Where Data, Design, and Technology Meet: Effective Infographic Strategies for Health Communication

Presented by:

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Agenda

- What an infographic is

- What they're for

- Why you would make one

- Tips on how to make one

- Key takeaways

What is an infographic?

Defining infographics

Infographics are graphic visual representations of information, data, or knowledge intended to present complex information quickly and clearly.

The value of infographics

Infographics:

- Present complex information quickly and easily

- Engage audiences with slick graphics and data visualization

- Convey a concept through visual storytelling

- Stand out from the crowd

- Are easy to share

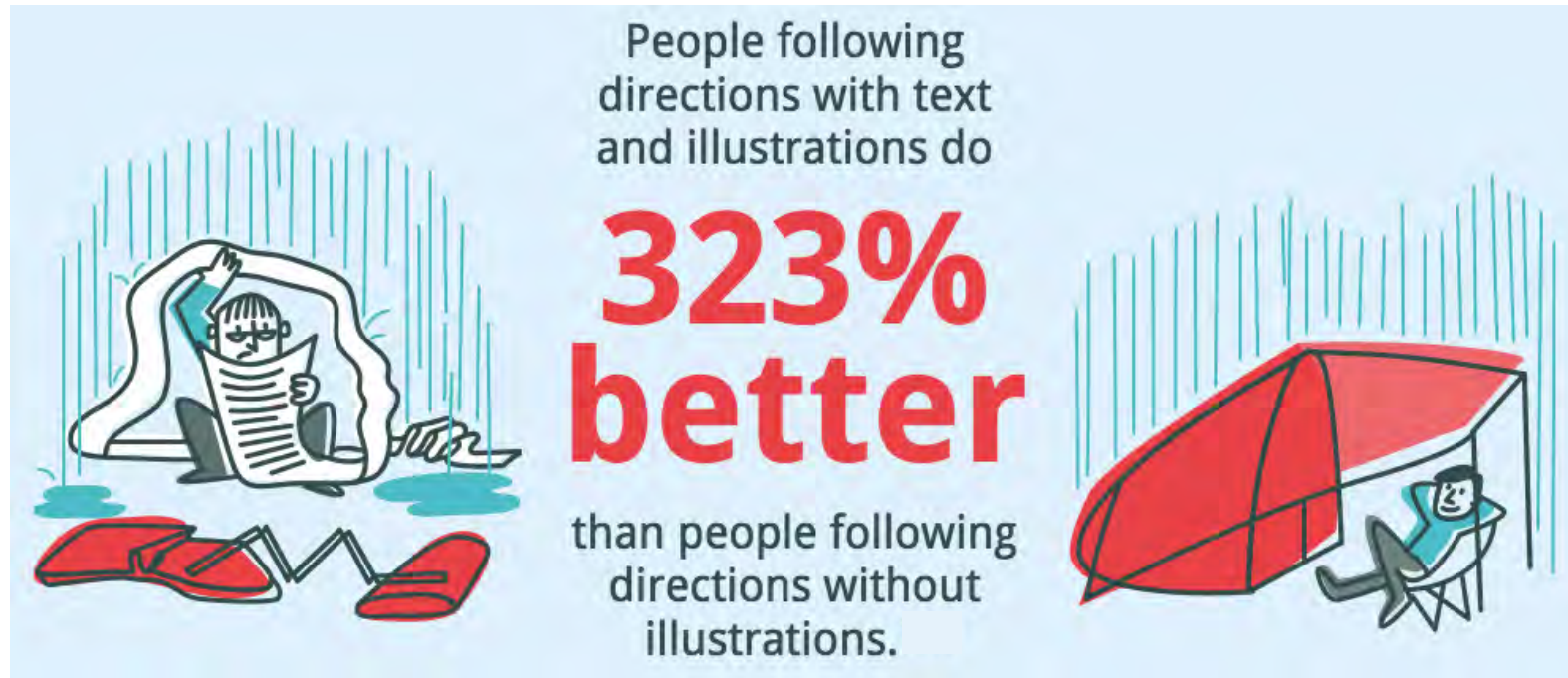- Can be more cost-effective than other media

The value of infographics

An infographic is **30 TIMES** more likely to be read than a **TEXT ARTICLE.**

The value of infographics

People following directions with text and illustrations do **323% better** than people following directions without illustrations.

Infographics and health literacy

- Aim for minimal text and few key messages

- Use images as cues to support understanding (for example, icons)

- Visual representations help people get what the data means — and remember it

Infographics and health literacy

- State your main message up front

- Choose common, familiar words

- Use "1 in X" language

- Don't make people do math

- Put numbers in context

Good design isn't just pretty pictures

It can help people:

