomes, the project is still heading towards the attainment of intermediate and long-term outcomes.

Refugee families from the Burundi and Rwanda were given the knowledge on the nature and prevention of lead poisoning and how to do visual inspection; this will help them improve their ability to address lead poisoning and in the long run to decrease lead-related illnesses and potential deaths among their children.

9.2.2. Sustainability and Replication

As it was mentioned before, the IINH is resettling most of refugee families from Burundi to Nashua; and another resettlement agency called Lutheran Social Services of Northern New England based in Concord takes refugees to Laconia and Concord. Therefore, depending on the availability of resources, the project can be replicated in these areas where Burundi families are being placed in order to save their children from lead poisoning. Instead of covering only fifteen refugee families from Burundi and Rwanda living in Manchester, it can cover all refugee families from Burundi and Rwanda resettled in New Hampshire.

9.2.3. Personal Thoughts

When The Project team started implementing the project, they thought that it would be easy for them because the project director is from the same community; he speaks the same language, he comes from the same area and he is a refugee. However, during the implementation stage, the project team saw that it was not the case. The first person the project director approached in order to make an appointment for a home visit said that he was not interested because he knew that the project director was doing it as a business. He thought that the project director wanted to get money using him. The project director had to explain that he was a student and it was his school project and there was no financial gain behind it. Finally, he accepted the home visit. When the project team went for a home visit the man again said that the project team was getting money and he was not getting anything. The project director explained again the purpose of the project and this time he showed him his student identification card.

The project director also learned that things can change the way the team did not expect. After Sandra Roseberry, who was the project team member, lost her job in November 2007, The Way Home told the project director that it would

continue to help in the implementation of the project. During the meeting held on December 4, 2007, The Way Home Coordinator assured the project director that he would continue to get help from The Way Home. She presented to the project director a lady called Katherine with whom he would be working. But at the same time he was told that The Way Home no longer had the educational program. After three weeks, the project director received a call from Katherine saying that they had arranged for him to work with Manchester Health Department, with a lady called Susan. When the project director met Susan, she told him that they only focus on families with high BLL. Therefore, it was decided that the project was going to continue with its own home visits and they would call the project director in case they needed assistance with a home visit. The project director went on with his project by himself and The Way Home continued to help him with printing documents and providing a place for workshops.

The project was a good experience for the project director. He was able to visit families whose children had high BLLs and saw the damage lead poison can do to a child. As a CED practitioner, the project helped him to appreciate how privileged he was to be able to help fifteen refugee families from Burundi and Rwanda to learn how to protect their children from the dangerous even deadly lead poison.

The project director would recommend following points:

- Refugees should be taught about lead poison before coming to the USA.
- Provide refugees with classes that teach about lead poisoning prevention.
- Homes have to be inspected before renting or selling them.
- Partnership and form a good relationship with all stakeholders is necessary in order to tackle the problem.
- Provide refugees with a copy of the required EPA booklet—"Protect your family from lead in your home." Have it read and translated for them in their native languages.