

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

ED events to include

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?

Enter Search Values

ED Events to Include

1 ED ARRIVED
2

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

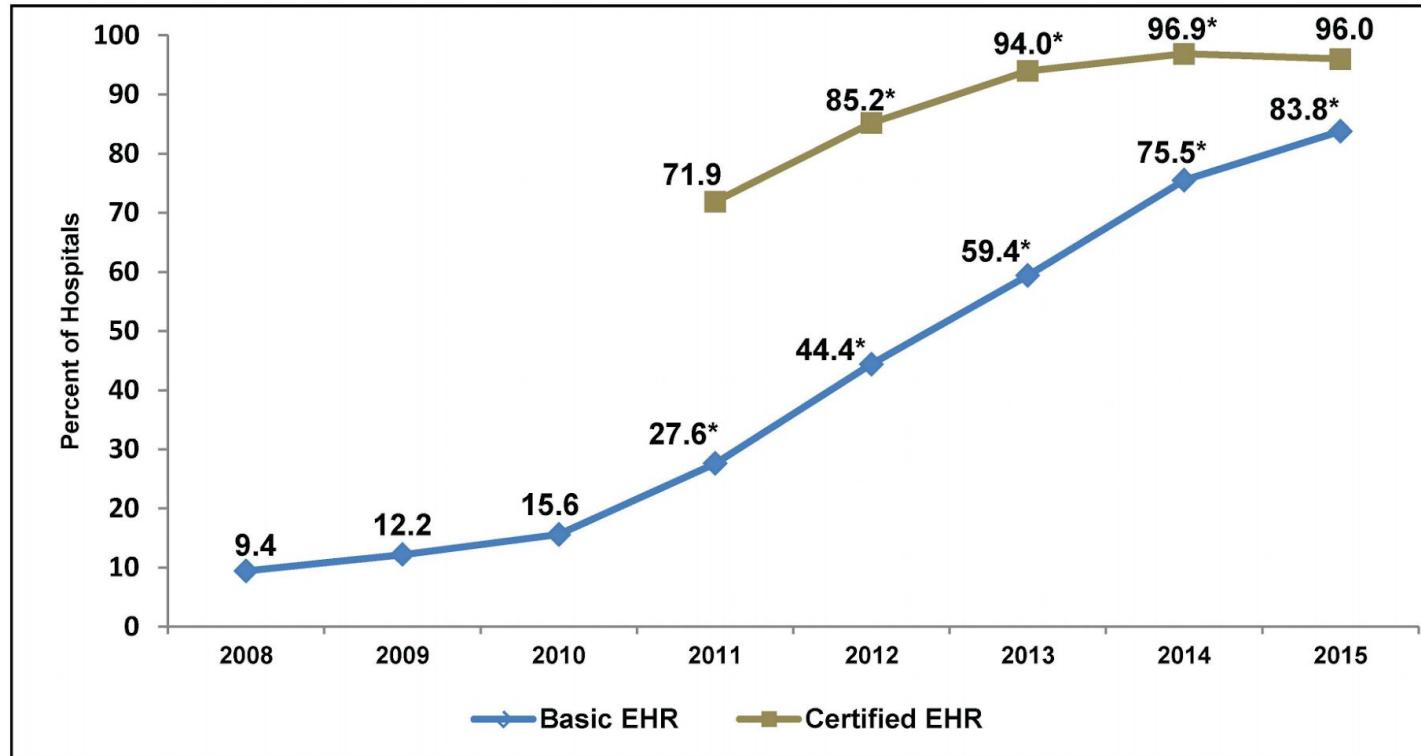
Tags

 Clear Filters

Library

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.

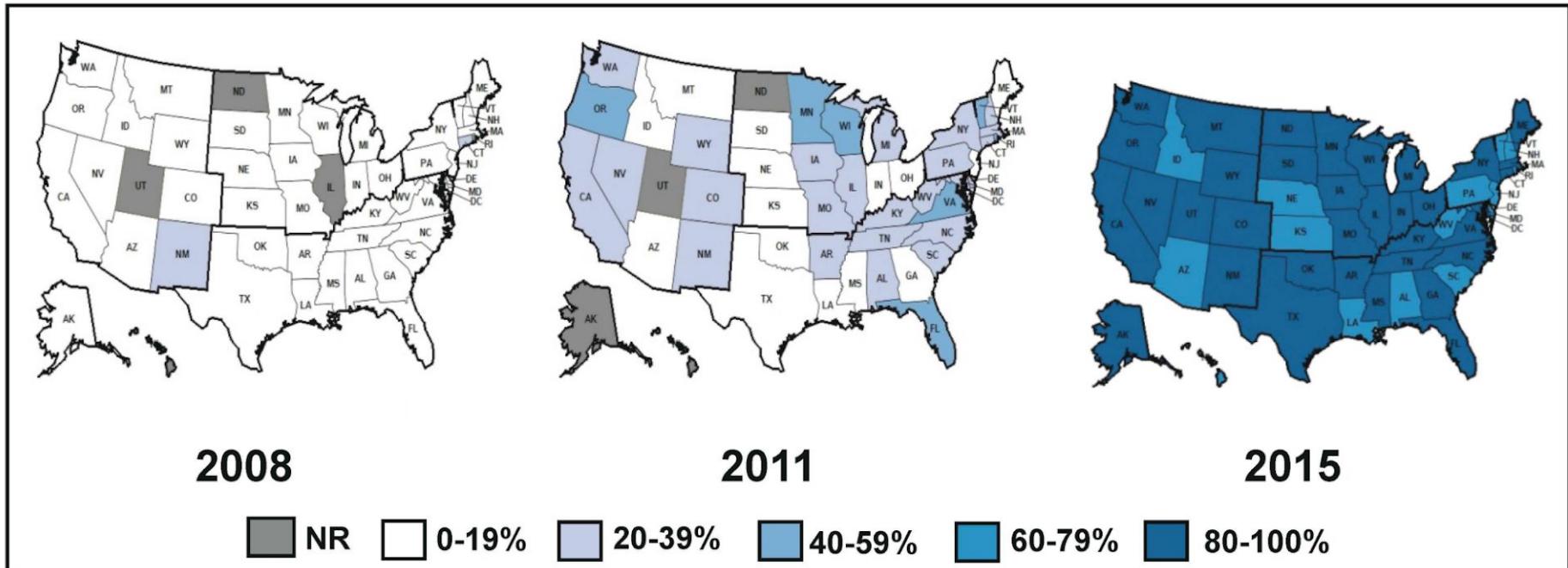
*Significantly different from previous year ($p < 0.05$).

