

**MAKING SENSE OF NUMBERS:  
UNDERSTANDING & RISKS AND BENEFITS  
AND COMMUNICATING NUMERICAL  
HEALTH INFORMATION**

Elaina Vitale / April  
27, 2017

# MAKING SENSE OF NUMBERS



Making Sense of Numbers



This comic strip was created at [MakeBeliefsComix.com](http://MakeBeliefsComix.com). Go there to make one yourself!

To be continued.....



# TODAY'S OBJECTIVES:

- ❑ To understand your role in risk communication and health numeracy
- ❑ To understand risk and benefit health information numeracy from an individual's perspective
- ❑ To understand that the communication of numbers must be clear and easy to understand
- ❑ To understand that numeracy is a key component of health literacy and its importance in the decision making process in managing ones health

# RIMA RUDD MSPH, SCD SAYS

“.....researchers are providing guidance for action. For example, public health and health care professionals are being **encouraged to do the math for the reader or patient** (Apter et al., 2008), to **provide numbers along with words** (Peters et al., 2006), to **consistently use the same denominators in fractions**” (Ancker, 2014)..

[Rudd, R. E. 2016. \*Numbers get in the way\*. Commentary, National Academy of Medicine, Washington, DC](#)

<http://www.hsph.harvard.edu/healthliteracy>

# FIGURING OUT THE NUMBERS

% per cent means

$$1\% = 1/100 = 0.01$$

$$25\% = 25/100 = 1/4$$

$$0.45\% =$$

$$.45 \times .01 = .0045 =$$

$$45/10,000$$

Converting fractions to  
per cent %

$$1/2 =$$

$$1 \div \text{by } 2 \times 100 = 50\%$$

$$25/1000 = ? \%$$

$$25/1000 = 2.5/100$$

$$.025 = 2.5\%$$

[www.sosmath.com](http://www.sosmath.com)

**“Numeracy is essential to science.”**

# DEFINITIONS



**Risk** - the *chance* that “something” will happen

**Risk** - the *chance* “something” will happen *good or bad*

**Outcome** - is the “*something*” that may happen

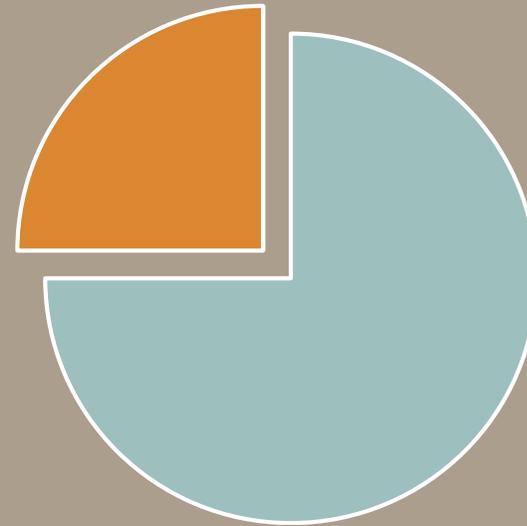
**Statistics** - are numbers that summarize information

# VISUALIZATION -- USING PICTURES TO REPRESENT NUMBERS

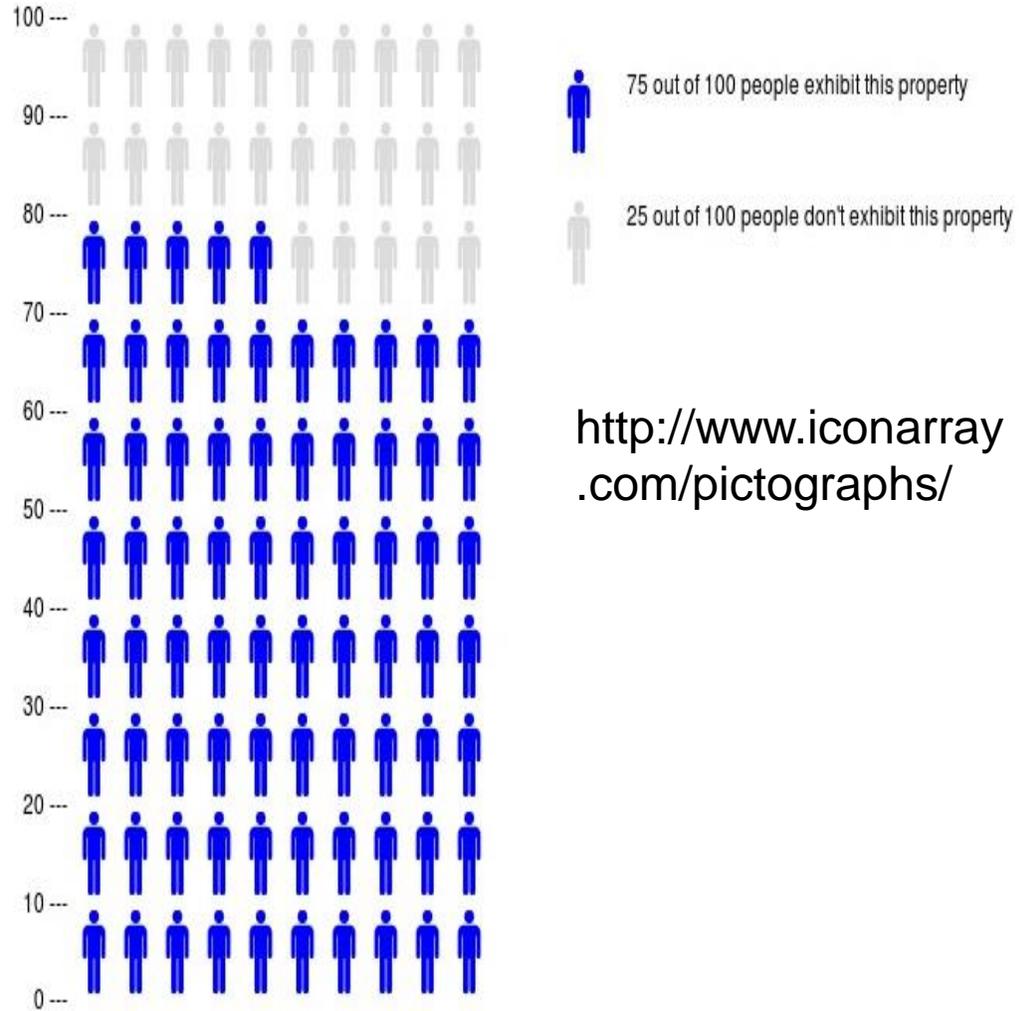
3 out of 4 or 75% = 75 out of 100



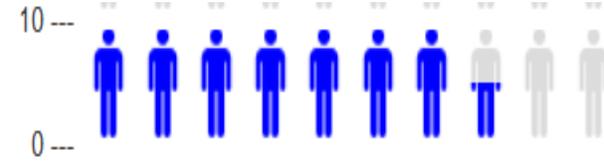
75% who take the drug have  
good results



## 75% OR 75 OUT OF 100



## 7.5 OUT OF 10



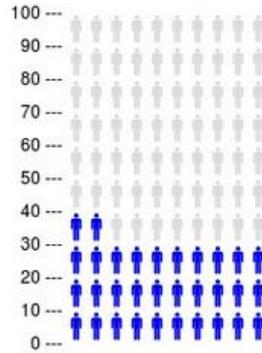
# CLINICIAN ICON ARRAY

Welcome to Clinician.IconArray.com

## 1 Risk/Benefit

Use one risk/benefit to show the effect one treatment option.

