



**PHARMACY
VISION
20/20**

CSHP SEMINAR 20 • OCTOBER 21-25
Disneyland
RESORT

"BUT THE INTERNET TOLD ME SO"
**PRECEPTING AND TRAINING
CHALLENGES IN THE DIGITAL AGE
AND AVOIDING THE PITFALLS OF
"DR. GOOGLE"**

ELAINE LAW, PHARM.D, BCPS, FCSHP

ASSOCIATE CLINICAL PROFESSOR

**UNIVERSITY OF THE PACIFIC, THOMAS J. LONG SCHOOL OF
PHARMACY & HEALTH SCIENCES**



DISCLOSURE

I have nothing to disclose

LEARNING OBJECTIVES

- Identify “Dr. Google’s” positive and negative impact on the patient-provider relationship
- Recognize the consequences of online web searches in society and its impact on a learner’s research and literature evaluation skills
- Create precepting strategies and tools to allow students/new practitioners to outsmart Dr. Google



BACKGROUND

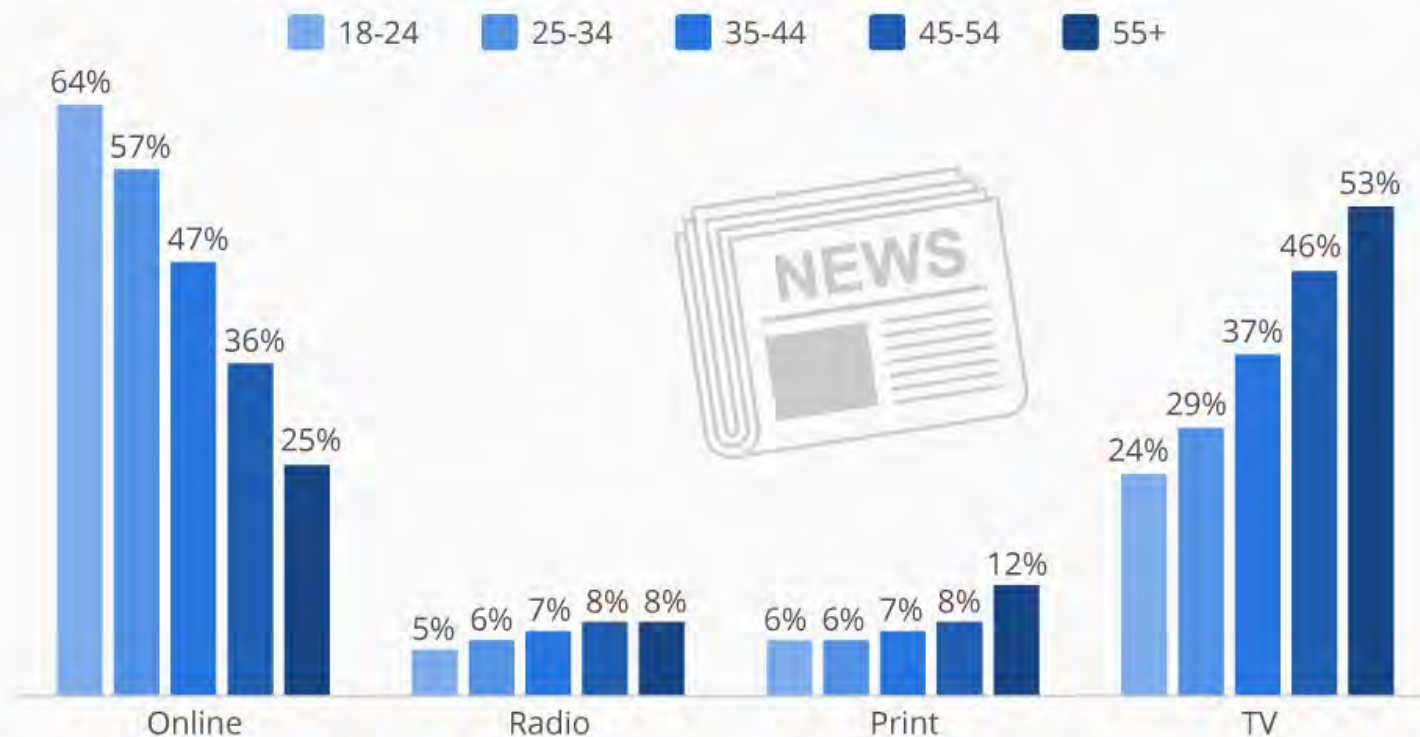


ONLINE HEALTH INFORMATION

- The internet and technology is part of everyday life
 - Most people check their smartphones 150 times/day (~every 6 min) and young adults are sending an average of 110 texts/day
 - 46% of smartphone users say that “they couldn’t live without” their devices
- A study by Medicare found as high as 89% of patients nationwide “google” their health symptoms before seeing a doctor
- Approximately three out of four health information seekers “only sometimes,” “hardly ever,” or “never” check the source or date of health information found online
- The government has some power to regulate online “health related speech” but they are limited, not enforced consistently, and not comprehensive

The Generational Divide in News Consumption

Main news sources by age group



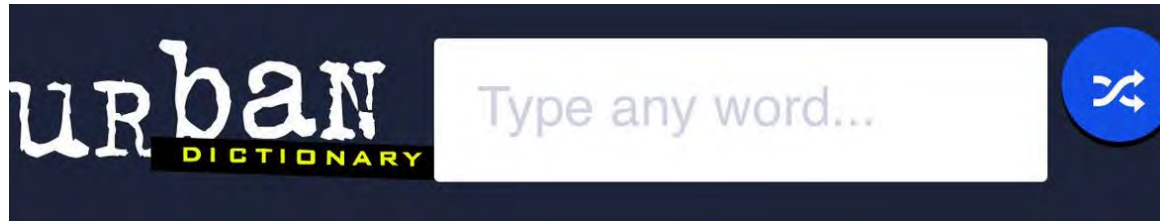
Based on a survey of 52,225 news consumers across 26 countries.