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

SOURCE

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.



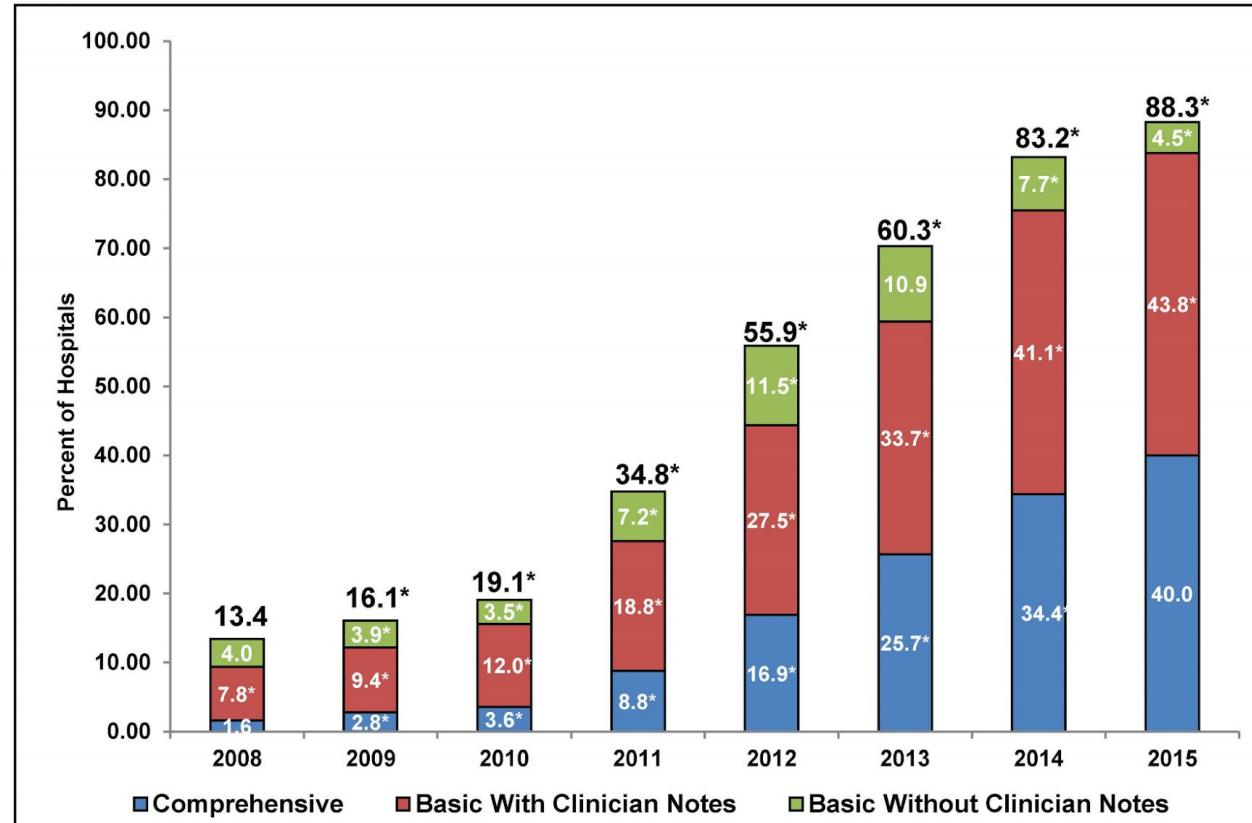
NOTES: Basic EHR adoption requires the EHR system to have at least a basic set of EHR functions, including clinician notes, as defined in Table A1. Estimates for states shaded gray did not meet the standards for reliability (NR). See the Table A2 for a complete list of 2008, 2011, and 2015 hospital adoption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

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

source

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.

SOURCE



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) (Ask Q12)	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.) (Ask Q12)	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)

