



## Teaching Guide

For

*What is Wrong With Me?*

**Module**

**Illinois Career & Technical Education  
Math and Science Curriculum Project**

**2009**

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## Acknowledgements

### **Business/Industry/Government Partner(s)**

FHN Family Healthcare Center - Lanark is the local doctors office for Lanark, IL. The office is operated by FHN, which is the local hospital in the area. The office operates with a general physician and a nurse practitioner. It is a family practice facility, meaning it provides care to people of all ages.

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## Scenario Focus

### Overview of Module

In this module students will be able to act as doctors or nurses. Students will be given a problem dealing with a female coming in for a routine female visit. The students will have to research different medical conditions and determine what normal readings are for lab results and what are not normal. The students will learn about lab results and common medical conditions facing humans today. Students will be graded on their presentation of medical conditions, their treatment plan for the patient, and their brochure. This lesson will take approximately 3 weeks. Students will have a nurse practitioner come and visit their class to explain the problem, along with describing what she does for a living. Students will need to have access to research materials, this can either be online or in a library. Students will spend a lot of time researching to determine common medical conditions, as well as, determining a treatment plan for their patient.

**Primary Career Cluster:** Health Services

**Primary Career Pathway:** Diagnostic Services, Health Informatics, and Support Services

**Related Occupations:** Doctor, Nurse, Nurse Practitioner

**Recommended Subject Areas:** Biology, Health, Human Anatomy and Physiology

### Scenario Problem Statement

A 45-year-old Caucasian female comes to the clinic for a well female exam. Patient reports she is healthy, takes no routine medications and has no medication allergies. The patient is overweight, does not exercise or follow a healthy diet plan. Her father has hypertension and coronary artery disease and her mother has adult onset diabetes.

The patient's vital signs are:

Height: 5'4"

Weight: 177 pounds

Blood pressure: 146/92

Pulse 72

Respirations 20

Abdominal Girth 38 inches

The patient's lab results are:

Fasting blood glucose 180  
HgbA1c 8.0  
BUN 20  
Creatinine 0.9  
Cholesterol 220  
LDL Cholesterol 150  
HDL Cholesterol 26  
Triglycerides 300

As a future doctor or nurse you are being asked to develop a working diagnosis and treatment plan for treatment of the patient. The treatment plan could include diet and exercise, oral medications, and any other changes necessary for the patient. You will be presenting your diagnosis and treatment plan to a nurse practitioner for her analysis. As part of your presentation you will need written directions for your patient and a health pamphlet on her condition.

### **Cluster Knowledge and Skills and Performance Elements**

1. Use informational texts, Internet web sites, and/or technical materials to review and apply information sources to human services tasks
2. Match communication strategies to the situation and context
3. Use forms of technical writing appropriately to communicate clearly.
4. Use listening skills to acquire spoken information.
5. Use several approaches to identify and evaluate alternatives.
6. Use planning strategies to develop a plan.
7. Use appropriate software applications to prepare documents and presentations.
8. Provide services aligning with human development principles to meet individual needs.
9. Assess patient's health status.
10. Explain procedures and goals.
11. Apply written and oral communication skills.
12. Know the quantitative and qualitative requirements for information and analyze the information for designated purposes.

### **Illinois Learning Standards**

#### Science

- 11.A.5a** Formulate hypotheses referencing prior research and knowledge.
- 11.A.4c** Collect, organize and analyze data accurately and precisely.
- 11.B.4b** Propose and compare different solution designs to the design problem based upon given constraints including available tools, materials and time.

**11.B.4c** Develop working visualizations of the proposed solution designs (e.g., blueprints, schematics, flowcharts, cad-cam, animations).

**11.B.4d** Determine the criteria upon which the designs will be judged, identify advantages and disadvantages of the designs and select the most promising design.

**11.B.4f** Evaluate the test results based on established criteria, note sources of error and recommend improvements.

**13.B.4b** Analyze a particular occupation to identify decisions that may be influenced by a knowledge of science.

What I Want Students to Know	What I Want Students to be Able to Do
<ul style="list-style-type: none"> <li>• Normal Blood pressure readings for people of all ages</li> <li>• Normal cholesterol levels for all individuals</li> <li>• Difference between LDL and HDL cholesterol</li> <li>• Healthy body mass index for individuals of all ages</li> <li>• Basic health conditions facing people in society today</li> <li>• Basic health symptoms to watch for in individuals (including themselves)</li> <li>• Difference between a nurse and a nurse practitioner</li> <li>• Understand how to gather from various resources and interpret the data and tables dealing with health conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Gather data on various health conditions</li> <li>• Design a PowerPoint analyzing two common health problems</li> <li>• Design a health brochure explaining a health condition, symptoms, tests, diagnosis, and prevention</li> <li>• Create a treatment plan for the patient to lessen her health condition or treat her health condition</li> <li>• Use technology to explore various parts of this activity</li> <li>• Know how to use the internet, PowerPoint, Word, and publisher for this activity</li> </ul>

### Objectives

1. Students will understand the job difference and educational requirements of a nurse, nurse practitioner, and doctor.
3. Students will know some of the common health problems facing society today.
4. Students will know a healthy body mass index.
5. Students will know a normal blood pressure reading.
6. Students will know a healthy pulse amount.
7. Students will know healthy cholesterol levels.
8. Students will create a treatment plan for a patient.

## **Measurement Criteria**

1. Treatment Plan for the patient was presented as a word document and included the following:
  - Patient data, symptoms, diagnosis, and assessment
  - Diet and exercise changes that patient needs to do
  - Medications
  - Outcomes expected
  - Follow up plan
2. Brochure provided
  - information on the disease including symptoms, prevention, treatment.
  - included pictures and/or diagrams
  - was done as a publisher document
3. Presentation presented the information with visual aids and/or handouts.
4. The content of the presentation :
  - Showed evidence of research
  - Presented information in logical sequence
  - Included graphics
  - Had no more than two misspelled words or grammatical errors
5. The student delivered the presentation
  - At ease and with expected answers to all questions
  - Maintaining eye contact most of the time
  - With a clear voice and most words were pronounced correctly.

## **Teacher Notes**

Students should have a background of working on computers and basic science information. In regards to technology, students need to know how to use the Internet, PowerPoint, Publisher, and Word. Students can research the health conditions on the internet or in the local library.

Please review all of the materials before beginning the activity. It is important to establish a timeline and have enough copies of materials. Also, you can substitute a doctor or a nurse instead of a nurse practitioner. If you do, you will need to modify some of the materials.

The U.S. Department of Labor provides excellent information on the jobs of a physician, nurse practitioner, and a registered nurse. The nurse practitioner and registered nurse information is in the same link but are discussed separately within the information. On both the physician and nurse articles the nature of work,

training, other qualifications, and advancement, employment, job outlook, projections data, earnings, related occupations, and sources of additional information are all discussed. Common health issue examples, that your class could discuss and research, are diabetes, heart disease, cancer, stroke, eating disorders, alcohol and tobacco use, obesity, and arthritis. For the health brochure you can find examples online but all medical facilities are happy to give you some wonderful samples. These are great because the students are able to see what actually is in a doctor's office and have a better idea of what theirs should look like. Helpful websites for all items are listed in the support materials.

