Sessions 8 & 9

Class Projects: Chronic Diseases

To the Teacher: Project-based learning has been shown to be an effective way of creating meaningful activities to promote learning. If you are not familiar with the technique, there is a helpful digest — *Project-Based Learning for Adult English Language Learners*, by Donna Moss, Arlington (Va.) Education and Employment Program (REEP), and Carol Van Duzer, National Center for ESL Literacy Education (December 1998) — at: www.cal.org/calea/esl_resources/digests/ProjBase.html.

Teacher Notes

Chronic Diseases & Illnesses

Chronic health conditions are those which people suffer from for an extended period of time. Such illnesses can last for months or years, or may never fully go away. Examples of chronic diseases:

1. Diabetes

Diabetes is a disease in which the body cannot process sugar normally. A healthy person ingests, food which is then broken down into a simple sugar called glucose. Glucose is then transported to the cells with the help of a hormone called insulin. In a person with diabetes, this process is not executed properly, which causes the sugar levels to be elevated. There are two types of Diabetes: Type 1, in which an individual cannot produce insulin at all; and Type 2, in which an individual’s body is producing insulin, but his or her cells do not respond to it.

Why should we care?

Diabetes is a rapidly increasing chronic health problem among adults, as well as children, in the United States. According to the Centers for Disease Control and Prevention (CDC), it is currently the seventh leading cause of death among adults. It has very severe outcomes if it is left unmanaged, including stroke, amputations, heart disease, kidney failure and blindness. Diabetes is a condition that directly affects our student population in a very real way. The Asian, Hispanic and African-American communities are disproportionately affected by diabetes, particularly in New York City, as you can see from the chart at left.

2. Heart Disease
Heart disease is a general term used for several conditions and illnesses that affect the heart, including high blood pressure, coronary artery disease, heart attack and heart failure. As of 2007, heart disease was the leading cause of death in the United States. It is another chronic condition that disproportionately affects minority populations. African-Americans, Asians and Hispanics have the highest rates of heart disease in the United States. The causes of heart disease include genetic disposition (meaning, if you have a family history of heart disease, your chances of acquiring it are greater). Other risk factors including obesity, smoking, diabetes and high blood pressure. Many steps can be taken to prevent heart disease, including maintaining a healthy weight through diet control and exercise, lowering cholesterol levels, stress management, routine physical exams and getting tested for diabetes.

3. Asthma
Asthma is a chronic illness in which the walls of the airways to the lungs are inflamed, which can cause the airways to become restricted and make breathing difficult. Asthma symptoms include wheezing, chest pain, restricted breathing and coughing. Certain environmental factors can trigger an asthma attack, such as pollen, dust, mold and smoke. Asthma is a condition that cannot be cured, but can be managed by medication and the use of an inhaler, as well as avoiding triggers such as those listed above. Children are affected by asthma more than adults, and it is a significant problem in New York City. It is the leading cause of hospitalization for children under the age of 14, and is a common cause of poor school attendance. Asthma also disproportionately affects populations living in low-income neighborhoods.

4. Cancer
Cancer is a disease in which the cells in a certain part of the body grow uncontrollably, and do not die like normal cells. Cancerous cells may clump together to form a tumor, and they can spread throughout the entire body. Cancer is a treatable illness, and early detection generally minimizes complications in treatment and greatly increases an individual’s chance of survival. Cancer currently affects more than one million Americans every year, and disproportionately affects the elderly — 77% of people with cancer are age 55 and older. Cancer is currently the second leading cause of death in the United States, after heart disease.

Certain cancers are more common than others. Among the most common types are lung cancer, breast cancer and colon cancer. Tobacco use is an extremely significant risk factor in developing cancer. It can contribute to cancer of the lungs, cervix, esophagus, mouth, larynx, kidney, bladder and pancreas. In fact, smoking causes one-third of all cancer-related deaths. Breast cancer and colon cancer are two highly preventable and treatable conditions for which screening tests are readily available. Breast cancer has some genetic links, since a woman with a family history of breast cancer has an elevated
risk of contracting it. Routine breast exams and mammograms can greatly diminish a woman’s risk of dying from breast cancer, and early detection prevents thousands of cancer-related deaths per year. Colon cancer is the third most common type of cancer. A colonoscopy can detect cancer or even polyps (abnormal growths in the colon) before they become cancerous.

Objectives of the Projects
To develop, enhance and showcase the learners’ understanding of specific chronic diseases.

