



visualization for communicating health

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ehr adoption and promise

Library

my ed patients

ED Event Based Report

Matching reports

- ☆ **ED My Patients Las**
List of my patients who
- ☆ **ED My Patients Las**
List of my patients who

Additional reports

ED Log - ED My Patients Last 7 Days [1524]

Criteria Display Appearance Summary Print Layout Toolbar Override General

Find Patients in ED

From date: 1/3/2017 (T-7) Time: 05:55 PM (N)

To date: 1/10/2017 (T) Time: 05:55 PM (N)

Filter criteria Enter Search Values Info

- ED events to include

Enter Search Values	Info
ED Events to Include	
1 ED ARRIVED	
2	
- Include Deleted Events?
- Event department
- Patient: Age in years
- Patient: Sex
- Patient: Mode of arrival
- Patient: Chief complaint
- Patient: Acuity
- Patient: Disposition
- Patient: Current ED patient?

And Or Custom

Find Patients in ED between 1/3/2017 (T-7) 5:55 PM (N) and 1/10/2017 (T) 5:55 PM (N)

From ED events to include:
ED ARRIVED
Providers: My patients?:
Yes

Notify Run Save As Restore Close

collapse all

Filters

- Reports I own
- Reports I ran recently

Types

Groups

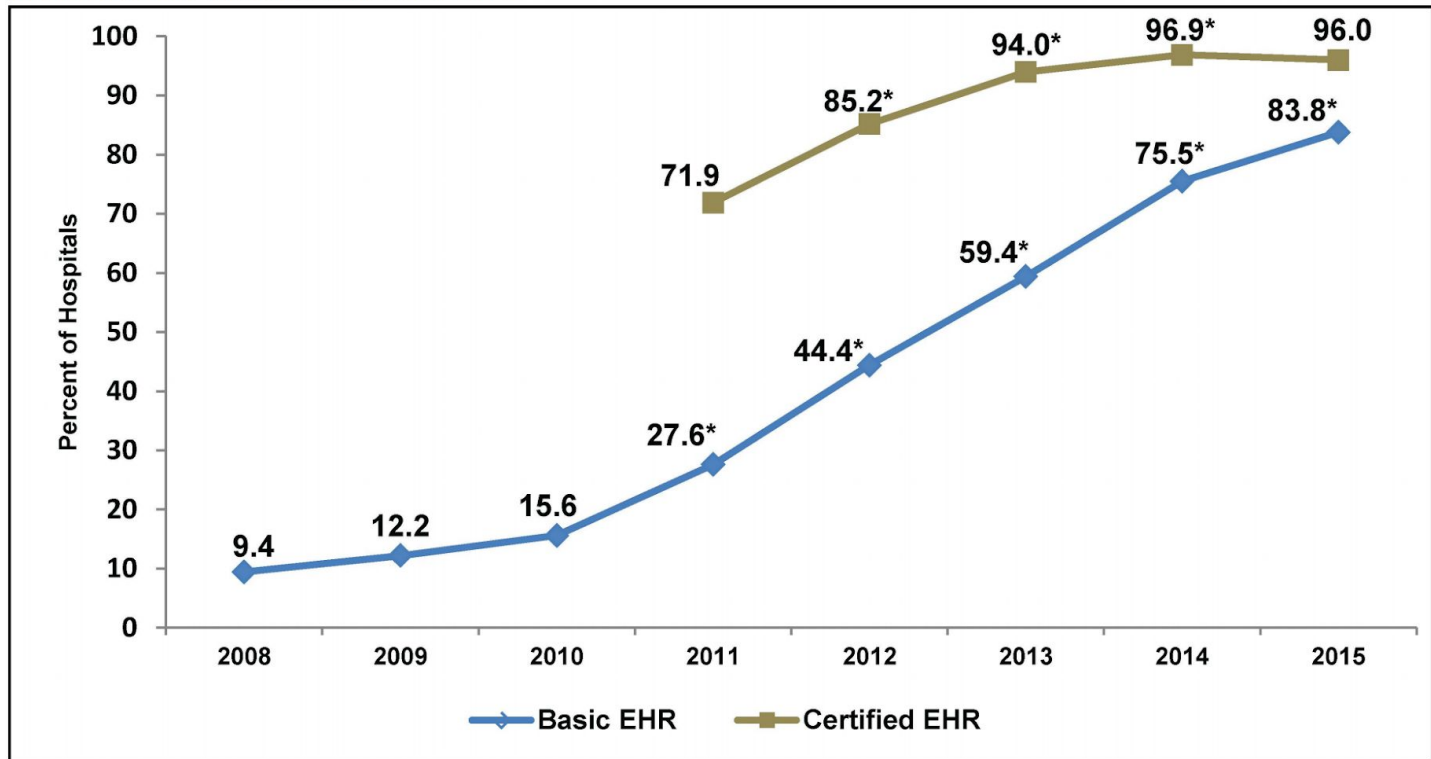
Template Types

Tags

Clear Filters

Basic EHR adoption increased while certified EHR adoption remained high.

Figure 1: Percent of non-Federal acute care hospitals with adoption of at least a Basic EHR with notes system and possession of a certified EHR: 2008-2015.



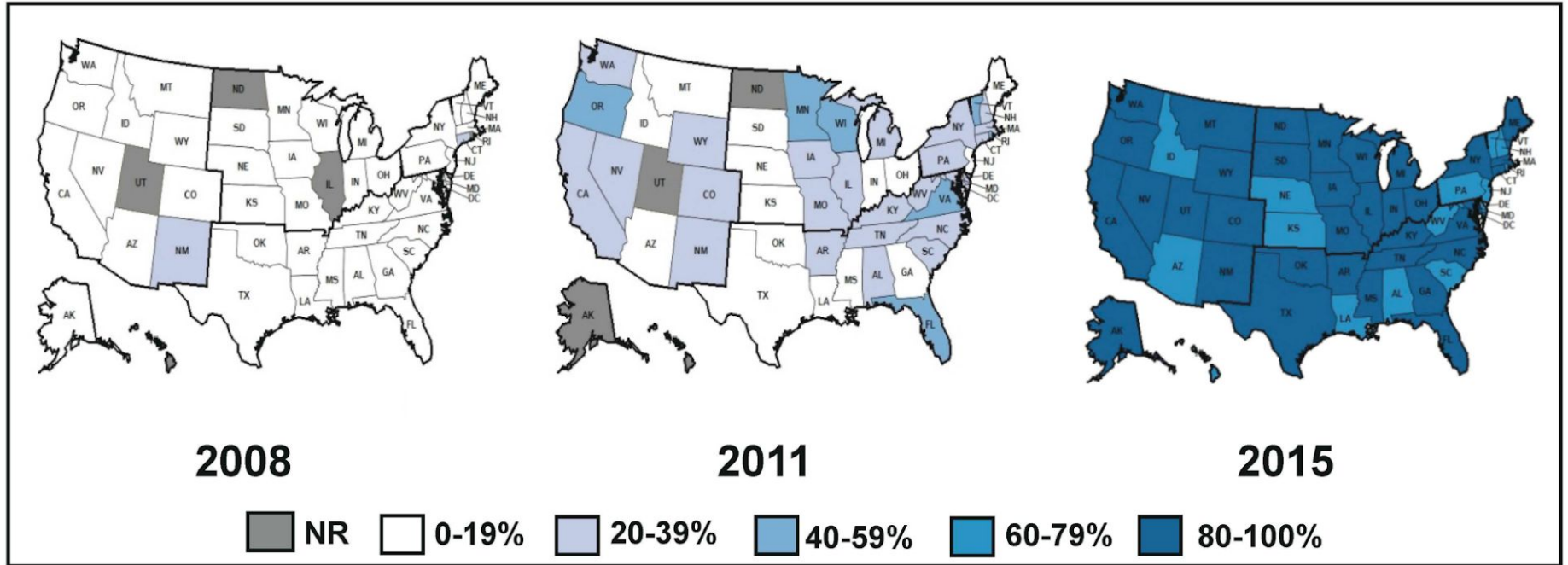
NOTES: Basic EHR adoption requires the EHR system to have a set of EHR functions defined in [Table A1](#). A certified EHR is EHR technology that meets the technological capability, functionality, and security requirements adopted by the Department of Health and Human Services. Possession means that the hospital has a legal agreement with the EHR vendor, but is not equivalent to adoption.

*Significantly different from previous year ($p < 0.05$).

SOURCE: ONC/American Hospital Association (AHA), AHA Annual Survey Information Technology Supplement.

For all states, at least 6 in 10 hospitals adopted a Basic EHR.

Figure 4: Percent of non-federal acute care hospitals with adoption of at least a Basic EHR system at the State-Level for years 2008, 2011, and 2015.