Numbers may not add up to 100% due to rounding.

Source: Reuters Institute for the Study of Journalism

statista

THE RISE OF “DR. GOOGLE”



2 Dr. Google

When you're too poor to see a real **doctor** or don't fully trust your doctor, and **conduct** a web search to diagnose medical symptoms and their possible **cures**.

*I don't need to go see a **doctor**. I've already consulted Dr. Google and it turns out I have **Peyronie's Disease**. Got to get me some **Vitamin E!***

#doctor #consultation #medical #diagnosis #symptoms #cures #consult #ailments
#disease #treatments #advice #healing #research #web search #google

3 Dr Google

{alternative definition}

Dr Google is **the professional** advice you **defer** to when performing online searches for information using **the google** search engine. Dr Google knows all.

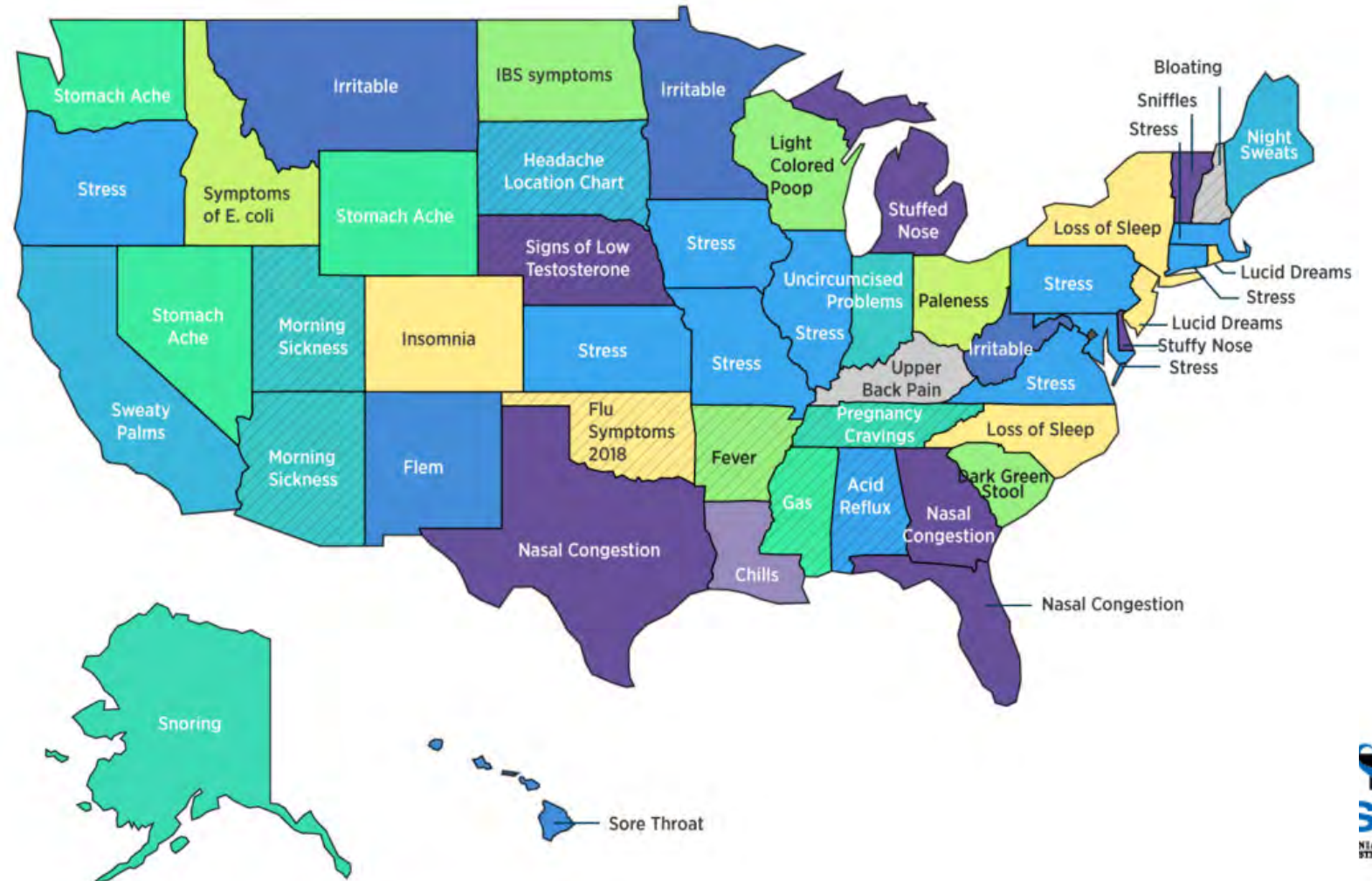
Example 1:

Rachel: What's the difference between **curling** your tongue and **clamshelling** your tongue?

Mike: Dunno! Let me ask Dr Google...