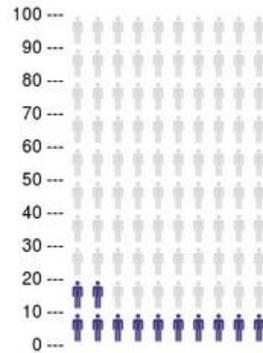
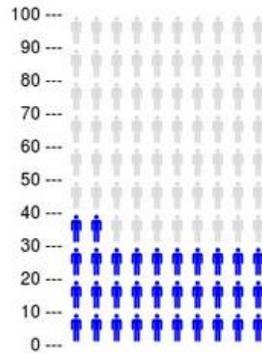
[Get Started >>](#)



## 2 Risks/Benefits

Use two risks/benefits to compare 2 treatment options side-by-side.

[Get Started >>](#)



## Compare 1 Risks



Icon array label

Pick a color 

30  out of 100

people experience this event

[View Your Icon Array](#)

# WHAT SHOULD MR. JONES DO?



3 out 1,000 people improved  
as a result of taking  
medication

and 2 out of 100 improved as  
a result of dietary changes.

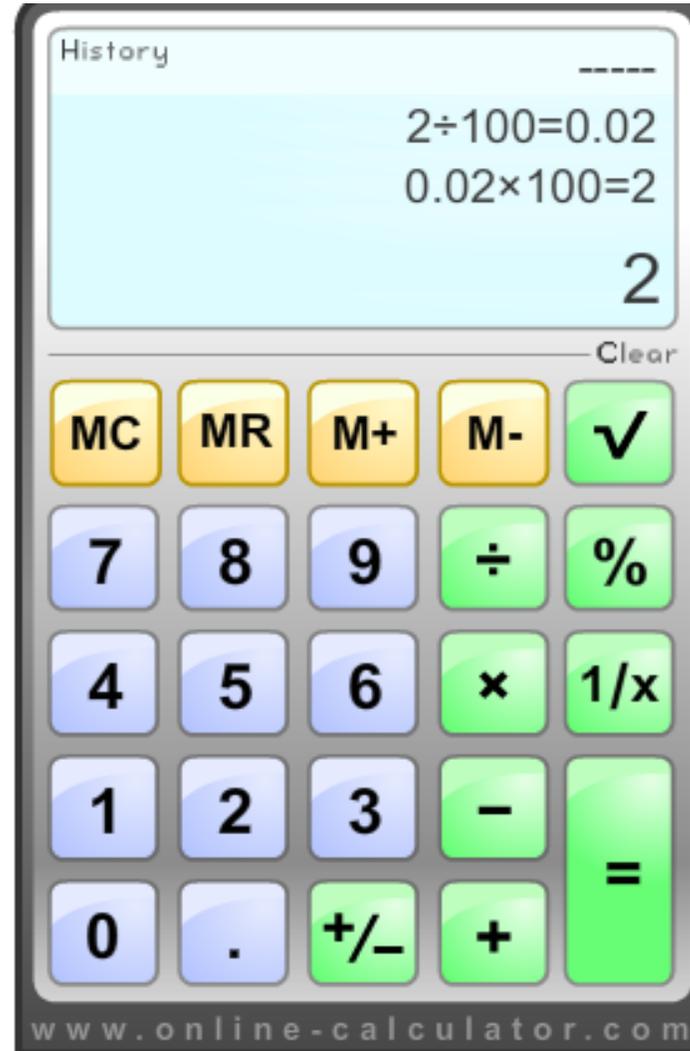
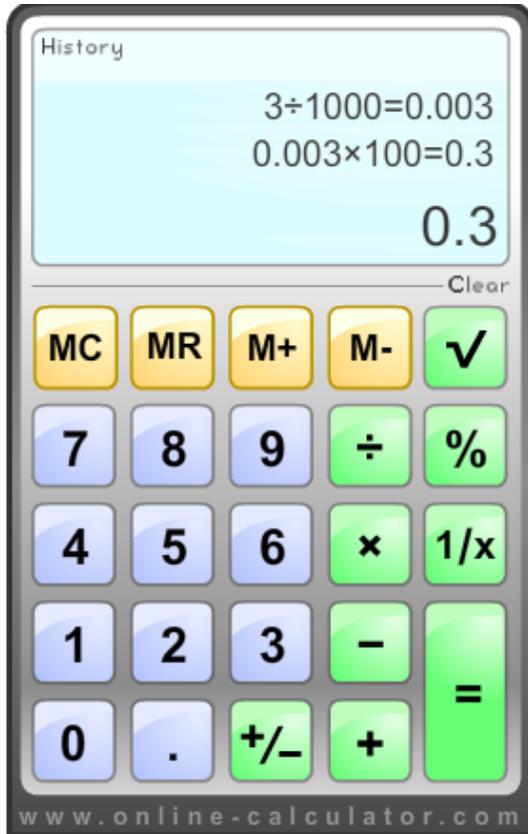
# COMPARING THE NUMBERS

3 out 1,000 will improve as a result of the medication

20 out of 1,000 will improve as a result of dietary changes

(Easier to compare when we use the same denominator)

# OR COMPARING THE PERCENTAGE



# FRAMING

**Presenting information in different ways:**

Positive-Survival

Negative-Death

**Example:**

Over 10 years, the average person's chance of dying from colon cancer is 2 out of 1,000.

Or their chance of not dying from colon cancer is 998 out of 1,000.

# QUESTION

**How would you present this information to someone?**

“2% of people who undergo this procedure develop a serious blood infection.”



# EXAMPLE: FRAMING THE RISK

2% of people who undergo this procedure develop a serious blood infection.