- **Find** what they need

- **Understand** what they find

- **Remember** what they read

Important info conveyed quickly & simply

The Trustworthiness of Beards

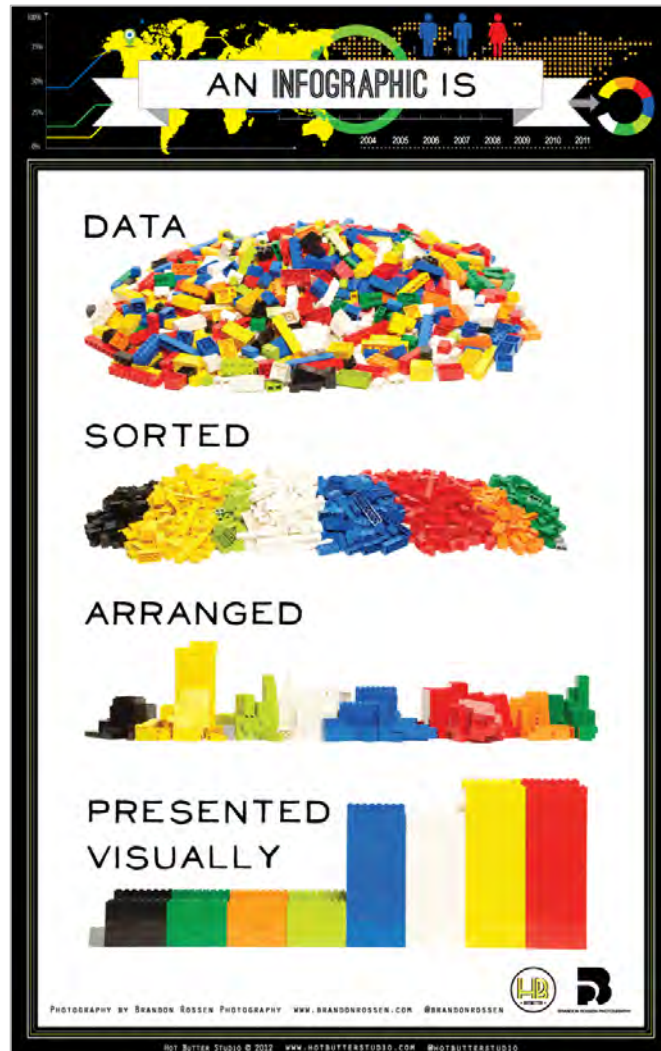# Types of Infographics

When do I use an infographic?

An Infographic is data sorted, arranged, presented visually.
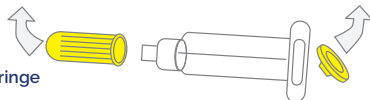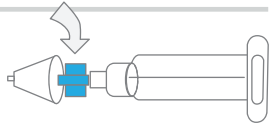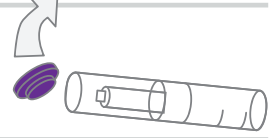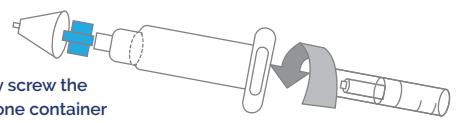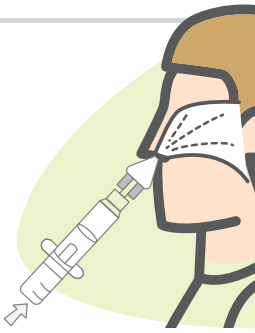
Statistical data
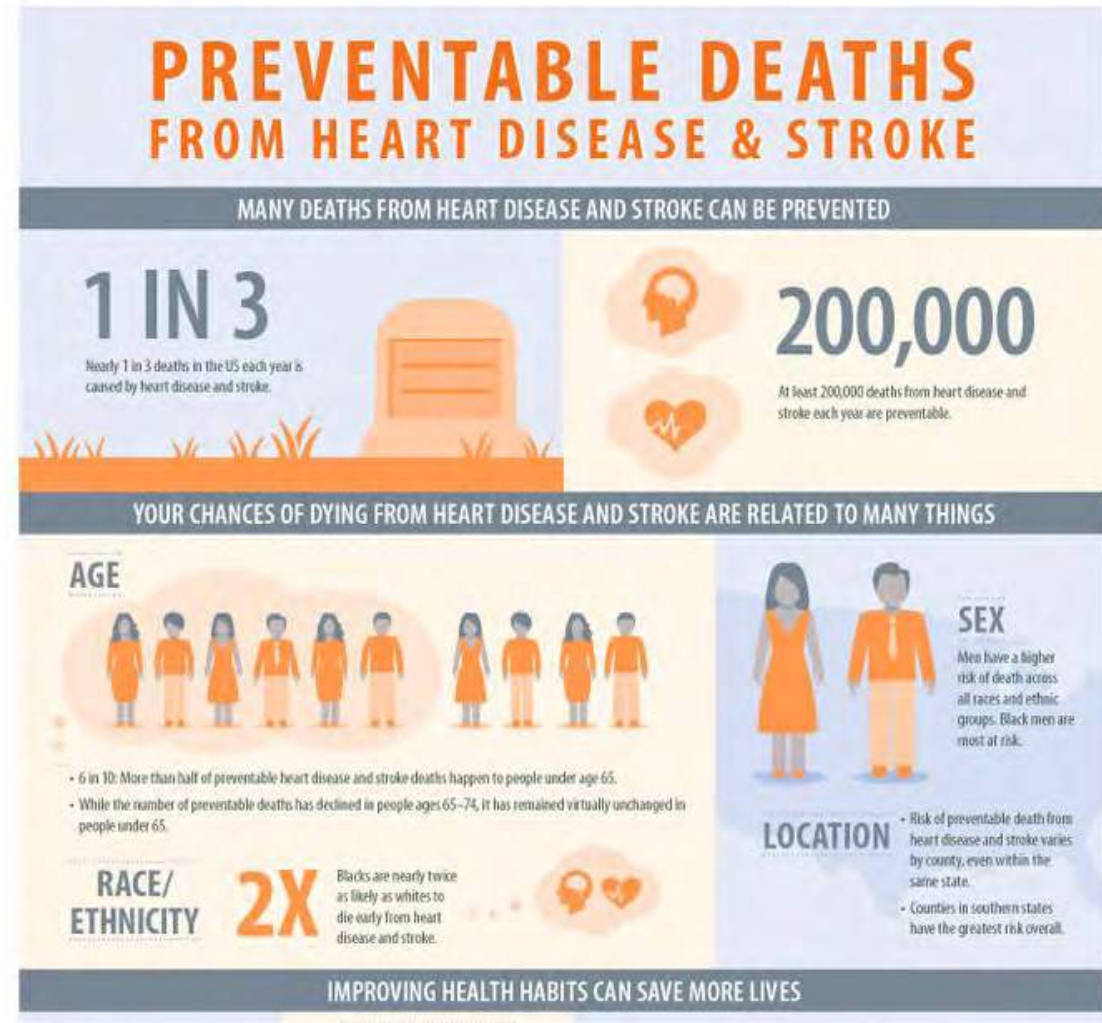
How-to

