Importance of Effective Health Communication and the Goals, Roles, and Responsibilities of Federal Health Communication

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Moderator: **William Hallman** (Chair), *Rutgers University*

Panelists:

Laura Smillie, *Joint Research Center, European Commission*

Arthur Lupia, *University of Michigan*

Maureen Lichtveld, *University of Pittsburgh*

Lauren Gardner, *Johns Hopkins University*

Importance of Effective Health Communication and the Goals, Roles, and Responsibilities of Federal Health Communication

William K. Hallman, Ph.D.
Professor /Chair
Department of Human Ecology
School of Environmental and Biological Sciences
Rutgers University

Overall goal: Protect and Improve Public Health

- Much of what the Federal Government does is intended to achieve this goal.
  - Infectious and Non-infectious Diseases
  - Diets
  - Drugs
  - Contaminants
  - Occupational Hazards
  - Highway Safety
  - Natural disasters

- Effective health communication is fundamental to protecting and improving public health.

Effective Health Communication Is More Than Messaging

Engaging with Stakeholders

- To choose which health issues to take on.
  - What are people concerned about?
  - What questions do they want to have answered?
  - What issues have not yet been adequately addressed?
  - What misinformation needs to be preempted or countered?

Engaging with Stakeholders

- To make better decisions / achieve consensus
  - What information/points of view do key stakeholders have that can enhance what we think we already know?
  - How will people be affected?
    - How will that differ across varying communities?
  - How will important stakeholders likely react?
    - What kind of pushback or counter messaging might be anticipated?

Engaging with Stakeholders

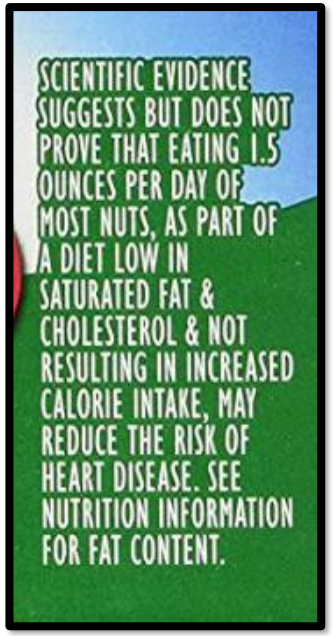
- To ensure our efforts are effective
  - Are they understood?
  - Do they connect with people's lived experiences?
  - Are they reaching the right people?
  - Are people amplifying our efforts?
  - Are people acting?
  - How do our efforts need to change?

Federal Agencies Play Many Roles With Respect to Authoritative Health Information

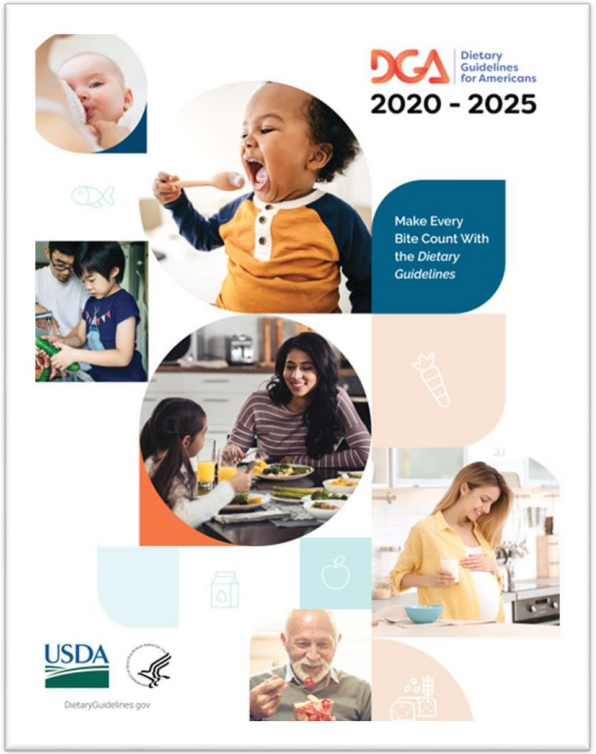
Source


HOW COMMON IS FOOD POISONING?
AN ESTIMATED 1 in 6
Americans get sick
FROM FOODBORNE DISEASES
every year.
CDC
CS331204-A

Arbiter


SCIENTIFIC EVIDENCE SUGGESTS BUT DOES NOT PROVE THAT EATING 1.5 OUNCES PER DAY OF MOST NUTS, AS PART OF A DIET LOW IN SATURATED FAT & CHOLESTEROL & NOT RESULTING IN INCREASED CALORIE INTAKE, MAY REDUCE THE RISK OF HEART DISEASE. SEE NUTRITION INFORMATION FOR FAT CONTENT.

Amplifier


DGA
Dietary Guidelines for Americans
2020 - 2025
Make Every Bite Count With the Dietary Guidelines
USDA
DietaryGuidelines.gov

What Roles Should Federal Agencies Play?