Use discretion in providing the nurse practitioner information. Try to have students ask you the questions. Have the students only contact the medical professional if absolutely necessary. Make sure students know the difference between reliable and unreliable information available on the internet. It would be very beneficial to use a local medical professional so they could visit your class or you could go and visit their facility.

**Time required to complete Problem (Estimated):** 13 Class periods or 500 hours

1 day (40 min) - Introduction day

1 day (40 min) - Nurse visit

4 Days (40 min each) - Introduction/ Research/ Prepare presentations on common health conditions

5 Days (40 min each) - Research/ Diagnosing/ writing treatment plan and brochure, also preparing presentation for nurse practitioner

2 Days (40 min each) - Presentation to Nurse

1 Day (40 min) - Conclusion Day

## **Module Support Materials Summary**

### **Handouts**

1. Handout 1 - Problem Statement
2. Handout 2 - Information for Common illness Research and Presentations
3. Rubric 1 - Scoring rubric for Common illnesses
4. Rubric 2 - Group scoring rubric
5. Handout 3 - Requirements for Presentations to Nurse Practitioner
6. Handout 4 - Worksheet to examine basic Lab Tests
7. Handout 5 - Worksheet to examine basic diseases
8. Rubric 3 - Rubric for treatment plan and brochure



## **Websites**

### *Lesson 1*

[www.bls.gov/OCO/](http://www.bls.gov/OCO/) - U.S. Department of Labor

[www.bls.gov/OCO/OCOS074.htm](http://www.bls.gov/OCO/OCOS074.htm) - U.S. Department of Labor Physician page

[www.bls.gov/OCO/OCOS083.htm](http://www.bls.gov/OCO/OCOS083.htm) - U.S. Department of Labor Nurse and Nurse Practitioner Page

### *Lesson 3*

[www.arthritis.org](http://www.arthritis.org) - Arthritis Foundation

[www.americanheart.org](http://www.americanheart.org) - American heart

[www.cancer.org](http://www.cancer.org) - American cancer society

[www.diabetes.org](http://www.diabetes.org) - American Diabetes

[www.nationaleatingdisorders.org](http://www.nationaleatingdisorders.org) - National eating disorders

[www.obesity.org](http://www.obesity.org) - Obesity Society

### *Lesson 5*

[psy1.clarion.edu/jms/cpttxplans.html](http://psy1.clarion.edu/jms/cpttxplans.html) - Treatment Plan information

[findarticles.com/p/articles/mi\\_7109/is\\_2\\_6/ai\\_n28552288](http://findarticles.com/p/articles/mi_7109/is_2_6/ai_n28552288) - Treatment plan information

[www.acsm.org/AM/Template.cfm?section=brochures2](http://www.acsm.org/AM/Template.cfm?section=brochures2) - Brochure Examples/ Information

[www.americanheart.org/presenter.jhtml?identifier=183](http://www.americanheart.org/presenter.jhtml?identifier=183) - Cholesterol Information

[www.cda.org/library/cda\\_member/policy/quality/treatment\\_plan.pdf](http://www.cda.org/library/cda_member/policy/quality/treatment_plan.pdf) - Treatment plan information

[www.healthsquare.com/mc/fgmc2501.htm](http://www.healthsquare.com/mc/fgmc2501.htm) - Pulse Information

[www.mayoclinic.com/health/blood-pressure/HI00043](http://www.mayoclinic.com/health/blood-pressure/HI00043) - Blood pressure Information

[www.perio.org/consumer/request.htm](http://www.perio.org/consumer/request.htm) - Brochure examples / information

[www.vaughns-1-pagers.com/medicine/blood-pressure.htm](http://www.vaughns-1-pagers.com/medicine/blood-pressure.htm) - Blood Pressure Information

## **Other Materials**

1. Nurse Practitioner/ Nurse/ Doctor
2. Notebook paper
3. Pens/Pencils
4. Whiteboard/ Dry Erase Markers
5. Human Anatomy & Physiology Textbook (Science Textbook)
6. Computers
7. Encyclopedias
8. Internet
9. Poster boards
10. Markers
11. PowerPoint
12. Colored paper/ Construction paper

<b>Lesson 1</b>	<b>Introduction Day</b>	
<b>Time Estimate:</b> 40 minutes (1 class period)		
<b>Objectives</b>		
1. Students will be able to distinguish between the job of a doctor, nurse practitioner, and nurse.		
<b>Materials &amp; Resources</b>		
<ul style="list-style-type: none"> <li>• Handout 1, What Is Wrong With Me?</li> <li>• Teacher Notes, Lesson 1</li> <li>• Notebook Paper</li> <li>• Pens/Pencils</li> <li>• Whiteboard/Dry Erase Markers</li> <li>• Websites: <ul style="list-style-type: none"> <li><a href="http://www.bls.gov/OCO/">www.bls.gov/OCO/</a> - U.S. Department of Labor</li> <li><a href="http://www.bls.gov/OCO/OCOS074.htm">www.bls.gov/OCO/OCOS074.htm</a> - U.S. Department of Labor Physician page</li> <li><a href="http://www.bls.gov/OCO/OCOS083.htm">www.bls.gov/OCO/OCOS083.htm</a> - U.S. Department of Labor Nurse and Nurse Practitioner Page</li> </ul> </li> </ul>		
<b>Agenda</b>		
<b>Step</b>	<b>Minutes</b>	<b>Activity</b>
1	10	Provide a brief introduction to the PBL format and expectations of students.
2	10	Distribute Handout 1, What Is Wrong With Me? Discuss the problem statement and give introduction to the unit.
3	10	Conduct a discussion of what doctors, nurse practitioners, and nurses do. (See Teacher Notes, Lesson 1 attached) Write student responses on the board.
4	10	Allow time for students to work in groups and brainstorm questions to ask the nurse practitioner.

## ***Teacher Notes - Lesson 1***

### **Physician:**

- Work long, irregular hours (most)
- Diagnosis illnesses and prescribe and administer treatment for people suffering from injury or disease
- Examine patients, obtain medical histories, and order, perform, and interpret diagnostic tests.
- Counsel patients on diet, hygiene, and preventive health care
- 8 years of education beyond high school, 3 to 8 additional years of internship and residency
- Work in clinics, hospitals, or private offices
- Variety of different types: family medicine, internal medicine, obstetrics & gynecology, pediatrics, anesthesiology, psychiatry, surgical, and others.

### **Nurse Practitioner:**

- A registered nurse with advanced training
- Generally requires a master's or post masters degree
- Can be trained and nationally board certified in areas of Family and community medicine, pediatrics, neonatology, Gerontology, Women's health, Psychiatry and Mental Health, Acute Care, Adult health, Oncology, Emergency medicine, and Occupational health.
- Treat both acute and chronic conditions through comprehensive history taking, physical exams, physical therapy, and ordering tests and therapies for patients.
- Can prescribe medications
- Work in clinics, hospitals, or private offices (either with a doctor or alone - depends on the state)

### **Nurse:**

- Either an associate degree in nursing (ADN) or a bachelors of science degree in nursing (BSN)
- Treat patients and families how to manage their illness or injury
- Establish a plan of care or contribute to an existing plan
- Administering medications, starting or ending IV lines for fluid, medication, blood, and blood products
- Administering therapies and treatments
- Observing the patient and recording those observations
- Consulting with physicians
- Can specialize if they want
- Work in clinics, hospitals, or doctor's private offices

# WHAT IS W'RONG WITH ME?

## ***FHN - Family Healthcare Center - Lanark*** ***Teresa Blair APN/CNP***

Patient Name Jane Doe  
Visit Date September 9, 2008

Birth date 4/9/63

### **Patient Scenario:**

A 45-year-old Caucasian female comes to the clinic for a well female exam. Patient reports she is healthy, takes no routine medications and has no medication allergies. The patient is overweight, does not exercise or follow a healthy diet plan.