To give nasal naloxone (Narcan):
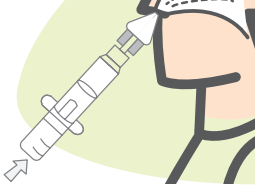
1 Take the yellow caps off of the syringe

2 Screw the white cone onto the syringe

3 Take the purple cap off the naloxone

4 Gently screw the naloxone container into the syringe

5 Put the white cone inside one of the person's nostrils

6 Push firmly on the end of the container to spray half the naloxone into their nose

7 Repeat with the other half of the naloxone in the second nostril

8 If the person doesn't respond in 3 minutes, give another dose if you have it

Source: CommunicateHealth, 2016

Timelines

U.S. Chemical Weapons Elimination Timeline

1910s – 1950s: The United States starts to make and store chemical weapons during World War I. This continues during and after World War II.

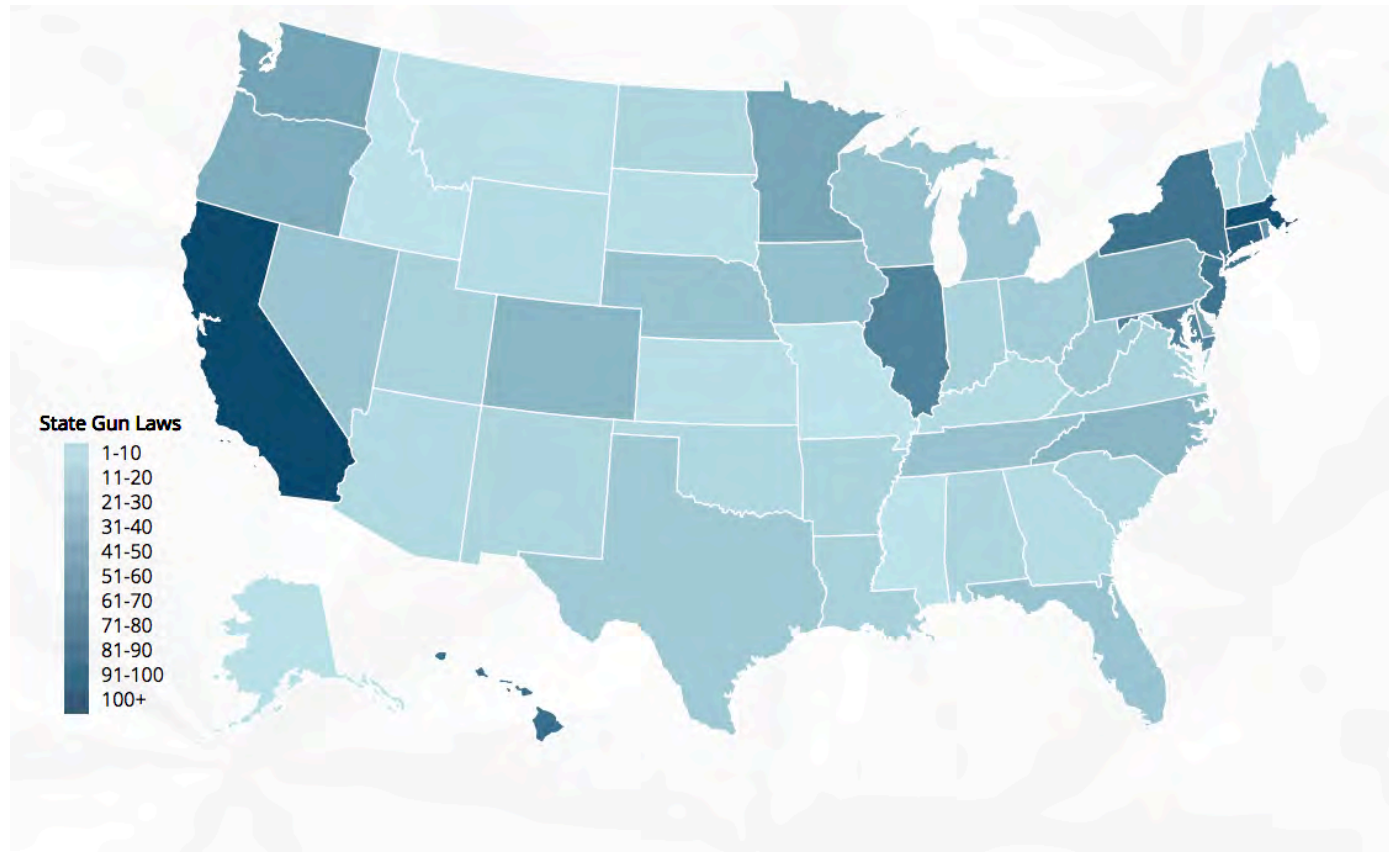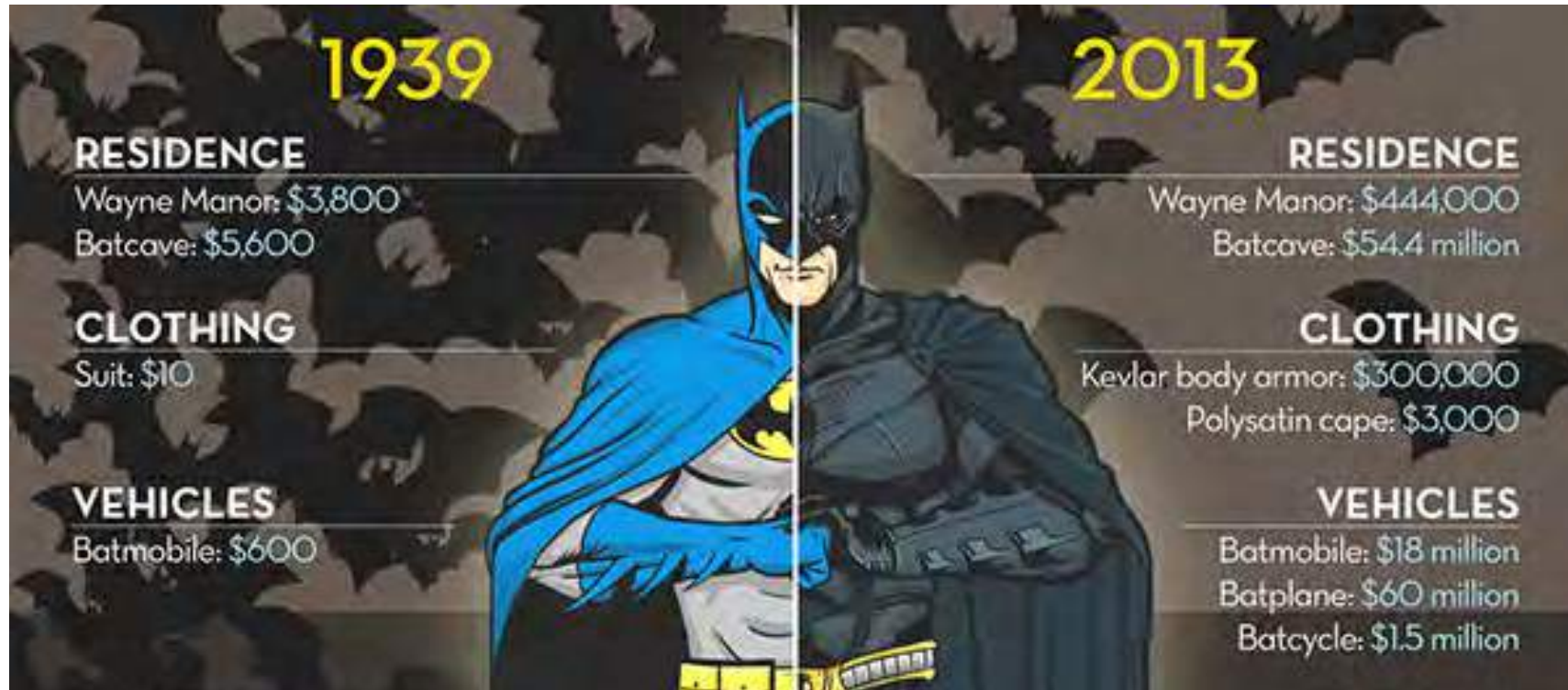**1960s:** The chemical weapons have never been used. By the late 1960s they are outdated and an increasing threat to the public the longer they are left in storage.

