

# Health Literacy:

## Report of Survey Results for Wilce Student Health Center Pharmacy

Center for the Study of Student Life

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## INTRODUCTION

The Survey on College Student Health Literacy was a pilot study conducted during the spring 2013 semester at the Ohio State University Columbus campus. The survey was developed from the results of a 2012 qualitative study regarding college student health literacy related to prescription medications, which was conducted in collaboration with the Wilce Student Health Center Pharmacy. The survey expanded upon the qualitative study to include health literacy and numeracy skills such as the ability to interpret tables, nutrition labels, and prescription label instructions. The survey was piloted with a stratified random sample of Ohio State students on the Columbus campus to ensure the inclusion of international students within the sample. A total of 2,000 students were invited to participate, of which 277 students responded, yielding a 14% response rate.

## HIGHLIGHTS

- 58.1% of respondents typically fill their prescriptions at a chain drugstore/supermarket pharmacy
- 18.1% fill their prescriptions at the Wilce Student Health Center
- 76.9% felt that the written instructions on the medication bottle for taking the medication were easy to understand *often*
- 55.9% reported they read the patient education materials with their new prescriptions
- 34.5% would seek advice first from a pharmacist (call) if they had a question about their prescription
- 13.4% have left the pharmacy feeling confused about their medications or had questions that remained unanswered
- 18.5% have left the pharmacy with questions unanswered due to shame or embarrassment about asking a question

## DEMOGRAPHICS

<b>Gender</b>	<b>%</b>
Male	27.9
Female	72.1
<b>International/Domestic</b>	<b>%</b>
International	6.3
Domestic	93.7
<b>English language skills</b>	<b>%</b>
English is first language	89.5
English is not first language	10.5
<b>Health-Related Field</b>	<b>%</b>
Studying a health-related field	34.9
Not studying a health-related field	65.1

<b>Race/Ethnicity</b>	<b>%</b>
African American/Black or African descent	5.8
Asian American/Asian (East, South, Southeast)	7.9
Latino(a)/Hispanic American	3.2
White/European American	77.9
Multiple Races/Ethnicities	5.3
<b>Student/Staff Status</b>	<b>%</b>
First-year undergraduate	9.9
Second-year undergraduate	15.2
Third-year undergraduate	16.8
Fourth-year undergraduate	16.8
Fifth-year undergraduate	4.7
Graduate – Masters	10.5
Graduate – Professional	9.9
Graduate – Doctoral	16.2

## FINDINGS

### Where do you fill the majority of your prescriptions?

Answer	%
N/A, I do not personally visit the pharmacy to fill/pick up prescriptions	13.3
Wilce Student Health Center Pharmacy	18.1
Chain Drugstore/supermarket pharmacy	58.1
Mail order	5.2
Other	5.2

### Other: Open-ended Responses

Summarized open-ended responses	Number of responses
Home pharmacy	6
Chain drugstore/ supermarket pharmacy (did not choose this from options provided)	4
Veterans Affairs	1
Haven't fallen sick	1

### How easy is it for you to find the following information on your prescription bottle?

	Very easy (%)	Somewhat easy (%)	Somewhat difficult (%)	Very difficult (%)
Dosage/Instructions	85.5	14.1	0.4	0.0
Drug name	85.9	12.3	1.3	0.4
Pharmacy phone number	71.5	21.7	6.3	0.5
Prescription number	63.5	25.2	9.5	1.8

### How often are:

	Often (%)	Occasionally (%)	Never (%)	N/A, I don't read them (%)	N/A, I don't have experience with prescriptions (%)
The written instructions (on the bottle) for taking the medication easy to understand?	76.9	13.8	0.4	2.0	6.9
You unsure how to correctly take your medications due to difficulty understanding the written instructions (on the bottle)?	5.7	13.0	71.5	1.6	8.1

**Do you read the patient education materials (explanatory papers attached to prescription package) provided with your new prescription(s)?**

Answer	%
Yes	55.9
No (why not?)	44.1

**No (why not?): Open-ended Responses**

Summarized open-ended responses	Number of responses
My doctor's explanation is sufficient	18
It takes too long to read/I do not have enough time to read it	15
I don't care about the details of my prescription	6
I've been using the same prescription for a while and there is no need to re-read the information every time I refill my prescription	5
I look up my prescription online if I have any questions	3

**Routing note: Do you read the patient education materials provided with... Yes is selected**

**Do you understand the information within the patient education materials provided with your prescription(s)?**

Answer	%
I understand the majority of the information	75.0
I understand some of the information	25.0
I do not understand the information	0.0