**OR**

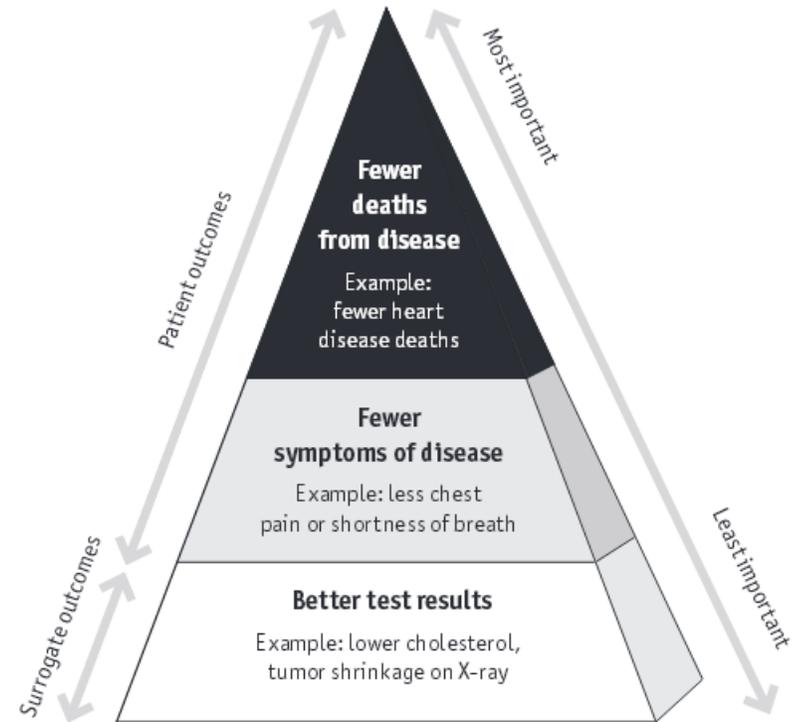
- **98% of people who undergo this procedure do not develop a blood infection.**

**OR**

**2 out of 100 people die from this procedure, but 98 out of 100 survive.**

**Good Better Best**

# PYRAMID OF BENEFIT



# CLARITY & CONFUSION



Creative commons – Barney Fif e file –public domain 1978



# HOW CAN BOTH BE TRUE?

13 out of 100 American women will be  
diagnosed with breast cancer.

3 out of 100 American women will be  
diagnosed with breast cancer.

# HOW CAN BOTH STATEMENTS BE TRUE?

13 out of 100 American women will be diagnosed with breast cancer.

3 out of 100 American women will be diagnosed with breast cancer.

- 13 out of 100 American women will be diagnosed with breast cancer **in their lifetime.**
- 3 out of 100 American women **age 50** will be diagnosed with breast cancer **in the next 10 years.**

MAKE SURE YOU ARE CLEAR ABOUT YOUR MESSAGE. HOW WOULD YOU CHANGE THIS?

1 in 8 American women will **develop** breast cancer in her lifetime.

1 in 33 American women will **die** from breast cancer at some point in their lives.



# **PUTTING RISK IN PERSPECTIVE**

**WHAT IS MY RISK?  
(RISK OF WHAT?)**

# PUTTING RISK IN PERSPECTIVE

Getting a disease vs. dying from a disease

Does it apply to me?

- Add in age
- Add in sex

How one disease compares to another?

How big is the risk?

Risk visualization



# VISUALIZATIONS

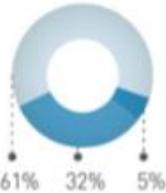
# LIFE AFTER CANCER: SURVIVORSHIP BY THE NUMBERS (CANCER.ORG)

## STAGE AT DIAGNOSIS AND SURVIVAL

The earlier a diagnosis, the better the chances of survival.

- Localized**  
Confined to the organ of origin
- Regional**  
Spread to nearby tissues or lymph nodes
- Distant**  
Spread to other parts of the body

### BREAST (FEMALE)



### COLON & RECTUM



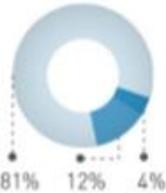
### LUNG & BRONCHUS



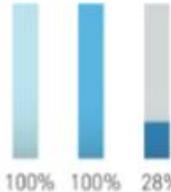
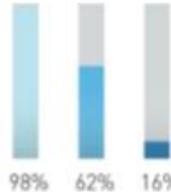
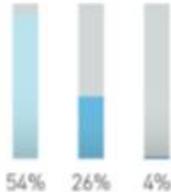
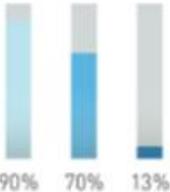
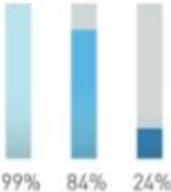
### MELANOMA