### **Family History:**

Her father has hypertension and coronary artery disease and her mother has adult onset diabetes.

### **Patient Vital Signs:**

Height: 5'4"

Weight: 177 pounds

Blood pressure: 146/92

Pulse 72

Respirations 20

Abdominal Girth 38 inches

### **Lab Results:**

Fasting blood glucose 180

HgbA1c 8.0

BUN 20

Creatinine 0.9

Cholesterol 220

LDL Cholesterol 150

HDL Cholesterol 26

Triglycerides 300

### ***Problem Statement***

As future doctors and nurses you are to develop a working diagnosis and treatment plan for treatment of the patient. The treatment plan could include diet and exercise, oral medications, and any other changes necessary for the patient. You will be presenting your diagnosis and treatment plan to our nurse practitioner for her analysis. As part of your presentation you will need written directions for your patient and a health pamphlet on her condition.

<b>Lesson 2</b>		<b><i>Nurse Practitioner Visit</i></b>
<b>Time Estimate:</b> 40 minutes		
<b>Objectives</b>		
<ol style="list-style-type: none"> <li>1. Students will be able to describe what a nurse practitioner does on a daily basis.</li> <li>2. Students will be able to describe how a nurse practitioner is different than a doctor or a nurse.</li> <li>3. Students will be able to identify the educational requirements for a nurse practitioner.</li> </ol>		
<b>Materials &amp; Resources</b>		
<ul style="list-style-type: none"> <li>• Nurse Practitioner or Other medical professional</li> <li>• List of Student Questions (Brainstormed from previous lesson)</li> </ul>		
<b>Agenda</b>		
<b><i>Step</i></b>	<b><i>Minutes</i></b>	<b><i>Activity</i></b>
1	5	Introduce medical professional speaker.
2	20	Ask speaker to talk about their job, educational requirements and the problem statement
3	15	Allow time for students to ask questions of Teresa Blair

<b>Lesson 3</b>		<b>What are some common health issues facing society today?</b>
<b>Time Estimate:</b> 110 minutes		
<b>Objectives</b>		
<ol style="list-style-type: none"> <li>1. Students will be able to define some of the common health problems facing society today.</li> <li>2. Students will be able to identify through research information on the common health problems that exist today.</li> </ol>		
<b>Materials &amp; Resources</b>		
<ul style="list-style-type: none"> <li>• Handout 2, Information for Research and Presentations</li> <li>• Rubric 1: Rubric for Common Health Diseases PowerPoint Presentation</li> <li>• Human Anatomy and Physiology Textbooks</li> <li>• Computer with Internet access</li> <li>• Encyclopedia</li> <li>• Poster boards</li> <li>• Markers, Pens/Pencils</li> <li>• PowerPoint Software</li> <li>• Teacher Notes, Lesson 3, Suggested Websites</li> <li>• Examples of issues: diabetes, heart disease, cancer, strokes, eating disorders, alcohol and tobacco use</li> <li>• Websites: <ul style="list-style-type: none"> <li><a href="http://www.arthritis.org">www.arthritis.org</a> - Arthritis Foundation</li> <li><a href="http://www.americanheart.org">www.americanheart.org</a> - American heart</li> <li><a href="http://www.cancer.org">www.cancer.org</a> - American cancer society</li> <li><a href="http://www.diabetes.org">www.diabetes.org</a> - American Diabetes</li> <li><a href="http://www.nationaleatingdisorders.org">www.nationaleatingdisorders.org</a> - National eating disorders</li> <li><a href="http://www.obesity.org">www.obesity.org</a> - Obesity Society</li> </ul> </li> </ul>		
<b>Agenda</b>		
<b>Step</b>	<b>Minutes</b>	<b>Activity</b>
1	15	Conduct a class discussion on health issues. Make list of issues on front board.
2	5	Select top 6 issues (Teacher will need to make sure issues

		selected are those that are covered in problem)
3	5	Distribute Handout 2, Research Information for Health Issue and Rubric 1, PowerPoint Presentations. Discuss Handout 2 and Rubric 1. Talk as a class about issues and how the presentations will work. Use Teacher Notes- Lesson 3 to provide information regarding websites for presentations.
4	5	Break students into 6 groups. Assign each group one of the health issues listed as a result of the class discussion.
5	80	Allow time for groups to work on researching their issue and to prepare their presentation.

## **Research Information for Health Issue**

*In small groups you will be researching your health issue. You will have two days to research the issue and complete a presentation to be given to your classmates. Make sure to complete adequate research to guarantee your information is correct. Along with the presentation you will also need to give each classmate a handout with all of the main topics answered. You will have access to computers, Internet, and library resources. The presentation needs to be in PowerPoint format and will need to be 5 minutes. Be prepared to answer questions other classmates have on the issue. You need to become an "expert" on your health issue!*

## **ACTIVITY**

*The following information needs to be answered in your PowerPoint presentation and on your handout for classmates:*

1. What is your health issue?
2. What are the symptoms of the issue?
3. What are the causes of this issue?
4. Who tends to get this issue?
5. Are there different types?
6. What types of tests would a doctor run for this issue?
7. What would be considered "normal" results for this test?
8. What type of treatment would this issue have?
9. Is there any prevention for this issue?
10. What body systems does this issue affect?

## **PowerPoint Presentation Materials**

*In a PowerPoint presentation you need to include three main elements: text, images, and tables or graphs. Other items to keep in mind:*

- *Choose a simple background*
- *Simple, clean font*
- *Use headings on each slide*
- *Provide essential information only.*
- *Make sure each slide logically leads to the next.*



