Background

The Lennon Pregnancy Center was created in 1984, under the name of Metro Life Choices with committee members Joe and Marybeth Lennon. At first the center was only open one hour a week due to lack of volunteers. In 1996, the center grew its hours of operation to thirty hours and in 1997 the center changed their name to The Metro Crisis Pregnancy Center. In 2003, the Board of Director decided to once again change the name of the center since the centers name involved crisis, it was being perceived as an abortion clinic. The name soon became changed to The Lennon Center Resources for Pregnancy and Parenting, attributing to Joe and Marybeth Lennon.

Demographics

The Lennon Center currently has thirty-five students and growing, enrolled in their Pregnancy, Childbirth and Newborn Parenting, and Mom and Baby Care classes. These students range in age from fourteen to twenty-six years of age and are from the surrounding area of the Metro Detroit area including Detroit, Westland, Redford Township, Southfield, Taylor, Dearborn Heights, Belleville, Dearborn, Livonia and Inkster. Of these students, 11 are Caucasian, 20 are African American, 2 are Hispanic, and three have chosen to not identify their nationality. With these surrounding areas being located within Wayne County, the median household income of Wayne County, Michigan in 2010 was $42,241 with a poverty rate of 21.4%.

Pregnancy

In the United States, there are 13.0 births per 1,000 population with 8.1% of births being low birth weight and 12.0% of births being preterm. Pregnancy begins when a fertilized egg implants into the uterus and can go up to forty-one weeks, including three trimesters. Ovulation must occur for a woman to become pregnant, an egg must be released and sperm must come into contact to produce
Pregnancy starts when the fertilized egg attaches to the women’s uterus and begins to grow, which is implantation. Pregnancy is measured using gestational age and starts on the first day of a woman’s last menstrual period.

**Periodontal disease**

Periodontal disease (gum disease) begins as gingivitis, which is the mildest form. Gums become red, swollen and bleed easily. Gingivitis is reversible with proper homecare instructions given by a dentist or dental hygienist. Factors that may contribute to gingivitis include, diabetes, smoking, aging, puberty, pregnancy and certain medications. Periodontal disease begins from untreated gingivitis and with time begins to grow under the gum line. Bacteria in plaque produce toxins that irritate the gums, with time the tissues and bone that support the teeth are broken down and destroyed. As the process continues to destroy and break down, a pocket or space is created between the gum tissue and the teeth. The main cause of periodontal (gum) disease is plaque; the filmy deposit on the surface of teeth consisting of a mixture of mucus, bacteria, and food but other factors play a corresponding role including age, smoking/tobacco use, genetics, stress, medication, clenching or grinding teeth, cardiovascular disease, diabetes, and rheumatoid arthritis, and obesity.

Periodontal disease often has no symptoms until advanced stages of disease. Warning signs may include red, swollen or tender gums, bleeding while brushing, flossing, or eating hard foods, gum recession or gums that appear to be pulling away from teeth, causing teeth to appear longer, loose or separating teeth, and persistent bad breath.

**Periodontal disease related to pregnancy**

Women’s periodontal health can be impacted by a variety of factors. Some women can experience menstruation gingivitis where women can have bleeding, red and swollen gums occurring
right before their period and subsides once she starts her period.\textsuperscript{12} Pregnancy is another risk factor for periodontal disease. Women with periodontal disease may have a preterm or low birth weight baby by bacteria flowing through the blood stream.\textsuperscript{12} Menopause and post-menopause women may experience gingivitis that makes their gums appear dry or shiny and bleed easily.\textsuperscript{12}

**Oral health concerns for children**

**Tooth pain:** Teething can keep both mom and baby up at night from uncomfortable tooth pain resulting in the use of over the counter topical anesthetics that soothe the gum tissue of a teething baby.\textsuperscript{13} Over the counter topical anesthetics for infant and children contain 7.5 \% benzocaine.\textsuperscript{13} When applied to irritated area the gel can penetrate 2-3mm below the gum line affecting free nerve endings and remaining numb for a significant amount of time.\textsuperscript{13} When using topical anesthetics for teething babies it can pose a risk in developing methemoglobinemia, a blood disorder resulting in an increase of methemoglobin being generated.\textsuperscript{13} Most methemoglobinemia is hereditary, resulting in genetic defects in red blood cells.\textsuperscript{13} Safe and effective ways of teething without the use of topical anesthetic include gentle massage of gum tissue with a clean finger. Other things such as a cold washcloth for a baby to chew on and chilled not frozen food and teething rings may decrease discomfort.\textsuperscript{13}

**Caries prevention:** Reducing tooth decay and demineralization of enamel is the key to improving the oral health of children.\textsuperscript{14} Fluoride is a naturally occurring trace mineral such as calcium and iron, it is often found in ground water.\textsuperscript{14} Fluoridated water reduces the need for restorative dentistry, tooth loss and time away from school.\textsuperscript{14} If a child is receiving less than 0.6 ppm of fluoride daily their caries risk is moderate to high.\textsuperscript{14} When receiving too much fluoride, although safe and effective, it can cause enamel fluorosis, causing white marks or streaks on the maxillary central and lateral incisors.\textsuperscript{14} Fluorosis is usually caused when too much fluoride is ingested by infants and toddlers when using a toothpaste
containing fluoride. Fluoride toothpaste should not be used until a child can swish and expectorate (spit) the excess toothpaste completely, usually around the age of 3 years old.