### PROSTATE



Percentage of patients diagnosed at each stage

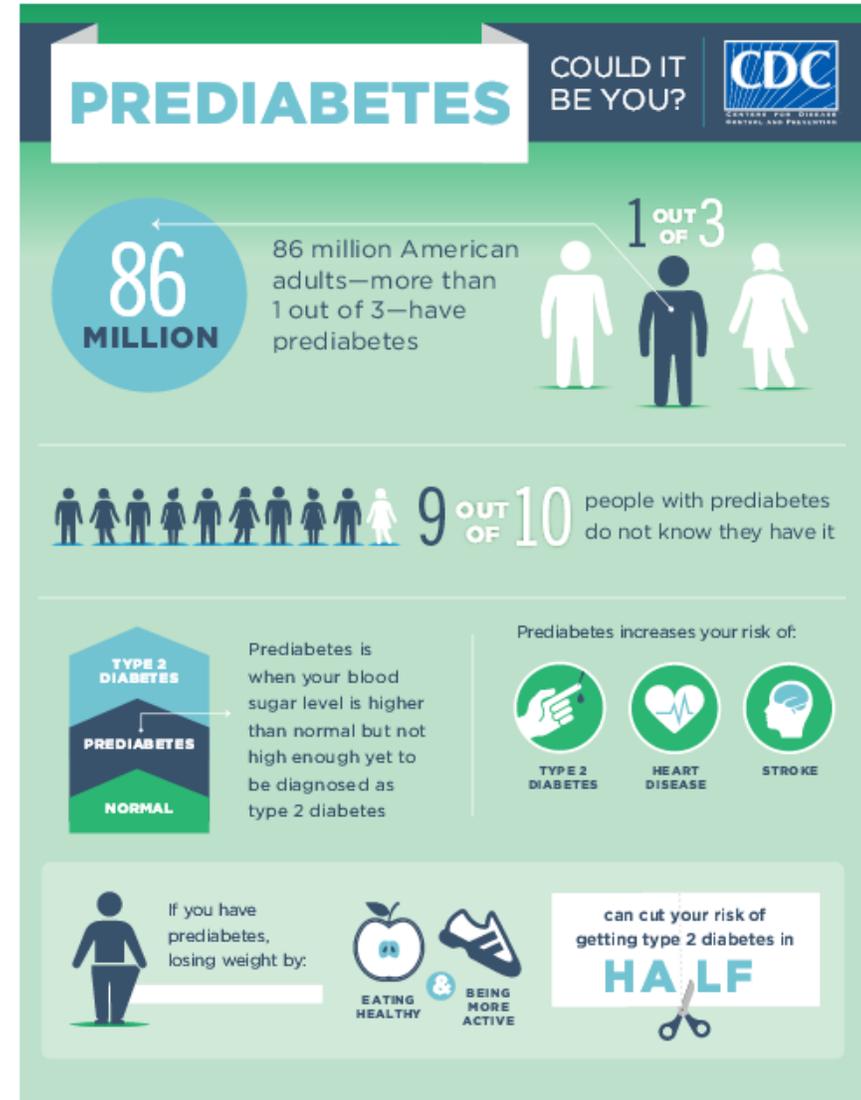


5-year relative survival rate for each stage at diagnosis

## FACTORS THAT INFLUENCE CANCER SURVIVAL

# PREDIABETES

[HTTP://WWW.CDC.GOV/DIABETES/PUBS/STATSREPORT14/PREDIABETES-INFOGRAPHIC.PDF](http://www.cdc.gov/diabetes/pubs/statsreport14/prediabetes-infographic.pdf)



# CDC Vital Signs

# Binge Drinking

- ONE IN SIX U.S. ADULTS BINGE DRINKS ABOUT FOUR TIMES A MONTH, CONSUMING ABOUT EIGHT DRINKS PER BINGE.

The infographic features a silhouette of a person's torso and arm on the left side. On the silhouette, there are three data points: 1. A group of six human figures with one highlighted in orange, labeled '1 in 6' and 'More than 40 million U.S. adults binge drink.' 2. A calendar icon with '4X' and 'Binge drinkers do so about 4 times a month.' 3. Eight beer glasses, with '8' and 'The largest number of drinks per binge is an average 8.'

**CDC Vital Signs**  
America's Health

## Binge Drinking

### Nationwide Problem, Local Solutions

New estimates show that binge drinking\* is a bigger problem than previously thought. More than 40 million U.S. adults binge drink, about a liter a month, and the largest number of drinks per binge is an average 8. This behavior greatly increases the chances of getting hurt or hurting others due to car crashes, violence, and suicide. Drinking too much, including binge drinking, causes the 600 deaths in the U.S. each year and its avoidable economic toll of \$1.5 billion. Binge drinking is a problem in all states, even in states with fewer binge drinkers, because they are bingeing more often and in larger amounts.

\*Binge drinking means men drinking at least 5 drinks and women at least 4 drinks within a 2-hour period.

Learn what your community can do to reduce binge drinking.

→ See PAGE 4

Want to learn more? Visit [www.cdc.gov/alcohol](#)

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Division of National Center for Injury Prevention and Control

# MEDLINEPLUS

- Easy-to-Read materials
- Medical Dictionary
  - Understanding Medical Words tutorial
- Interactive tutorials
- [How to write easy-to-read materials:](http://www.nlm.nih.gov/medlineplus/etr.html)  
<http://www.nlm.nih.gov/medlineplus/etr.html>



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**ANYWHERE**

and now on **ANY** device!

# COLLEGE DRINKING



college drinking



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Results 1 - 10 of 697 for college drinking



- College Drinking: Get the Real Picture | NIH MedlinePlus the Magazine**  
... this page please turn JavaScript on. Feature: NIAAA **College Drinking** Task Force Recommendations **College Drinking: Get the real picture** Past Issues / Fall 2015 ...  
<https://www.nlm.nih.gov/.../fall15/articles/fall15pg24-25.html> - MedlinePlus Magazine
- College Drinking | NIH MedlinePlus the Magazine**  
... page please turn JavaScript on. Feature: Rethinking **Drinking College Drinking** Past Issues / Spring 2014 Table of Contents Research ... to identify and counsel underage drinkers help reduce **college drinking**. Abusive and underage **college drinking** are significant public ...  
<https://www.nlm.nih.gov/.../spring14/articles/spring14pg26.html> - MedlinePlus Magazine
- Get the Real Picture About College Drinking | NIH MedlinePlus the Magazine**  
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<https://www.nlm.nih.gov/.../fall15/articles/fall15pgbackcover.html> - MedlinePlus Magazine
- College Drinking** **Easy-to-Read** (National Institute on Alcohol Abuse and Alcoholism) - PDF  
National Institute on **Alcohol** Abuse and Alcoholism **College Drinking** Harmful and underage **college drinking** are significant public health problems, and they exact an

# COLLEGE DRINKING : GETTING THE PICTURE



## Fall Semester—A Time for Students and Parents to Revisit Discussions About College Drinking

As college students arrive on campus this fall, it's a time of new experiences, new friendships, and making memories that will last a lifetime. Unfortunately for many, it is also a time of excessive drinking and dealing with its aftermath—vandalism, violence, sexual aggression, and even death.

According to research summarized in a College Task Force report to the NIAAA, the consequences of excessive drinking by college students are more significant, more destructive, and more costly than many parents realize. And these consequences affect students whether or not they drink.

Statistics from this report, which were updated recently, indicate that drinking by college students aged 18 to 24 contributes to an estimated 1,825 student deaths, 599,000 injuries, and 97,000 cases of sexual assault or date rape each year.

## Early Weeks Are Critical

As the fall semester begins, the consequences of excessive drinking are often overlooked.

Some first-year students who tend to drink less than their non-college peers experience a rapid increase in heavy drinking during the first six weeks of the first semester.

This rapid increase in heavy drinking during the first six weeks of the first semester is critical to a first-year student's academic success.

Anecdotal evidence suggests that the first 6 weeks of the first semester are critical to a first-year student's academic success. Because many students initiate heavy drinking during these early days of college, the potential exists for excessive alcohol consumption to interfere with successful adaptation to campus life. The transition to college is often difficult, and about one-third of first-year students fail to enroll for their second year.