## *Common Health Diseases - Rubric 1*

### PowerPoint Presentation Rubric

<b>Presentation Components</b>	<b>Below Expectations (Score 5)</b>	<b>Meets Expectations (Score 15)</b>	<b>Exceeds Expectations (Score 25)</b>	<b>Score (0-25)</b>
<b>Content</b>	<ul style="list-style-type: none"> <li>▪ Has no apparent application of critical thinking</li> <li>▪ Has significant factual errors, misconceptions, or misinterpretations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Has application of critical thinking that is apparent</li> <li>▪ Has some factual errors and inconsistencies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Is well thought out</li> <li>▪ Reflects application of critical thinking</li> <li>▪ Is accurate</li> </ul>	
<b>Professionalism</b>	<ul style="list-style-type: none"> <li>▪ More than 5 spelling errors</li> <li>▪ Poor use of vocabulary and word choice</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minimal (1-5) spelling, grammatical, or punctuation errors</li> <li>▪ Low-level use of vocabulary and word choice</li> </ul>	<ul style="list-style-type: none"> <li>▪ No spelling, grammatical, or punctuation errors</li> <li>▪ High-level use of vocabulary and word choice</li> </ul>	
<b>Organization</b>	<ul style="list-style-type: none"> <li>▪ Content is unfocused and haphazard</li> <li>▪ Information does not have an apparent pattern</li> </ul>	<ul style="list-style-type: none"> <li>▪ PowerPoint has focus but might stray from it at times</li> <li>▪ Information appears to have a pattern, but is not consistently carried out in the project</li> </ul>	<ul style="list-style-type: none"> <li>▪ Information is clearly focused in an organized and thoughtful manner</li> <li>▪ Information is constructed in a logical pattern to support the solution</li> </ul>	
<b>PowerPoint (Slides)</b>	<ul style="list-style-type: none"> <li>▪ Presentation appears sloppy and/or unfinished</li> <li>▪ Multimedia is overused or underused</li> <li>▪ Format does not enhance content</li> <li>▪ Presentation has no clear organization</li> </ul>	<ul style="list-style-type: none"> <li>▪ Multimedia loosely illustrates the main points</li> <li>▪ Format does not suit content</li> <li>▪ Presentation does not capture audience attention</li> <li>▪ Presentation is loosely organized</li> </ul>	<ul style="list-style-type: none"> <li>▪ Multimedia is used to clarify and illustrate the main points</li> <li>▪ Format is appropriate for the content</li> <li>▪ Presentation captures audience attention</li> <li>▪ Presentation is well organized</li> </ul>	

## Teacher Notes Lesson #3

### Suggested Websites

The following links are additional information in regards to PowerPoint presentations, treatment plans, brochures, and presentation information. This will be helpful for informing your students of what is expected of them in the future presentations.

#### PowerPoint Presentations

<http://desktoppub.about.com/od/microsoft/bb/powerpointrules.htm>

<http://rangit.com/discoveries/8-steps-to-a-good-powerpoint-presentation/>

<http://www.d.umn.edu/~jgallian/goodPPTalk.pdf>

#### Treatment Plans

[psy1.clarion.edu/jms/cpttxplans.html](http://psy1.clarion.edu/jms/cpttxplans.html) - Treatment Plan information

[findarticles.com/p/articles/mi\\_7109/is\\_2\\_6/ai\\_n28552288](http://findarticles.com/p/articles/mi_7109/is_2_6/ai_n28552288) - Treatment plan information

[www.cda.org/library/cda\\_member/policy/quality/treatment\\_plan.pdf](http://www.cda.org/library/cda_member/policy/quality/treatment_plan.pdf) - Treatment plan information

#### Brochures

[www.acsm.org/AM/Template.cfm?section=brochures2](http://www.acsm.org/AM/Template.cfm?section=brochures2) - Brochure Examples/ Information

[www.perio.org/consumer/request.htm](http://www.perio.org/consumer/request.htm) - Brochure examples / information

#### Presentation Information

[http://presentationcoach.typepad.com/presentation\\_coach/2005/02/dress\\_well\\_and\\_.html](http://presentationcoach.typepad.com/presentation_coach/2005/02/dress_well_and_.html)

[http://careerplanning.about.com/cs/dressingforwork/a/prof\\_dress.htm](http://careerplanning.about.com/cs/dressingforwork/a/prof_dress.htm)

<b>Lesson 4</b>	<b>Common Illnesses Presentation Day</b>	
<b>Time Estimate:</b> 50 minutes		
<b>Objectives</b>		
<ol style="list-style-type: none"> <li>1. Students will be able to present their common illness materials to the class.</li> <li>2. Students will be able to discuss common illnesses facing people in today's society.</li> </ol>		
<b>Materials &amp; Resources</b>		
<ul style="list-style-type: none"> <li>• Rubric 1: Common Health Diseases Rubric from Lesson 3</li> <li>• Rubric 2: Group Participation</li> <li>• Computer with projector</li> <li>• Student handouts (the ones the students created for the class)</li> </ul>		
<b>Agenda</b>		
<b><i>Step</i></b>	<b><i>Minutes</i></b>	<b><i>Activity</i></b>
1	30	Distribute copies for Rubric 2, Group Participation Have students present Common Health Disease using PowerPoint.
2	10	Have students complete the group participation rubric for individuals in their group.
3	10	Conduct a class discussion to debrief presentations

Name \_\_\_\_\_

***Group Participation Rubric***

Group Member Name	Excellent (10)	Good (6)	Poor (1)
	<ul style="list-style-type: none"> <li>• Perfect Attendance</li> <li>• Always on task</li> <li>• Helpful/Kind</li> <li>• Worked well in group setting</li> </ul>	<ul style="list-style-type: none"> <li>• Missed 1 or 2 days</li> <li>• On task most of the time</li> <li>• Helped when asked</li> </ul>	<ul style="list-style-type: none"> <li>• Absent more than 2 times</li> <li>• Never on task</li> <li>• Not contributing</li> <li>• Talking off task</li> </ul>
	<ul style="list-style-type: none"> <li>• Perfect Attendance</li> <li>• Always on task</li> <li>• Helpful/Kind</li> <li>• Worked well in group setting</li> </ul>	<ul style="list-style-type: none"> <li>• Missed 1 or 2 days</li> <li>• On task most of the time</li> <li>• Helped when asked</li> </ul>	<ul style="list-style-type: none"> <li>• Absent more than 2 times</li> <li>• Never on task</li> <li>• Not contributing</li> <li>• Talking off task</li> </ul>
	<ul style="list-style-type: none"> <li>• Perfect Attendance</li> <li>• Always on task</li> <li>• Helpful/Kind</li> <li>• Worked well in group setting</li> </ul>	<ul style="list-style-type: none"> <li>• Missed 1 or 2 days</li> <li>• On task most of the time</li> <li>• Helped when asked</li> </ul>	<ul style="list-style-type: none"> <li>• Absent more than 2 times</li> <li>• Never on task</li> <li>• Not contributing</li> <li>• Talking off task</li> </ul>