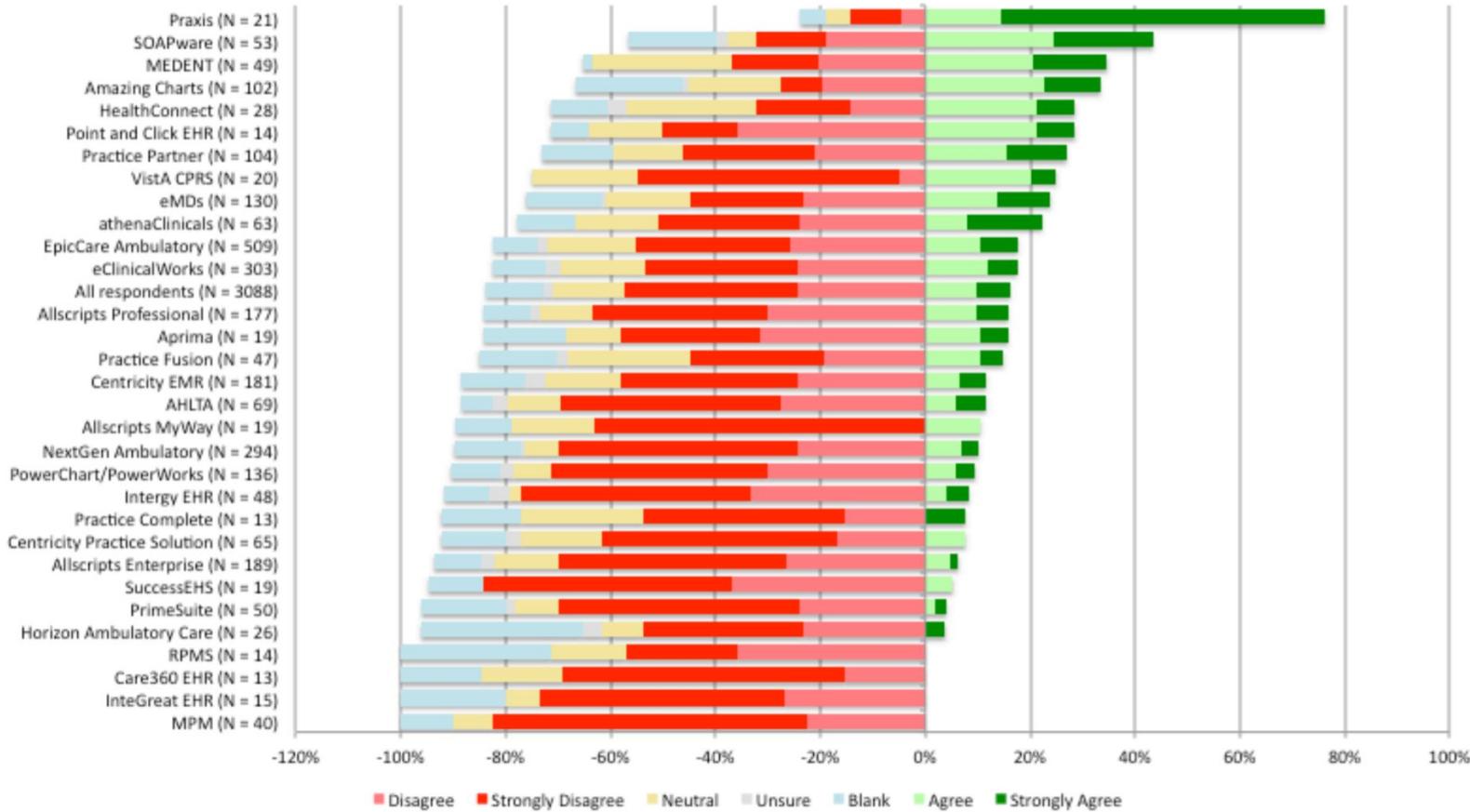
Finding and reviewing medical record data 143 (34.9)

Writing prescriptions 101 (24.6)

Reading the clinical notes that other clinicians enter into your office EMR 132 (32.2)

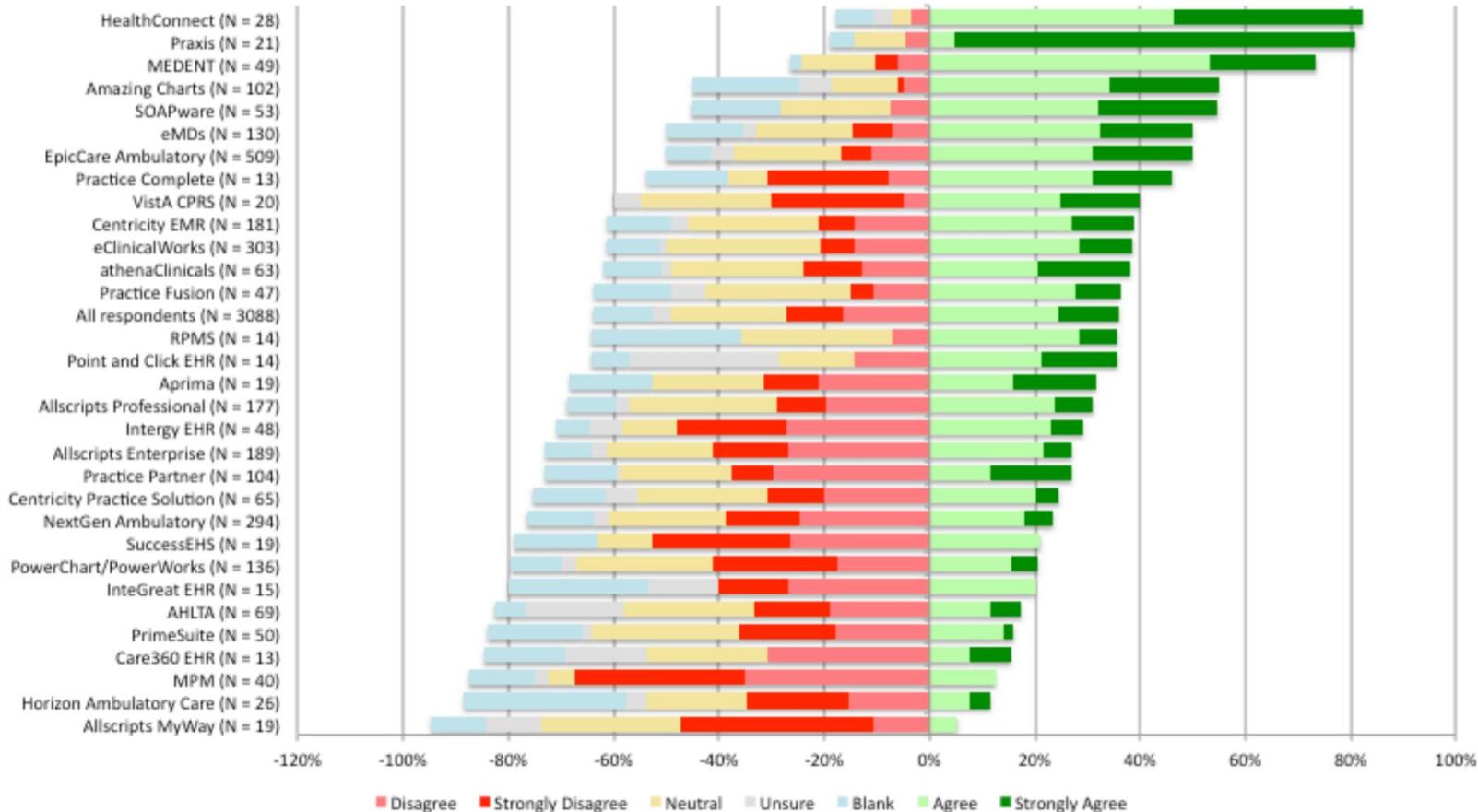
Other (28 write-ins [which included 7 unique responses]) 28 (6.8)