Materials Needed
Sample brochures (asthma, breast cancer, diabetes, heart disease)
Samples of video or PowerPoint projects, if appropriate.
Background information for students
Project materials, as appropriate: magazines, newspapers, poster board, markers,
        still cameras, video cameras
Optional: Internet access
Worksheet 8-9a (Our Class Project)

Activity 1
Preparation
For the projects, choose one or more of the following formats, based on your sense of the learners’ needs and your comfort in working in these methods:

- Poster
- Role Play Dialogue
- Brochure
- TV or Radio Public Service Announcement

Select one or more topics from the list below for your learners to choose from:

- Diabetes
- Cancer
- Asthma
- Heart Disease

Activity 2
Introduction
1. Tell your learners they will be creating a project about a specific disease or condition. Write the list of topics you have selected on the board.
2. Divide the class into 3-5 students per group, depending on your class size. You may let learners choose groups freely; or assign groups with 2 more-advanced learners and 3 not-so-advanced, for example, or another combination that is appropriate.
3. Let each group choose the topic(s) that they want to work on from the list on the board. Each group should share their choice(s) with the class, and tell why it interests them.
4. If you have chosen one format for all groups, show a model of that format. If you have chosen several formats, write the choices on the board, and show a model of each.
5. If you have chosen multiple formats, allow each group to decide which format they wish to use, and share their reasons with the class.
6. Remind learners that each one of them should contribute to the completion of their group’s project.
7. You may wish to have learners assign different roles to each participant, such as who:
   a. Facilitates the discussion.
   b. Writes the ideas down on paper.
   c. Brings needed materials such as pictures from magazines, copies of articles, etc. (At least 2 members, or everyone in the group, may participate.)
   d. Puts the ideas together in the format the group has chosen.
   e. Presents the project to the class. This could be different individuals, if the group so chooses.
8. Hand out the background information worksheet (8-9a) and go over it with the class. Explain that they should fill out this sheet before starting their project.
9. Give each group reading materials for their project (ex., brochures on asthma, breast cancer, heart disease or diabetes). Or, assist them in using the Internet or library to find materials (preferred).
10. Monitor the class as they fill in their background sheets. When you feel they have sufficient information, ask them to start on the project, providing them with appropriate materials.

(NOTE: This portion of the project should take 2 sessions.)

VARIATION: If you feel that it would work better for your group, you may choose to intersperse the project with Sessions 11 & 12, so that it extends over a longer period of time. However, this may pose a problem if learners do not attend class consistently.
Our Class Project

Group Members: ________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

Name of Disease or Condition: _________________________________________________

1. Describe the condition:

2. What are the symptoms?

3. What are the risk factors?
4. Is there any way to prevent it?

5. What treatments are available?

6. Where can we get more information?

7. Other interesting information:
**How Is Asthma Diagnosed?**

Your primary care doctor will diagnose asthma based on your medical history, a physical exam, and results from tests. He or she also will figure how serious your asthma is. Your severity level will determine what treatment you will start on.

You may need to see an asthma specialist if:

- You need special tests to be sure you have asthma
- You've had a life-threatening asthma attack
- You need more than one kind of medicine or higher doses of medicine to control your asthma, or if you have overall difficulty getting your asthma well controlled
- You're thinking about getting allergy treatments.

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**Treatment and Prevention**

- Learn about your asthma and how to control it.
- Work closely with your doctor to decide what your treatments are.
- Use medicines as your doctor directs.
- Identify and avoid things that make your asthma worse (as much as you can).
- Keep track of your asthma symptoms and level of control.
- Monitor lung function
- Clean the house at least once a week and wear mask while doing it.

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**Asthma Hotline**

Allergy and Asthma Network *Mothers of Asthmatics
1-800-878-4403

American Lung Association
1-800-586-4872
[www.lungusa.org/local](http://www.lungusa.org/local)
Visit this site to obtain phone numbers for local chapters.

Asthma and Allergy Foundation of America
1-800-727-8462, 7 a.m. - midnight

**Environmental Protection Agency Resources**

EPA provides free materials to help you learn more about controlling indoor asthma triggers.
Visit [www.epa.gov/asthma](http://www.epa.gov/asthma) or call 1-800-438-4318 or 1-800-490-9198 to order free documents.