**Routing note: Do you read the patient education materials provided with... Yes is selected**

**Do you benefit from reading the patient education materials?**

Answer	%
Yes	42.2
Somewhat	55.2
No	2.6

**Do you read the warning labels (labels attached to prescription bottle/package) on your prescription bottles?**

Answer	%
Yes	77.0
No (why not)	13.6
N/A, I don't take prescription medications	9.4

**No (why not?): Open-ended Responses**

Summarized open-ended responses	Number of responses
My doctor's explanation is sufficient	10
I don't care about the warnings on my prescription	5
It takes too long to read/I do not have enough time to read it	3
I've been using the same prescription for a while and there is no need to re-read the warnings every time I refill my prescription	3

**Routing Note:** *Do you read the warning labels (labels attached to prescription bottle/package) ...Yes is selected*

**Do the warning labels guide how you take the medication?**

Answer	%
Yes	78.9
No	21.1

**How confident are you in your ability to take your medications as directed by your provider?**

Answer	%
Very confident	91.4
Somewhat confident	8.2
Not at all confident	0.4

**If you had a question about your prescription medication, where would you seek advice first?**

Answer	%
Pharmacy (call to speak to a pharmacist)	34.5
Google	21.6
Specific health website (WedMD, MedicineNet)	11.6
Family member or friend	19.8
Other	12.5

**Other: Open-ended Responses**

Summarized open-ended responses	Number of responses
The doctor who prescribed it to me	15
The internet	3
Family member or friend who is a doctor	3

**After speaking with a pharmacist or physician, do you ever still feel confused about your medications or have questions that remain unanswered?**

<b>Answer</b>	<b>%</b>
Yes	13.4
No	73.6
N/A	13.0

**Have you ever left the pharmacy with questions unanswered due to shame or embarrassment about asking your question?**

<b>Answer</b>	<b>%</b>
Yes	18.5
No	73.3
N/A	8.2

## HEALTH LITERACY & NUMERACY: RESULTS

The tables below display the results of items designed to test health literacy and numeracy skills, including the ability to accurately interpret prescription medication labels, health charts, and nutrition labels. The tables below indicate overall percentage correct, as well as percent correct by certain variables such as gender, ethnicity, and academic study within a health-related field. Only comparisons with statistically significant differences are reported.

The following image was used to answer the next three questions.



What is your daily dose of Naproxen?

Demographic Variable	% Correct
Overall	96.5

You were prescribed Naproxen for a sprained ankle to treat severe inflammation. If you picked up your prescription at 3pm, at approximately what time(s) would you take this medication (assuming you would be taking it with food)?

Demographic Variable	% Correct
Overall	47.4
Studying a health-related field	56.7*
Not studying a health-related field	41.6*
White students	53.4**
Non-white students	25.6**
Undergraduate students	36.4*
Graduate students	65.7*

\* $p < .05$ , \*\* $p < .01$

While still taking your Naproxen prescription you suffered a headache later in the evening. Which of these medications would you choose to take for relief?

Demographic Variable	% Correct
Overall	87.6

The following image was used to answer the next question.

Approximately when would you take this Lamictal prescription on day 8, and how much?

Demographic Variable	% Correct
Overall	91.3
Domestic students	93.3*
International students	75.0*

\* $p < .05$ , \*\* $p < .01$

The following image was used to answer the next question.

After a few days your symptoms start to diminish and you start to feel better. You still have 32 Clindamycin capsules left. What do you do?

Demographic Variable	% Correct
Overall	94.0
Domestic students	94.4**
International students	75.0**
White students	95.9**
Non-white students	83.7**
English is first language	94.7*
English is not first language	80.0*

\* $p < .05$ , \*\* $p < .01$

**EPIPEN 2-PAK AUTO-INJECTOR 0.3MG Directions: INJECT 0.3MG INTRAMUSCULARLY ONCE AS NEEDED. Where would you inject this medication if you needed to use it?**

Demographic Variable	% Correct
Overall	93.7
Studying a health-related field	100.0*
Not studying a health-related field	93.6*
Domestic students	96.6*
International students	83.3*
White students	98.6**
Non-white students	86.0**

*\*p<.05, \*\*p<.01*

**EPIPEN 2-PAK AUTO-INJECTOR 0.3MG Directions: INJECT 0.3MG INTRAMUSCULARLY ONCE AS NEEDED. If you needed to use this medication, what dose would you inject?**

Demographic Variable	% Correct
Overall	47.6
English is first language	51.2*
English is not first language	30.0*
Studying a health-related field	59.1*
Not studying a health-related field	43.5*
Domestic students	51.1*
International students	16.7*
Undergraduate students	41.7*
Graduate students	61.4*

*\*p<.05, \*\*p<.01*

The following image was used to answer the next two questions.