<b>Lesson 5</b>	<b><i>What is Wrong with Me?</i></b>
<b>Time Estimate:</b> 200 minutes (5 class periods)	
<b>Objectives</b>	
<ol style="list-style-type: none"> <li>1. Students will be able to analyze different health conditions.</li> <li>2. Students will be able to analyze tests results.</li> <li>3. Students will understand a healthy body mass index, normal blood pressure readings and healthy pulse amount.</li> <li>4. Students will be able to define the different types of cholesterol and healthy numbers for each.</li> <li>5. Students will create a treatment plan for their patient.</li> </ol>	
<b>Materials &amp; Resources</b>	
<ul style="list-style-type: none"> <li>• Handout 1, What is Wrong with Me? from Lesson 1</li> <li>• Handout 3, What is the Diagnosis? (includes requirements for presentation of treatment plan and health brochure)</li> <li>• Handout 4, What does that Lab Test mean? (with Teacher Key)</li> <li>• Handout 5, Health Conditions - What are the basics? (with Teacher Key)</li> <li>• Rubric 3, Rubric for treatment plan and brochure</li> <li>• Computer with Internet access</li> <li>• Paper/Pens/Pencils, Markers</li> <li>• Human Anatomy and Physiology textbooks</li> <li>• Encyclopedias</li> <li>• Websites for Teacher Resources: <ul style="list-style-type: none"> <li><a href="http://www.americanheart.org/presenter.jhtml?identifier=183">www.americanheart.org/presenter.jhtml?identifier=183</a> - Cholesterol Information</li> <li><a href="http://www.arthritis.org">www.arthritis.org</a> - Arthritis Foundation</li> <li><a href="http://www.americanheart.org">www.americanheart.org</a> - American heart</li> <li><a href="http://www.cancer.org">www.cancer.org</a> - American cancer society</li> <li><a href="http://www.diabetes.org">www.diabetes.org</a> - American Diabetes</li> <li><a href="http://www.healthsquare.com/mc/fgmc2501.htm">www.healthsquare.com/mc/fgmc2501.htm</a> - Pulse Information</li> <li><a href="http://www.mayoclinic.com/health/blood-pressure/HI00043">www.mayoclinic.com/health/blood-pressure/HI00043</a> - Blood pressure Information</li> <li><a href="http://www.nationaleatingdisorders.org">www.nationaleatingdisorders.org</a> - National eating disorders</li> <li><a href="http://www.obesity.org">www.obesity.org</a> - Obesity Society</li> <li><a href="http://www.vaughns-1-pagers.com/medicine/blood-pressure.htm">www.vaughns-1-pagers.com/medicine/blood-pressure.htm</a> - Blood Pressure Information</li> </ul> </li> </ul>	

<b>Agenda</b>		
<b><i>Step</i></b>	<b><i>Minutes</i></b>	<b><i>Activity</i></b>
1	10	Review Handout 1, What Is Wrong with Me? Conduct a class discussion of the problem. Answer any questions or concerns students may have identified since the last discussions in Lessons 1 and 2.
2	10	Distribute Handout 3, What is the Diagnosis? and Rubric 3 for Treatment Plan and Brochure. Conduct a class discussion of requirements for their finished product. Discuss in class the material they will be presenting to the nurse practitioner or medical personnel and the material they will be providing to the patient.
3	30	Distribute Handout 4, What does that Lab Test mean? Allow time for students to complete. As a class go over their responses of Handout 4 and clarify any problems the students may be having with the different lab tests.
4	30	Distribute Handout 5, What are the basics? Allow time for students to complete. As a class go over their responses of Handout 5 and clarify any problems the students may be having. This activity will help the students refresh their memories of the different illnesses
5	115	Divide the class into groups of 3 students each. Groups will work on researching, making diagnosis, creating treatment plan, creating pamphlet, preparing for presentation

## *What is the Diagnosis?*

### **Requirements for Treatment Plan and Health Brochure**

#### **Treatment Plan**

You will be presenting your treatment plan to the nurse practitioner. The way you present the material is up to each individual group. The treatment plan could include diet and exercise, oral medications, or other changes you determine. The treatment plan needs to be a word document.

Information to be included:

- Patient name
- Patient diagnosis
- Assessment
- Patients symptoms/ warning signs
- Physical changes patient needs to do (exercise)
- Diet changes
- Medications - only include if needed
- Measurable Outcomes
- Time frames
- Plan of Action for Follow-Up

#### **Health Brochure**

The brochure needs to be a Publisher document. In publisher it provides you with a brochure template. The brochure needs to grab people's attention but still be easy to follow and understand.

Information to be included:

- Disease
- Symptoms
- Prevention
- Treatment
- Pictures or diagrams

***What is the Diagnosis - Treatment Plan / Brochure Rubric***

	Evaluating Student Presentations <sup>1</sup>				
	1	2	3	4	Total
<b>Organization</b>	Audience cannot understand presentation because there is no sequence of information.	Audience has difficulty following presentation because student jumps around.	Student presents information in logical sequence which audience can follow.	Student presents information in logical, interesting sequence which audience can follow.	
<b>Subject Knowledge</b>	Student does not have grasp of information; student cannot answer questions about subject.	Student is uncomfortable with information and is able to answer only rudimentary questions.	Student is at ease with expected answers to all questions, but fails to elaborate.	Student demonstrates full knowledge (more than required) by answering all class questions with explanations and elaboration.	
<b>Graphics</b>	Student uses superfluous graphics or no graphics	Student occasionally uses graphics that rarely support brochure	Student's graphics relate to brochure	Student's graphics explain and reinforce the brochure.	
<b>Mechanics</b>	Student's presentation has four or more spelling errors and/or grammatical errors.	Presentation has three misspellings and/or grammatical errors.	Presentation has no more than two misspellings and/or grammatical errors.	Presentation has no misspellings or grammatical errors.	
<b>Eye Contact</b>	Student reads all of treatment plan / brochure with no eye contact.	Student occasionally uses eye contact, but still reads most of treatment plan/ brochure.	Student maintains eye contact most of the time but frequently returns to notes.	Student maintains eye contact with audience, seldom returning to notes.	
<b>Elocution</b>	Student mumbles, incorrectly pronounces terms, and speaks too quietly for students in the back of class to hear.	Student's voice is low. Student incorrectly pronounces terms. Audience members have difficulty hearing presentation.	Student's voice is clear. Student pronounces most words correctly. Most audience members can hear presentation.	Student uses a clear voice and correct, precise pronunciation of terms so that all audience members can hear presentation.	
				<b>Total Points:</b>	



Name \_\_\_\_\_

## What does that Lab Test mean?

### BMI = Body Mass Index

1. What is it?
2. What is it a reliable indicator of?
3. Formula for BMI = weight (lbs) / height (in)<sup>2</sup> x 703

Example:  $(150 / (65)^2) \times 703 = 24.96$

Practice Problems:

$$(135 / (60)^2) \times 703 = \underline{\hspace{2cm}}$$

$$(125 / (57)^2) \times 703 = \underline{\hspace{2cm}}$$

$$(250 / (70)^2) \times 703 = \underline{\hspace{2cm}}$$

$$(225 / (72)^2) \times 703 = \underline{\hspace{2cm}}$$

Your BMI:  $(\underline{\hspace{2cm}} / (\underline{\hspace{2cm}})^2) \times 703 =$

4. Fill in the following BMI table:

BMI		Waist less than or equal to 40in. (men) or 35 in. (women)	Waist greater than 40 in. (men) or 35 in. (women)
18.5 or less			
18.5 - 24.9			
25.0 - 29.9			
30.0 - 34.9			
35.0 - 39.9			
40 or greater			

### Blood Pressure

1. What is the normal blood pressure?
2. What do the two numbers mean?

3. Fill in the following table in regards to blood pressure:

Category	Systolic (top number)		Diastolic (bottom number)
Normal			
Prehypertension			
<b>High Blood Pressure</b>			
Stage 1			
Stage 2			

### **Fasting Blood Glucose**

1. What the fasting blood glucose test?
2. What is the range for the following categories:
  - a. Normal:
  - b. Impaired:
  - c. Diabetes:

### **HgbA1c**

1. What is HgbA1c?
2. What is the normal range for this test (males and females)?

### **BUN**

1. What is BUN?
2. What is the normal range for BUN?

## **Creatinine**

1. What is the creatinine test?
2. What are normal creatinine results for men?
3. What are normal creatinine results for women?