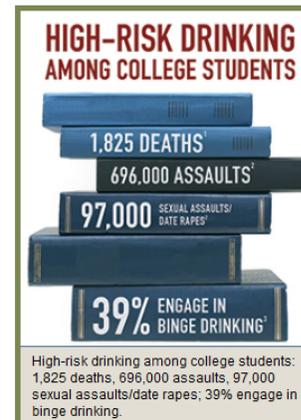
## Parents Can Help

During these crucial early weeks, parents can do a variety of things to stay involved. They can inquire about campus alcohol policies, call their sons and daughters frequently, and ask about roommates and living arrangements.

[CollegeDrinkingPrevention.gov](http://CollegeDrinkingPrevention.gov) was created by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). It's your one-stop resource for comprehensive research-based information on issues related to alcohol abuse and binge drinking among college students.



"Despite our collective efforts to address it, high-risk drinking remains a significant and persistent problem on U.S. campuses," says George Koob, PhD, NIAAA Director. "While college officials have numerous options for alcohol interventions, they are not all equally effective. College AIM can help schools choose wisely among available strategies, boosting their chances for success and helping them improve the health and safety of their students."  
Photo: NIAAA



# HOW CAN I REDUCE MY RISK?

Are the interventions worth the risk?

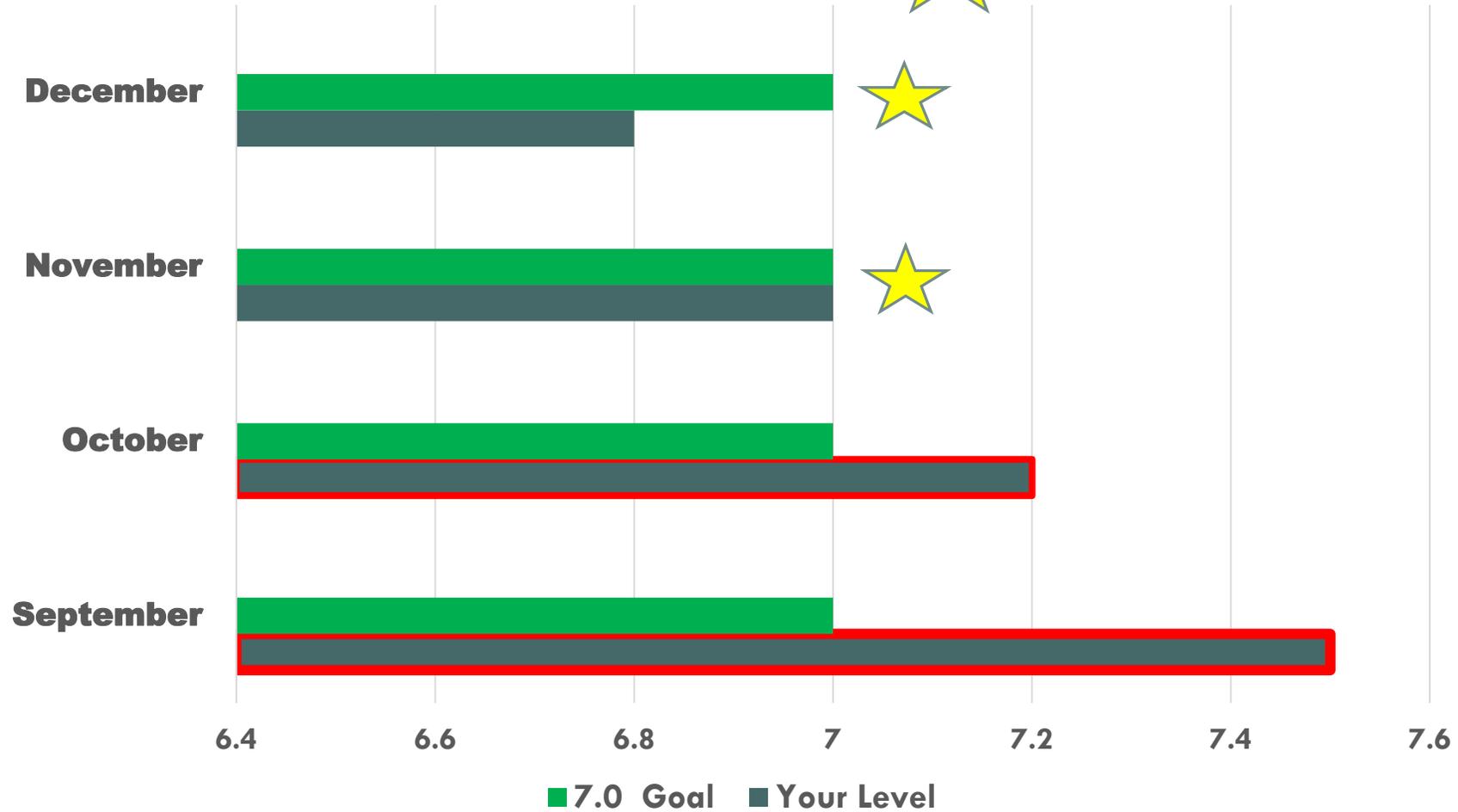
Benefits vs downside

**\*\*Help people visualize what you want them to do**

# VISUALIZATION EXAMPLE

AIC LEVELS OVER 4 MONTHS

Goal is 7.0



# IS REDUCING MY RISK WORTH IT?

What outcome is being reduced?

How big is the reduction?

Are they comparing people like me?

# SMOKING CESSATION

## Finding disease specific risks - MedlinePlus

NIH U.S. National Library of Medicine



smoking risks



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Results 1 - 10 of 2,370 for **smoking risks**

#### 1. **Risks** of tobacco

Secondhand smoke - **risks**; Cigarette **smoking** - **risks**; **Smoking** and smokeless tobacco - **risks** ... tobacco that are known to cause cancer. HEALTH **RISKS** OF **SMOKING** OR USING SMOKELESS TOBACCO Knowing the serious health ... <https://www.nlm.nih.gov/medlineplus/ency/article/002032.htm> - Medical Encyclopedia

#### 2. Cigarette **Smoking**: Health **Risks** and How to Quit (PDQ) (National Cancer Institute)

... Cancer Prevention Overview—for health professionals Research Cigarette **Smoking**: Health **Risks** and How to Quit (PDQ®)—Patient Version What ... syndrome (SIDS). Asthma . Ear infections . Respiratory infections. Health **Risks** of **Smoking** and Ways to Quit Key Points Quitting **smoking** ... [www.cancer.gov/.../risk/tobacco/quit-smoking-pdq](http://www.cancer.gov/.../risk/tobacco/quit-smoking-pdq) - External Health Links