Although some parents may think that a child’s baby teeth aren’t important since they are going lose them, children lose their baby teeth up to twelve years of age. The baby teeth are lost when the permanent teeth being to erupt. Maintaining baby teeth is important for the health of the adult teeth, when a baby tooth is decayed (has a cavity), that is left untreated it can affect the permanent tooth that will be erupting after the baby tooth. Mother and caregivers can be the source of babies/children “catching” cavities. Bacteria that causes cavities, Streptococcus mutans, can be transmitted from mother to infant before their teeth erupt by exchanging salvia during kissing and rinsing a pacifier or bottle nipple in the mother or caregivers mouth. The better the mother/caregivers oral health is, the less chance the child will have problems.

Conclusion

The main focus is to provide an oral health program for the expecting mothers and baby at The Lennon Center. The Lennon Center provides pregnancy classes along with mom and baby, both of these groups would benefit from this information by being educated on how the oral health can be link with systemic health, including the baby and the safety of child health care. Many women tend to neglect oral health care when it comes to being pregnant and/or having children. It is important for women to take care of their oral health and to start healthy oral health habits for their children at a young age. Mothers have an impact on their babies and children’s oral health starting with pregnancy. It is then followed through with establishing oral health habits after the child is born and continuing through childhood years.
Community Asset Map

Community Assets

Physical Surroundings

Individuals

Michigan Department of Community Health
Michigan Oral Health Coalition
Wayne County Health Department
Local Dental School- University of Michigan
Tri-County Dental Health
Oral-B, Crest & Colgate
Local Dental Hygiene Schools- Wayne County Community College
List of Medicaid offices

Bulletin boards
Classroom
Handouts
Brochures
Overhead projector
Elizabeth Schultz
Katherine Lennon
Mariann Bolton
Volunteers
Parents
Baby doll/Baby set
MDCH, NIH
Michigan Oral Health Coalition
Wayne County Health Department
Local Dental Hygiene Schools- Wayne County Community College
List of Medicaid offices

Oral-B, Crest & Colgate
Local Dental Hygiene Schools- Wayne County Community College
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### Program Plan and Narrative

#### Community Program Goal

Increase the knowledge on oral health for the mothers and infant/children at The Lennon Center.

#### Healthy People 2020: Oral Health Objectives

Healthy People 2020 Health Objectives list the following oral health objectives in regards to oral health in children and adults:\textsuperscript{16,17}

- **OH-1.1:** Reduce the proportion of children aged 3 to 5 years with dental caries experience in their primary teeth.
- **OH-2.1:** Reduce the proportion of children aged 3 to 5 with untreated dental decay in their primary teeth.
- **OH-3:** Reduce the proportion of adults with untreated dental decay.
- **OH-8:** Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year.

#### Healthy People 2020: Maternal, Infant and Child Health Objectives.

- **MICH-8.1:** Reduce low birth weight (LBW).
- **MICH-8.2:** Reduce very low birth weight (VLBW).
- **MICH-9.1:** Reduce total preterm births.

#### Program Plan

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Evaluation Measures/Outcome Indicators</th>
<th>Activities / Strategies</th>
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</thead>
</table>
| **Objective #1 Behavior:** By the end of the program, the members of The Lennon Center will be able to make nutritional food choices and lower their caries risk factors for both themselves and their children. | **Evaluation Measure:** The members of The Lennon Center will be given a list of different foods that are healthy and unhealthy. After the program, they will be asked to organize the list of foods into categories of health and unhealthy food choices.  
**Target/Outcome Indicator:** The members of The Lennon Center will demonstrate healthy food choices by listing healthy and sometimes food on paper by at least 95%. | • Discuss healthy eating and snacking choices for both adults and babies.  
• Healthy tooth and decayed tooth with food stickers  
• Discuss healthy alternatives to sugary beverages in bottles and sippy cups  
• Conduct activity demonstrating amount of sugar in popular drink choices |
| **Objective #2 Behavior:** By the                                                                 | **Evaluation Measure:**                                                                                   |                                                                                       |
|                                                                                                                                       |                                                                                                        |                                                                                       |
end of the program the mothers will be able to demonstrate effective brushing and flossing for adult and infant/child oral health.

At the end of the program, members of the Lennon Center will be asked to demonstrate effective brushing and technique on typodont with adult toothbrush, child and infant toothbrushes.

Target/Outcome Indicator: 90% of members will be able to demonstrate effective brushing on the typodont for adults, children and infant.

Evaluation Measure:
The members will use a sign in sheet to verify attendance.
Target/Outcome Indicator: 95% of the members at the Lennon Center will have attended an oral health sessions.