- Sometimes, those roles are established by:
  - Law
  - A unique position/ability to collect or analyze information
  - Public expectations

- When not established by law, when should Federal Agencies serve as the sources, arbiters, or amplifiers of authoritative information, taking into consideration:
  - Available expertise and resources
  - Perceived trust and credibility
  - The need for agility and timeliness, openness, transparency and accountability

Multiple Strategies for Using Authoritative Information to Influence Health Behaviors

Inform

Nutrition Facts

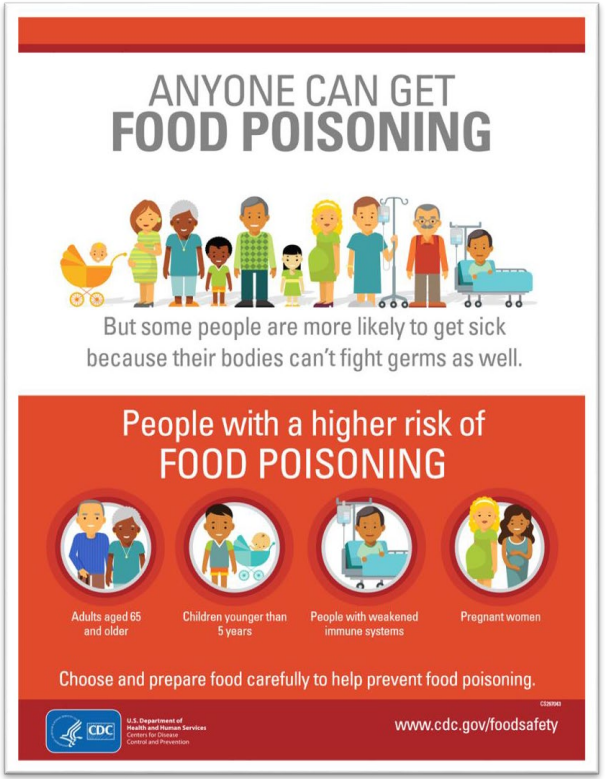
4 servings per container
Serving size 1 1/2 cup (208g)

Amount per serving
Calories **240**

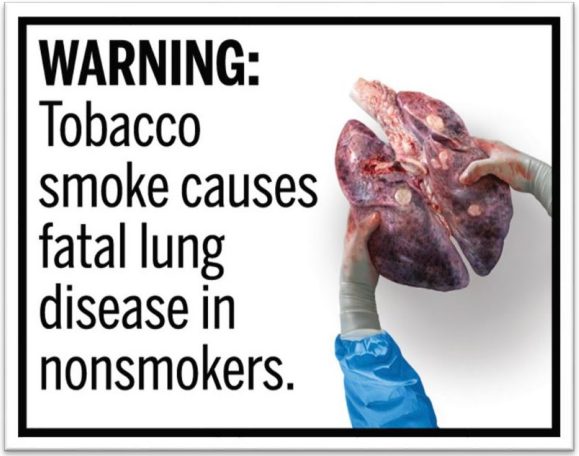
	% Daily Value*
Total Fat 4g	**5%**
Saturated Fat 1.5g	**8%**
Trans Fat 0g	
Cholesterol 5mg	**2%**
Sodium 430mg	**19%**
Total Carbohydrate 46g	**17%**
Dietary Fiber 7g	**25%**
Total Sugars 4g	
Includes 2g Added Sugars	**4%**
Protein 11g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

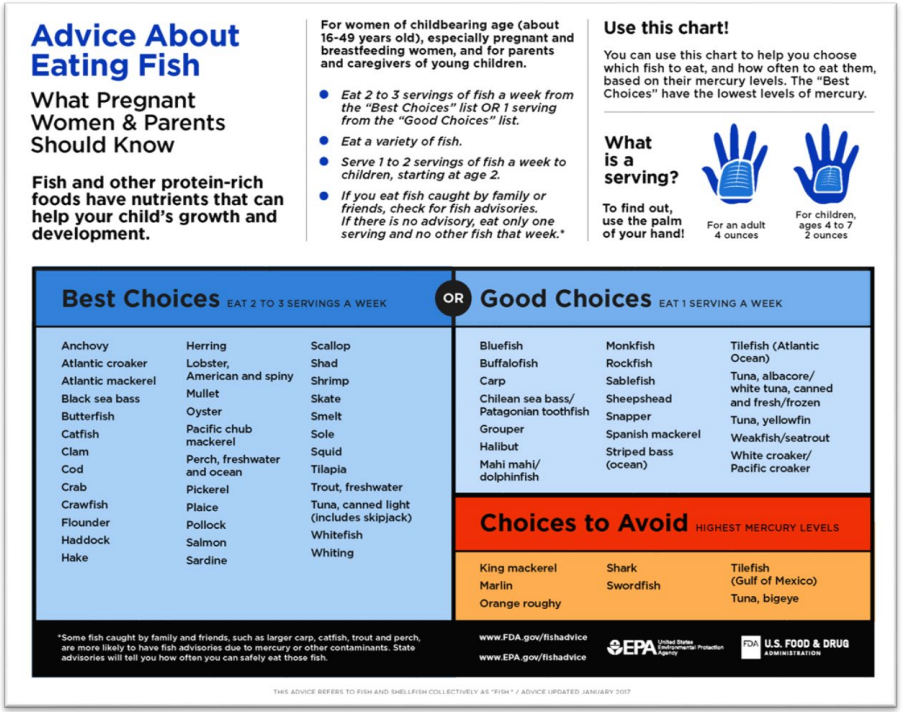
Educate


ANYONE CAN GET
FOOD POISONING
But some people are more likely to get sick because their bodies can't fight germs as well.
People with a higher risk of
FOOD POISONING
Adults aged 65 and older
Children younger than 5 years
People with weakened immune systems
Pregnant women
Choose and prepare food carefully to help prevent food poisoning.
CDC
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
www.cdc.gov/foodsafety

Warn


WARNING:
Tobacco
smoke causes
fatal lung
disease in
nonsmokers.