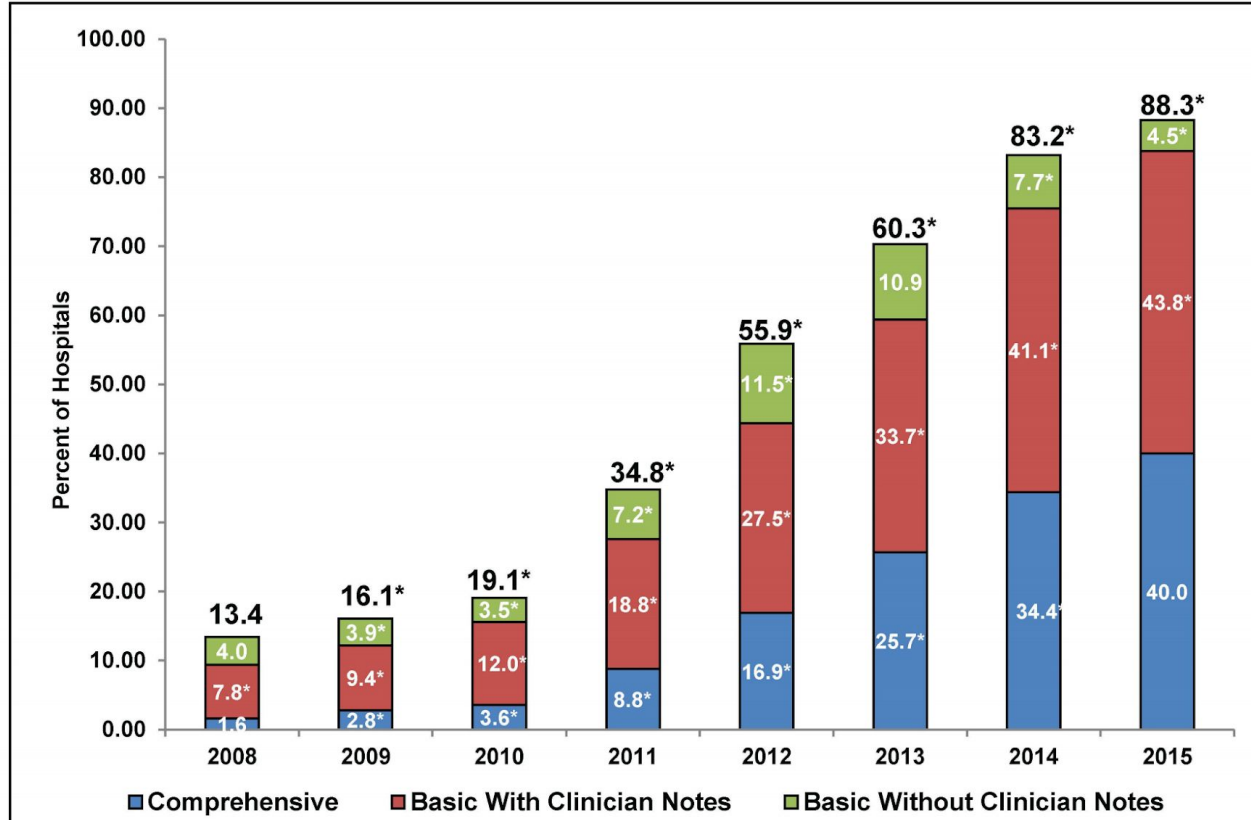


NOTES: Basic EHR adoption requires the EHR system to have at least a basic set of EHR functions, including clinician notes, as defined in Table A1. Estimates for states shaded gray did not meet the standards for reliability (NR). See the Table A2 for a complete list of 2008, 2011, and 2015 hospital adoption by state.

SOURCE: ONC/AHA, AHA Annual Survey Information Technology Supplement.

Trends in EHR adoption show increasing use of advanced functionality.

Figure 5: Percent of non-federal acute care hospitals with adoption of EHR systems by level of functionality: 2008-2015.



NOTES: Definitions of Basic EHR and Comprehensive EHR systems are reported in Table A1.

*Significantly different from previous year ($p < 0.05$).

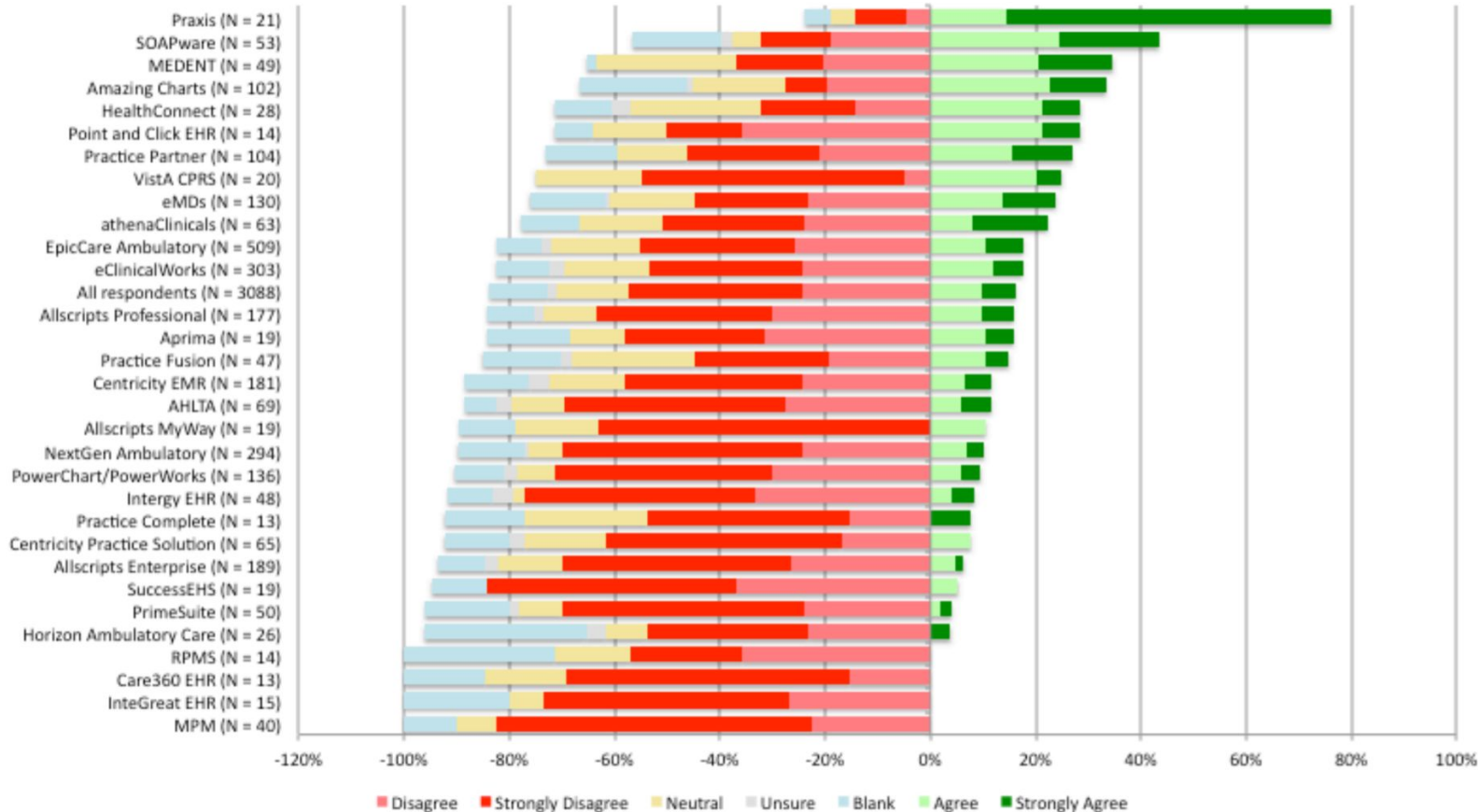
SOURCE: ONC/AHA, AHA Annual Survey Information Technology Supplement.



ehr ux is **not good**

Q11. What impact, if any, has using the EMR/EHR had on your free time?	
I have much more free time (eg, I get home much earlier and/or have much less patient chart- and practice-related work at home) (<i>Ask Q12</i>)	9 (2.2)
I have somewhat more free time (eg, I get home somewhat earlier and/or have somewhat less patient chart- and practice-related work at home.) (<i>Ask Q12</i>)	52 (12.7)
It's had no impact on my free time. (<i>Assume zero minutes; skip to Q14.</i>)	106 (25.8)
I have somewhat less free time (eg, I get home somewhat later and/or have somewhat more patient chart- and practice-related work at home). (<i>Skip to Q13</i>)	153 (37.2)
I have much less free time (eg, I get home much later and/or have much more patient chart- and practice-related work at home). (<i>Skip to Q13.</i>)	91 (22.1)
Q12. On average how many minutes of free time have you gained per clinic day? (n = 61), mean (SD)	39.0 (21.4)
Q13. On average, how many minutes of free time have you lost per clinic day? (n = 244), mean (SD)	-77.5 (40.9)
Q15. Which tasks, if any, take more of your overall time to perform using the EMR than they did before you used the computer? (Consider both the time to complete each task as well as any increase/decrease in the number of tasks. Choose all that apply.) (n = 410)^d	
Nothing takes longer	42 (10.2)
Managing calls and messages, refill requests, and new test results (With the EMR, these are usually in-box functions.)	129 (31.5)
Writing visit notes	262 (63.9)
Ordering and scheduling tests	166 (40.5)
Finding and reviewing medical record data	143 (34.9)
Writing prescriptions	101 (24.6)
Reading the clinical notes that other clinicians enter into your office EMR	132 (32.2)
Other (28 write-ins [<i>which included 7 unique responses</i>])	28 (6.8)

Response spectrum: 'This EHR helps me see more patients per day (or go home earlier) than I could with paper charts.'



Response spectrum: 'This EHR doesn't just enable me to meet meaningful use criteria; it actually helps me provide better patient care.'