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



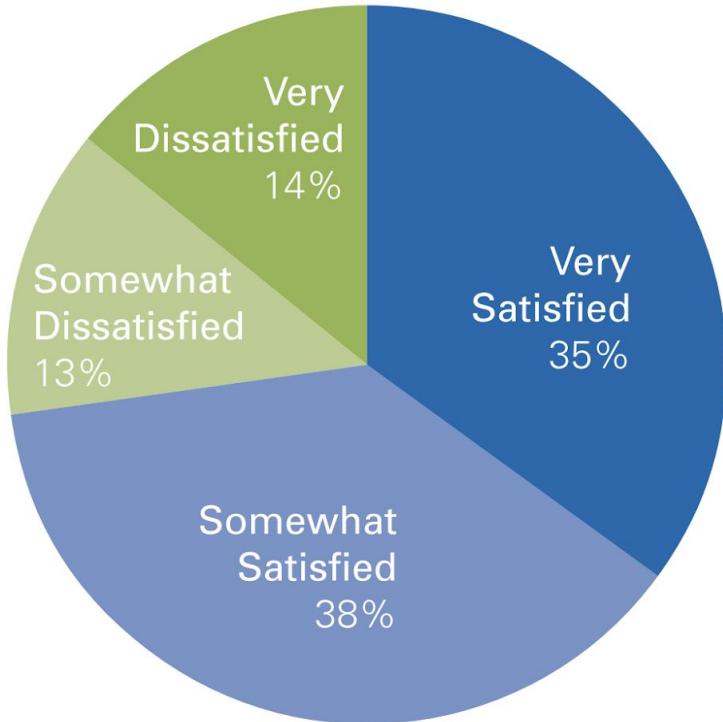
source

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



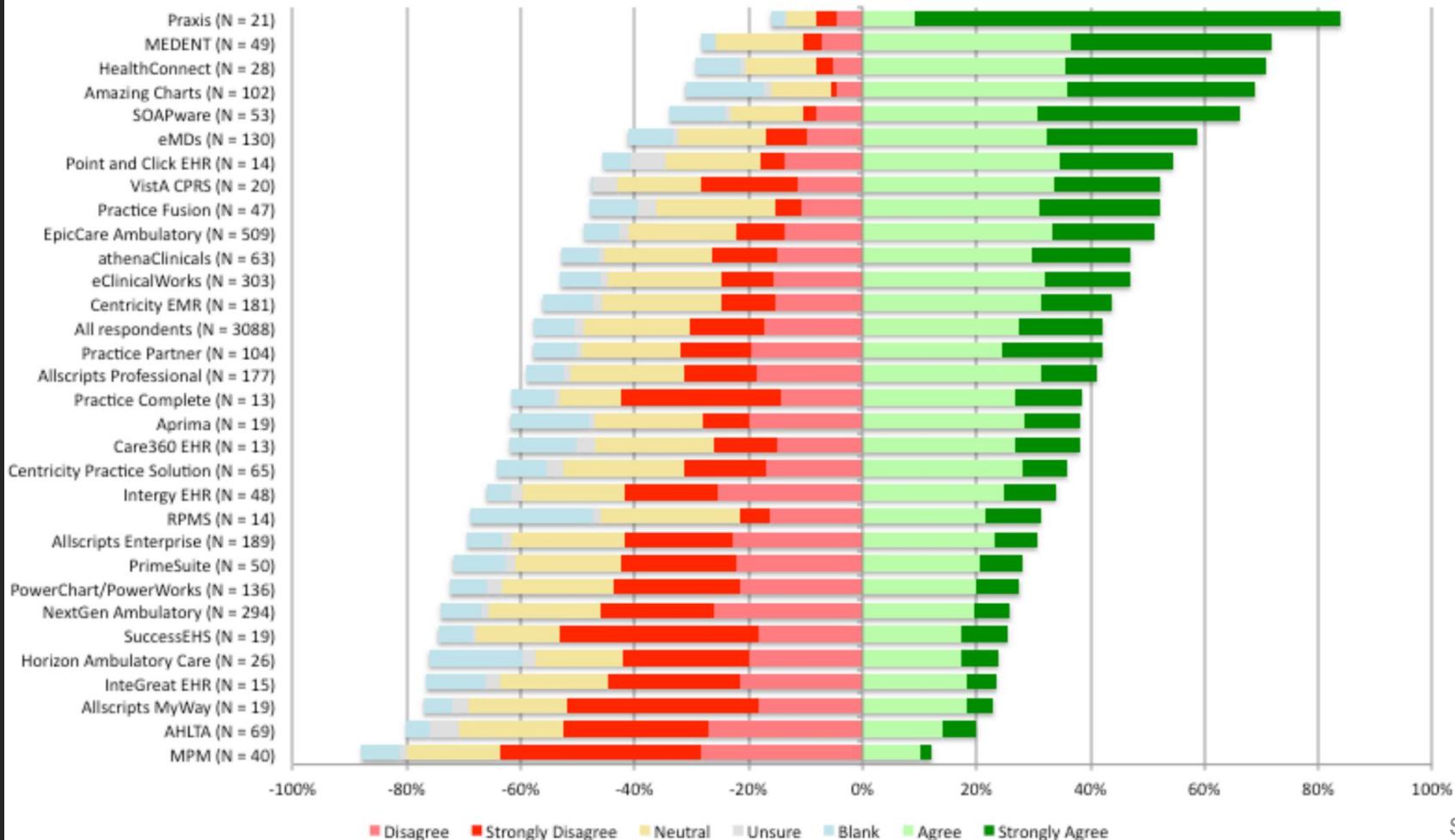
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Figure 3. Physician Satisfaction with EHRs (n=3,239)*