1970: Congress asks the Surgeon General to make sure to protect public health as the Army destroys the weapons.

1982: CDC takes on the task of keeping the public safe while the Department of Defense (DoD) works to destroy these weapons safely.

1986: Congress passes a law ordering the destruction of all stockpiled U.S. chemical weapons.

1997: With more than 150 other nations, the United States approves the Chemical Weapons Convention, an international treaty to destroy all chemical weapons.

2012: The United States reaches the milestone of successfully destroying 90% of its stored chemical weapons.

2015: DoD is developing new ways to **destroy the remaining 10% of stockpiled weapons** in the next 5 to 7 years. CDC continues to oversee DoD efforts to protect public health.

Process

Maps

State Gun Laws
- 1-10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71-80
- 81-90
- 91-100
- 100+

Comparisons

1939

RESIDENCE
Wayne Manor: $3,800
Batcave: $5,600

CLOTHING
Suit: $10

VEHICLES
Batmobile: $600

2013

RESIDENCE
Wayne Manor: $444,000
Batcave: $54.4 million

CLOTHING
Kevlar body armor: $300,000
Polysatin cape: $3,000

VEHICLES
Batmobile: $18 million
Batplane: $60 million
Batcycle: $1.5 million

Infographic strategies

1 Start with an audience and a message

The "why" and the "how"

Determine your:

- Audience

- Objective

- Goals

- Distribution

2 Find your data

Brainstorm where* to find data:

- Internal resources

- Government resources

- Academic and research resources

3

Write your story

Make it meaningful

- Figure out how to make meaning out of the data

- What is the story you want to tell?

- How can you support your story with data?

- Is there a "hero statistic" to feature?

Asthma's Impact on the Nation
Data from the CDC National Asthma Control Program

What is asthma?
Asthma is a chronic disease that affects the airways in the lungs. During an asthma attack, airways become inflamed, making it hard to breathe. Asthma attacks can be mild, moderate, or serious — and even life threatening.

Symptoms of an asthma attack include:
- Coughing
- Shortness of breath or trouble breathing
- Wheezing
- Tightness or pain in the chest

We don't know for sure what causes asthma, but we do know that attacks are sometimes triggered by:
- Allergens (like pollen, mold, animal dander, and dust mites)
- Exercise
- Occupational hazards
- Tobacco smoke
- Air pollution
- Airway infections

There's no cure for asthma. People with asthma can manage their disease with medical care and prevent attacks by avoiding triggers.