Advise



Advice About Eating Fish

What Pregnant Women & Parents Should Know

Fish and other protein-rich foods have nutrients that can help your child's growth and development.

For women of childbearing age (about 16-49 years old), especially pregnant and breastfeeding women, and for parents and caregivers of young children.

- *Eat 2 to 3 servings of fish a week from the "Best Choices" list OR 1 serving from the "Good Choices" list.*
- *Eat a variety of fish.*
- *Serve 1 to 2 servings of fish a week to children, starting at age 2.*
- *If you eat fish caught by family or friends, check for fish advisories. If there is no advisory, eat only one serving and no other fish that week.**

Use this chart!

You can use this chart to help you choose which fish to eat, and how often to eat them, based on their mercury levels. The "Best Choices" have the lowest levels of mercury.

What is a serving?

To find out, use the palm of your hand!

For an adult 4 ounces

For children, ages 4 to 7 2 ounces

Best Choices EAT 2 TO 3 SERVINGS A WEEK

Anchovy
Atlantic croaker
Atlantic mackerel
Black sea bass
Butterfish
Catfish
Clam
Cod
Crab
Crawfish
Flounder
Haddock
Hake
Herring
Lobster, American and spiny
Mullet
Oyster
Pacific chub mackerel
Perch, freshwater and ocean
Pickerel
Plaice
Pollock
Salmon
Sardine
Scallop
Shad
Shrimp
Skate
Smelt
Sole
Squid
Tilapia
Trout, freshwater
Tuna, canned light (includes skipjack)
Whitefish
Whiting

OR

Good Choices EAT 1 SERVING A WEEK

Bluefish
Buffalofish
Carp
Chilean sea bass/ Patagonian toothfish
Grouper
Halibut
Mahi mahi/ dolphinfish
Monkfish
Rockfish
Sablefish
Sheepshead
Snapper
Spanish mackerel
Striped bass (ocean)
Tilefish (Atlantic Ocean)
Tuna, albacore/ white tuna, canned and fresh/frozen
Tuna, yellowfin
Weakfish/seatrout
White croaker/ Pacific croaker

Choices to Avoid HIGHEST MERCURY LEVELS

King mackerel
Marlin
Orange roughy
Shark
Swordfish
Tilefish (Gulf of Mexico)
Tuna, bigeye

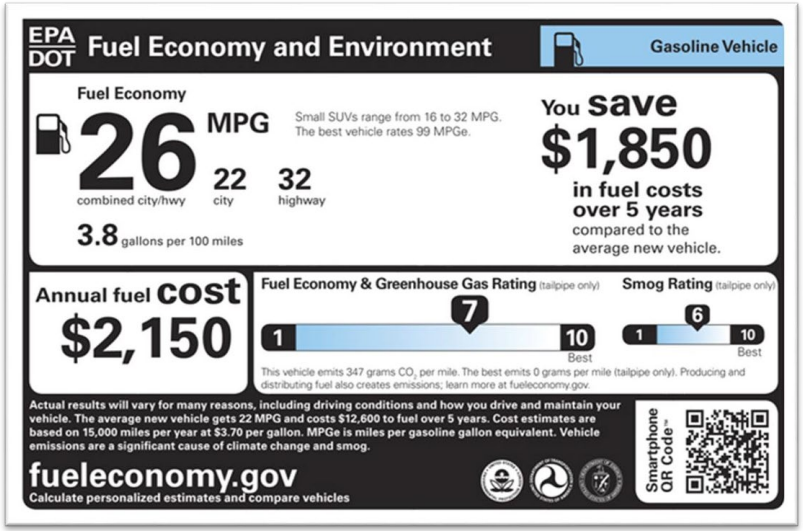
*Some fish caught by family and friends, such as larger carp, catfish, trout and perch, are more likely to have fish advisories due to mercury or other contaminants. State advisories will tell you how often you can safely eat those fish.

www.FDA.gov/fishadvice
www.EPA.gov/fishadvice

EPA United States Environmental Protection Agency
FDA U.S. FOOD & DRUG ADMINISTRATION

THIS ADVICE REFERS TO FISH AND SHELLFISH COLLECTIVELY AS "FISH." / ADVICE UPDATED JANUARY 2017

Nudge


EPA DOT
Fuel Economy and Environment
Gasoline Vehicle
Fuel Economy
26 MPG
combined city/hwy
22 city
32 highway
3.8 gallons per 100 miles
Small SUVs range from 16 to 32 MPG.
The best vehicle rates 99 MPGe.
You save $1,850 in fuel costs over 5 years compared to the average new vehicle.
Annual fuel cost $2,150
Fuel Economy & Greenhouse Gas Rating (tailpipe only)
7
1
10
Best
Smog Rating (tailpipe only)
6
1
10
Best
This vehicle emits 347 grams CO2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also creates emissions; learn more at fueleconomy.gov.
Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 22 MPG and costs $12,600 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at $3.70 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.
fueleconomy.gov
Calculate personalized estimates and compare vehicles
Smartphone QR Code*