## **Cholesterol**

1. What is cholesterol?
2. Total Cholesterol categories:
  - a. Desirable =
  - b. Borderline-High Risk =
  - c. High Risk =
3. What is HDL?
4. What is considered low HDL (men and women)?
5. What is average range of HDL (men and women)?
6. What is LDL?
7. Fill in the table for LDL cholesterol:

Less than 100 mg/dL	
100 to 129 mg/dL	
130 to 159 mg/dL	
160 to 189 mg/dL	
190 mg/dL and above	

### Triglyceride Level

1. What are triglycerides?
2. Fill in the table with triglyceride levels:

Less than 150 mg/dL	
150-199 mg/dL	
200 - 499 mg/dL	
500 mg/dL and above	

## Teacher Key

# What does that Lab Test mean?

## BMI = Body Mass Index

1. What is it?

Used as a screening tool to identify possible weight problems for adults

2. What is it a reliable indicator of?

Body fatness for people

3. Formula for BMI = weight (lbs) / height (in)<sup>2</sup> x 703

Example:  $(150 / (65)^2) \times 703 = 24.96$

Practice Problems:

$$(135 / (60)^2) \times 703 = 26.36$$

$$(125 / (57)^2) \times 703 = 27.05$$

$$(250 / (70)^2) \times 703 = 35.87$$

$$(225 / (72)^2) \times 703 = 30.51$$

Your BMI:  $(\text{_____} / (\text{_____})^2) \times 703 =$

4. Fill in the following BMI table:

BMI		Waist less than or equal to 40in. (men) or 35 in. (women)	Waist greater than 40 in. (men) or 35 in. (women)
18.5 or less	Underweight	---	N/A
18.5 - 24.9	Normal	---	N/A
25.0 - 29.9	Overweight	Increased	High
30.0 - 34.9	Obese	High	Very High
35.0 - 39.9	Obese	Very High	Very High
40 or greater	Extremely	Extremely High	Extremely High

## Blood Pressure

1. What is the normal blood pressure?

120/80 or lower

2. What do the two numbers mean?

Systolic (top number) - pressure when heart beats while pumping blood

Diastolic (bottom number) - Pressure when heart is at rest

3. Fill in the following table in regards to blood pressure:

Category	Systolic (top number)		Diastolic (bottom number)
Normal	Less than 120	AND	Less than 80
Prehypertension	120-139	OR	80-89
<b>High Blood Pressure</b>			
Stage 1	140-159	OR	90-99
Stage 2	160 or higher	OR	100 or higher

### Fasting Blood Glucose

1. What the fasting blood glucose test?  
Measures blood glucose after you have not eaten for 8 hours
2. What is the range for the following categories:
  - a. Normal: 70-99 mg/dL (milligrams per deciliter)
  - b. Impaired: 100-125 mg/dL
  - c. Diabetes: 126 mg/dL and above

### HgbA1c

1. What is HgbA1c?  
Average blood sugar level for 2-3 months, you do not have to fast for this test. This test could also test for diabetes.
2. What is the normal range for this test (males and females)?  
4.3 - 6.1

### BUN

1. What is BUN?  
BUN = blood urea nitrogen. It measures the amount of nitrogen in your blood that comes from the waste product urea. This shows kidney function.
2. What is the normal range for BUN?  
10 - 20 mg/dL

## Creatinine

1. What is the creatinine test?  
Blood test that shows kidney function. If kidneys become impaired, creatinine level will rise.
2. What are normal creatinine results for men?  
0.6 - 1.2 mg/dL
3. What are normal creatinine results for women?  
0.5-1.1 mg/dL

## Cholesterol

1. What is cholesterol?  
This is a waxy fat-like substance. It can block arteries and cause heart attack or stroke.
2. Total Cholesterol categories:
  - a. Desirable = less than 200 mg/dL
  - b. Borderline-High Risk = 200-239 mg/dL
  - c. High Risk = 240 mg/dL and over
3. What is HDL?  
This is the good cholesterol and higher levels are better.
4. What is considered low HDL (men and women)?  
Men = less than 40 mg/dL  
Women = less than 50 mg/dL
5. What is average range of HDL (men and women)?  
Men = 40-59 mg/dL  
Women = 50-60 mg/dL
6. What is LDL?  
This is the bad cholesterol and the lower levels are better.
7. Fill in the table for LDL cholesterol:

Less than 100 mg/dL	Optimal
100 to 129	Near optimal /

mg/dL	above optimal
130 to 159 mg/dL	Borderline high
160 to 189 mg/dL	High
190 mg/dL and above	Very high

## Triglyceride Level

1. What are triglycerides?

This is a form of fat. People with high triglycerides often have high total cholesterol as well.

2. Fill in the table with triglyceride levels:

Less than 150 mg/dL	Normal
150-199 mg/dL	Borderline- high
200 - 499 mg/dL	High
500 mg/dL and above	Very high



Name \_\_\_\_\_

## Health Conditions - What are the basics?

### Cardiovascular Basics

1. What is cardiovascular disease?
2. Name some of the main cardiovascular diseases.
3. What is coronary artery disease?
4. What is a heart attack?
5. What is Heart failure?
6. What is high blood pressure?
7. What is a stroke?

### Arthritis

1. What is arthritis?

## **Cancer**

1. What is cancer?
2. Name some common kinds of cancer?
3. What is the difference between benign and malignant?

## **Diabetes**

1. What is diabetes?
2. What is insulin?
3. What is Type 1 diabetes?
4. What is Type 2 diabetes?
5. What are some complications from type 1 and type 2 diabetes?

## **Obesity**

1. What is obesity?
2. What are some common problems caused from obesity?

## **Eating Disorders**

1. What is anorexia?
2. What is bulimia?
3. What is binge eating?

## **Metabolic Syndrome**

1. What is metabolic syndrome?
2. What are some symptoms?
3. What are some risk factors?

## Teacher Key

### Health Conditions – What are the basics?

#### Cardiovascular Basics

1. What is cardiovascular disease?  
Wide range of disease that affect your heart or blood vessels
2. Name some of the main cardiovascular diseases.  
Coronary artery disease, heart attack, heart failure, high blood pressure, stroke
3. What is coronary artery disease?  
Diseases of the arteries that supply the heart muscle with blood. This is the leading cause of heart attack.
4. What is a heart attack?  
This is injury to the heart muscle cause by loss of blood supply. Most common cause is blood clots block flow in the coronary artery.
5. What is Heart failure?  
This is called congestive heart failure. This is a condition where the heart cannot pump enough blood to meet needs of your body's organs and tissues.
6. What is high blood pressure?  
This is the excessive force of blood pumping through blood vessels.
7. What is a stroke?  
This is when blood flow to the brain is interrupted or blood vessel in the brain ruptures.

#### Arthritis

1. What is arthritis?  
This is a joint disorder. A joint is an area where two different bones meet. Inflammation of the joints is characterized by joint stiffness, swelling, redness, and warmth.

## Cancer

1. What is cancer?

This is a disease in which abnormal cells divide without control and are able to invade other tissues. Cancer cells are spread to other parts of the body through the blood and lymph system.