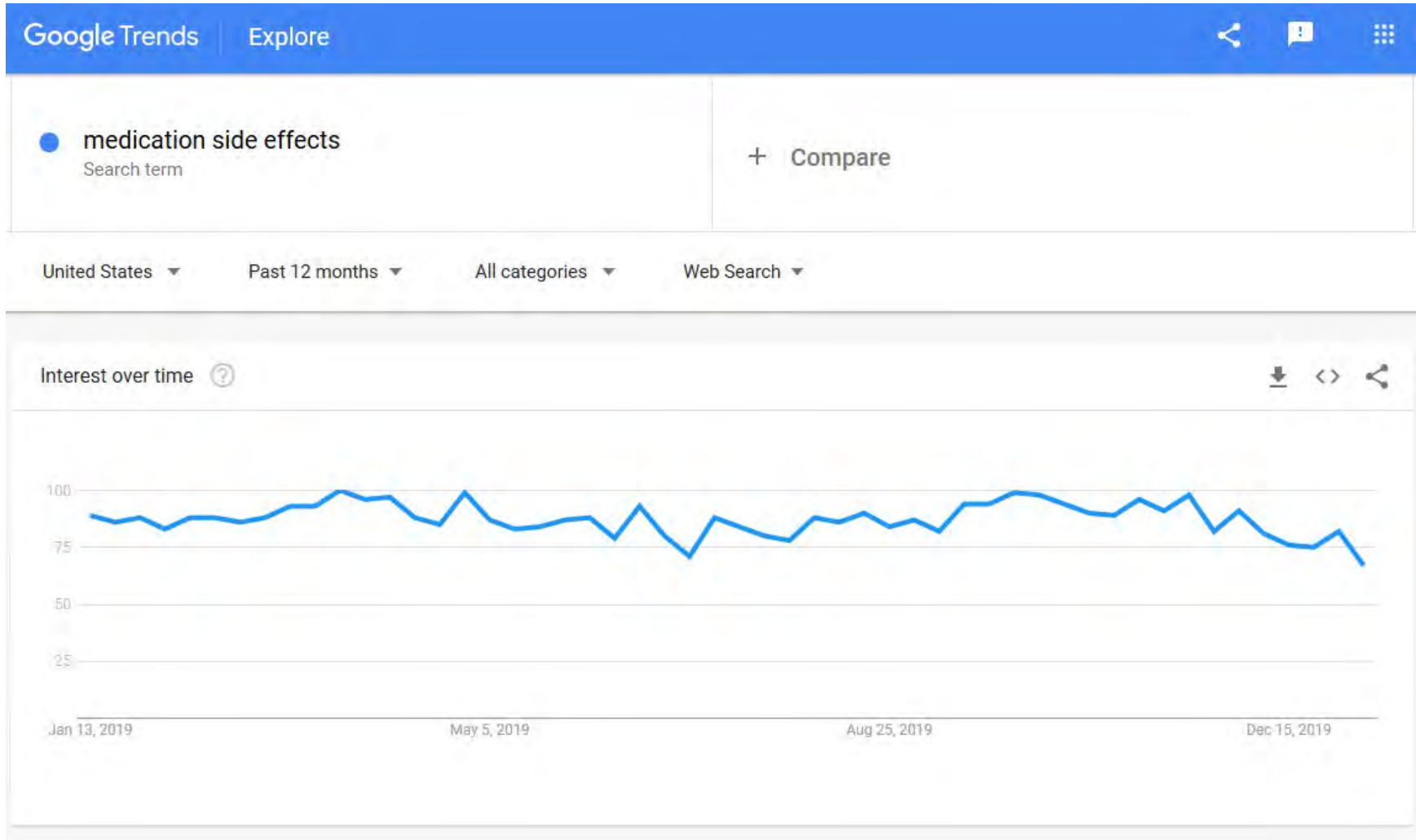


The Most Googled Medical Symptoms by State



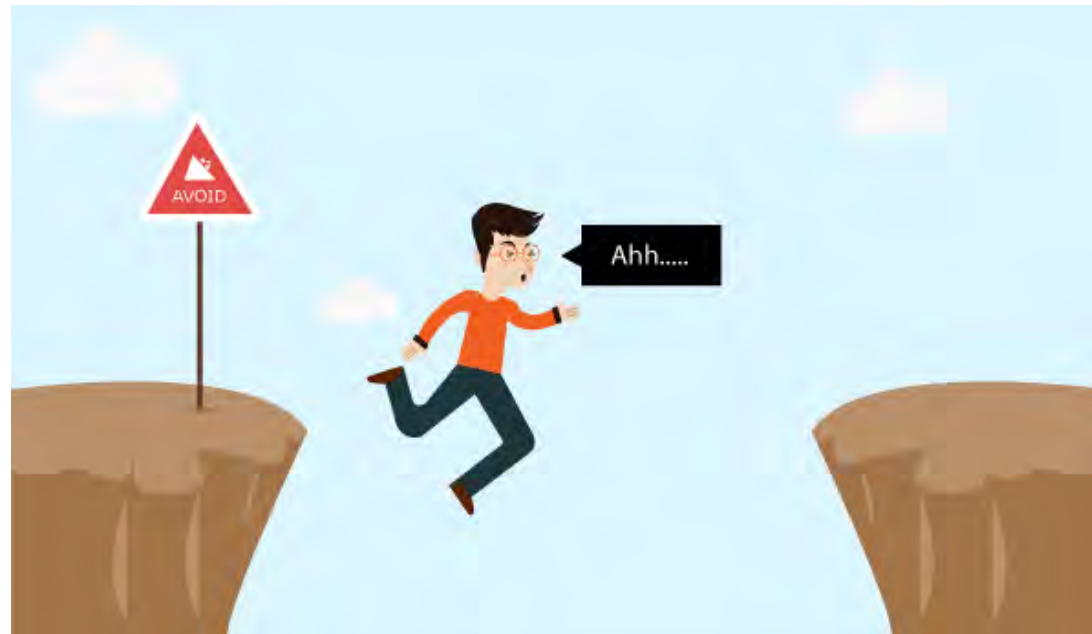
Eligibility Team March 19, et al. "Every State's Most Googled Medical Symptoms." *Eligibility*, 3 Oct. 2019, eligibility.com/medicare/states-most-googled-medical-symptom.