Persuade


Protect yourself.
Protect your community.
Get vaccinated.
COVID-19 VACCINATIONS: SAFE AND EFFECTIVE
NRC-RIM
National Resource Center for Refugees, Immigrants, and Migrants
cdc.gov/coronavirus | nrcrim.org

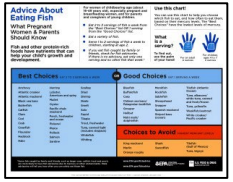
Incentivize

Coerce


NOTICE
GLOVES MUST BE WORN WHEN TOUCHING FOOD IT'S THE LAW
05-NS-13117

Which do we use?

- How do we decide when to:
  - Inform
  - Educate
  - Warn
  - Advise
  - Nudge
  - Persuade
  - Incentivize
  - Coerce
- Who gets to decide?
- On what basis?



Maintaining Trust and Credibility

Communicating to Maintain Accountability and Transparency

- How decisions were made.
  - What information was used.
  - Who was involved.
  - What options were considered.
  - What risks/benefits were balanced.
- What the agency will do/has done.
  - Why that matters.
- What happens next.

Communicating Uncertainty In a Crisis

- This is what we know now
  - How we know it
- This what we don't know
  - Why that matters
- This is what we are doing to become more certain
- This is what we recommend right now
- Our recommendations may change as we learn more and become more certain
- We will update you as new information becomes available

A final word

- Our failure to communicate effectively contributes to people unnecessarily getting sick, suffering, and dying.
  - We can, and must do better.

Importance of effective communication: goals, roles responsibilities

Sharing insights from Europe

Laura Smillie

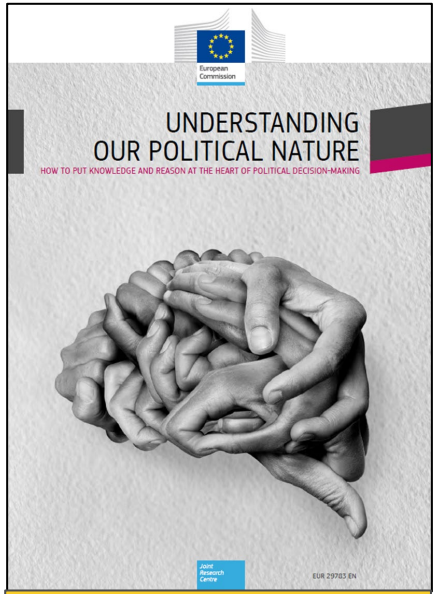
European Commission DG JRC

@LSmillie76

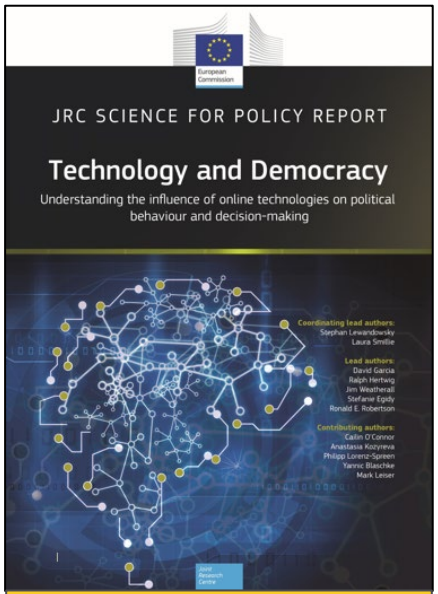
#Enlightenment2

Joint Research Centre

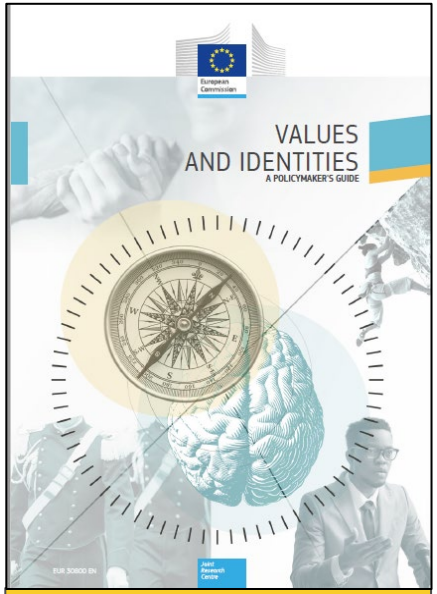
Enlightenment 2.0



2019



2020



2021

Meaningful & Ethical Communication

2022-2023

European Commission

A project of 4 phases

1. The Science

State-of-the-art scientifc reviews

2. The Behaviour

New research: Framing with values

3. The Communicators

Understanding the front line professionals

4. The Citizens

Listening to what they think

How can researchers and policymakers better understand each other?

Discover our self-reflection tool

Smart4Policy!