2. Name some common kinds of cancer?

Bladder, breast, colon and rectal, endometrial, kidney, leukemia, lung, melanoma, pancreatic, prostate, thyroid

3. What is the difference between benign and malignant?

Benign - are not cancerous

Malignant - are cancerous

## Diabetes

1. What is diabetes?

This is a disease in which the body does not produce or properly use insulin

2. What is insulin?

Insulin is a hormone that is needed to convert sugar, starches, and other food into energy needed for daily life

3. What is Type 1 diabetes?

This is diagnosed in children or young adults. The body does not produce insulin.

4. What is Type 2 diabetes?

This is the most common type of diabetes. The body does not produce enough insulin or cells ignore the insulin.

5. What are some complications from type 1 and type 2 diabetes?

Complications can be heart disease, blindness, nerve damage, or kidney damage

## Obesity

1. What is obesity?

When individuals have high body mass indexes and are considered to be unhealthy.

2. What are some common problems caused from obesity?

Problems individuals can get are coronary heart disease, type 2 diabetes, cancers, hypertension, stroke, liver and gallbladder disease, and sleep apnea.

## **Eating Disorders**

1. What is anorexia?  
Individuals do not eat or eat very little.
2. What is bulimia?  
Individuals eat a lot but vomit after eating.
3. What is binge eating?  
Individuals eat extremely large quantities of food.

## **Metabolic Syndrome**

1. What is metabolic syndrome?  
Cluster of conditions that occur together increasing your risk of heart disease, stroke, and diabetes.
2. What are some symptoms?  
Obesity, elevated blood pressure, elevated triglyceride level, low HDL cholesterol, resistance to insulin
3. What are some risk factors?  
Age (increasing age), race (Hispanics and Asians), obesity, history of diabetes

<b>Lesson 6</b>	<b>Treatment Plan / Brochure Presentation Day</b>	
<b>Time Estimate:</b> 80 minutes		
<b>Objectives</b>		
<ol style="list-style-type: none"> <li>1. Students will provide a treatment plan for the patient that includes patient assessment data, diet and exercise, oral medications, and outcomes and plan of action for followup.</li> <li>2. Students will provide a completed brochure with the specific information regarding the disease, symptoms, prevention, treatment and diagrams or pictures.</li> <li>3. Students will be able to explain metabolic syndrome.</li> <li>4. Students will be able to determine the normal readings for blood pressure, cholesterol, triglycerides</li> </ol>		
<b>Materials &amp; Resources</b>		
<ul style="list-style-type: none"> <li>• Presentation Equipment and student handouts</li> <li>• Nurse Practitioner (or other medical personnel)</li> <li>• 3. Rubric 3 for Presentation of Treatment Plan and Brochure from Lesson 5</li> </ul>		
<b>Agenda</b>		
<b>Step</b>	<b>Minutes</b>	<b>Activity</b>
1	50	Each group will present their diagnosis and treatment plan to Nurse Practitioner or other medical personnel. Each group will show their pamphlet and describe how they would use that with their patient.
2	20	Nurse Practitioner will discuss results with the class and explain how this is something she deals with on a daily basis.
3	10	Conduct a class discussion and debrief students' perceptions of presentations, treatment plans and brochures.

<b>Lesson 7</b>		<b><i>Conclusion Day</i></b>
<b>Time Estimate:</b> 40 minutes		
<b>Objectives</b>		
<ol style="list-style-type: none"> <li>1. Students will describe their evaluation of the activity.</li> <li>2. Students will describe the things they learned through this project.</li> </ol>		
<b>Materials &amp; Resources</b>		
<ul style="list-style-type: none"> <li>• Rubric 2: Group Participation from Lesson 4</li> </ul>		
<b>Agenda</b>		
<b><i>Step</i></b>	<b><i>Minutes</i></b>	<b><i>Activity</i></b>
1	10	Distribute Rubric 2, Group Participation and have students complete for their group members.
2	15	Ask students to write a one paragraph reflection of this problem based learning activity.
3	15	<p>Review with class the things that were learned and situations that occurred as a part of this problem based learning activity.</p> <p>Questions to consider in discussion:</p> <ol style="list-style-type: none"> <li>1. What did we learn?</li> <li>2. Why was this beneficial?</li> <li>3. Things to change?</li> <li>4. What did you not like?</li> <li>5. Did this change your mind on your job outlook?</li> </ol>



**Teacher**

**Assessment Materials**

## FINAL EVALUATION

### Problem Statement to be solved

Using the information on the patient provided and your knowledge and research of various health conditions, you are asked to develop a working diagnosis and treatment plan for treatment of the patient. The treatment plan could include diet and exercise, oral medications, and any other changes necessary for the patient. You will be presenting your diagnosis and treatment plan to our nurse practitioner for her analysis. As part of your presentation you will need written directions for your patient and a health pamphlet on her condition.

### Final Evaluation Criteria

The students provided the following as completion of the problem.

1. Treatment Plan for the patient was presented as a word document and included the following:
  - a. Correct patient data, symptoms, diagnosis, and assessment
  - b. Diet and exercise changes that patient needs to do
  - c. Medications
  - d. Outcomes expected
  - e. Follow up plan
2. Brochure provided
  - a. information on the disease including symptoms, prevention, treatment.
  - b. included pictures and/or diagrams
  - c. was done as a publisher document
3. Presentation presented the information with visual aids and/or handouts.
4. The content of the presentation :
  - a. Showed evidence of research
  - b. Presented information in logical sequence
  - c. Included graphics
  - d. Had no more than two misspelled words or grammatical errors
5. The student delivered the presentation
  - a. At ease and with expected answers to all questions
  - b. Maintaining eye contact most of the time
  - c. With a clear voice and most words were pronounced correctly.

### **Scoring Notes for Rubrics**

The grade was a combination of the health condition presentation, treatment plan, brochure, and two group participation grades for each presentation.

Rubric 1 is for the PowerPoint presentation on a Health Condition. The maximum number of points is 100.

Rubric 2 it was a group participation grade for the PowerPoint and presentation. I made it worth a maximum of 10 points.

Rubric 3 is for the treatment plan and brochure. I combined the two projects together because they presented them at the same time and handed them in at the same time. I also had the nurse practitioner assist with the assessing of the projects. The maximum total points was 24 but I wanted it worth more than 24 so I multiplied each of the groups final total points by 5, therefore making for a maximum point total of 120.

The final rubric is another group participation grade for the treatment plan and brochure. Again the maximum point value is 10.

## **Example of Acceptable Student Solution**

1. Presentation on Medical Condition: See PowerPoint Presentation found in PowerPoint file named "Diabetes PowerPoint for What is Wrong with Me Module. This is attached to this module.