Is asthma really a problem?
Yes. Asthma is a serious health and economic concern in the United States. It's expensive.
- Asthma costs the United States $56 billion each year.
- The average yearly cost of care for a child with asthma was $1,039 in 2009.

In 2008, asthma caused:
- 10.5 million missed days of school
- 14.2 million missed days of work

It's common.
In 2010:
- 18.7 million adults had asthma. That's equal to 1 in 12 adults.
- 7 million children had asthma. That's equal to 1 in 11 children.

It's deadly.
- About 9 people die from asthma each day.
- In 2009, 3,388 people died from asthma.

1 in 11 children has asthma

1 in 12 adults has asthma

National Center for Environmental Health
Division of Environmental Hazards and Health Effects

CDC

CS232840

ASTHMA'S IMPACT ON THE NATION

Asthma is **common.**

1 in 11 children have asthma

1 in 12 adults have asthma

Black children are **2 TIMES** more likely to have asthma than **white children.**

Asthma is **deadly.**

1 in 5 children with asthma went to an emergency department for asthma-related care in 2009.

4

Look for visual opportunities

Evaluate your content

- How can you tell the story of your content visually?

- Identify data or visuals that can be designed

- Note content that could be reinforced with an icon

Air Quality and Physical Activity: What You Need to Know
Poor air quality can harm your health. When you're physically active you breathe in more air.
That's why it's important to reduce the amount of air pollution you breathe in when you're physically active.

Who's most affected by poor air quality?
People who have:
- Asthma
- Heart disease
- COPD (a long-term lung disease)

How can I protect myself from air pollution during physical activity?
When air quality is poor, adjust your physical activity routine to avoid breathing in too much air pollution:
- Move your physical activities indoors
- Change your physical activity to something less intense (for example, walking instead of jogging)
- Shorten the amount of time that you're physically active

If you have asthma, be sure you keep your inhaler with you at all times—especially when you're outside.

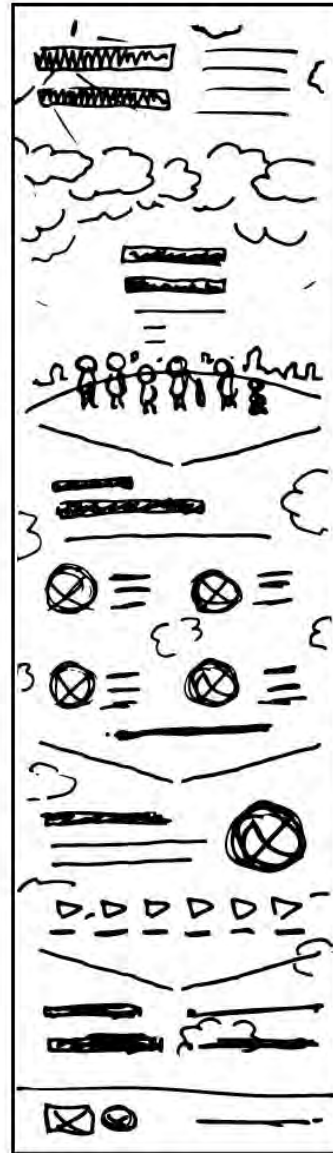**How do I get information about air quality where I live?**
Each day, you can find out what the air quality is like by checking the Air Quality Index (AQI) for where you live. The AQI tells you when high levels of air pollution are predicted for the day. You can use that information to plan for safe and healthy physical activity.

*Sensitive groups include people who have asthma, heart disease, or COPD.

Checking the AQI is easy — anyone can do it!
- **Look up the AQI online**
- **Sign up to get email or text AQI alerts**

Air Quality and Physical Activity:

What You Need to Know

Poor air quality can harm your health. When you're physically active you breathe in more air. That's why it's important to reduce the amount of air pollution you breathe in when you're physically active.

Who's most affected by poor air quality?

▶ People who have:
- Asthma
- Heart disease
- COPD (a long-term lung disease)

5

Be creative!

GLOBAL CARBON FOOTPRINT — Total emissions by nation

Findings from CDC's Second
Nutrition Report

Serving Size 1 infographic

The results from CDC's Second Nutrition Report are in, and there's lots of good news.

The CDC report presents information on 58 measures of diet and nutrition in the body to give us a snapshot of the nutrition status of the U.S. population.

Featured Results

Folic Acid

Iodine

Vitamin D

Iron

The results? Americans are doing pretty well:
More than **9 out of 10** people are getting enough of some important vitamins and nutrients.

Here's a closer look at 4 specific measures.

6 Choose meaningful design elements

HOW MUCH MORE DO WOMEN PAY *for* HEALTH INSURANCE?

0-25% more   26-50% more   51-75% more   76-100% more
gender discrimination prohibited   data not available

WITHOUT THE AFFORDABLE CARE ACT

WITH THE AFFORDABLE CARE ACT *(starting in 2014)*

Based on data for what 25-year-old women and men are charged for premiums. SOURCE: NATIONAL WOMEN'S LAW CENTER

? ? ?