European Commission

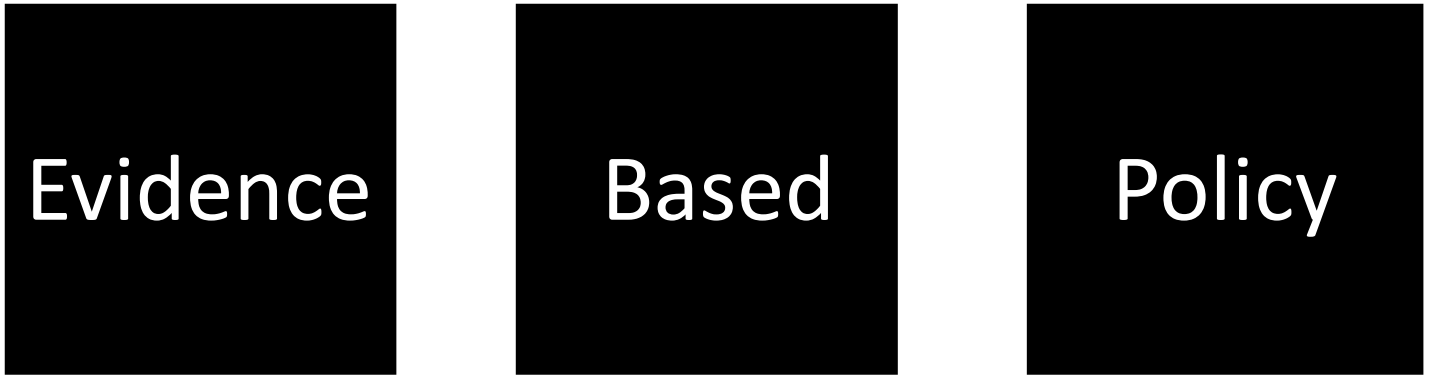
A Template for Increasing the Credibility of Government Science Communications

Arthur Lupia
Gerald R Ford Distinguished Professor
University of Michigan

Credibility

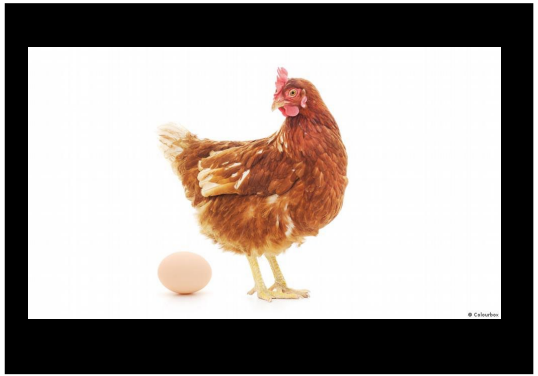
- There is a substantial scientific literature on credibility & information processing.
- Credibility is the result of an assessment. It is not a “trait.”
- People & organizations can gain credibility via associations.
  - Scientists: The scientific method
  - Politicians: Articulating values
- How can government agencies increase their credibility when discussing scientific findings?

Evidence-based Policy



Evidence-based Policy

Follow the science?