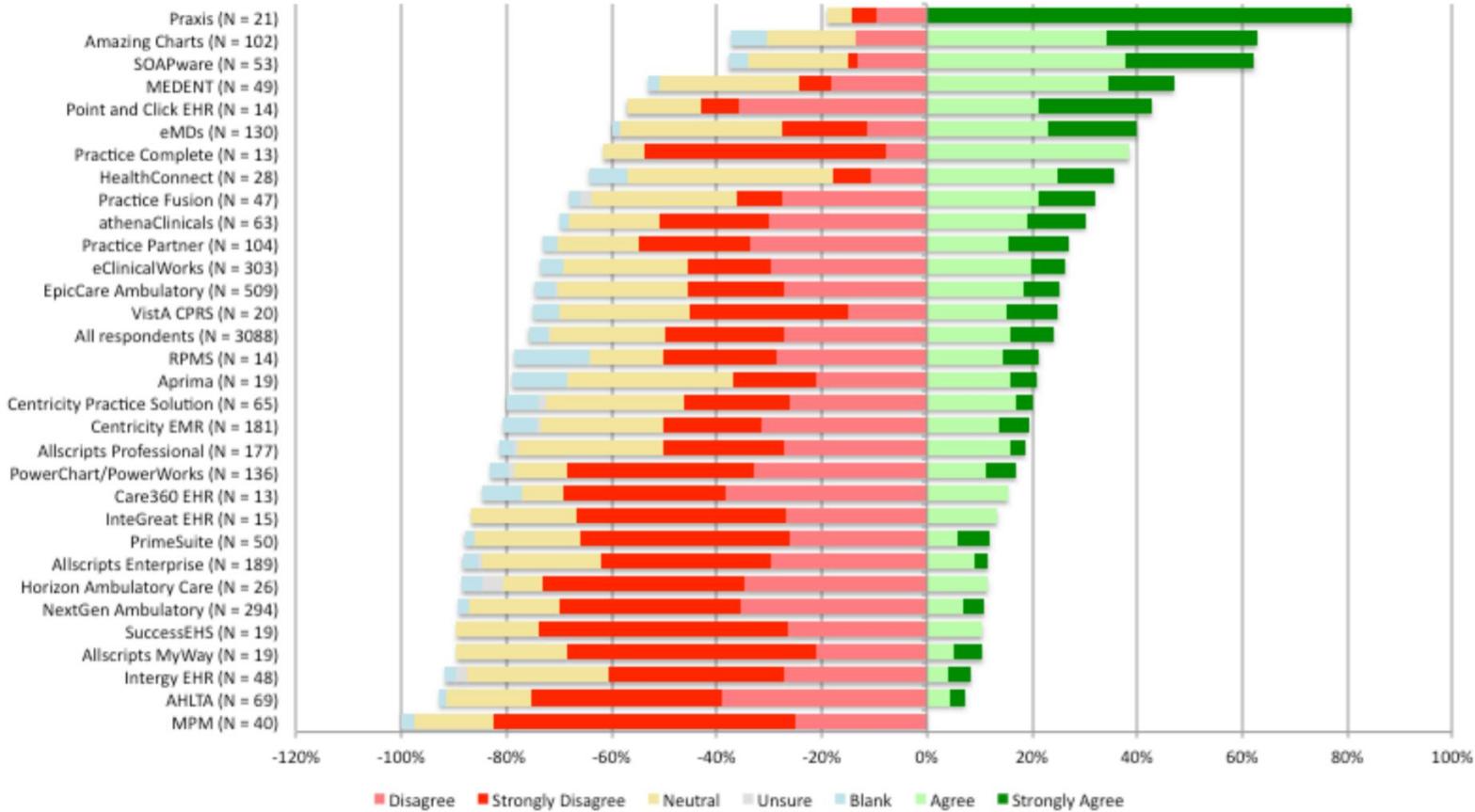
*Analysis based on respondents who reported having an EHR at their main practice location and who answered the question about satisfaction with EHRs.