Source: CommunicateHealth, 2012
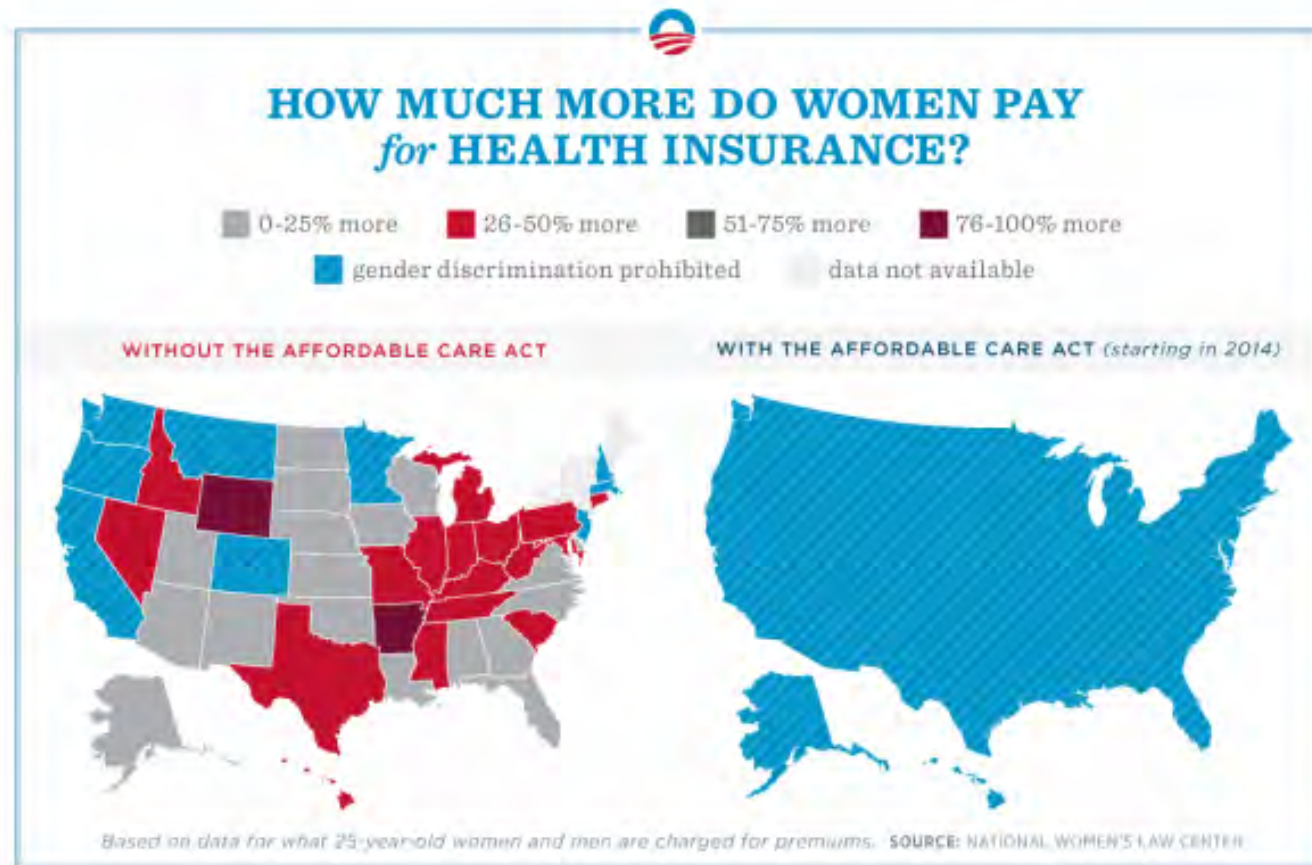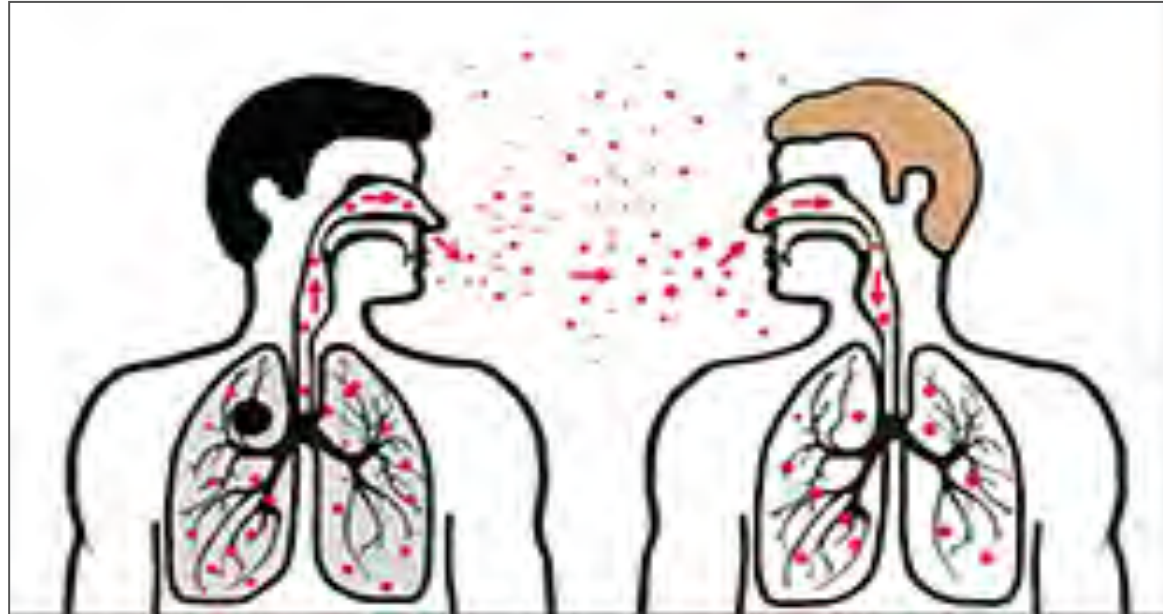
7 Keep it simple
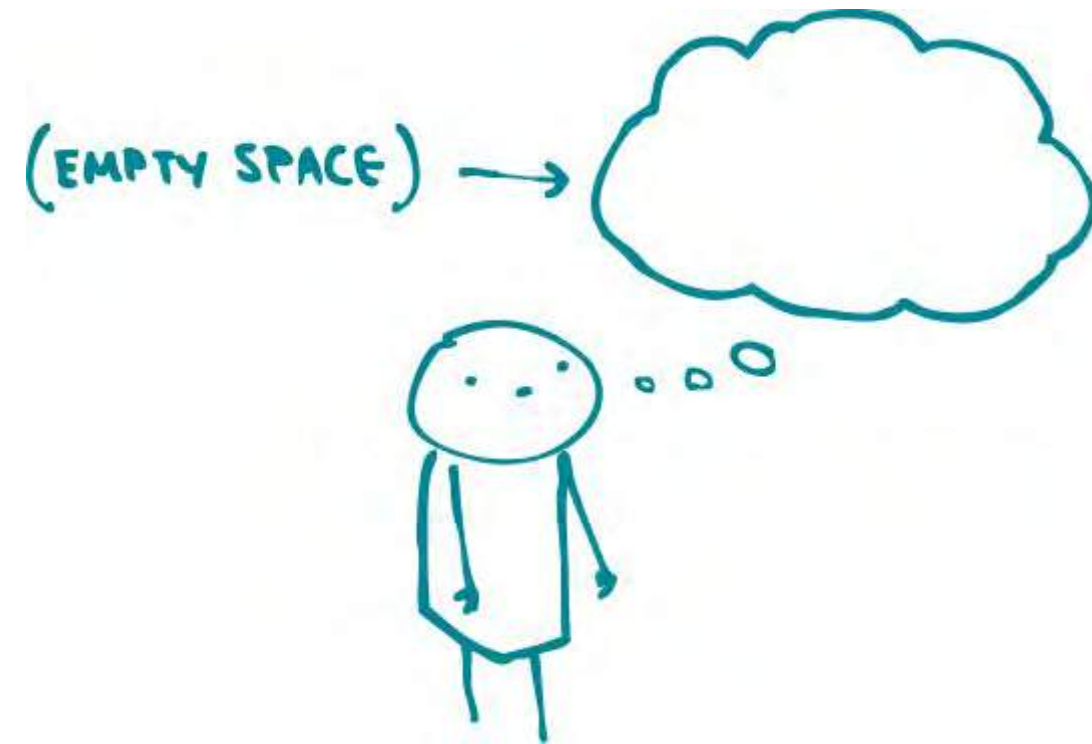
The Patient Portal "Prescription"