A scientific finding

value diversity,
positionality,
politics
& more

A behavioral/policy
recommendation/claim

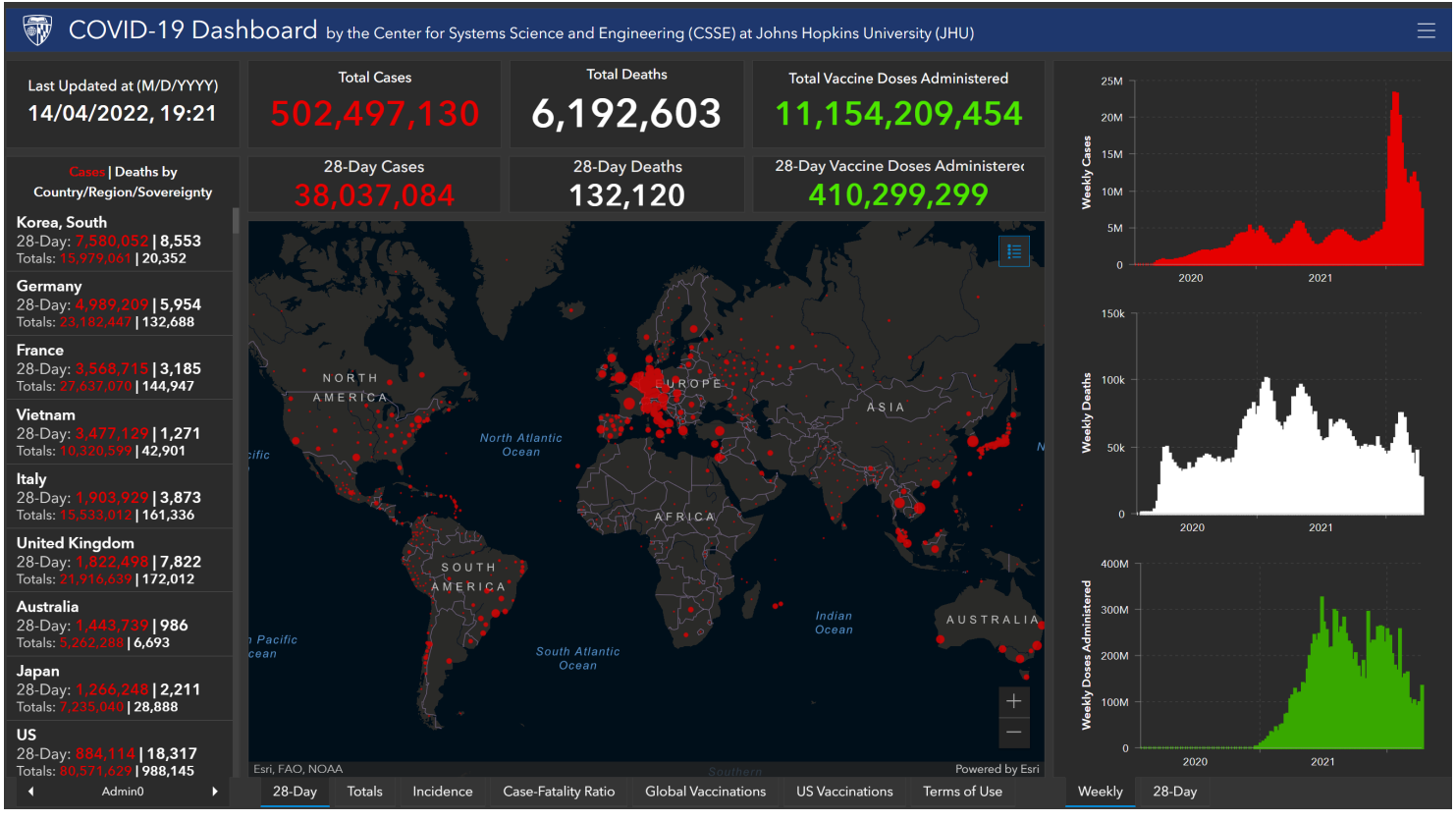
A Template for Increasing Credibility

- For claims about a scientific finding *without policy or behavioral implications*, say:
- "Study A produced Finding B."
- Example: "mRNA COVID vaccine clinical trials showed B."

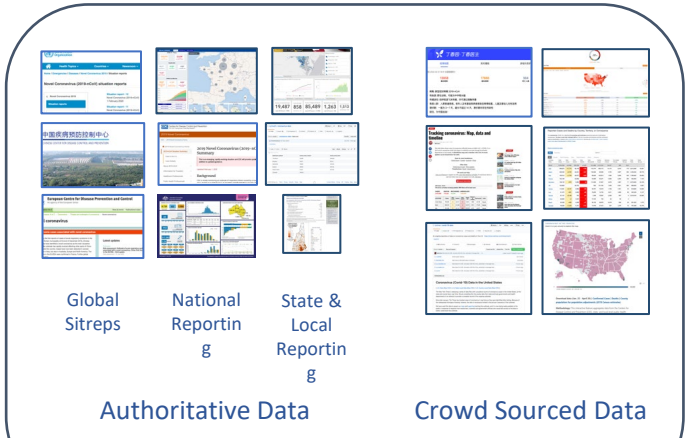
- For claims about a scientific finding that support a policy or behavioral recommendation, say :
- "[Our values are X. Research shows Y. Based on X and Y, we recommend Z.]"
- Correct: *"If you want to reduce your risk of dying from COVID, take the vaccine."*
- Incorrect: *"Follow the science, take the vaccine."*

Tracking COVID-19 in Real-time: Challenges Faced and Lessons Learned

Dr. Lauren Gardner
Alton and Sandra Cleveland Professor
Department of Civil and Systems Engineering and Department of Epidemiology at Johns Hopkins University
Director, Center for Systems Science and Engineering (CSSE)