**Call 311 for resources in your community**
Asthma is a serious respiratory disease that affects millions of Americans. Asthma is a disease in your body's airways. Airways are tubes that carry air in and out of your lungs. When airways are irritated, they become inflamed and go into spasm. This is called asthma attack. During an asthma attack narrowing of the airways is due to:

- Tightening of the muscle layer, which causes the airways to narrow
- Inflammation and swelling of the inner lining
- Mucus which may clog bronchiole

Symptoms:
- Wheezing
- Chest tightness
- Trouble breathing at night and in the morning
- Coughing
- Chest pain

Trigger Factors
- Allergens: Mold, Dust, Pollen, Animal saliva, fur & dander
- Secondhand Smoke: smoke from the burning end of a cigarette, pipe, or cigar, or the smoke breathed out by a smoker.
- Pests such as cockroaches and rodents’ body parts and droppings
- Chemical irritants: scented or unscented products, including cleaners, paints, adhesives, pesticides, cosmetics, or air fresheners, may make your child's asthma worse.
- Nitrogen dioxide is an odorless gas that can irritate your eyes, nose, and throat and may cause shortness of breath. This gas can come from the use of appliances that burn fuels, such as gas, wood, and kerosene.

What Causes Asthma?
- People who get allergies
- Family history of asthma
- Certain respiratory infections during childhood
- Contact with some airborne allergens or infections in infancy or early childhood when the immune system is developing

Who Is At Risk for Asthma?

Asthma affects people of all ages, but it most often starts in childhood. In the United States, more than 22 million people have asthma. Nearly 6 million of these people are children.

Young children are at the highest risk of developing asthma that continues beyond 6 years of age. These risk factors include having allergies, eczema (an allergic skin condition), or parents who have asthma.

Among children, more boys have asthma than girls. But among adults, more women have the disease than men.

Most people who have asthma have allergies.
ice cream), egg yolks, butter, salad dressings, vegetable oils, and many desserts.

**Can You Do Anything Else?**
Exercise is important for good diabetes control. It usually lowers blood sugar and may help insulin work better. Exercise and a healthy diet can also help you take off extra pounds if you are overweight.

**Warning:**
Check with your doctor before starting any exercise program. You may need a snack before or during the activity to avoid having low blood sugar while you exercise.

**Do You Need More Information?**
These groups may be helpful:

American Diabetes Association
National Call Center
1701 N. Beauregard St.
Alexandria, VA 22311
(800) DIABETES (342-2383)
www.diabetes.org

Diabetes Public Health Resource Centers for Disease Control and Prevention (CDC)
Division of Diabetes Translation
PO Box 8728
Silver Spring, MD 20910
(877) CDC-DIAB (232-3422)
www.cdc.gov/diabetes

Juvenile Diabetes Research Foundation International
120 Wall St.
New York, NY 10005
(800) 533-CURE (533-2873)
www.jdrf.org

National Institute of Diabetes and Digestive and Kidney Diseases
National Diabetes Information Clearinghouse
1 Information Way
Bethesda, MD 20892
(800) 860-8747

**Do You Have More Questions?**
Ask your doctor or other member of your health care team—dietitians, nurse educators, and even family members and friends. You can also call the FDA on its toll-free number, (888) INFO-FDA (463-6332).

Or look on the Internet at www.fda.gov

**Do You Have Diabetes?**
Millions of people have diabetes mellitus, commonly called diabetes. You may be surprised to know that many of these people don’t even know they have it.

Diabetes is a serious disease and should not be ignored. If you have it, correct treatment can help you live a long and healthy life.

**What Is Diabetes?**
If you have diabetes, your body can’t make or use insulin. Insulin helps change sugar into energy to keep you alive.

There are different kinds of diabetes. The main ones are type 1 and type 2.
Type 1 Diabetes
This type of diabetes is mostly found in children and young adults. If you have type 1 diabetes, your body does not make insulin and you must inject insulin daily.

You May:
• urinate often
• be very thirsty
• be very hungry
• lose a lot of weight
• be very tired
• be irritable
• have blurred vision
• have trouble seeing.

Type 2 Diabetes
Most people with diabetes have this form of the disease. Type 2 is usually found in people over 45, who have diabetes in their family, who are overweight, who don’t exercise, and who have cholesterol problems. It is also common in certain racial and ethnic groups (blacks, American Indians, and Hispanics) and in women who had diabetes when they were pregnant. If you have type 2 diabetes, your body cannot make enough insulin or correctly use it. Treatment is diabetes pills and sometimes insulin injections, as well as diet and exercise.

You May Have:
• any of the symptoms of type 1 diabetes
• a lot of infections
• cuts or bruises that heal slowly
• tingling or numbness in the hands or feet
• skin, gum, or bladder infections that keep coming back.

Controlling Diabetes
Daily monitoring and careful control of blood sugar levels are the most important steps to take for people with diabetes. If not treated, diabetes can cause:
• High blood sugar (which could make you thirsty, tired, lose weight, urinate often, or give you infections that won’t go away)
• Many serious health problems (which could hurt your eyes, kidneys, nerves, or heart).