10/9/2020



Data source: Google Trends (<https://www.google.com/trends>)

THE PITFALLS OF “DR. GOOGLE”



“DR. GOOGLE’S” EFFECTS ON PATIENTS

- Highly technical information and medical jargon
- Direct to consumer advertising websites
- Listservs, online patient communities, social media
- “Credible” websites and variable search parameters
- Discouraged use by health care professionals, but patients continue to use because the “internet doesn’t require an appointment” and “doesn’t judge”
- The “NOCEBO” Effect



HEALTH INFORMATION SOURCES BY PATIENTS

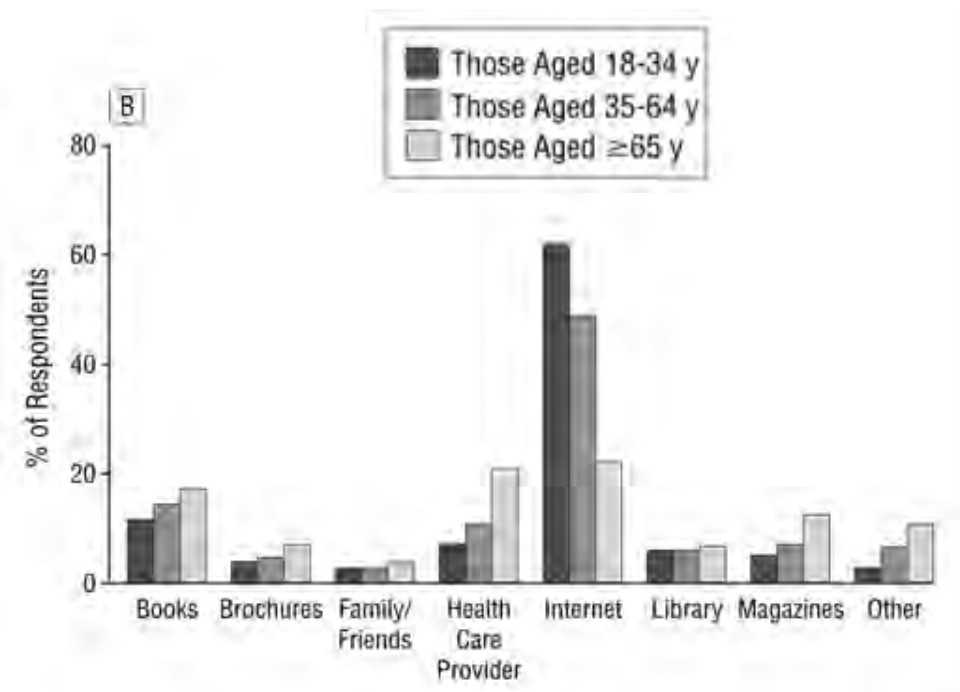


Table 2. Level of Trust in Specific Health Information Across Information Sources Among US Adults*

Source	Level of Trust in Cancer Information			
	A Lot	Some	A Little	Not at All
Physician	62.4 (60.8-64.0)	30.7 (29.2-32.2)	5.2 (4.4-5.9)	1.7 (1.1-2.4)
Internet	23.9 (22.4-25.4)	40.9 (39.3-42.6)	12.4 (11.3-13.4)	22.8 (21.6-24.0)
Television	20.0 (18.8-21.3)	51.0 (49.2-52.7)	21.2 (19.9-22.4)	7.8 (7.0-8.6)
Family or friends	18.9 (17.9-20.0)	48.9 (47.4-50.3)	25.3 (23.9-26.7)	6.9 (6.0-7.7)
Magazines	15.9 (14.7-17.0)	50.3 (48.7-51.9)	21.0 (19.9-22.2)	12.8 (11.8-13.8)
Newspapers	13.1 (12.0-14.2)	50.3 (48.6-52.0)	23.7 (22.3-25.1)	12.8 (11.7-13.9)
Radio	9.9 (8.8-11.0)	44.0 (42.2-45.9)	25.8 (24.3-27.4)	20.2 (18.9-21.6)

*Data are given as mean percentage (95% confidence interval) of adults (weighted).

FAKE HEALTH NEWS

The New York Times

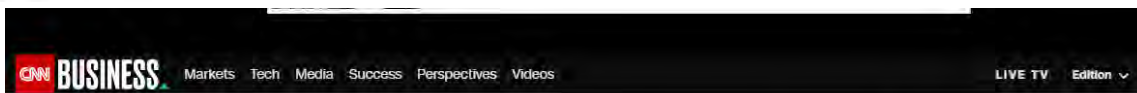
Opinion

Dr. Google Is a Liar

Fake news threatens our democracy. Fake medical news threatens our lives.

By Haider Warraich

Dr. Warraich is a cardiologist.



The spread of the coronavirus couldn't have come at a worse time for Corona beer

By Jordan Valinsky, CNN Business

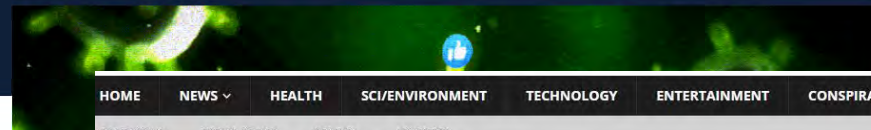
Updated 3:29 PM ET, Fri February 28, 2020

Waszak, Przemyslaw M., et al. "The Spread of Medical Fake News in Social Media – The Pilot Quantitative Study." *Health Policy and Technology*, vol. 7, no. 2, 2018, pp. 115–118., doi:10.1016/j.hlpt.2018.03.002.
Warraich, Haider. "Dr. Google Is a Liar." *The New York Times*, The New York Times, 17 Dec. 2018, www.nytimes.com/2018/12/16/opinion/statin-side-effects-cancer.html.

U.S. NEWS

Social media hosted a lot of fake health news this year. Here's what went most viral.

The most viral health misinformation in 2019 was on the topics of cancer, unproven cures and vaccines, according to an NBC News review.