## **2. Treatment Plan example below:**

*Patient: Jane Doe*

*Diagnosis: Metabolic Syndrome*

*Assessment: Patient has high blood pressure, is overweight, and has diabetes*

*Symptoms: Patient reported no symptoms, came to the doctor for a routine visit. Patient presented with high blood pressure, higher than average abdominal girth, high fasting blood glucose, high HgbA1c, borderline high total cholesterol, borderline high LDL cholesterol, low HDL cholesterol, and high triglycerides.*

### **Physical**

*Patient needs to start walking a half hour 3 times a week. Continue this for 4 weeks. If patient is beginning to feel more comfortable with this it can be increased to 5 times a week.*

### **Diet**

*Patient kept a food journal (attached) for 4 days. From examining their food choices patient needs to make modifications. Instead of drinking pop, patient needs to drink water. The patient is also going to begin the Mediterranean diet which has been proven to reduce the risk of heart disease in patients.*

*Key components of the Mediterranean Diet:*

- *Eating a generous amount of fruits, vegetables, and grains*
  - *Can help to lower the LDL cholesterol*
  - *Grains in the Mediterranean region are typically whole grain and usually contain very few unhealthy trans fats.*
  - *Bread is also important but do not add butter or margarines because they contain saturated or trans fats*

- *Consuming healthy fats such as olive oil and canola oil*
  - *Can help reduce LDL*
- *Eating small portions of nuts*
  - *Examples are walnuts, pecans, almonds, and hazel nuts*
  - *Eat no more than a handful a day because they do contain a lot of fat*
- *Drinking red wine, in moderation, for some*
  - *Drink no more than 5 ounces a day*
- *Consuming very little red meat*
- *Eating fish on a regular basis*
  - *Source of omega-3 fatty acids*
  - *Omega-3 lower triglycerides and may improve the health of your blood vessels*

*Other food suggestions include drinking skim milk instead of whole and limited portion sizes. Often our portion sizes are too large, make sure to read labels and be observant of what you are eating.*

### ***Medications***

*No medications were given at this time. Patient will be reexamined in 6 weeks to see if diet and exercise is making a difference in lab results. If no change patient will be given a medication for blood pressure and another one for cholesterol.*

### ***Measureable Outcomes***

*Patient should lose weight after exercising and changing their diet. We should also be able to measure the lab results and see improvements in them as well.*

***Time Frame/ Follow-up:*** *Patient needs to continue diet and exercise regimen for six weeks. Patient then needs to return to office to recheck tests. Hope to see patient losing weight and a decrease in blood pressure and positive changes in cholesterol. If changes are not seen patient will have to start medication in addition to continuing diet and exercise plan. Also, we will have to examine whether or not the patient is actually following through with the diet and exercise plan, if not may have to modify options so patient does.*

## Food Journal – Jane Doe

### Day 1

- Breakfast
  - Breakfast sandwich
  - Coffee
- Morning Snack
  - Snickers bar
  - Pop
- Lunch
  - Cheeseburger
  - Onion rings
  - Pop
- Afternoon Snack
  - Bag of chips
  - Pop
- Supper
  - Pasta (white) with sauce
  - Pop

### Day 2

- Breakfast
  - Donut
  - Coffee
- Morning Snack
  - Another donut
  - Coffee
- Lunch
  - Fried chicken sandwich
  - French fries
  - Pop
- Afternoon Snack
  - Piece of birthday cake
  - Glass of whole milk
- Supper
  - Cesar salad
  - Pop
  - 2 pieces of white bread with butter

### Day 3

- Breakfast
  - 2 muffins
  - Coffee
- Morning Snack
  - Popcorn
  - Pop
- Lunch
  - 3 pieces of pizza
  - Pop
- Afternoon Snack
  - 1 piece of pizza
  - Pop
- Supper
  - Cheeseburger
  - Chips
  - Pop

### Day 4

- Breakfast
  - Coffee
- Morning Snack
  - Crackers
  - Pop
- Lunch
  - Cheeseburger
  - Fries
  - Pop
- Afternoon Snack
  - Trail mix with m&m's
  - Whole milk
- Supper
  - Fried Chicken
  - Mash potatoes / gravy
  - Biscuit

### **3. Brochure**

The students also created a brochure about metabolic syndrome. They included information on the syndrome, symptoms, causes, prevention, and treatment. They had attention grabbing colors and pictures. They also gave information on what would happen if you were not treated for the syndrome. They created this brochure in Microsoft publisher.

A copy of this can be found in the file "Brochure Example for What is wrong with me.pub" which is attached to this module.

# APPENDIX



## Glossary of Terms

**Abdominal Girth** - is the measurement of the distance around the abdomen at a specific point, usually at the level of the belly button (navel).

**Blood Glucose** - glucose in the bloodstream

**Blood Pressure** - the pressure of the circulating blood against the walls of the blood vessels; results from the systole of the left ventricle of the heart; sometimes measured for a quick evaluation of a person's health; "adult blood pressure is considered normal at 120/80 where the first number is the systolic pressure and the second is the diastolic pressure"

**Body Mass Index** - A measurement of the relative percentages of fat and muscle mass in the human body, in which weight in kilograms is divided by height in meters and the result used as an index of obesity.

**BUN** -blood urea nitrogen: the concentration of nitrogen in the blood in the form of urea, indicating kidney function

**Cancer** - a malignant and invasive growth or tumor, esp. one originating in epithelium, tending to recur after excision and to metastasize to other sites.

**Cholesterol** - A white crystalline substance,  $C_{27}H_{45}OH$ , found in animal tissues and various foods, that is normally synthesized by the liver and is important as a constituent of cell membranes and a precursor to steroid hormones. Its level in the bloodstream can influence the pathogenesis of certain conditions, such as the development of atherosclerotic plaque and coronary artery disease

**Coronary Artery Disease** - Atherosclerosis of the coronary arteries, which can cause angina pectoris or heart attack. A positive family history, hypertension, smoking, diabetes mellitus, and elevated blood lipids increase the risk of developing coronary artery disease

**Creatinine** -A compound formed by the metabolism of creatine, found in muscle tissue and blood and normally excreted in the urine as a metabolic waste. Measurement of creatinine levels in the blood is used to evaluate kidney function

**Diabetes** - a disorder of carbohydrate metabolism, usually occurring in genetically predisposed individuals, characterized by inadequate production or utilization of insulin and resulting in excessive amounts of glucose in the blood and urine, excessive thirst, weight loss, and in some cases progressive destruction of small blood vessels leading to such complications as infections and gangrene of the limbs or blindness

**Eating Disorders** - a compulsion to eat, or avoid eating that negatively affects both one's physical and mental health

**HDL Cholesterol** - the cholesterol in high-density lipoproteins; the 'good' cholesterol; a high level in the blood is thought to lower the risk of coronary artery disease

**Heart Disease** -A structural or functional abnormality of the heart, or of the blood vessels supplying the heart, that impairs its normal functioning

**Hypertension** - common disorder in which blood pressure remains abnormally high (a reading of 140/90 mm Hg or greater)

**LDL Cholesterol** - the cholesterol in low-density lipoproteins; the 'bad' cholesterol; a high level in the blood is thought to be related to various pathogenic conditions

**Nurse Practitioner** - a registered nurse who has received special training for diagnosing and treating routine or minor ailments

**Pulse** - the regular throbbing of the arteries, caused by the successive contractions of the heart, esp. as may be felt at an artery, as at the wrist

**Stroke** -a blockage or hemorrhage of a blood vessel leading to the brain, causing inadequate oxygen supply and, depending on the extent and location of the abnormality, such symptoms as weakness, paralysis of parts of the body, speech difficulties, and, if severe, loss of consciousness or death.

**Treatment Plan** - a plan to help an individual become healthier

**Triglycerides** - Any of a class of organic compounds that are esters consisting of three fatty acids joined to glycerol. The fatty acids may be the same or may be different. Triglycerides are the chief lipids constituting fats and oils and function to store chemical energy in plants and animals

**Vital Signs** -index of essential body functions, comprising pulse rate, body temperature, and respiration