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



SOURCE

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



source

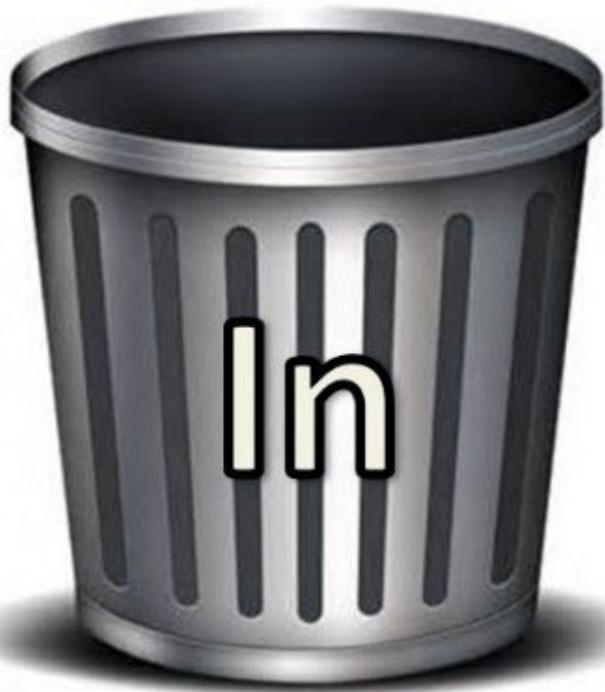
Table 5: Impact of computer use during consultation.

	Physicians n=106	Patients n=392	p ^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



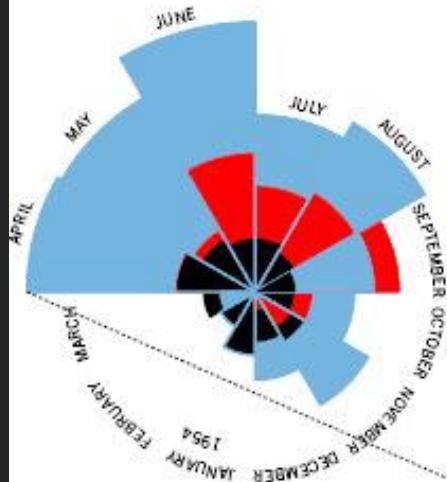


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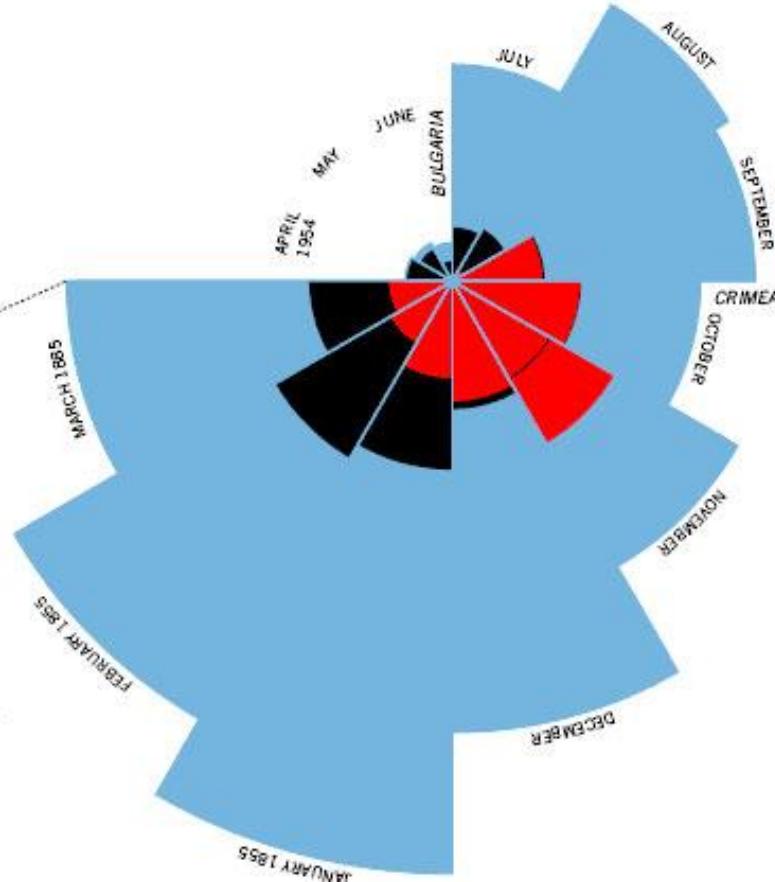
DIAGRAM OF THE CAUSES OF MORTALITY

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 No^r 1854 marks the boundary of the deaths from all other causes during the month*