JHU Open COVID-19 Data Pipeline



Global Sitreps

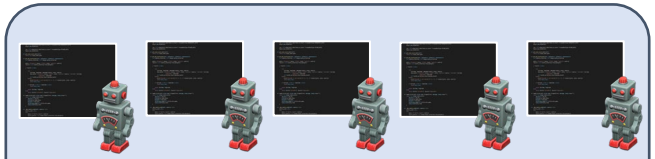
National Reportin g

State & Local Reportin g

Authoritative Data

Crowd Sourced Data

Open Source Data

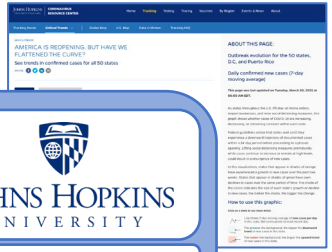


Autonomous Collection

JOHNS HOPKINS UNIVERSITY

CSSE Dashboard

Global Cases and Deaths
Testing & Vaccinations



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Coronavirus Resource Center

US Cases and Deaths
Testing & Vaccinations
Demographics
Policy

Independent Data Fusion Engines

Data Service APIs

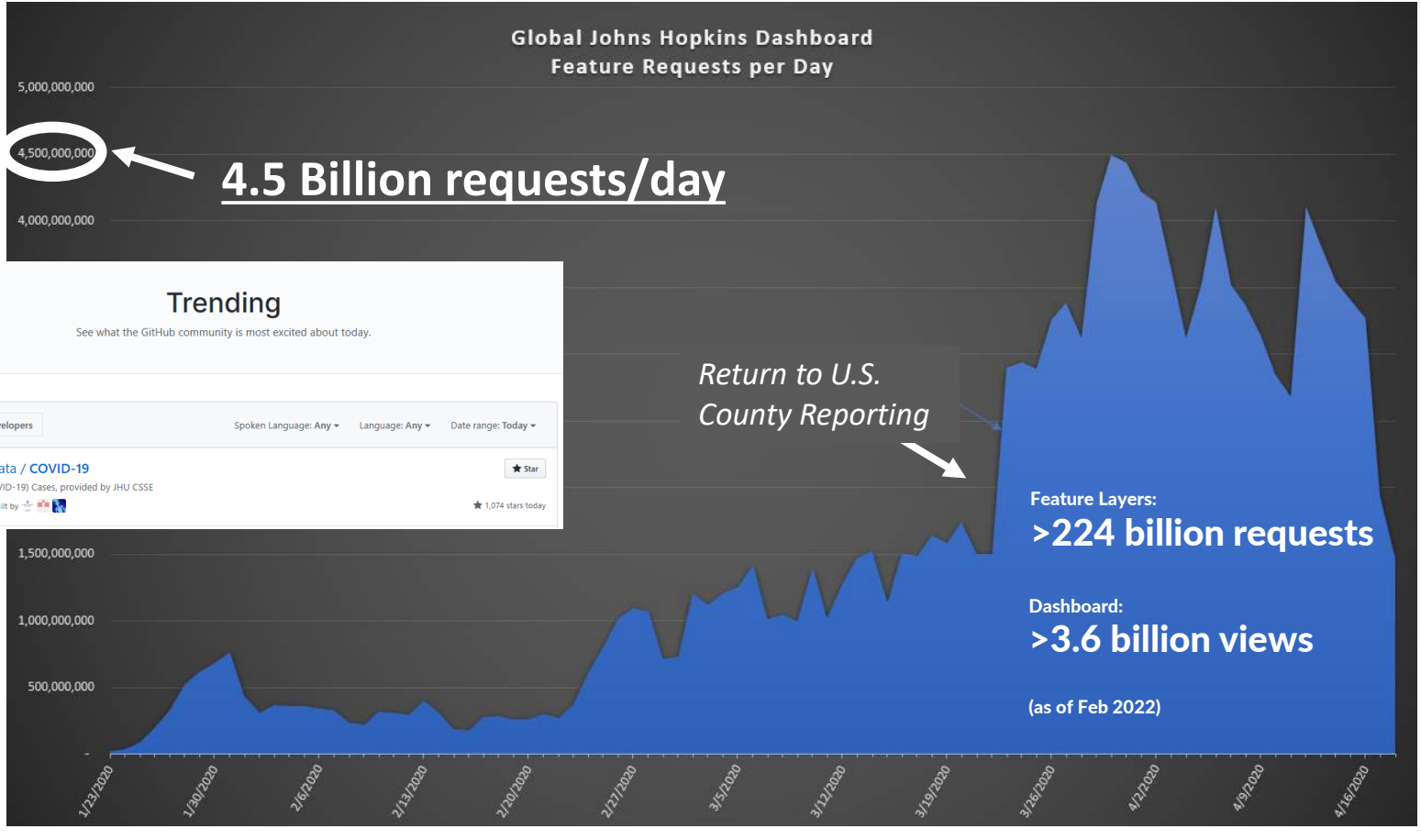
Multi-Stage ETL

Anomaly Detection & Recovery

Human Machine Teaming

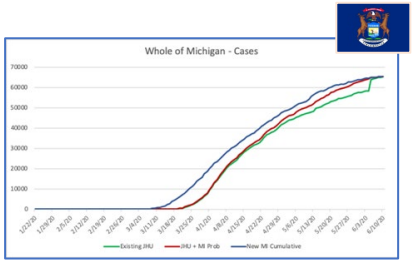
Comprehensive Data Curation

JHU COVID-19 Dashboard Viewership



Why this was hard (Hint: Standards Matter)

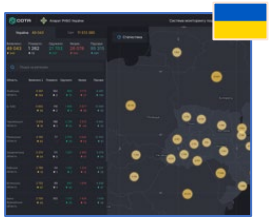
- **Ambiguity in parameter definitions** (probable vs. confirmed; reported vs onset time; diagnostic vs antibody, recoveries, etc.)
  - Our Solution: Report consistent across locations, and according to latest CDC guidelines.
- **Instability and inconsistencies in reporting** (retrospective reporting, data structure and mechanisms, machine readability)
  - Our solution: Anomaly detection system
- **Discrepancies in reported numbers among authoritative sources** (TX, UK, France)
  - Our solution: Fusion Logic
- Variability in **frequency and time-of-day reporting** across locations
  - Our Solution: 0400 GMT was the least bad chalk line

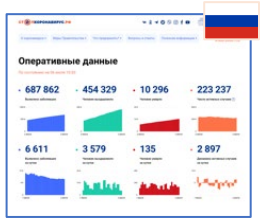


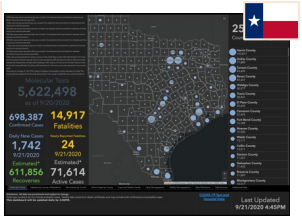
Mar

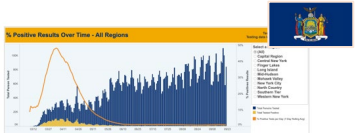
...