Take every opportunity to help patients see value in using their portal. It's an important tool for their health care plan — just like getting regular physical activity or taking medicine as prescribed.

Patients are almost

2x more likely

to access their online health record when encouraged by their health care provider.

Source: ONC Data Brief 40

What's in it for them? Benefits for patients include being able to:

Easily request or schedule appointments

Request prescription refills anytime, day or night

View labs or other test results

Quickly ask a question via secure message

Note: To keep portal use up, remind patients at every visit — and offer tips for those with limited computer access or skills.
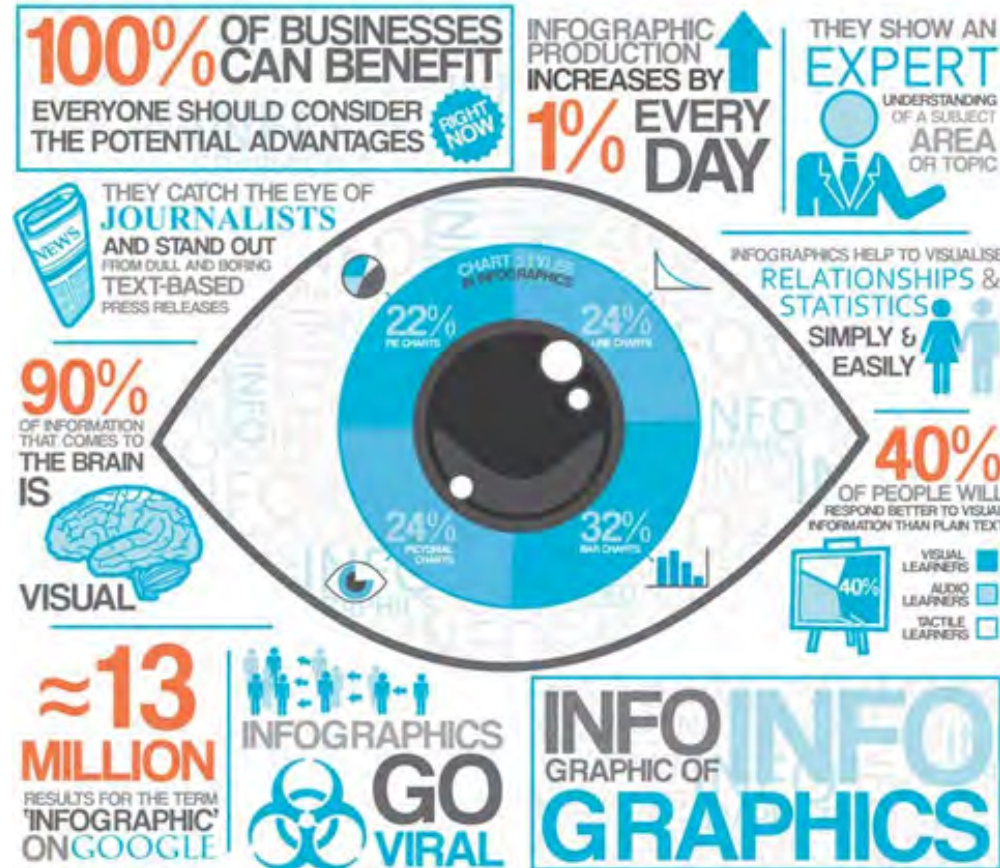
8 Organize and group content in logical ways