**Medication: ZOLOFT 50MG TABLETS**  
**Directions: Take 1/2 tablet by mouth once daily for 6 days, then take 1 tablet daily thereafter.**  
**Quantity: 27**

**How many days will the prescription last you before you need to obtain a refill?**

Demographic Variable	% Correct
Overall	78.9

**What is the dose you would be taking on day 5 of taking the medication?**

Demographic Variable	% Correct
Overall	95.6

The following image was used to answer the next question.



Julia is 20 years old and is working out at 65% of her Maximum Heart Rate (mhr). What is her heart rate?

Demographic Variable	% Correct
Overall	68.5
Males	79.2*
Females	63.5*
Undergraduate students	61.2**
Graduate students	80.0**

\* $p < .05$ , \*\* $p < .01$

The following image was used to answer the next five questions.

<b>Nutrition Facts</b>	
<b>Serving Size</b>	<b>1/2 cup</b>
<b>Servings per container</b>	<b>4</b>
<b>Amount per serving</b>	
<b>Calories 250</b>	<b>Fat Cal 120</b>
	<b>%DV</b>
<b>Total Fat 13g</b>	<b>20%</b>
<b>Sat Fat 9g</b>	<b>40%</b>
<b>Cholesterol 28mg</b>	<b>12%</b>
<b>Sodium 55mg</b>	<b>2%</b>
<b>Total Carbohydrate 30g</b>	<b>12%</b>
<b>Protein 4g</b>	<b>8%</b>
*Percent Daily Values (DV) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
Ingredients: Cream, Skim Milk, Liquid Sugar, Water, Egg Yolks, Brown Sugar, Milkfat, Peanut Oil, Sugar, Butter, Salt, Carrageenan, Vanilla Extract.	

**If you eat the entire container, how many calories will you consume?**

<b>Demographic Variable</b>	<b>% Correct</b>
Overall	91.6
Domestic students	93.2**
International students	66.7**
White students	95.2**
Non-white students	78.6**

\* $p < .05$ , \*\* $p < .01$

**If you are allowed to consume 60g of carbohydrates as a snack, how much ice cream could you eat?**

<b>Demographic Variable</b>	<b>% Correct</b>
Overall	95.3
English is first language	96.4*
English is not first language	85.0*
Domestic students	97.2**
International students	66.7**
White students	97.3*
Non-white students	88.1*

\* $p < .05$ , \*\* $p < .01$

Your doctor advises you to reduce the amount of saturated fat in your diet. You usually have 42g of saturated fat each day, which includes 1 serving of ice cream. If you stop eating ice cream, how many grams of saturated fat would you be consuming each day?

Demographic Variable	% Correct
Overall	90.0
Domestic students	92.1**
International students	58.3**
White students	92.5*
Non-white students	81.0*

*\*p<.05, \*\*p<.01*

If you usually consume 2,500 calories in a day, what percentage of your daily value of calories will you be consuming if you eat one serving of ice cream?

Demographic Variable	% Correct
Overall	93.0

Pretend that you are allergic to the following: penicillin, peanuts, latex gloves, and bee stings. Is it safe for you to eat this ice cream? Why or why not?

Demographic Variable	% Correct
Overall	94.7
English is first language	96.4*
English is not first language	85.0*

*\*p<.05, \*\*p<.01*

Generic medications contain the exact same active ingredients in the same concentration as the name brand, but may differ in other characteristics.

Demographic Variable	% Correct
Overall	85.8

In alcoholic beverages, alcohol proof is defined as twice the percentage of alcohol by volume. If you saw an alcoholic drink that is 30-proof, it would be \_\_\_\_ % alcohol by volume.

Demographic Variable	% Correct
Overall	88.4
Reads the prescription materials	84.5*
Does not read the prescription materials	94.6*
White students	91.1*
Non-white students	79.1*

*\*p<.05, \*\*p<.01*

The following blood pressure chart was used to answer the next two questions.

Top number (systolic) in mm Hg		Bottom number (diastolic) in mm Hg	Your category	What to do
Below 120	and	Below 80	Normal blood pressure	Maintain or adopt a healthy lifestyle.
120-139	or	80-89	Prehypertension	Maintain or adopt a healthy lifestyle.
140-159	or	90-99	Stage 1 hypertension	Maintain or adopt a healthy lifestyle. If blood pressure goal isn't reached in about 6 months, talk to your doctor about taking one or more medications.
160 or more	or	100 or more	Stage 2 hypertension	Maintain or adopt a healthy lifestyle. Talk to your doctor about taking more than one medication.