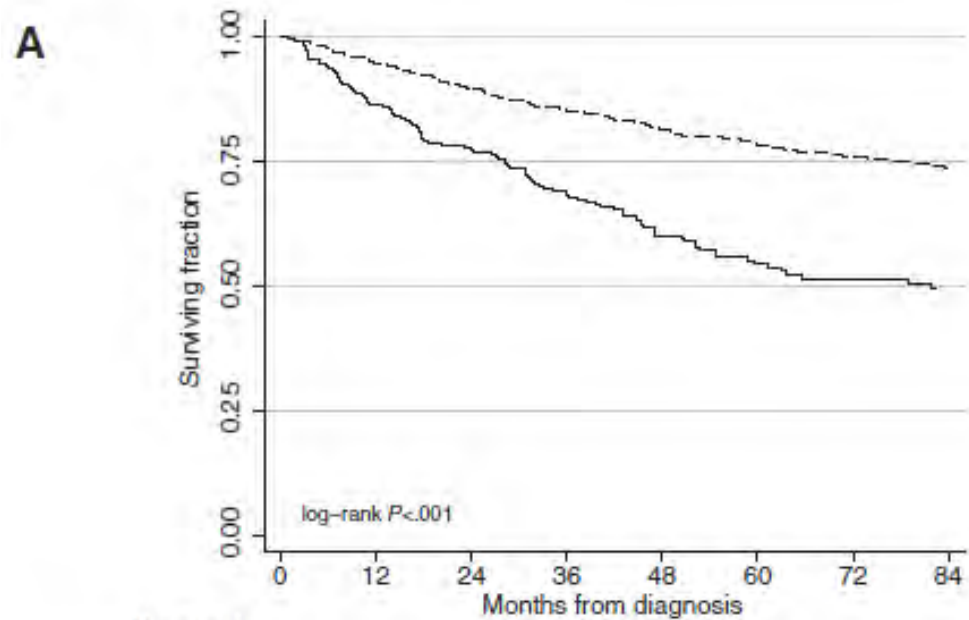
HEADLINES [January 18, 2018] Insider Dies After Revealing New World Order Agenda In 1969 CONSPIRACIES

CDC Doctor: 'Disastrous' Flu Shot Is Causing Deadly Flu Outbreak

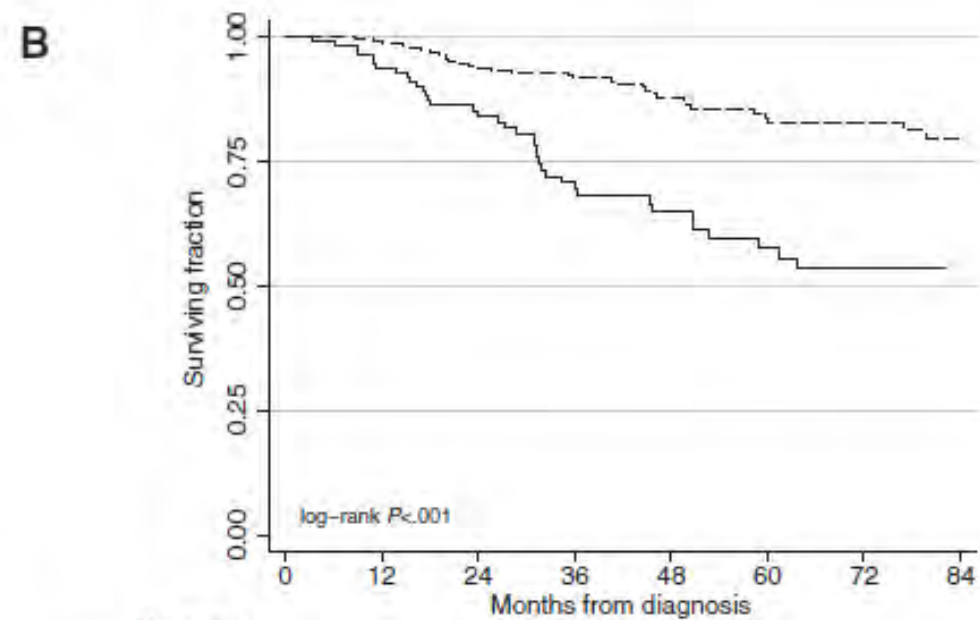
January 15, 2018 Baxter Dmitry News, US 259



ALTERNATIVE MEDICINE VS CONVENTIONAL CANCER TREATMENT



No. at risk	0	12	24	36	48	60	72	84
Standard of care	559	513	443	369	302	241	196	138
Alternative medicine	280	222	174	137	104	77	61	43



No. at risk	0	12	24	36	48	60	72	84
Standard of care	245	235	198	163	121	85	68	47
Alternative medicine	123	103	75	52	39	29	19	11



Now it's time to take a closer look at the top eight ways to HEAL America from cancer, including at the hospitals

1. Intense **turmeric and curcumin** therapy
2. Intense vitamin C therapy (especially for colorectal cancer)
3. Ramp up vitamin D3 to 8,000 IU (especially when fighting breast, colon or prostate cancer)
4. Eliminate GMOs, gluten, processed food and all artificial sweeteners from hospital food
5. Medical **cannabis therapy** (instead of surgery, chemotherapy, and radiation)
6. Alkalize patient pH to 7.2 and check periodically throughout the day to maintain
7. Oxygen therapy
8. Steady supply of spring water instead of tap water

"Top 8 Ways to HEAL America from Cancer – When Every US Hospital Goes 100% ALL NATURAL with Therapy." *NaturalNews.com*, 15 Oct. 2018, www.naturalnews.com/2018-01-09-top-8-ways-to-heal-america-from-cancer-when-every-us-hospital-goes-100-all-natural-with-therapy.html.