#### 3. **Effects of Smoking on Your Health** (Department of Health and Human Services)

... pipes cause cancer? Infographic text-only version. Is **smoking** a **risk** factor for autoimmune diseases? The immune system is ... ups of signs and symptoms of autoimmune diseases. **Smoking** doubles your **risk** of developing rheumatoid arthritis. **Smoking** has recently been ... [betobaccofree.hhs.gov/health-effects/smoking-health](http://betobaccofree.hhs.gov/health-effects/smoking-health) - External Health Links

# EFFECTS OF SMOKING ON YOUR HEALTH

## CIGARETTE SMOKE AFFECTS YOUR BODY

**SMOKING CAUSES CANCER<sup>1</sup> OF THE:**

- Nose
- Mouth
- Larynx (voice box)
- Trachea
- Esophagus
- Throat
- Lungs
- Liver
- Stomach
- Pancreas
- Kidneys
- Bladder
- Cervix
- Bone marrow and blood<sup>2</sup>
- Colon
- Rectum

**480,000**  
People die prematurely in the United States each year due to smoking cigarettes or being exposed to cigarette smoke<sup>3</sup>

## SMOKING ALSO AFFECTS YOUR

### AUTOIMMUNE SYSTEM

- Crohn's Disease<sup>4</sup>
- Rheumatoid Arthritis<sup>5</sup>
- Type 2 Diabetes

### HEART

- Plaque Buildup in Your Arteries<sup>6</sup>
- Aneurysms<sup>7</sup>
- Coronary Heart Disease<sup>8</sup>
- Heart Attack<sup>9</sup>
- Peripheral Arterial Disease<sup>10</sup>
- Strokes<sup>11</sup>

### BLOOD

- Increased Blood Pressure<sup>12</sup>
- Changes to Blood Chemistry<sup>13</sup>
- Thickened Blood Vessels<sup>14</sup>

### VISION

- Macular Degeneration<sup>14</sup>
- Optic Nerve Damage<sup>14</sup>
- Blindness<sup>14</sup>

### BONES

- Osteoporosis<sup>15</sup>
- Bone Loss<sup>13</sup>

### LUNGS

- Chronic Obstructive Pulmonary Disease<sup>20</sup>
- Emphysema<sup>21</sup>
- Chronic Bronchitis<sup>22</sup>
- Pneumonia<sup>22</sup>
- Asthma
- Tuberculosis

### REPRODUCTIVE SYSTEM

- Premature Birth
- Stillbirth
- Ectopic Pregnancy
- Erectile Dysfunction
- Orofacial Clefts

- 1 <http://cancer.gov/cancertopics/types/commoncancers>
- 2 [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2010/consumer\\_booklet/pdfs/consumer.pdf](http://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/pdfs/consumer.pdf)
- 3 <http://www.cdc.gov/chronicdisease/resources/publications/aag/osh.htm>
- 4 [http://rarediseases.info.nih.gov/GARD/Condition/10232/GrA/19275/Crohn's\\_disease.aspx](http://rarediseases.info.nih.gov/GARD/Condition/10232/GrA/19275/Crohn's_disease.aspx)
- 5 <http://www.cdc.gov/arthritis/basics/rheumatoid.htm#4>
- 6 [http://www.niams.nih.gov/health\\_info/bone/Osteoporosis/Conditions\\_Behaviors/bone\\_smoking.asp](http://www.niams.nih.gov/health_info/bone/Osteoporosis/Conditions_Behaviors/bone_smoking.asp)
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- 8 <http://www.nhlbi.nih.gov/health/health-topics/topics/sma/>
- 9 [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2010/consumer\\_booklet/pdfs/consumer.pdf](http://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/pdfs/consumer.pdf)
- 10 <http://www.nhlbi.nih.gov/health/health-topics/topics/sma/>
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- 12 <http://www.nhlbi.nih.gov/health/health-topics/topics/sma/>
- 13 [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2010/consumer\\_booklet/pdfs/consumer.pdf](http://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/pdfs/consumer.pdf)
- 14 [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2010/consumer\\_booklet/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/index.htm)
- 15 [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2010/consumer\\_booklet/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/index.htm)
- 17 <http://www.nei.nih.gov/healthyeyes/eyehealthtips.asp>
- 18 <http://www.nei.nih.gov/healthyeyes/eyehealthtips.asp>
- 19 <http://www.nei.nih.gov/healthyeyes/eyehealthtips.asp>
- 20 <http://www.nhlbi.nih.gov/health/health-topics/topics/copd/>
- 21 [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2010/consumer\\_booklet/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/index.htm)
- 22 [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2010/consumer\\_booklet/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/index.htm)
- 23 [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2010/consumer\\_booklet/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/index.htm)

# THE TEACH-BACK METHOD

“Do you have any questions?”

VERSUS

“What are you going to do when you get home?” / “Can you describe the 3 things you are going to do to control your diabetes?”

[https://www.youtube.com/watch?v=cGtTZ\\_vxjyA&t=1179s](https://www.youtube.com/watch?v=cGtTZ_vxjyA&t=1179s)

# WE DON'T ALWAYS HAVE ANSWERS

CDC'S RESPONSE TO **ZIKA**

## WHAT WE KNOW



AND WHAT  
WE DON'T  
KNOW.



# ZIKA VIRUS

**What we know** Pregnant women can be infected with Zika virus.

- The primary way that pregnant women get Zika virus is through the bite of an infected mosquito.
- Zika virus can be spread by a man to his sex partners.  
A pregnant woman can pass Zika virus to her fetus.
- Zika virus can be passed from a pregnant woman to her fetus during pregnancy or at delivery.

**What we do not know** - If a pregnant woman is exposed

- We don't know how likely she is to get Zika.  
If a pregnant woman is infected, we don't know how the virus will affect her or her pregnancy.
- how likely it is that Zika will pass to her fetus.
- if the fetus is infected, if the fetus will develop birth defects.
- when in pregnancy the infection might cause harm to the fetus.
- whether her baby will have birth defects.
- if sexual transmission of Zika virus poses a different risk of birth defects than mosquito-borne transmission.

# ZIKA VIRUS & PREGNANCY

## What we know

Pregnant women can be infected with Zika virus

The primary way that pregnant women get Zika virus is through the bite of an infected mosquito

A pregnant woman **can** pass Zika virus to her fetus.

## What we don't know

If a pregnant woman is exposed we don't know **how likely she is to get** Zika

How likely it is that Zika will pass to her fetus

If the fetus is infected, if the fetus will develop birth defects

# WHERE IS THE EVIDENCE?

Survival statistics

Believability of the numbers

Research studies – prelim findings, observational, clinical trial

Explore types of research – animal or human, for profit, non-profit

Who is behind the numbers?