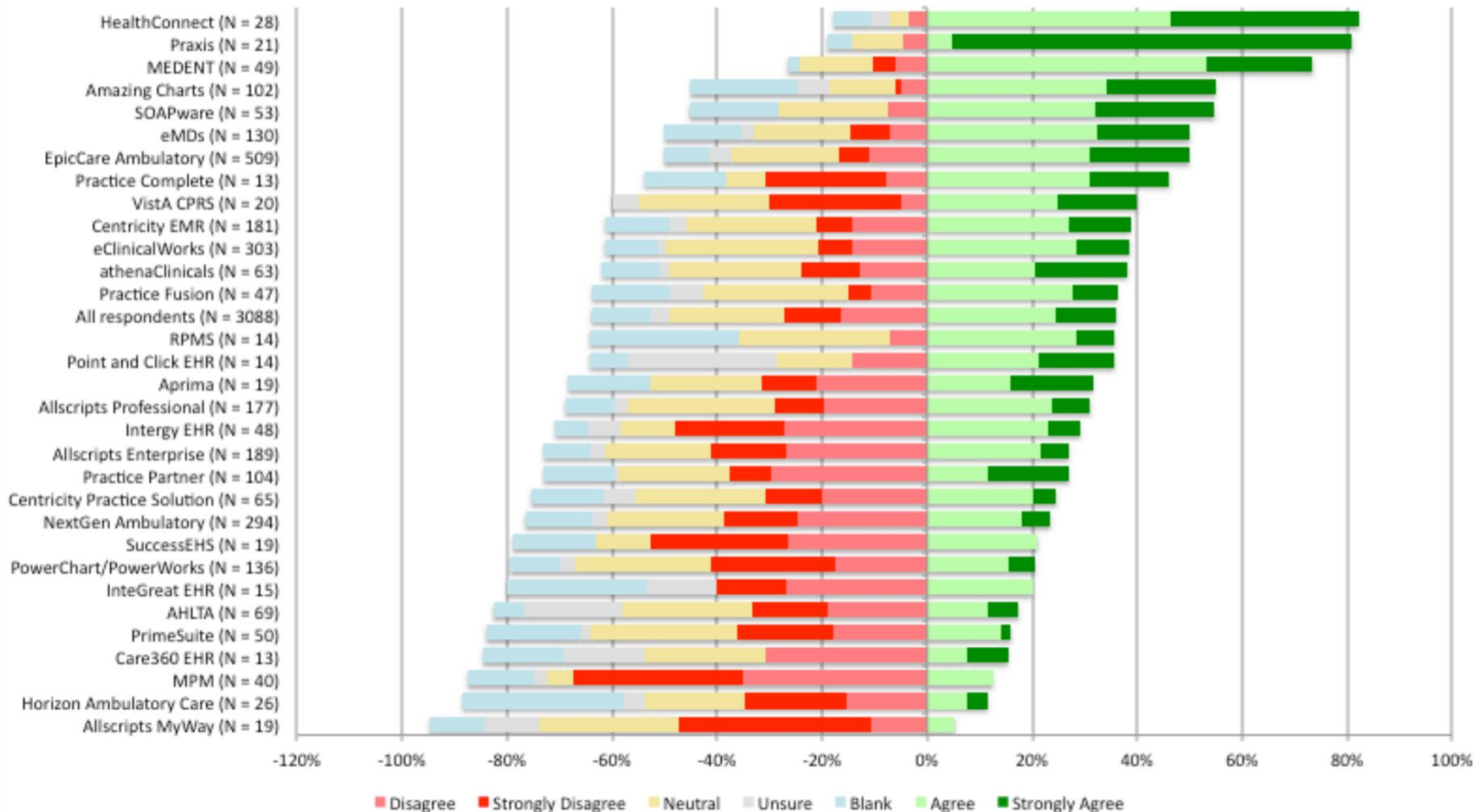
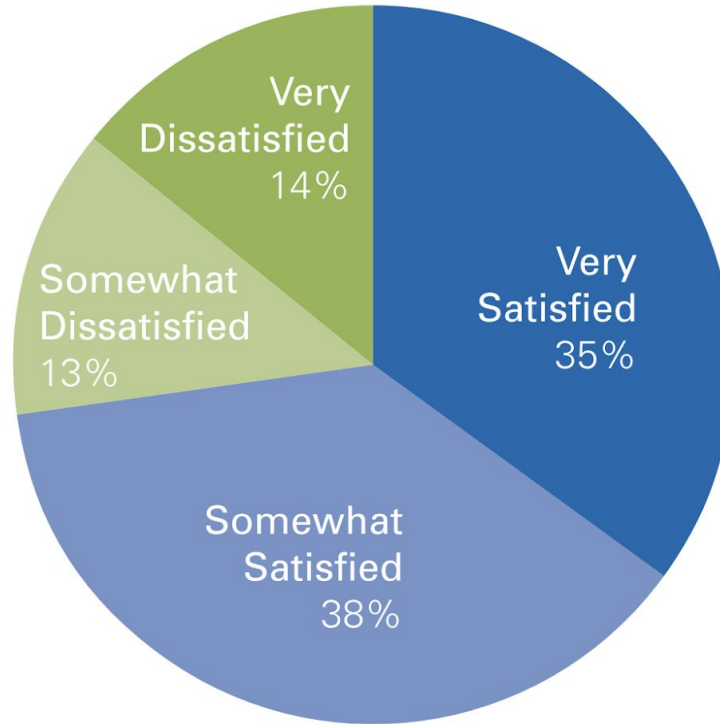
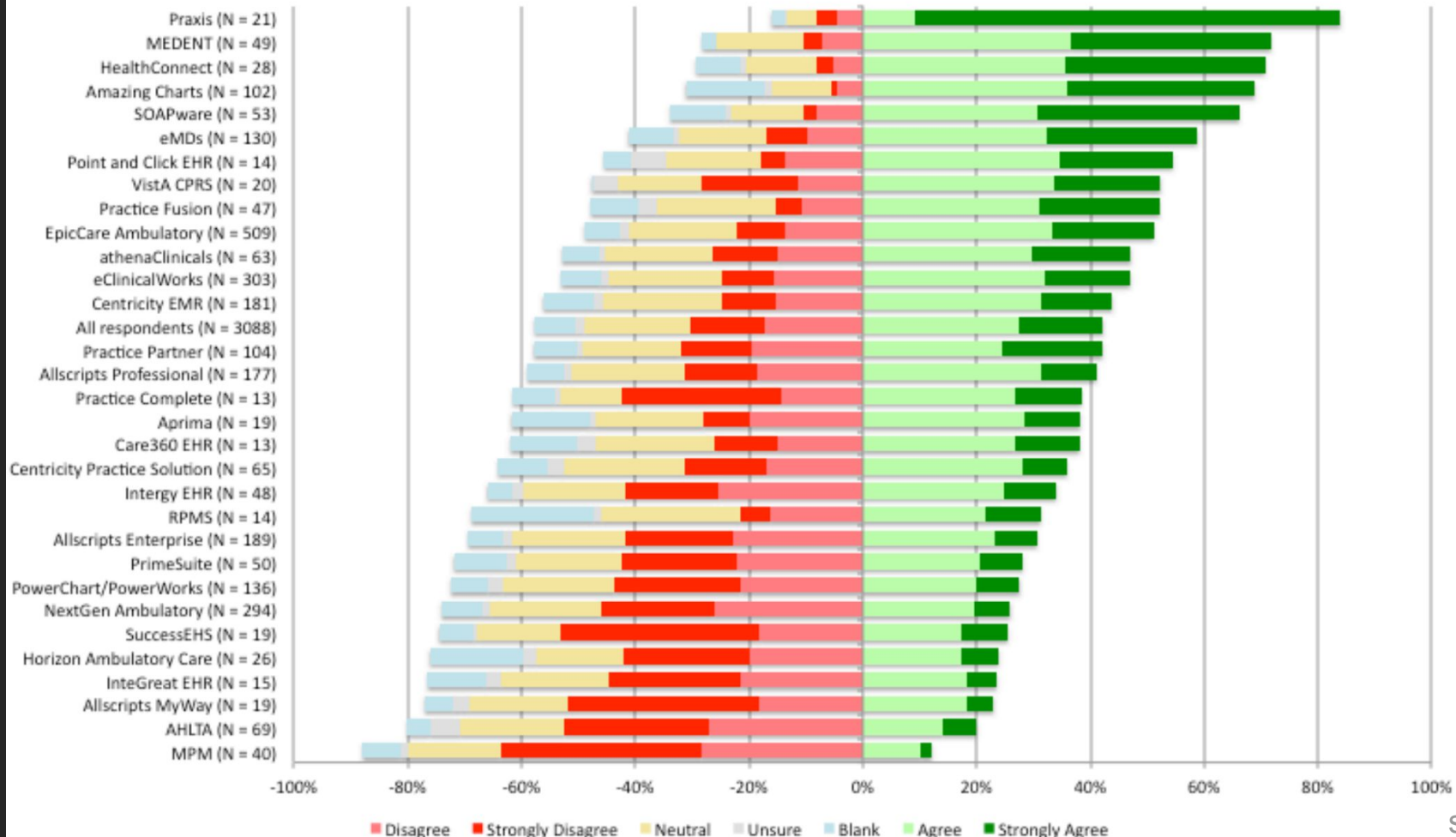


Figure 3. Physician Satisfaction with EHRs (n = 3,239)*



*Analysis based on respondents who reported having an EHR at their main practice location and who answered the question about satisfaction with EHRs.

Response Spectrum: Sum of all responses to the 19 'satisfaction' items.