EFFECT ON OUR PROFESSION

- Decline in traditional/formal Drug Information Pharmacist positions
- Increased access by other healthcare professionals to online drug/medical databases (UpToDate[®], LexiComp[®], Micromedex[®], etc)
- Increased need for pharmacists to serve as **interpreters of information** vs information **gatherers**
- There are concerns that patients will bypass the trust of the medical profession due to the “disintermediating” influence of the internet (similar to issues related to financial and travel industries)

EFFECT ON STUDENTS AND NEW PRACTITIONERS

- **Prevalence in society to just “Google” everything**
 - Developing poor information research habits and just looking for the “quick, easy” answer
- **Impaired research skills**
 - 91% of teachers believe that judging the quality of information is “essential for students to be successful in life, but 71% of them rate their students as fair or poor in their ability to recognize bias in online content
 - Ethnographic Research in Illinois Academic Libraries Project: “Many (but not all) students are not gaining the information literacy skills in college that they will need in their future careers. This isn’t just about doing academic research, but also about being a savvy, reflective, and critical consumers of information.”

About 6,000,000 results (0.42 seconds)

Heart Failure: A Class Review of Pharmacotherapy - NCBI

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5481297>

by A Shah - 2017 - Cited by 1 - Related articles

After a patient has been diagnosed with a type, stage, and class, treatment can be determined. First-line drug therapy for all patients with HFrEF should include an angiotensin-converting enzyme (ACE) inhibitor and beta blocker.⁵ These medications have been shown to decrease morbidity and mortality.

INTRODUCTION · ACE INHIBITORS · ANGIOTENSIN RECEPTOR ... · IVABRADINE

Present and future pharmacotherapy for heart failure. - NCBI

<https://www.ncbi.nlm.nih.gov/pubmed>

by SA Doggrell - 2002 - Cited by 26 - Related articles

The **pharmacotherapy** currently recommended by the American College of Cardiology and the American Heart Association for **heart failure** (HF) is a diuretic, ...

Overview of Heart Failure Pharmacotherapy - Pharmacy Times

<https://www.pharmacytimes.com/health-system-edition/july2018/over...>

Jul 14, 2018 - **Heart failure** (HF) is estimated to cost Americans \$30.7 billion each year, 68% of which is in direct costs and 32% in indirect ones, according to ...

Chronic Heart Failure | Pharmacotherapy: A Pathophysiologic ...

<https://accesspharmacy.mhmedical.com/content>

About 676,000,000 results (1.15 seconds)

Doctors usually **treat heart failure** with a combination of medications. Depending on your symptoms, you might take one or more medications, including: Angiotensin-converting enzyme (ACE) inhibitors. These drugs help people with systolic **heart failure** live longer and feel better. Dec 23, 2017



Heart failure - Diagnosis and treatment - Mayo Clinic

<https://www.mayoclinic.org/diagnosis-treatment/drc-20373148>

Heart failure - Diagnosis and treatment - Mayo Clinic

<https://www.mayoclinic.org/diagnosis-treatment/drc-20373148>

Dec 23, 2017 - Doctors usually **treat heart failure** with a combination of medications. Depending on your symptoms, you might take one or more medications, including: Angiotensin-converting enzyme (ACE) inhibitors. These drugs help people with systolic **heart failure** live longer and feel better.

Treatment Options for Heart Failure | American Heart ...

<https://www.heart.org/health-topics/treatment-options-for-heart-failure>

The American Heart Association explains what can be done to **treat heart failure** whether by medication, lifestyle changes or surgery. Devices and Surgical ... · Medications Used to Treat ... · Cardiac Rehab

Heart Failure Treatment: Options for Congestive Heart Failure

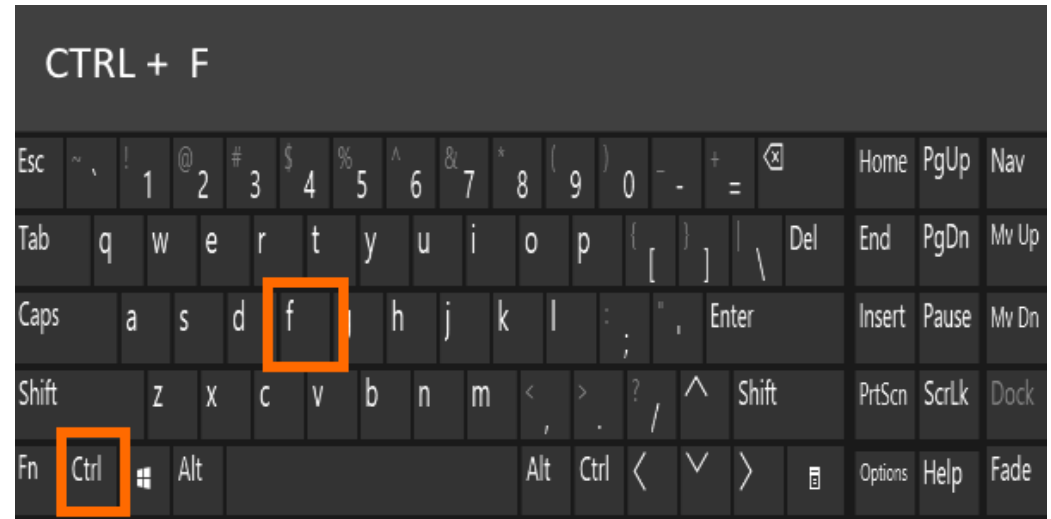
<https://www.webmd.com/heart-disease/heart-failure-treatment>

Sep 6, 2019 - WebMD tells you about **treatments for heart failure**, along with lifestyle changes to manage the condition. Medicines · Surgery and Medical ... · How Can I Keep My Heart ...

Heart Failure: Understanding Heart Failure Management and ...