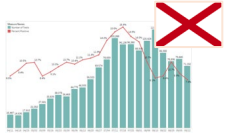
Jul

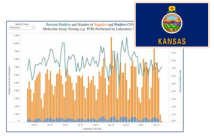






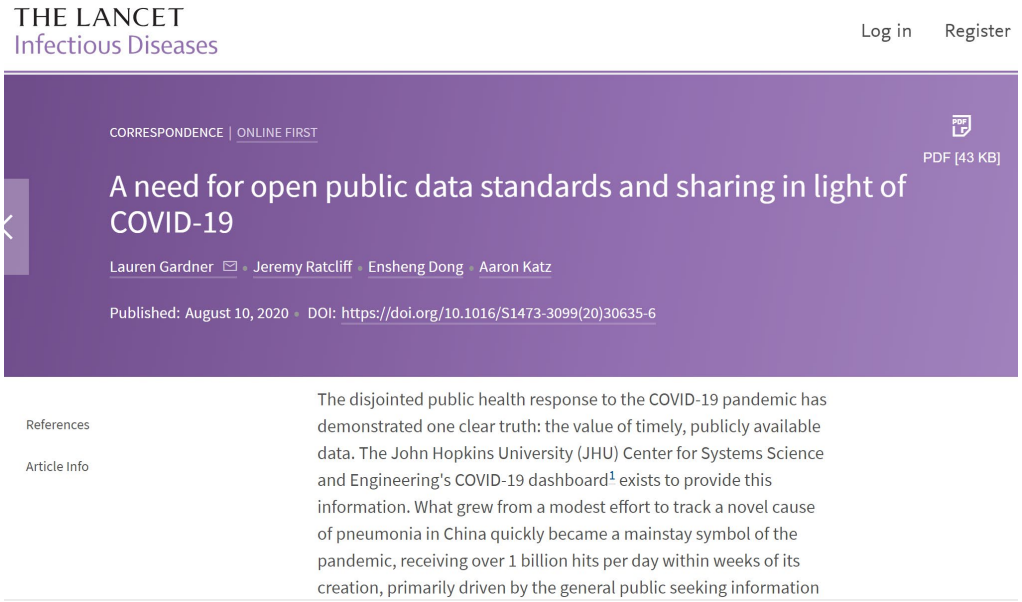






Simultaneously addressing both source instability globally and operating near a zero error rate requires extensive engineering and effort

Open Data Principles and the need for a better system



THE LANCET
Infectious Diseases

Log in Register

CORRESPONDENCE | ONLINE FIRST

PDF [43 KB]

A need for open public data standards and sharing in light of COVID-19

Lauren Gardner • Jeremy Ratcliff • Ensheng Dong • Aaron Katz

Published: August 10, 2020 • DOI: https://doi.org/10.1016/S1473-3099(20)30635-6

References

Article Info

The disjointed public health response to the COVID-19 pandemic has demonstrated one clear truth: the value of timely, publicly available data. The John Hopkins University (JHU) Center for Systems Science and Engineering's COVID-19 dashboard[1] exists to provide this information. What grew from a modest effort to track a novel cause of pneumonia in China quickly became a mainstay symbol of the pandemic, receiving over 1 billion hits per day within weeks of its creation, primarily driven by the general public seeking information

"Moving forward, it is imperative that a **standardized reporting system** for systematically collecting, visualizing, and sharing high-quality data **on emerging infectious and notifiable diseases in real-time** is established. The data should be made available **at a spatial and temporal scale that is granular enough to prove useful** for planning and modelling purposes. Additionally, a critical component of the proposed system is the **democratization of data**; all collected information (observing necessary privacy standards) should be **made publicly available immediately upon release, in machine-readable formats, and based on open data standards**."

Such an established system will both help us make sound and timely decisions when faced with the next potential outbreak, and can help us establish the public trust necessary to combat health related disinformation

Why we were successful

1. **We acted early.** We recognised the value of this type of data from the earliest days, which is needed to drive evidence-based policy and decision making. Our guiding principle from the start has been OPEN DATA and transparency.

2. **Our effort existed in a very supportive environment.** Funding was available internally in the earliest days (and later through philanthropic organizations), which allowed us to continue the efforts as it grew exponentially, uninterrupted. Moving forward, ***There needs to be a better mechanism for science agencies and governments to financially support these types of efforts QUICKLY.***

3. **We had the technical skill sets required to implement our work**. ***Engineers, computer scientists and software developers should more frequently integrated into public health agencies,*** in order to provide high quality data.

4. **We had the freedom to make executive decisions in real time.** We were not subject to any bureaucratic approval processes**.** This was especially critical in the earliest days when the global situation was changing so fast. Moving forward, ***there is a need for better open data standards, and the infrastructure and process to be in place, to straightforwardly aggregate, centralize and democratize public health data in real time.***

5. **TRUST!** JHU is a world leader in public health and medicine, and a nonpartisan institution. Our only agenda was providing the public with an accurate representation of the data and science, with no underlying agenda.

Thank You.


Me: I go to Johns Hopkins
Relatives: Oh, you mean like the ~~Med School~~ Coronavirus Map School?