Response spectrum: 'This EHR helps me focus on patient care rather than on the computer.'

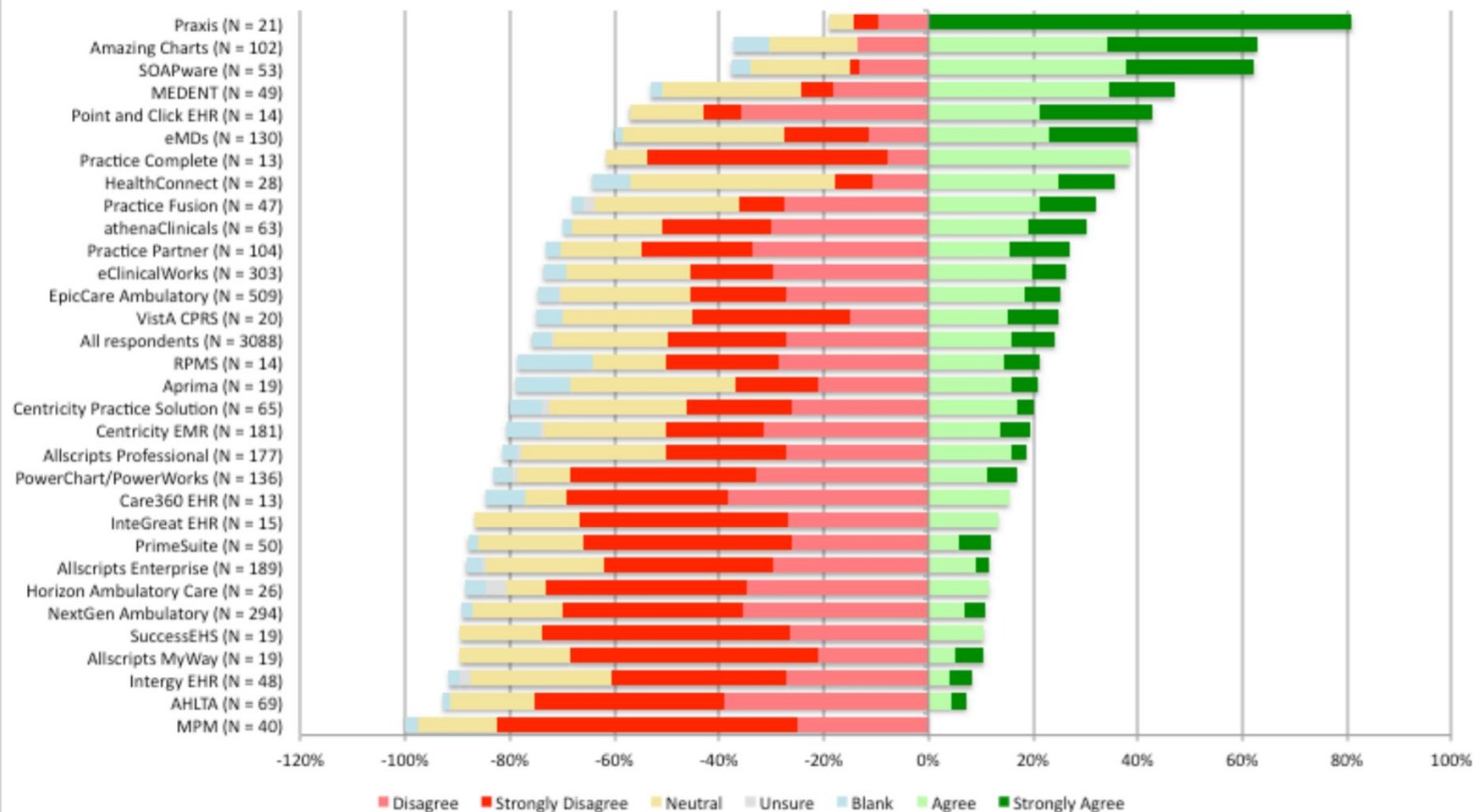


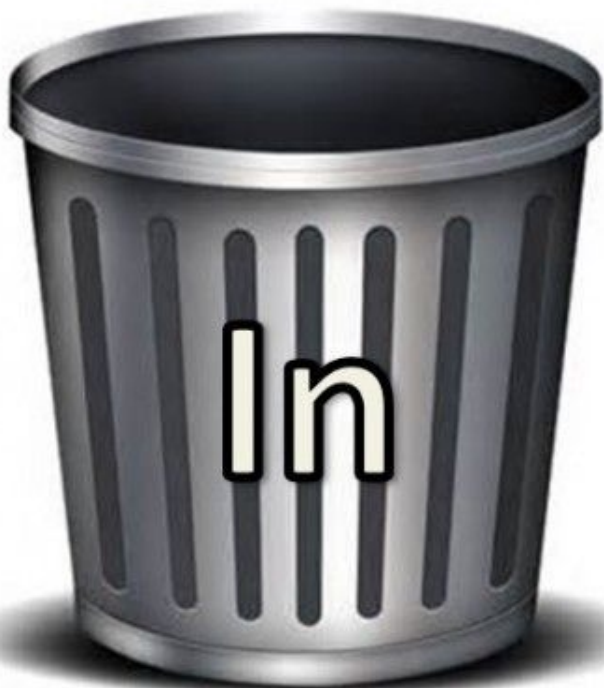
Table 5: Impact of computer use during consultation.

	Physicians n=106	Patients n=392	<i>p</i> ^a
On duration of the consultation ^b	-0.31 (1.174) ^c	+0.72 (1.039) ^c	0.000
On confidentiality	-0.38 (1.060)	+0.83 (0.984)	0.000
On ability to look at the patient	-1.12 (0.902)	+0.57 (1.222)	0.000
On ability to listen to the patient	-0.72 (0.837)	+0.64 (1.107)	0.000
On ability to talk to the patient and collect information	+0.92 (1.079)	+0.70 (1.124)	0.085
On ability to provide information to the patient	+1.08 (0.852)	+0.98 (1.017)	0.338
On ability to understand the patient	-0.03 (0.736)	+0.81 (1.068)	0.000

^a Independent-Samples T Test, 95% Confidence Interval.

^b Scores ranging from -2=very negative impact to +2=very positive impact.

^c Mean (Standard Deviation).



=



visualization can help

View

Measure

Play

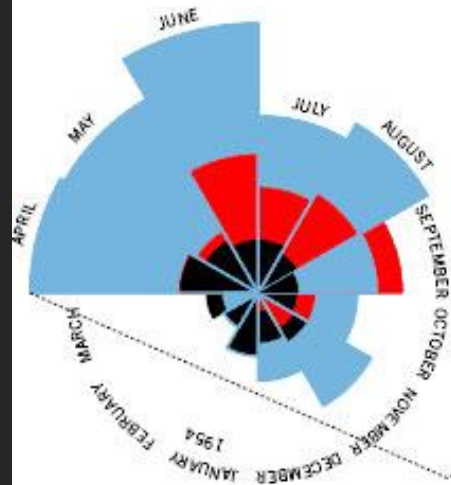
Go to:

The interface features a dark background with light blue and white icons. The 'View' section includes icons for a grid, a sun, a grid with a square, a cylinder, a sphere, a head profile, a head profile with a blue highlight, a crosshair, a trapezoid, and a square with a diagonal line. The 'Measure' section includes a grid and a double-headed arrow. The 'Play' section includes a play button icon. A 'Go to: slice no.' input field is located between the 'View' and 'Measure' sections.

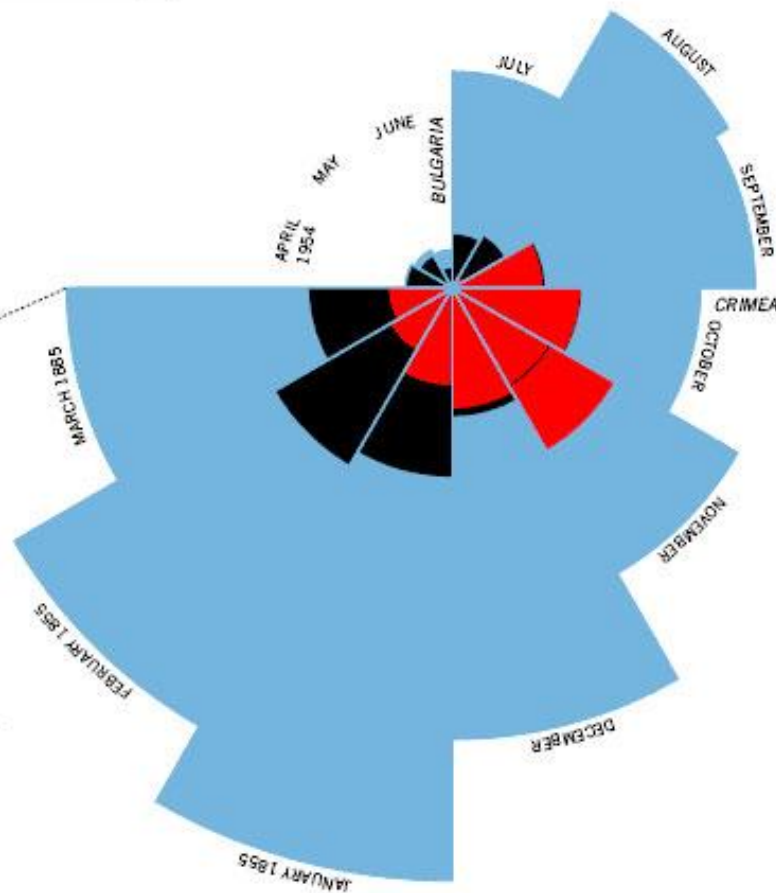


DIAGRAM OF THE CAUSES OF MORTALITY IN THE ARMY IN THE EAST

2.
APRIL 1855 to MARCH 1856



1.
APRIL 1854 to MARCH 1855



The Areas of the blue, red, & black wedges are each measured from the centre as the common vertex

The blue wedges measured from the centre of the circle represent area for area the deaths from Preventible or Mitigable Zymotic Diseases, the red wedges measured from the centre the deaths from wounds, & the black wedges measured from the centre the deaths from all other causes

The black line across the red triangle in Nov' 1854 marks the boundary of the deaths from all other causes during the month

In October 1854, & April 1855, the black area coincides with the red, in January & February 1856, the blue coincides with the black



visualization for communication

METHADONE



CODEINE



HEROIN



MORPHINE



OXYCODONE



HYDROCODONE



BUPRENORPHINE



FENTANYL



SUGAR TOO MUCH OF A SWEET THING

The American Heart Association recommends that women consume no more than 6 teaspoons and men no more than 9 teaspoons of added sugars per day. Even one 20 oz. soda contains far more than that.