Warning: Low Blood Sugar
People with diabetes may develop low blood sugar because their blood has too much insulin or other blood sugar-lowering medication or from not eating enough food. It is important to follow the eating and medication schedule your doctor has prescribed to avoid low blood sugar. Low blood sugar could make you shaky, dizzy, sweaty, hungry, have a headache, have pale skin color, have sudden mood or behavior changes, have clumsy or jerky movements, have difficulty paying attention, feel confused, or have tingling sensations around the mouth.

Taking Care of Your Diabetes
The best way to take care of your diabetes is to make sure the levels or amount of sugar in your blood are near the normal range. This will make you feel better and help you stay healthy.

Your doctor will tell you how often to check your blood sugar level. To do this, you will need to take a drop of your blood and place it on a special test strip. Then a device, called a blood glucose meter, reads the strip. This device measures the amount of sugar in your blood.

Writing down this level, along with the time and date, will help you see how well your treatment plan is working.

Remember:
A person’s blood sugar level rises after eating any meal that contains carbohydrates or protein. Table sugar (also called sucrose) counts as a carbohydrate. Artificial sweeteners, such as saccharin, aspartame (NutraSweet), and sucralose (Splenda), do not count as carbohydrates or fats. They make food taste sweet. But they do not raise blood sugar levels and have little or no calories.

What Else Can You Do?
Eat well-balanced meals. The right amount of healthy food will keep your weight under control and help manage your diabetes.

Your body needs food from the four main food groups every day:
• Fruits and vegetables (oranges, apples, bananas, carrots, and spinach)
• Whole grains, cereals, and bread (wheat, rice, oats, bran, and barley)
• Dairy products (milk, cheese, and yogurt)
• Meats, fish, poultry, eggs, dried beans, and nuts.

Remember:
Too much fat and cholesterol in your diet can be very harmful to people with diabetes. Food that is high in fat includes red meat, dairy products (whole milk, cream, cheese, and
Tips for Losing Weight
• Eat smaller portions.
• Avoid second helpings.
• Eat less fat by staying away from fried foods, rich desserts, and chocolate candy. Foods with a lot of fat have a lot of calories.
• Eat more fruits and vegetables.

Eating for a Healthy Heart
You can lower your chances of getting heart disease. One way is through your diet.

Remember:
• Eat less fat and sodium.
• Reduce your calories if you’re overweight.
• Eat more fiber.
• Eat plenty of bread, rice, and cereal. Also eat lots of vegetables and fruit.
• If you drink beer, wine, or other alcoholic beverages, do so in moderation.

If your cholesterol is high, your doctor may suggest diet changes, exercise, or drugs to bring it down.

Regular exercise—such as walking, swimming, or gardening—can help you keep your weight and cholesterol down.

For More Information
If you have questions, you can call your nearest FDA office. Look for the number in the blue pages of the phone book.

Or call the FDA’s toll-free Food Information line at (888) SAFEFOOD (723-3366).

Or look for the FDA on the Internet at www.fda.gov

Eat Healthy to Help Prevent Heart Disease
What kills Americans most? Heart disease. It’s the No.1 cause of death in this country.

You can lower your chances of getting heart disease. One way is to choose foods carefully. For a healthy heart, eat:

• less fat
• less sodium
• fewer calories
• more fiber.
Eat less FAT
Some fats are more likely to cause heart disease—saturated fats and trans fats. These fats are usually found in foods from animals, such as meat, milk, cheese, and butter. They also are found in foods with palm and coconut oils. Eat less of these foods.

Eat less SODIUM
Eating less sodium can help lower some people’s blood pressure. This can help reduce the risk of heart disease.

Sodium is something we need in our diets, but most of us eat too much of it. Much of the sodium we eat comes from salt we add to our food at the table or that food companies add to their foods. So, avoid adding salt to foods at the table.

Eat fewer CALORIES
When we eat more calories than we need, we gain weight. Being overweight can cause heart disease. When we eat fewer calories than we need, we lose weight.

Eat more FIBER
Eating fiber from fruits, vegetables, and grains may help lower your chances of getting heart disease.

Diet Tips for a Healthy Heart
- Eat a diet low in saturated fat, especially animal fats and palm and coconut oils.
- Add foods to your diet that are high in monounsaturated fats, such as olive oil, canola oil, and seafood.

• Eat foods containing polyunsaturated fats found in plants and seafood. Safflower oil and corn oil are high in polyunsaturated fats.
• Choose a diet moderate in salt and sodium.
• Maintain or improve your weight.
• Eat plenty of grain products, fruits, and vegetables.

Read the Food Label
The food label can help you eat less fat and sodium, fewer calories, and more fiber.