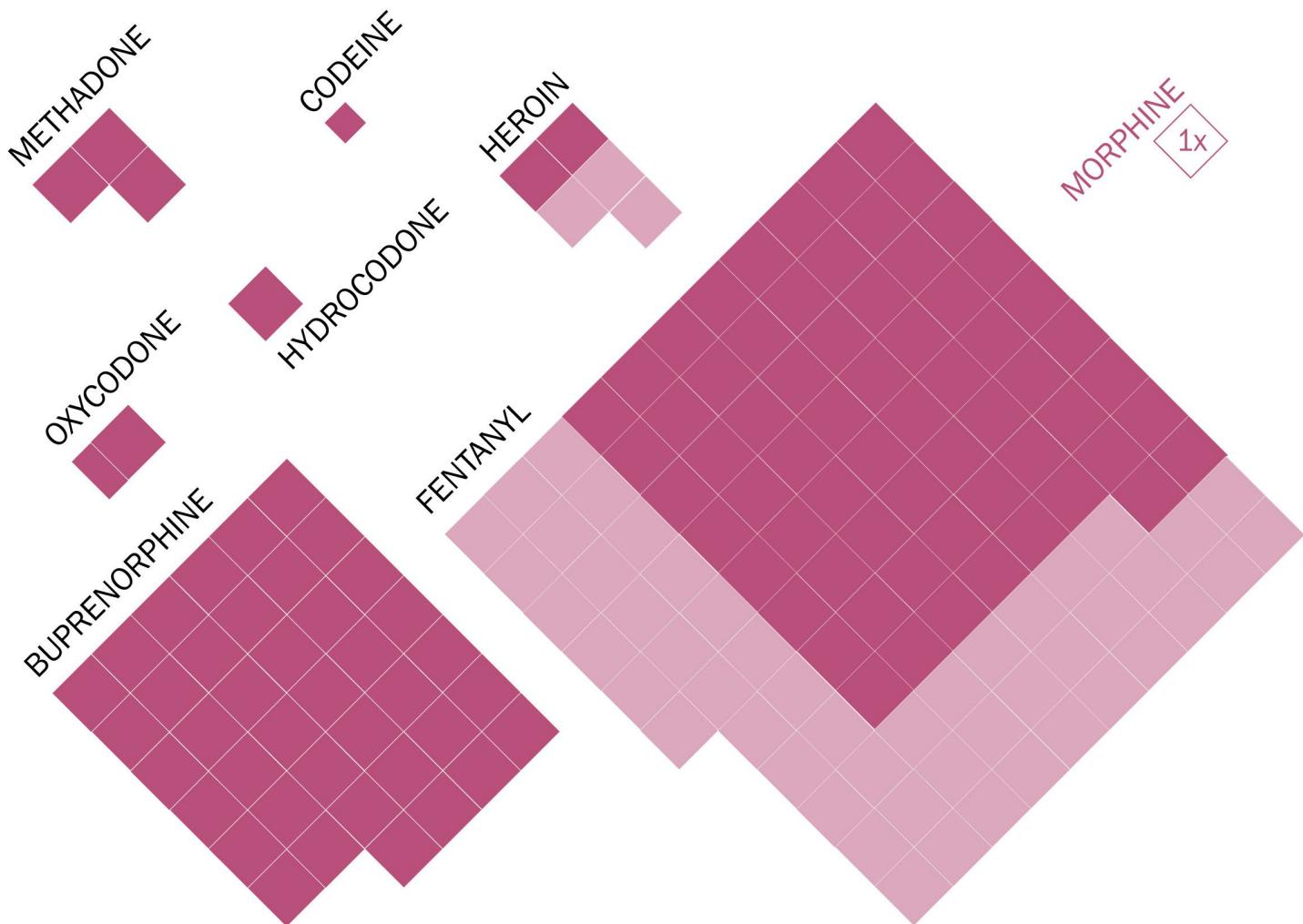
In October 1854, & April 1855, the black area coincides with the red, in January & February 1856, the blue coincides with the black

The entire areas may be compared by following the blue, the red & the black lines enclosing them.