Vitamin D

Non-Hispanic black Americans aren't getting enough **vitamin D**

Everyone needs vitamin D **to have healthy bones.**

It may also help **keep muscles strong** — and even **protect us from cancer** and **type 2 diabetes.**

Who is most at risk for vitamin D deficiency?

non-Hispanic **black** Americans **31** in 100

Mexican Americans **12** in 100

non-Hispanic **white** Americans **3** in 100

Looking for more **vitamin D?**

In the U.S., vitamin D is often added to **milk.** It's also found naturally in:

fatty fishes   mushrooms   egg yolks   liver

THE **10** COMMANDMENTS OF **USER INTERFACE** DESIGN

1 CREATE A STORY	2 STREAMLINE NAVIGATION	3 MAKE IT RESPONSIVE	4 ENSURE ACCESSIBILITY	5 FORM FOLLOWS FUNCTION	6 USE PLEASANT COLOR THEMES	7 DEFINE FONT FAMILIES	8 BOOST OPTIMIZED IMAGES	9 MASTER MINIMALISM	10 ELIMINATE ERRORS
USE REAL IMAGES	USE ICONS	USE COLUMNS	LABEL LINKS	BUTTON	COLOR PALETTE	NO SERIFS	PREFER VECTOR	SOLID COLORS	UNDERSTAND THE USER
MASCOT	MOBILE-FRIENDLY	PARALLAX SCROLLING	ALT-TEXT FOR IMAGES	CHECK BOXES	PICK VIBRANT COLORS	PERFECT BODS	MINIFY METADATA	OMIT REDUNDANT	404 ERROR / ALLOW USER ERROR
CUSTOM MESSAGES	DIRECT MANIPULATION	FLUID GRID	AVOID IMAGE AS LINK	DROP-DOWN LIST	CONTRAST IS CLARITY	SET HIERARCHIES	PICK BEST FORMAT	LESS IS MORE	READABILITY
BE AUTHENTIC	CLEAR CALL TO ACTION	DROP-DOWN MENUS	MONOCHROME SETTINGS	SLIDER	INDUSTRY RELEVANT	USE LEGIBLE FONTS	AUTOMATE SCALING	WHITESPACE	COMPREHENSIVE DOCUMENTATION
EMBED SOCIAL	AVOID AMBIGUITIES	GOOGLE STANDARDS	SCREEN PRIME ESTATE	ICONS	STICK TO THREE	USE HIGHLIGHTERS	NATURAL RESOLUTION	BIG FONTS	SUGGEST A SOLUTION
INTERACTIVE CONTENT	AIM CONVERSIONS	SCALES TO ANY WIDTH	ISOLATE CONTENT	PAGINATION	COMPLEMENT COLORS	IN DOUBT? GO GOTHIC!	USE ALT-TAGS	USE VISUALS	FEEDBACK

Designmantic

9 Create a clear visual hierarchy

You read this first.

And now you're reading this.

Since you probably skipped this, **I'm guessing your eyes jumped here third.**

Keeping Communities Safe

Between 2010 and 2012, in just **7 states** there were nearly

10,000

acute chemical incidents in homes schools and communities

These incidents caused more than **3,500** injuries and **150** deaths

10 Design for clarity and readability

Design for clarity and readability

- Make use of white/negative space — it'll help your content breathe

- Use appropriate, readable (san serif) fonts

- Build with a grid!

- Avoid graphic styles that make content or imagery harder to interpret

Patient-Generated Health Data: A Growing Opportunity

Patient-generated health data can help clinicians track progress on treatment plans — and catch problems early, when they're easier to address.

More than 4 in 10 smartphone or tablet owners used their devices to track progress on a health-related goal.

About 3 in 10 people own a monitoring device such as a Fitbit, blood glucose meter, or blood pressure monitor.

2 in 10 tablet, smartphone, and monitoring device owners already share and discuss data from these devices with their health care providers.

Source: ONC Data Brief 40

Start setting up your practice now to work with patient-generated health data. There's a lot to consider, but the possibilities are great.

For more information, see ONC's Practical Guide, "Conceptualizing a Data Infrastructure for the Capture, Use, and Sharing of Patient-Generated Health Data in Care Delivery and Research through 2024"

Source: https://www.healthit.gov/playbook/pe/chapter-5/

THERE'S A REASON YOU DON'T USE DISPLAY FONTS FOR BODY COPY.

De carne lumbering animata corpora quaeritis. Summus brains sit, morbo vel maleficia? De apocalypsi gorger omero undead survivor dictum mauris. Hi mindless mortuis soulless creaturas, imo evil stalking monstra adventus resi dentevil vultus comedat cerebella viventium. Qui animated corpse, cricket bat max brucks terribilem incessu zomby. The voodoo sacerdos flesh eater, suscitat mortuos comedere carnem virus. Zonbi tattered for solum oculi eorum defunctis go lum cerebro. Nescio brains an Undead zombies. Sicut malus putrid voodoo horror. Nigh tofth eliv ingdead.

Please, use display typefaces responsibly.

Activity

Try it for yourself!

- Identify your audience and goals

- Figure out your "story" / narrative and identify key pieces of data

- Brainstorm how to visualize your data

- Sketch it out!

Wrap up

Key takeaways

When used effectively, infographics can help you to:

✓ **Identify** your audience and goals

✓ **Communicate** data and other health information

✓ **Reinforce** your message visually

✓ **Educate** across barriers

✓ **Create awareness** and **encourage action**

Resources for inspiration

- designspiration.net

- good.is/infographics

- dailyinfographic.com

- abduzeedo.com

Resources for design assistance

- infogr.am

- piktochart.com

- easel.ly

- create.visual.ly