6 teaspoons added sugars for women per day

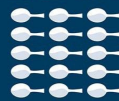


9 teaspoons added sugars for men per day



VS

15 teaspoons of sugars in a 20 oz. Coke



23 teaspoons

Actual added sugars consumed by average American per day



385 Calories consumed daily from added sugars by the average American

▶ Burning those calories would take:



Walking:
1½ hours

Basketball:
1 hour



Biking:
¾ hour



Jogging:
¾ hour

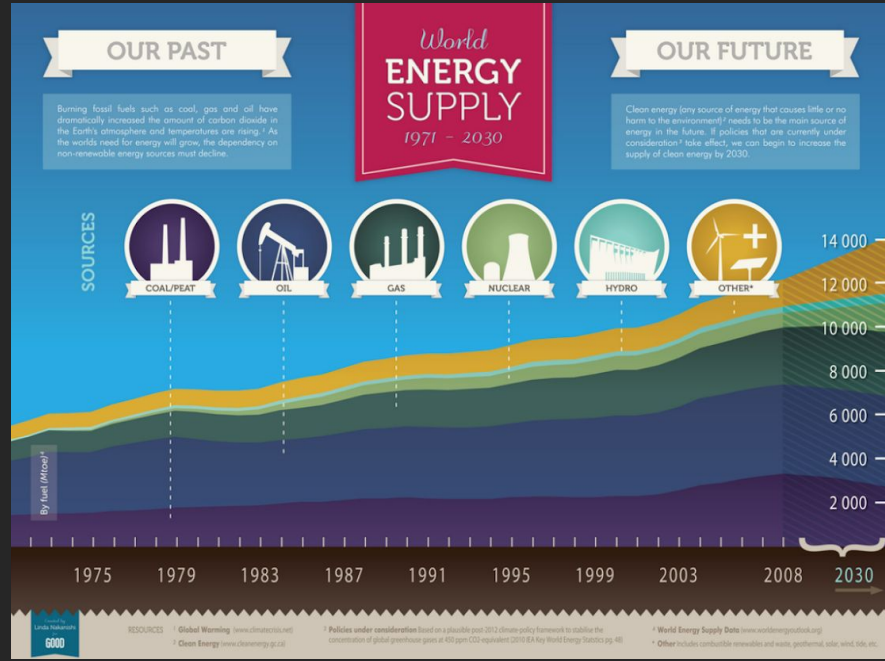
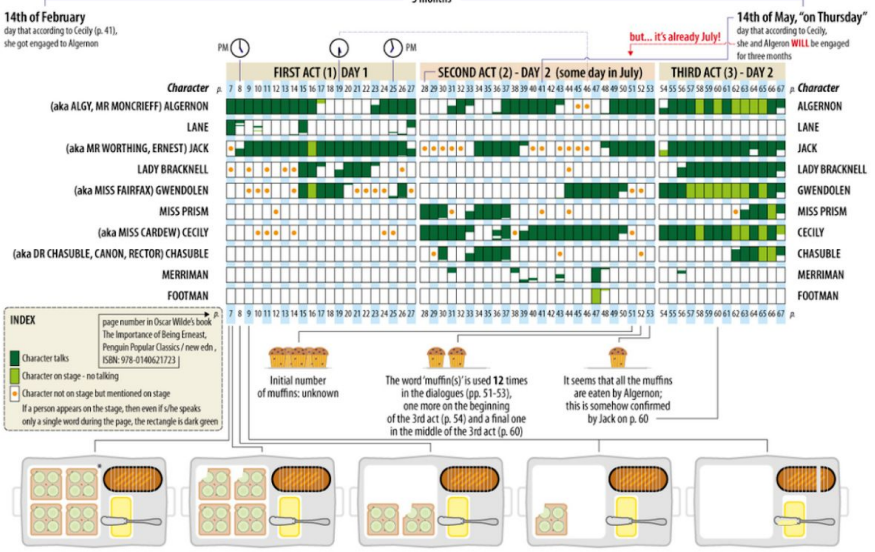


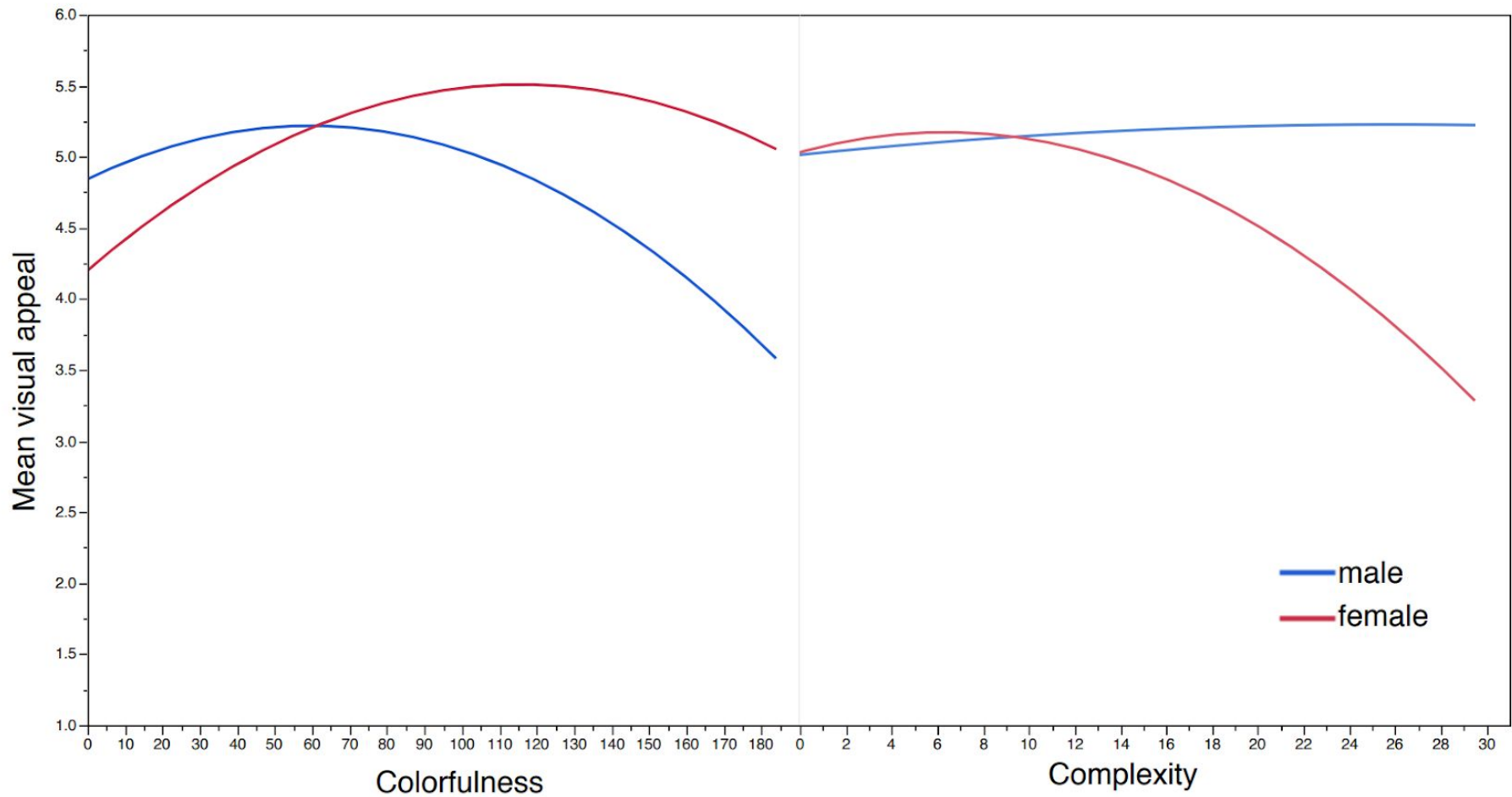
engagement



Oscar Wilde The Importance of Being Earnest

An infographic by The Missing Graph





memorability



MONSTROUS COSTS

Total House and Senate
campaign expenditures,
in millions



MONSTROUS COSTS

Total House and Senate campaign expenditures, in millions

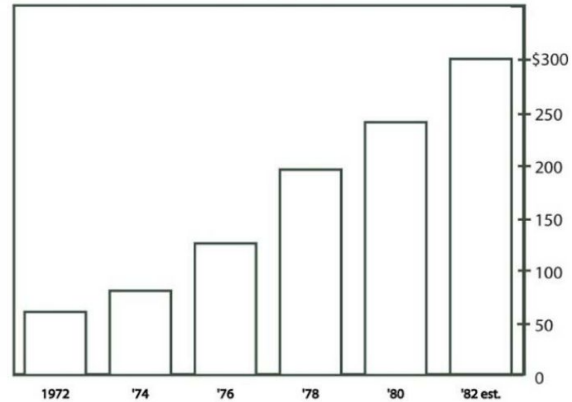


Figure 1. A chart by Holmes [7] (above), and a 'plain' version.