<https://my.clevelandclinic.org/diseases/management-and-treatment>

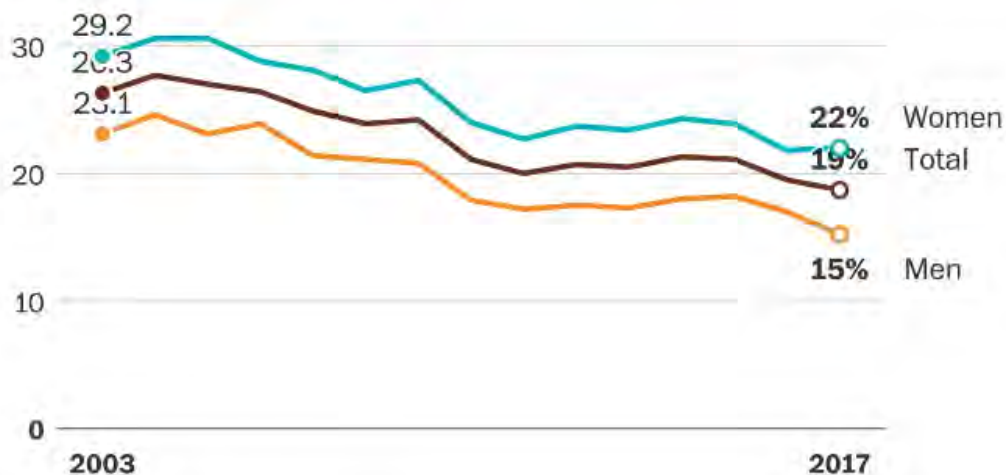
FALLACY OF CTRL+F



NO ONE READS ANYMORE

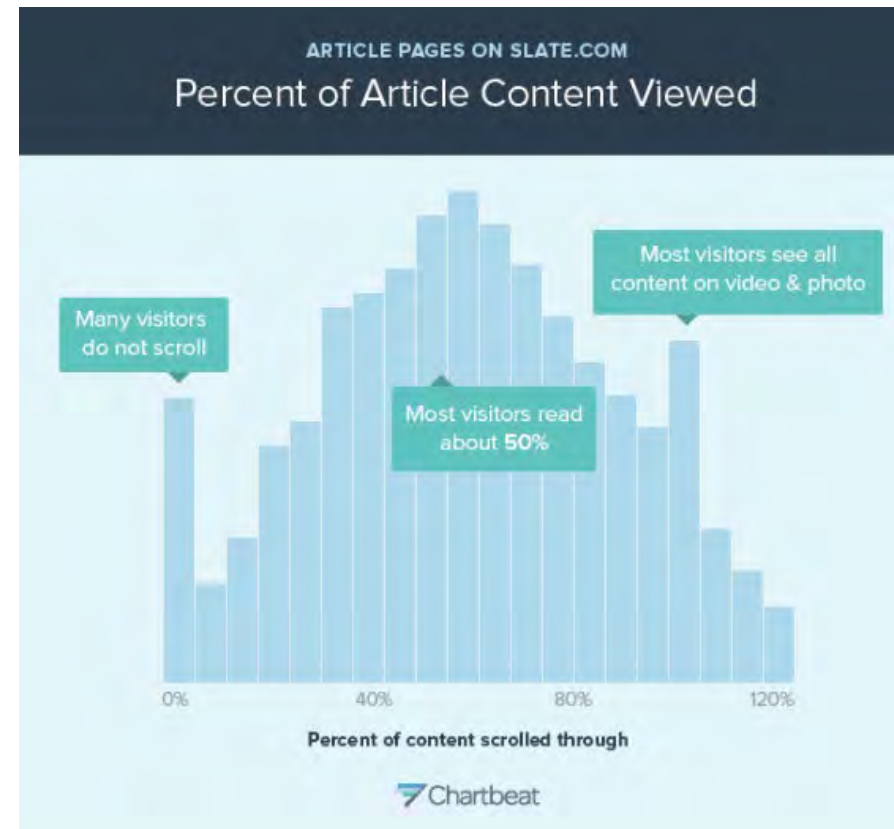
American reading declines

Percent reading for personal interest on a typical day



Source: American Time Use Survey

WAPO.ST/WONKBLOG



Ingraham, Christopher. "Analysis | Leisure Reading in the U.S. Is at an All-Time Low." *The Washington Post*, WP Company, 27 Apr. 2019, www.washingtonpost.com/news/wonk/wp/2018/06/29/leisure-reading-in-the-u-s-is-at-an-all-time-low/.

Manjoo, Farhad. "You Won't Finish This Article." *Slate Magazine*, Slate, 6 June 2013, slate.com/technology/2013/06/how-people-read-online-why-you-wont-finish-this-article.html



Search

Arrange Windows

Looking For:
vancomycin in the current document

Results:
1 documents with 174 instances

New Search

Results:

- C:\U...C difficile guidelines IDSA2017.pdf
- or **vancomycin**-resistant 4 • CID 2018:XX (XX XXXX) • McI
- Either **vancomycin** or fidaxomicin is recommended over i
- vancomycin** 125 mg orally 4 times per day or fidaxomicin
- to **vancomycin** or fidaxomicin is limited, we suggest usin
- CDI*, **vancomycin** administered orally is the regimen of c
- present, **vancomycin** can also be administered per rectun
- The **vancomycin** dosage is 500 mg orally 4 times per day
- VAN, **vancomycin**. aAll randomized trials have compared
- rectal **vancomycin**, particularly if ileus is present (strong r
- antegrade **vancomycin** flushes is an alternative approach
- oral **vancomycin** as a tapered and pulsed regimen rather
- of **vancomycin** (weak recommendation, low quality of ev
- vancomycin** (weak recommendation, moderate quality o
- of **vancomycin** rather than a second course of metronida
- oral **vancomycin** therapy using a tapered and pulsed regi
- oral **vancomycin** followed by rifaximin (weak recommend
- or **vancomycin** is recommended for the treatment of chil

Clinical Infectious Diseases

IDSA GUIDELINE



Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA)