# MAKING SENSE OF THE NUMBERS (2)



Making Sense of Numbers

Created By Michelle Burda



This comic strip was created at [MakeBeliefsComix.com](http://MakeBeliefsComix.com). Go there to make one yourself!

# WHAT QUESTIONS WOULD YOU ASK?

What do we know?

- Mary says she has a 50% chance of a stroke if she takes the medicine prescribed for her high blood pressure

Mary interprets the risk as  $\frac{1}{2}$  the people who take this drug will have a stroke.

# WHAT MARY DIDN'T UNDERSTAND

2 out of 1,000 people who don't take medication will have stroke

People who take the medication will have a 50% increase of having a stroke

50% of 2 is = 1    **2+1 = 3**

**Risk:** 3 out of 1,000 chance of having a stroke by taking the medication

# SIMPLE TIPS FOR COMMUNICATING CLEARLY:

- Provide estimated numbers
- Use frequencies instead of decimals
- Keep denominators the same
- Frame outcomes in positive and negative terms
- Remain consistent with the measurement system a patient uses
- SHOW PICTURES!
- Teach-back technique

# EVALUATION



**Life**

**Long**

**Learning**

**Skill**

# 5 NECESSARY STEPS



# WHERE DID IT COME FROM?

**Source - who is responsible for the content?**



# DON'T BELIEVE EVERYTHING YOU READ (OR ARE TOLD)



# WHO SAYS SO?



# FACT OR OPINION?

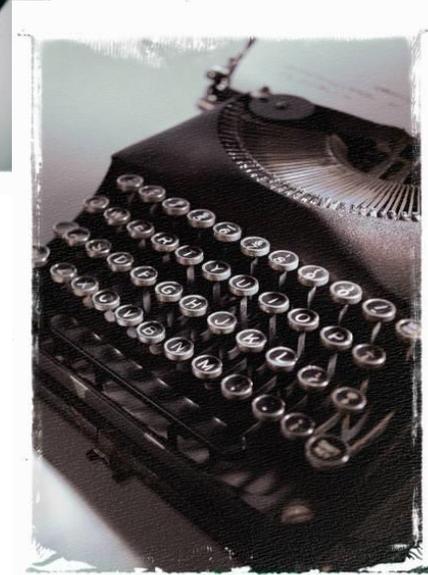
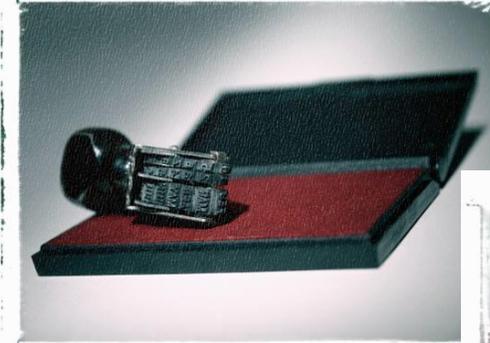
**Objectivity/unbiased**



# TIMELINESS

Is it current?

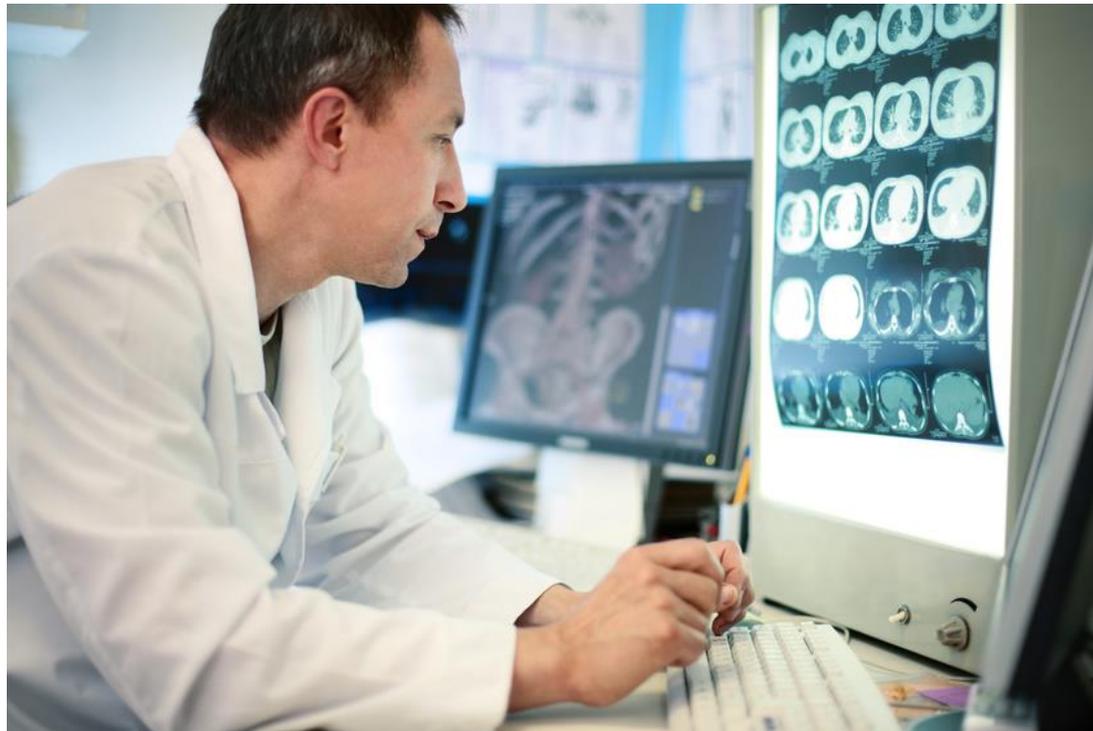
Look for the **date** it was developed, last reviewed or revised



# EVIDENCE

Is the information supported with resources, references, studies etc.?

Cross-check data – “use 2”



# EVALUATING INTERNET HEALTH INFORMATION

[GO](#)[About MedlinePlus](#) [Site Map](#) [FAQs](#) [Contact Us](#)[Health Topics](#) [Drugs & Supplements](#) [Videos & Tools](#)[Español](#)

[Home](#) → [Videos and Tools](#) → Evaluating Internet Health Information: A Tutorial from the National Library of Medicine

## Evaluating Internet Health Information: A Tutorial from the National Library of Medicine



- This tutorial teaches you how to evaluate the health information that you find on the Web. It is about 16 minutes long.
- You need the Flash plug-in, version 8 or above, to view it. If you do not have Flash, you will be prompted to obtain a free download of the software before you start.
- The tutorial runs automatically, but you can also use the navigation bar at the bottom of the screen to go forward, backward, pause, or start over.