Your blood pressure reading is currently 150 over 90, placing you in what category, according to the chart?

Demographic Variable	% Correct
Overall	97.9

What is the maximum systolic mmHg that you can have and still fall within the normal blood pressure range?

Demographic Variable	% Correct
Overall	66.3

## APPENDIX

### Open-ended Responses (expanded)

#### Where do you fill the majority of your prescriptions?

##### Other:

CVS Pharmacy  
doctor's faxed note  
Home  
Home pharmacy  
Hometown Drug Store  
i've never had to fill up a prescription in the US yet -- haven't fell sick  
Kroger on east broad street  
Kroger pharmacy  
pharmacy back home  
privately owned pharmacy  
target  
Triplitt Pharmacy in Coshocton, OH  
Veterans Affairs

#### Do you read the patient education materials (explanatory papers attached to prescription package) provided with your new prescription(s)?

##### No (why not?):

I dont think there is any  
I read them when I started the medication years ago; haven't read them since.  
I skim it. Not read in detail.  
I tell myself I will eventually look at but I do not. I think I would read the material if I had a chronic condition.  
I've already spoken to my doctor about the medication.  
i've been taking it for a while  
Info on the bottle is all I care about; doctor's say/advice is enough too  
Ive been using the same prescriptions for a while so I know how to use them and my doctor explains the important stuff to me so I assume that information is good enough.  
Length and doctor explains  
Lots of fine print, trust doctor and pharmacist  
Most of the time I am taking the same drugs I have taken before so there is no need to reread the material  
My doctor explains them to me beforehand or I look up the medication online  
My doctor tells me everything I need to know  
my doctor tells me what i need to know  
my doctor usually answers any questions I have  
my doctor usually tells me any info i need to know  
My Family is all Healthcare Professionals  
No interest. Not needed. Would if I needed to.  
No time  
Occasionally, I do. Only when I need to understand side effects or other information.

Read once, seems the same for each medication  
Seems like a hassle.  
sometimes do, sometimes don't.  
Takes too long, not necessarily easy to understand  
taking familiar medication, do not need instructions anymore  
The doctor explains any real harm they might cause  
The doctor explains them.  
The doctor or the pharmacist usually tells me the general guidelines for the prescription.  
The doctor usually explains them to me.  
the pharmacist answers any questions I have  
The prescribing doctor normally tells me what I need to know.  
There are often side effects that are not listed on that form. I often do a literature search on the drug if  
I feel like I am experiencing side effects.  
They are a waste. I've talked to the doctor already.  
they are long  
They are long and detailed. If I were to have side effects I might read the info to see if they are caused  
by the medicine.  
They are long and my doctor told me a brief summary of it.  
They're too long - should be shorter, more concise and clear  
time constraint  
too dense  
too lazy. I relied on what my doctors told me  
Too long  
Too long, seems unnecessary  
Too much information that probably won't affect me  
Too wordy  
Unless I have additional questions regarding what I am consuming.  
usually don't think they're that important  
Usually too long  
Will call pharmacy if I have questions or do an internet search

**Do you read the warning labels (labels attached to prescription bottle/package) on your prescription bottles?**

**No (why not?):**

too much time  
They usually say do not take if pregnant, or have heart problems or ask your dr, if the dr prescribe it  
then I trust the dr. And I'm not pregnant or have heart problems.  
The doctor usually tells us what we are not supposed to do  
my doctors should have told me..if there is anything I need to be aware of  
My doctor would have told me any really important warnings  
ive been taking them forever  
I've talked to the doctor already.  
I undersatnd Dr.  
I read them once years ago when I started the medication.

I read them if they are short, and I have read through black box warnings, but I usually just take the medicine as directed.

I know my risks with prescriptions

I don't feel the need to

Forget too sometimes, figure if its important pharmacist will tell me familiar medication

Don't consider it is important

Don't care

doctor tells me what to do

doctor tells me what i need to know

Doctor explains

Didn't really take the time out to read them/ not that important

**If you had a question about your prescription medication, where would you seek advice first?**

**Other:**

wikipedia

the prescribing physician

the prescribing physician

The physician who prescribed me the medication

Sister who is a pharmacist

Prescribing doctor

Prescribing doctor

prescriber

physician

physician

physician

Often the NIH and CDC have good resources.

My doctor.

My doctor

My doctor

Micromedex or Epocrates

I'd send an email to my doctor.

Friend who is a doctor

family member who is a nurse

Doctor who prescribed the medication