L. Clifford McDonald,¹ Dale N. Gerding,² Stuart Johnson,^{2,3} Johan S. Bakken,⁴ Karen C. Carroll,⁵ Susan E. Coffin,⁶ Erik R. Dubberke,⁷ Kevin W. Garey,⁸ Carolyn V. Gould,¹ Ciaran Kelly,⁹ Vivian Loo,¹⁰ Julia Shaklee Sammons,⁶ Thomas J. Sandora,¹¹ and Mark H. Wilcox¹²

¹Centers for Disease Control and Prevention, Atlanta, Georgia; ²Edward Hines Jr Veterans Administration Hospital, Hines, and ³Loyola University Medical Center, Maywood, Illinois; ⁴St Luke's Hospital, Duluth, Minnesota; ⁵Johns Hopkins University School of Medicine, Baltimore, Maryland; ⁶Children's Hospital of Philadelphia, Pennsylvania; ⁷Washington University School of Medicine, St Louis, Missouri; ⁸University of Houston College of Pharmacy, Texas; ⁹Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts; ¹⁰McGill University Health Centre, McGill University, Montréal, Québec, Canada; ¹¹Boston Children's Hospital, Massachusetts; and ¹²Leeds Teaching Hospitals NHS Trust, United Kingdom

L Clifford McDonald, Dale N Gerding, Stuart Johnson, Johan S Bakken, Karen C Carroll, Susan E Coffin, Erik R Dubberke, Kevin W Garey, Carolyn V Gould, Ciaran Kelly, Vivian Loo, Julia Shaklee Sammons, Thomas J Sandora, Mark H Wilcox, Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA), *Clinical Infectious Diseases*, Volume 66, Issue 7, 1 April 2018, Pages e1–e48, <https://doi.org/10.1093/cid/cix1085>

PRECEPTING SCENARIOS



SCENARIO #1

BH started their IM APPE rotation a 2 weeks ago. This is their 3rd APPE rotation of the year and BH is applying to residency programs. During the first week, you gave feedback when BH's topic discussion including references from Wikipedia[®]. This week, there's no reference to Wikipedia[®], but mainly references to UptoDate[®] and random articles from sources you are not familiar with. When you approach BH about using primary literature, BH mentions that he does not have access to the University's online library and "google scholar[®] has everything I need, I just click on the first couple links. Also, the doctors use UptoDate[®] so isn't that good enough?"

How would you handle this situation?

SCENARIO #2

You are working in the primary clinic with an APPE student in the silicon valley. Your patients are affluent, highly educated, and tech savvy. You've experienced multiple times where your patients have medical information pulled up on their smartphones before each visit complaining that your pharmacotherapy recommendations do not match what's in "Google".

Today BT comes to diabetes clinic mentioning that her friend forwarded her an ad for a new diabetes medication that "is supposed to cure my diabetes, why didn't you put me on this already?" You realize that the drug is not on formulary yet with questionable data and unclear place in therapy.

How would you guide your student to handle this situation?

GROUP DISCUSSION – TOOLS TO OUTSMART “DR. GOOGLE”

TOOLS TO OUTSMART “DR. GOOGLE”

- Providing students and patients with reliable online resources (usually URLs that end in .org or .gov) examples include:

The National Institutes of Health
(<http://nih.gov/health-information>)

American Diabetes Association
(<http://diabetes.org>)

MedlinePlus, part of the U.S. Library of Medicine (<http://medlineplus.gov>)

- Strengthening student online research abilities
- Utilizing the eight HONcode principles

Table 2: The eight HONcode principles.⁶

Principle	Description
Authority	Indicate the qualifications of the authors
Complementarity	Information should support, not replace, the doctor-patient relationship
Privacy	Respect the privacy and confidentiality of personal data submitted to the site by the visitor
Attribution	Cite the source(s) of published information, date medical and health pages
Justifiability	Site must back up claims relating to benefits and performance
Transparency	Accessible presentation, accurate email contact
Financial disclosure	Identify funding sources
Advertising	Clearly distinguish advertising from editorial content

Kao, Doris j. “A Second Dose of Drug Information: Using the Internet for Drug Information.” *California Journal of Health-System Pharmacists*, vol. 24, no. 3, 2012, pp. 98–100.

AMA Journal of Ethics

Illuminating the Art of Medicine



POLICY FORUM
NOV 2018

Why Health Professionals Should Speak Out Against False Beliefs on the Internet

Joel T. Wu, JD, MPH, MA and Jennifer B. McCormick, PhD, MPP

Key TakeAways

The internet is here to stay, and it is continuously growing with valid and invalid information

*Need to instill into students and new practitioners strong research skills to **INTERPRET** information vs. **GATHERING** information*

Have a discussion with your students and patients regarding reliable sources of health information online

As health care providers we have a responsibility to speak out against false health information

Focused efforts to improve students and new practitioner research skills

TEST QUESTIONS

1. *Which of the following principles is described as “information should support, not replace, the doctor-patient relationship”*
 - a. *Authority*
 - b. *Privacy*
 - c. *Complementarity*
 - d. *Transparency*

2. *True/False: The government has authority to limit health information claims online*

TEST QUESTIONS

3. *Your student is frustrated with their patient who is using Google to challenge and override all their clinical decisions, what are some options you would coach the student in?*
- a. *Understanding the role the internet plays in everyday society*
 - b. *Partnering with the patient to utilize legitimate health resources*
 - c. *Create tools to educate the patient on the pitfalls of online health information*
 - d. *All of the above*

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 - d. *All of the above***

QUESTIONS?

TECHNOLOGY

Is Google Making Us Stupid?

What the Internet is doing to our brains

NICHOLAS CARR JULY/AUGUST 2008 ISSUE

REFERENCE LIST

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**SESSION
CODE:**



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CSHP SEMINAR 20 • OCTOBER 21-25
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