[Start the tutorial](#)

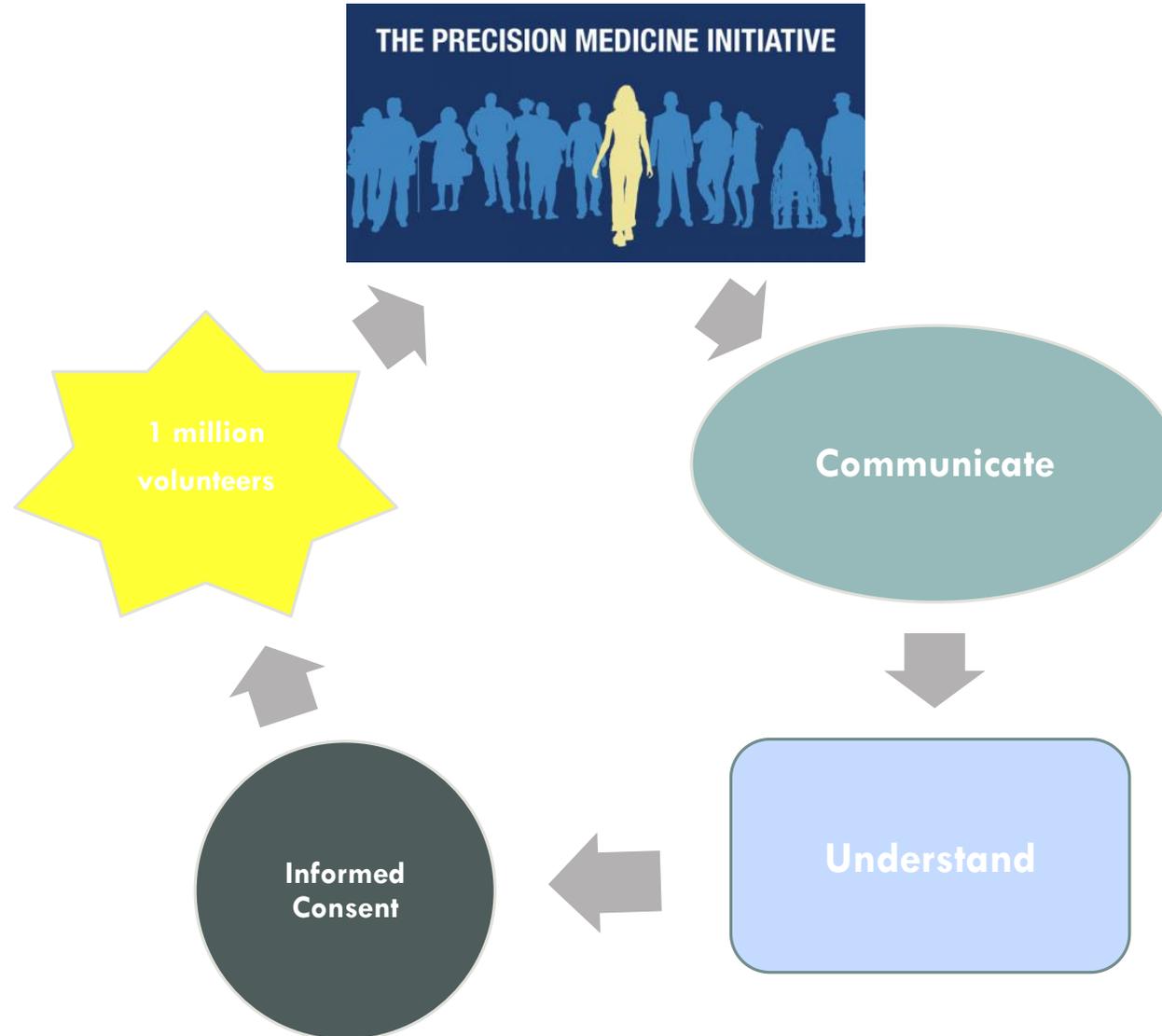
| Level               | Cholesterol Level | Category            |
|---------------------|-------------------|---------------------|
| Less than 200 mg/dL | Desirable         | Less than 130 mg/dL |
| 200-239 mg/dL       | Borderline high   | 130-159 mg/dL       |
| 240 mg/dL and above | High              | 160 mg/dL and above |

# LOOKING AHEAD



# NUMERACY LITERACY-LOOKING AHEAD

## Precision Medicine Initiative (PMI Cohort Program)



# THOUGHT FOR TODAY

Communicators need to figure out how well do they engage people



and they should not talk one word longer than people are engaged.

-Andy Stanley



**WHAT QUESTIONS DO YOU  
HAVE FOR ME?**

# EXERCISES

## 1. Who, what when & where exercise

Choose one item, or topic or resource(s) from this session that you would want to share with others

**Who** would they be? Colleagues, public, patient, students, physicians, nurses family , friends, etc.

**What** is the item or topic or resource?

**Where** would this occur? Lunch & Learn program, content in a class,

Informal meeting, lunch.....

# EXERCISES

## **2. Infographic exercise**

Find an infographic with numbers that represents a good example of explaining a risk or benefit.

### **Share your answer**

(Hints: CDC, cancer.gov, **or** google infographic health risk.)

# EXERCISES

3. Explain the following using percentage.

More than 70 people age 65 & over die from falls per day. What per cent is this for a year?

**# per year  $70 \times 365 =$**

Hint: # people 65 & over in the US population **46,000,000**

[Administration on Aging \(AoA\) http://www.agid.acl.gov/DataGlance/Pop\\_State/](http://www.agid.acl.gov/DataGlance/Pop_State/)

**How would you talk about this with the greatest impact?**

# RESOURCES

The SHARE Approach—Communicating Numbers to Your Patients: A Reference Guide for Health Care Providers (AHRQ) Workshop Curriculum: Tool 5

<http://www.ahrq.gov/professionals/education/curriculum-tools/shareddecisionmaking/tools/tool-5/index.html>

Woloshin S, Schwartz LM, Welch HG. *Know Your Chances: Understanding Health Statistics*. Berkeley: Univ of California Pr; 2008.2008.ISBN-13: 978-0-520-25222-6

[http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0050876/pdf/PubMedHealth\\_PMH0050876.pdf](http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0050876/pdf/PubMedHealth_PMH0050876.pdf)

Making Data Talk: Workbook NCI (2014) <http://www.cancer.gov/cancertopics/cancerlibraryMDT-Workbook.pdf>

Visualizing Health <http://www.vizhealth.org/> A style guide for communicating health data

Perspectives <https://nam.edu/perspectives/page/2/>

Teach-back method: <https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthlittoolkit2-tool5.html>



# THANK YOU!

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