understanding



The New York Times

Tuesday, March 27, 2018 | Today's Paper | Video | 50°F | FTSE 100 +1.76% ↑

World U.S. Politics N.Y. Business Opinion Tech Science Health Sports Arts Books Style Food Travel Magazine T Magazine ALL

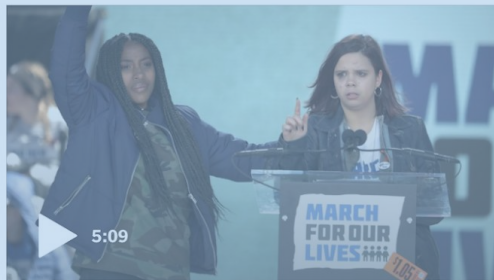
Expelling 60 Russians, U.S. Joins Allies in a Harsh Rebuke

By KATIE ROGERS and PETER BAKER

- President Trump ordered 60 Russian officials to leave the country, joining a coordinated campaign by two dozen countries to retaliate for the poisoning of a former Russian spy in Britain.
- The joint action intensified the conflict between Russia and the West, yet Mr. Trump avoided any public condemnation of Russia's role in the attack.

How an Outraged Europe Agreed to a Hard Line on Putin

By STEVEN ERLANGER 2:30 AM ET
Faced with new aggressiveness from the newly re-elected President Vladimir V. Putin, the European Union backed Britain and sent a strong message to Moscow.



5:09

Chip Somodevilla/Getty Images North America

She Was Shot in Parkland. Can She Turn Trauma Into Change?

Onstage, Samantha Fuentes, 18, is helping to lead a national conversation about gun control. Behind the scenes, she's reeling from mental and physical trauma.

By NEETI UPADHYE, YOUSUR AL-HLOU and NATALIE RENEAU
Following Citigroup, New Ways Banks Can Limit Gun Sales

Listen to 'The Daily': Violence as Daily Threat

Students on the South Side of Chicago joined protests spurred by the Florida school shooting, but they also felt frustration. Why hadn't gun violence in their community earned the same outrage?



Play Audio

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Opinion

New Leadership Has Not Changed Uber

By STEVEN HILL

Its business model has always been the same, and it's always been destructive.



EDITORIAL

Editorial: Tough Action on Russia, at Last, but More Is Needed

Freeze oligarchs' assets and bar them from Western banks, then start to protect the American electoral system.



- Scott Pruitt's Attack on Science Would Paralyze the E.P.A.
- Editorial: All the President's Thugs

Hello, Generation Putin

By IVAN KRASDEV

Vladimir Putin is installing a cohort of young, loyal technocrats in a bid to assure that his regime will endure without him.



- Editorial: New York City Subways Are Still Looking for a Savior
- Brooks: In Praise of Privilege
- Krugman: Putting the Ex-Con in Conservatism
- Yes, You Can Indict the President
- Beware of A.I. in Social Media Advertising
- What Was the Vietnam War About?
- Goldberg: Stormy Daniels Spanks Trump Again

READER CENTER »

Humans of Quebec: Portraits of Those I Met on My Road Trip

THE CROSSWORD »

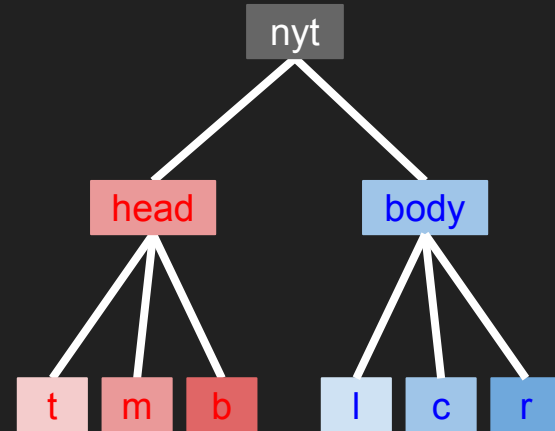
Play Today's Puzzle



6h **An admission of cheating** by the Australian cricket captain has stunned a sport that prides itself on fair play.



6h **The bullet that killed a gunman** in a Maryland school last week came from his own weapon, not from the gun of a school resource



none



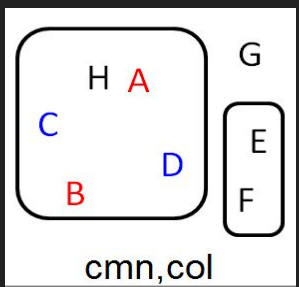
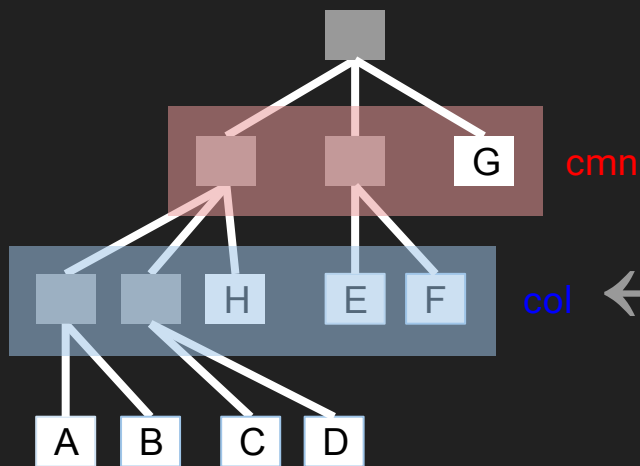
col



cmn

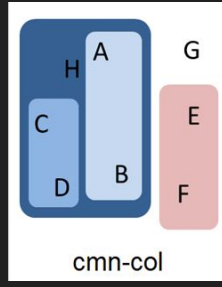
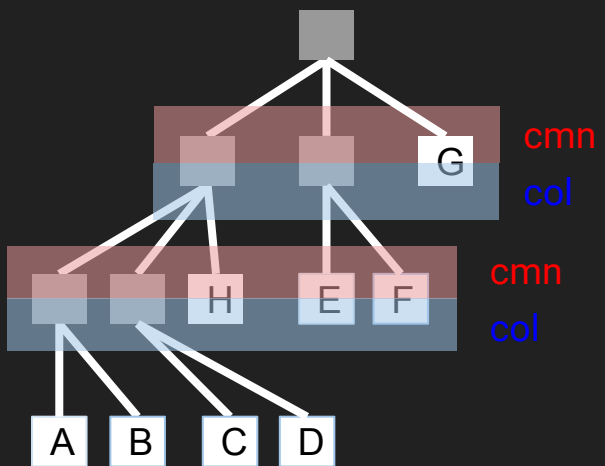