Look for certain words on food labels. The words can help you spot foods that may help reduce your chances of getting heart disease. The FDA has set rules on how these words can be used. So, if the label says “low-fat,” the food must be low in fat.

Look at the side or back of the package. Here, you will find “Nutrition Facts.” Look for these words:
• Total fat
• Saturated fat
• Cholesterol
• Sodium.

Look at the % Daily Value listed next to each term. If it is 5% or less for fat, saturated fat, cholesterol, and sodium, the food is low in these nutrients.

That’s good. It means the food fits in with a diet that may help reduce your chances of getting heart disease.
Mammograms and Breast Cancer

How to Examine Your Breasts:

www.fda.gov/opacom/lowlit/mammo.html#exam#exam

What Is a Mammogram?
A mammogram is a special kind of x-ray of the breasts. Mammograms are used to help find breast cancer early, when it can still be cured. Mammograms are recommended for women older than 40, even if they have no signs of breast cancer.

What About Younger Women?
Mammograms are also recommended for younger women who have symptoms of breast cancer or who have a high risk of breast cancer.

Why Are Mammograms Important?
A mammogram can save your life. Mammograms can show tumors that may be cancer long before they can be felt. Treating tumors when they are still small makes curing cancer easier.
You usually need to go to a special clinic to get a mammogram. The U.S. Food and Drug Administration (FDA) inspects and certifies all places in the United States where mammograms are done.
Look for the FDA certificate at the clinic where you go for your mammogram. FDA certification means the clinic's equipment and staff meet federal standards, and that your mammogram will be safe and of high quality.

Who Gets Breast Cancer?
Any woman can get breast cancer. Each year, about 185,000 women in the United States get breast cancer and about 44,000 die from it.
You may be more likely to get breast cancer if you:
• Have a mother or sister who had breast cancer.
• Have inherited certain genes. These genes are more common in people with Jewish ancestors from Eastern Europe.
• Had your first menstrual period before you were 12.
• Stopped having periods after you were 50.
• Never had children or had your first child when you were over 30.
• Have had radiation treatments to your chest area.
Also, the older you are, the more likely you are to get breast cancer. Remember, though, that one out of four women who get breast cancer didn't have any of these risks.

Examinations Are Important
Three kinds of exams can help detect breast cancer:
• Mammography
• Doctor's exam
• Self-exam.
It's important to have a doctor examine your breasts at least once a year. It's also important to examine your breasts yourself once a month.

Some women find it's easiest to do this at the same time each month, for example, when your menstrual period ends.

**What If My Mammogram Shows a Problem?**

Mammograms can show if the inside of the breast looks normal. But a mammogram can't show for sure if you have breast cancer.

If you have a mammogram that doesn't look normal, your doctor will probably suggest a biopsy — a tissue sample of the breast. A biopsy is minor surgery. The breast tissue from a biopsy is tested in a laboratory to see if it's cancerous.

Remember, just because a problem area shows up on your mammogram, that doesn't mean you have cancer. Cancer can be diagnosed only by a lab test on tissue from your breast.

**How Breast Cancer Is Treated**

There are a number of treatments for breast cancer. The treatment depends on the type of tumor, if the cancer has spread, and other facts you and your doctor will discuss. Some treatments are:

- **Lumpectomy** – Surgery that removes the lump or tumor and a small amount of breast tissue around it, leaving the rest of the breast. A lumpectomy is usually the preferred treatment when cancer hasn't spread outside the breast.

- **Total Mastectomy** – Surgery that removes the entire breast and usually the adjoining lymph nodes. This may be necessary when there is more than one cancer in the breast, or when a single cancer is large when compared to the breast. Breast reconstruction is usually available to women who have had a breast removed. If you have a breast removed, you may want to talk with your doctor about various types of surgical breast reconstruction, and decide if reconstruction is right for you.

- **Radiation Therapy** – Radiation from special equipment is aimed at the tumor to kill cancer cells and shrink the tumor.

- **Treatment with One or More Drugs** – Radiation and drug treatment are often given after surgery.

**How to Find a Clinic**

To find out what mammography clinics in your area are certified by the FDA, call (800) 4-CANCER (422-6237) or a local chapter of the American Cancer Society listed in your phone book. If you are hearing impaired, you can call (800) 332-8615 (TTY).

If you have computer access to the Internet, you can find a list of FDA-certified facilities at:

www.fda.gov/cdrh/mammography.certified.html

**Do You Have More Questions?**

The FDA may have an office near you. Look for the number in the blue pages of the phone book. You can also call the FDA on its toll-free number, (888) INFO-FDA (463-6332). Or look on the Internet at: www.fda.gov.