• Brochures will be distributed on periodontal disease and child oral health.
• Print outs on the oral/systemic link will be distributed.
• An activity including a drawing of a person’s body with systematic functions that can be affected by periodontal disease included, will demonstrate who periodontal disease can affect the body if untreated.

Program Plan Narrative

Objective 1: Nutrition and Oral Health

With dental decay being one of the most common diseases among children it is important for parents to make nutritional choices and lower their caries risk factors for both mothers and children.

Discussing healthy eating and snacking choices for both mothers and children can help reduce the caries risk rate by minimizing food that contain higher amounts of sugar. The activity that will work best to demonstrate healthy and unhealthy foods and snacking will be the use of having two tooth images; one being healthy, one being decayed. Stickers containing healthy food and sugary foods will be used to demonstrate which foods promote cavities and which foods are healthier choices for snacking.

Another risk factor for dental caries is sugary beverages in bottles and sippy cups. Providing information on reducing sugary beverages in bottles and sippy cups can increase chances of reduced decay in infants and children. An activity will be conducted showing the amount of sugar in popular drink choices. This will provide information to the parents on how much sugar their child is drinking with
every bottle and/or sippy cup. When selecting popular drink choices for children, sugar content in drinks such as juice, is often overlooked.

**Objective 2: Dental Plaque and Oral Health**

Dental plaque is the filmy deposit on the surface of teeth containing bacteria and other substances. Dental plaque along is acid and sugar contributes to the caries process. Providing oral health information on removing dental plaque daily with effective brushing and flossing can decrease the caries process. Demonstrating the Bass method for adults and Fones for children can teach the members of The Lennon Center proper brushing techniques. The Bass method is an effective method for removal of dental plaque adjacent to and directly beneath the gingival margin. The Fones method of brushing is an easy to learn technique for young children.

The Colgate videos; “How to Brush and Floss” will be helpful as visual aids along with demonstration and hands on learning with the typodont. Showing the videos before demonstrating brushing on the typodont will engage in the “show-tell-do”. After demonstration, the members of the Lennon Center will be able to demonstrate proper brushing and flossing methods.

**Objective 3: Oral/Systemic Link**

Periodontal disease is a risk factor for preterm and low-birth weight babies. Gingival inflammation changes occur during pregnancy are considered to be an exaggerated response of dental plaque. By having the members of the Lennon Center list any information pertaining to oral health such as, amount of brushing and flossing performed daily can determine what level of education they understand about oral health. Providing brochures on periodontal disease and child oral health will be useful for take home material after the session is over. Having the body picture up with different systemic links and educating the members of The Lennon Center on how periodontal disease can affect
systemically will be eye opening. The members of the Lennon Center will be using a sign in sheet at each oral health education session each time to evaluate attendance.
References

1. Schultz, Elizabeth (Executive director of The Lennon Center, Dearborn Heights, MI). Conversation with Amber Fredericks (E-learning degree completion student, University of Michigan, School of Dentistry, Ann Arbor, MI). 2013 May 21.


# Project Timeline: Community I

<table>
<thead>
<tr>
<th>Activities</th>
<th>May 8\textsuperscript{th} - May 14\textsuperscript{th}</th>
<th>May 15\textsuperscript{th} - May 21\textsuperscript{st}</th>
<th>May 22\textsuperscript{nd} - May 28\textsuperscript{th}</th>
<th>May 29\textsuperscript{th} - June 4\textsuperscript{th}</th>
<th>June 5\textsuperscript{th} - June 11\textsuperscript{th}</th>
<th>June 12\textsuperscript{th} - June 18\textsuperscript{th}</th>
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<td>Identify Key Individuals</td>
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<td>Construct Asset Map</td>
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<td>On-site Agency Visit</td>
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<td>Develop community plan goal</td>
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<td>Develop program plan and narrative</td>
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<td>Determine objectives and establish outcome measures</td>
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<td>Investigate funding sources</td>
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<td>Develop project timeline</td>
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### Project Timeline: Prior to Plan Implementation

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<th>June 26(^{th})-July 2(^{nd})</th>
<th>July 3(^{rd})-July 9(^{th})</th>
<th>July 10(^{th})-July 16(^{th})</th>
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<td>Create pre and post tests</td>
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<td>Create healthy tooth and decayed tooth with different foods and drinks</td>
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<td>Gather popular sugary beverages with sugar amount</td>
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<td>Sept 11(^{th}) - Sept 17(^{th})</td>
<td>Sept 18(^{th}) - Sept 24(^{th})</td>
<td>Sept 25(^{th}) - Oct 1(^{st})</td>
<td>Oct 2(^{nd}) - Oct 8(^{th})</td>
<td>Oct 9(^{th}) - Oct 15(^{th})</td>
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<td>Assemble oral health kits</td>
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<td>Contact agency to confirm dates</td>
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**Project Timeline: Community II**

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<th>Implementation</th>
<th>Sept 4(^{th}) - Sept 10(^{th})</th>
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<td>Meet members-build rapport</td>
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<td>Closing celebration and thanks</td>
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<td>Meet with Elizabeth, Mariann and Katherine to share program results</td>
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<td>Evaluate attendance sheets</td>
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