disjoint grouping



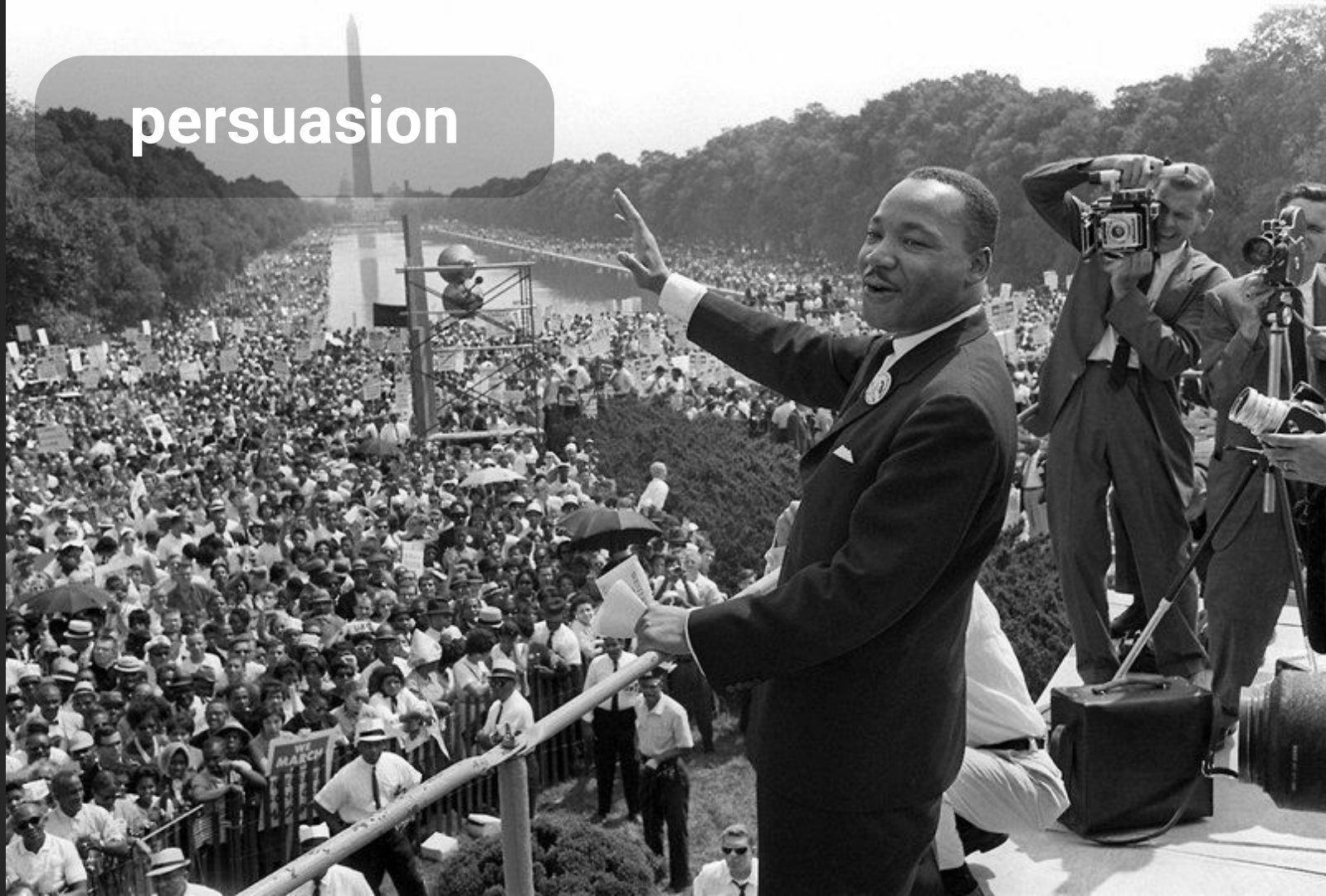
reinforced grouping

better →

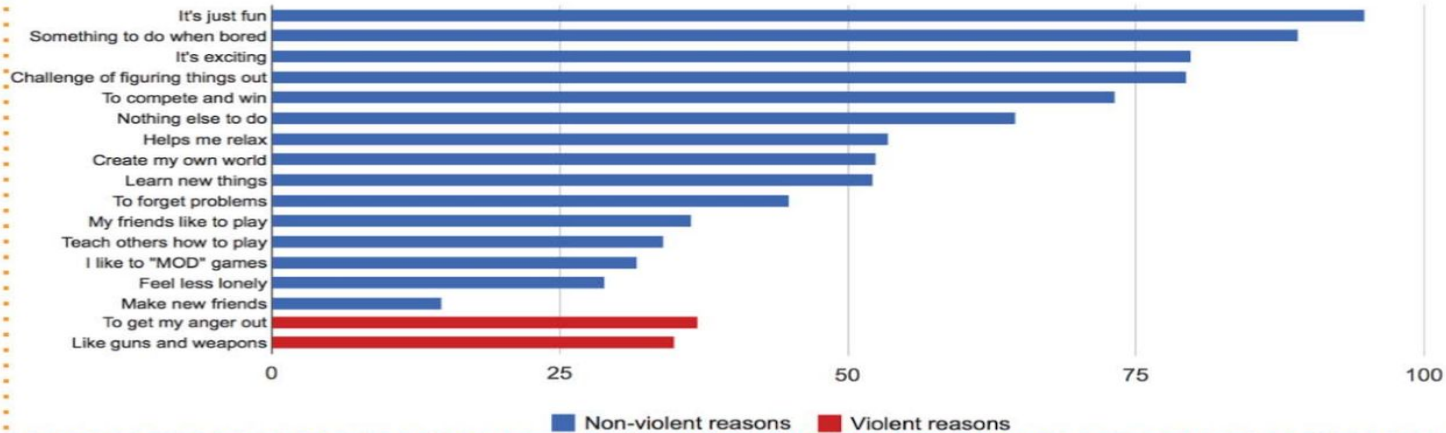


← worse

persuasion



Recorded response of children for playing computer games (in %).



Reasons for playing video games	Agree percentage	Reason type
It's just fun	94.85	Non-violent
Something to do when bored	89.05	Non-violent
It's exciting	79.8	Non-violent
Challenge of figuring things out	79.35	Non-violent
To compete and win	73.2	Non-violent
Nothing else to do	64.65	Non-violent
Helps me relax	53.5	Non-violent
Create my own world	52.5	Non-violent
Learn new things	52.25	Non-violent
To forget problems	45	Non-violent
My friends like to play	36.5	Non-violent
Teach others how to play	34	Non-violent
I like to "MOD" games	31.75	Non-violent
Feel less lonely	29	Non-violent
Make new friends	14.75	Non-violent
To get my anger out	37	Violent
Like guns and weapons	35	Violent

visualization for communicating health

engagement & persuasion



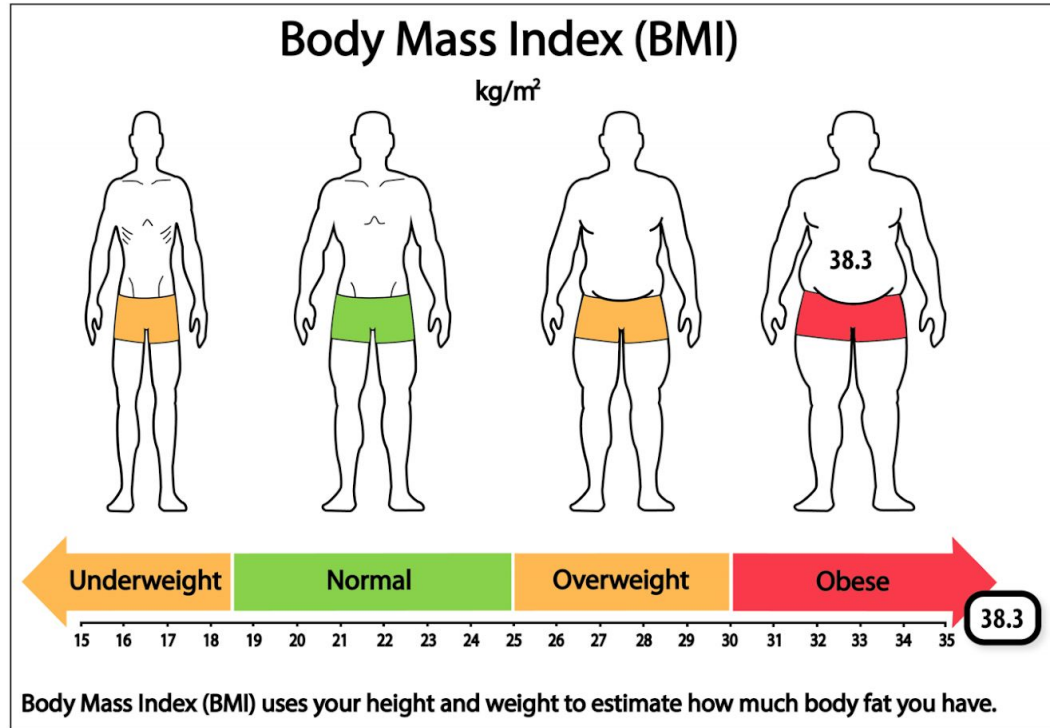


Figure 2: Body Mass Index (BMI) infographic from WICER showing an out-of-range value (38.3). Initially, we presented the body silhouettes (top portion) and the reference range number line (bottom portion) in participatory design sessions as separate graphical formats. We combined them into a single infographic at the suggestion of design session participants. The attributes of the data drove numerous design decisions.

understanding



(a)



(b)

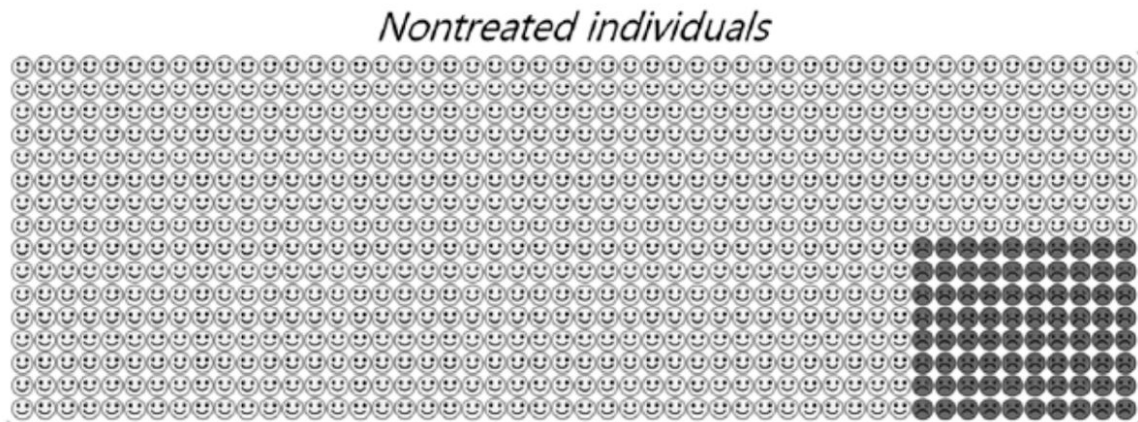
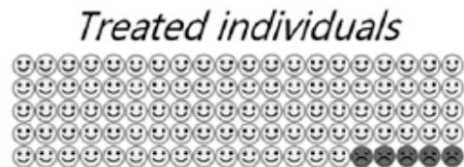


Figure 5. Icon arrays representing a treatment risk reduction of 50% with (a) equal and (b) different samples of treated and nontreated individuals. Affected individuals are represented in dark gray. Healthy individuals are represented in light gray.

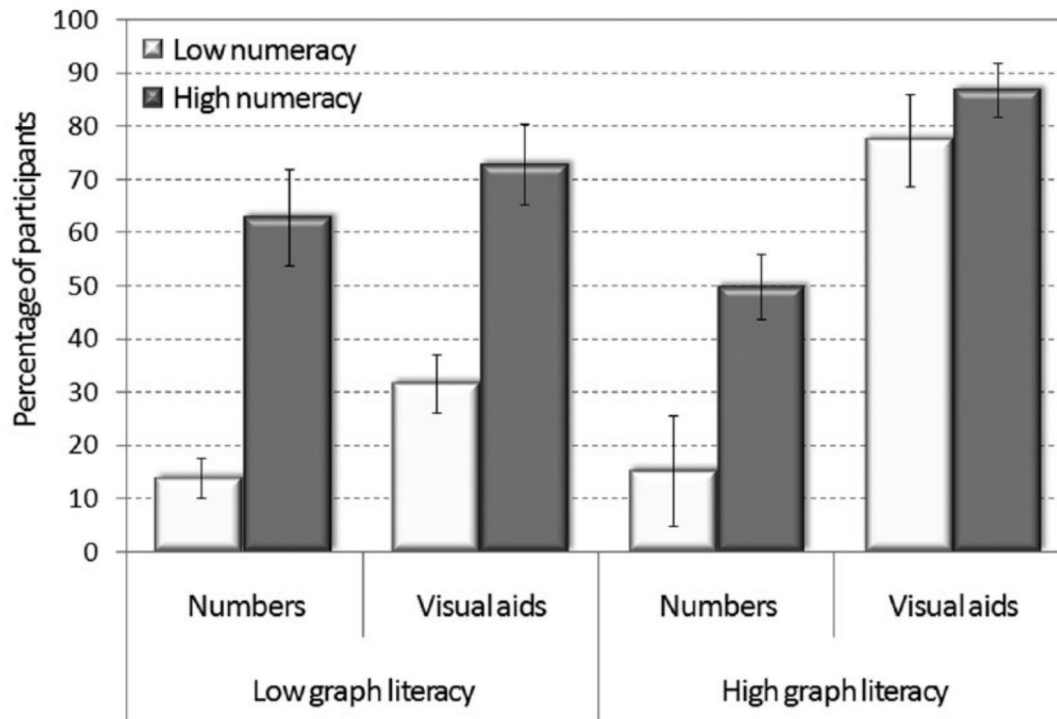


Figure 4. Percentage of participants with low and high numeracy and low and high graph literacy who correctly inferred treatment risk reduction, as a function of condition (numbers vs. visual aids). In the visual-aids condition, icon arrays and bars reported the entire population at risk. Error bars represent one standard error. Adapted from “Who Profits From Visual Aids: Overcoming Challenges in People’s Understanding of Risks,” by R. Garcia-Retamero and M. Galesic, 2010, *Social Science & Medicine*, 70, 1019–1025. Copyright 2010 by Elsevier Ltd. Adapted with permission.

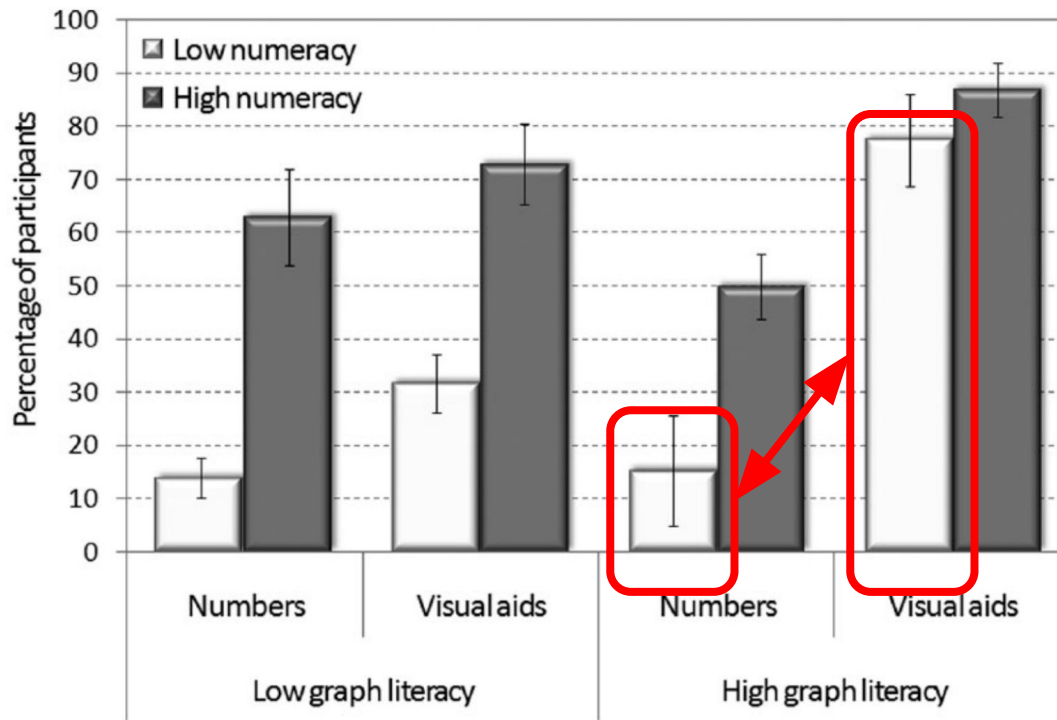
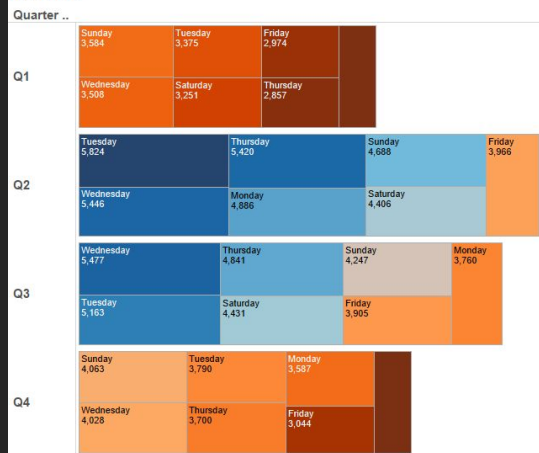


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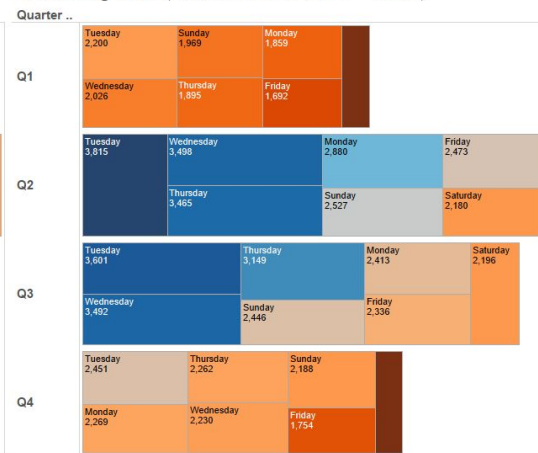
open problems

Journeys by days of the week:

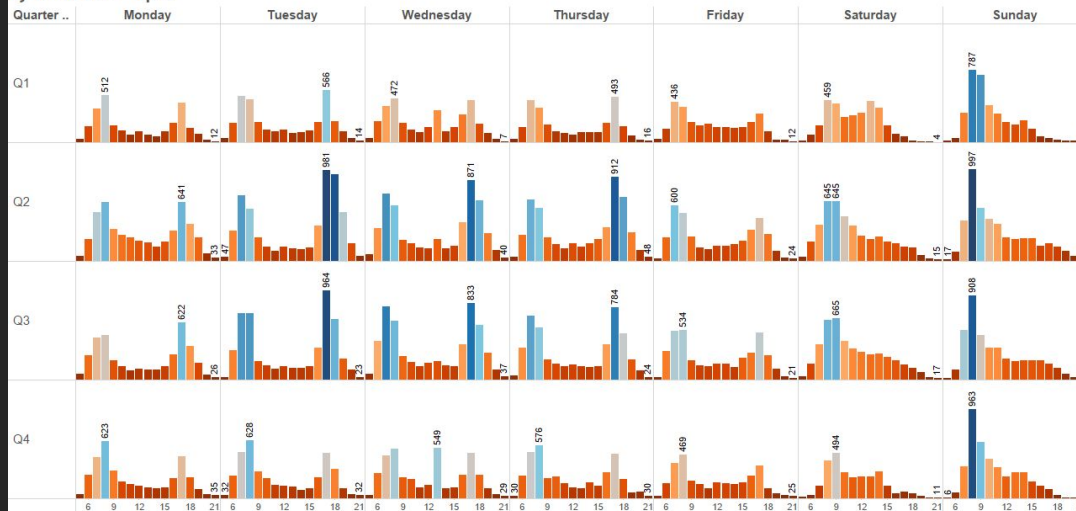
All Time



Commuting Time (07:00-09:00 & 14:00 - 18:00)



By hour 5am - 9pm





thanks.
questions?

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go-vxlabs.csc.ncsu.edu/vizforhealthpaper