source



visualization for communication



source

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


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

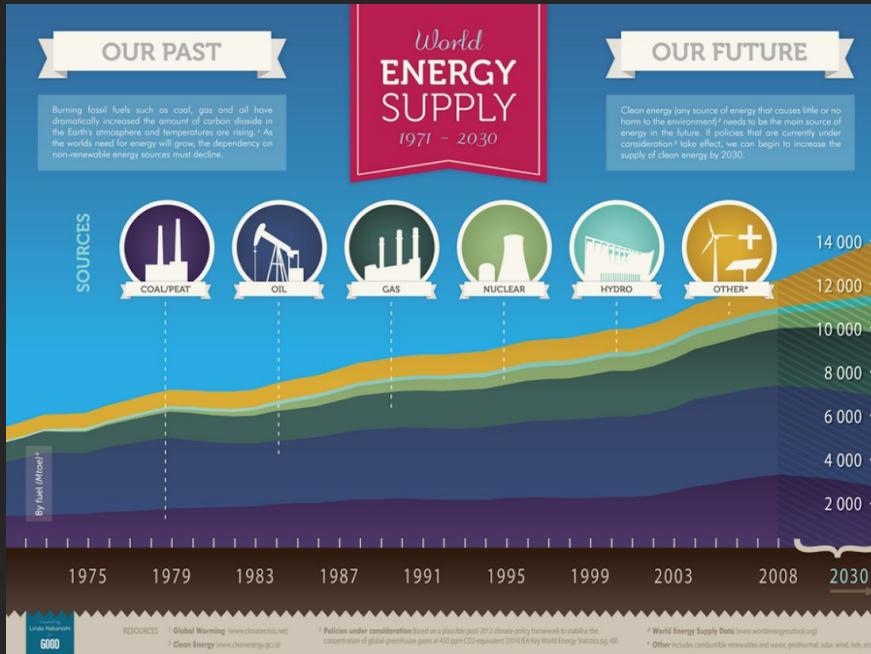
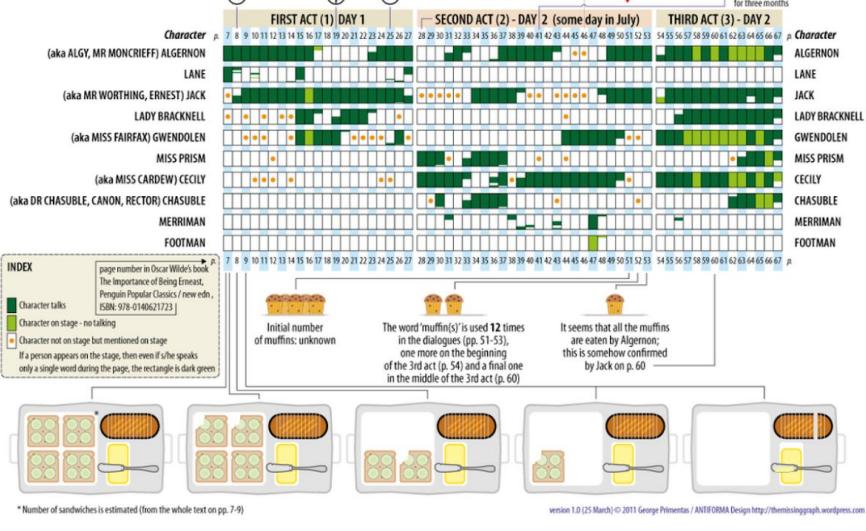
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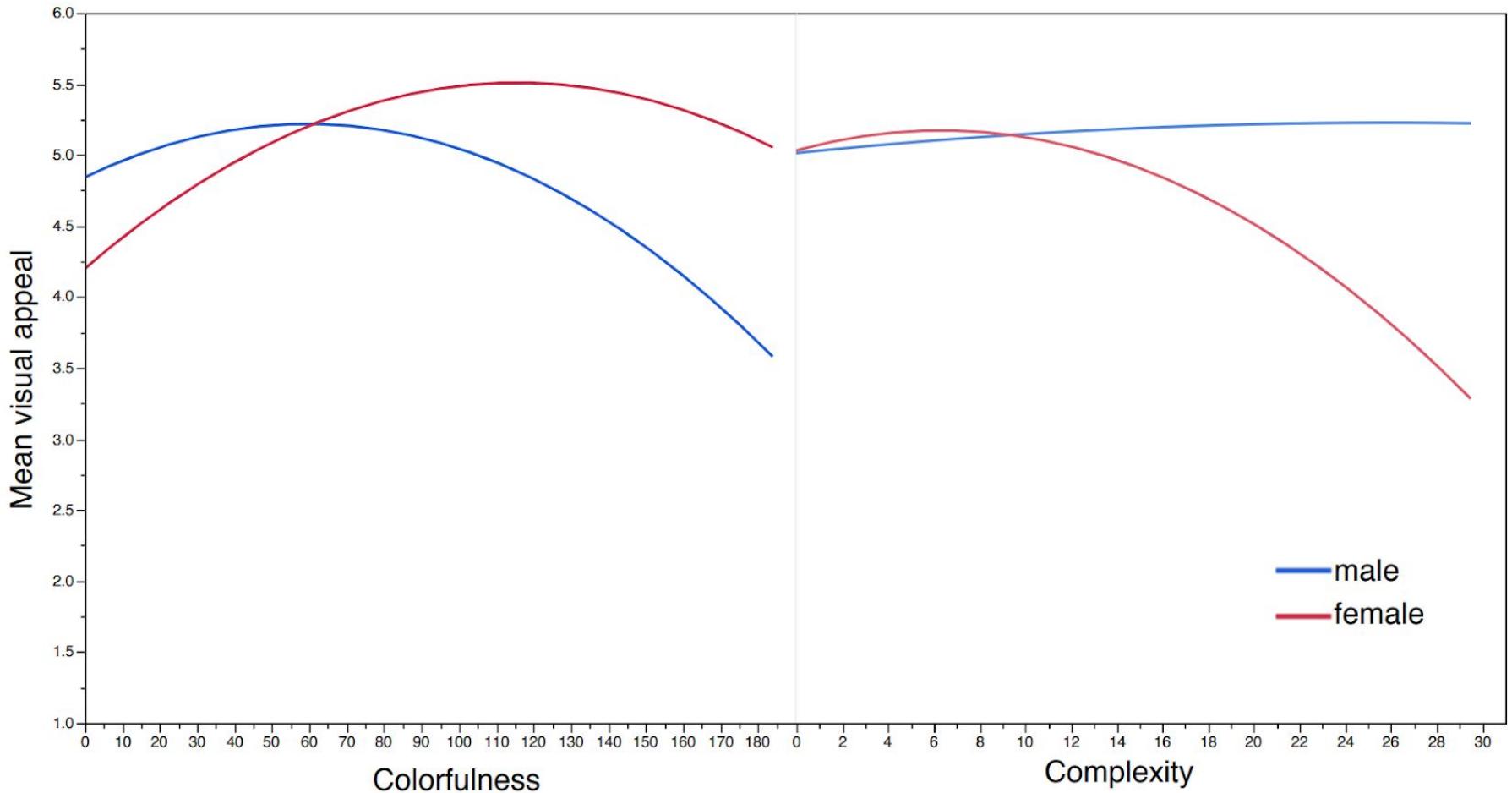
engagement

Oscar Wilde The Importance of Being Earnest

14th of February
day that according to Cecily (p. 41),
she got engaged to Algernon



source



source

memorability



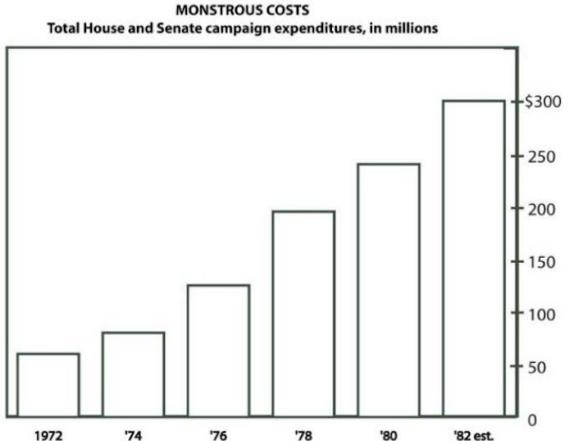
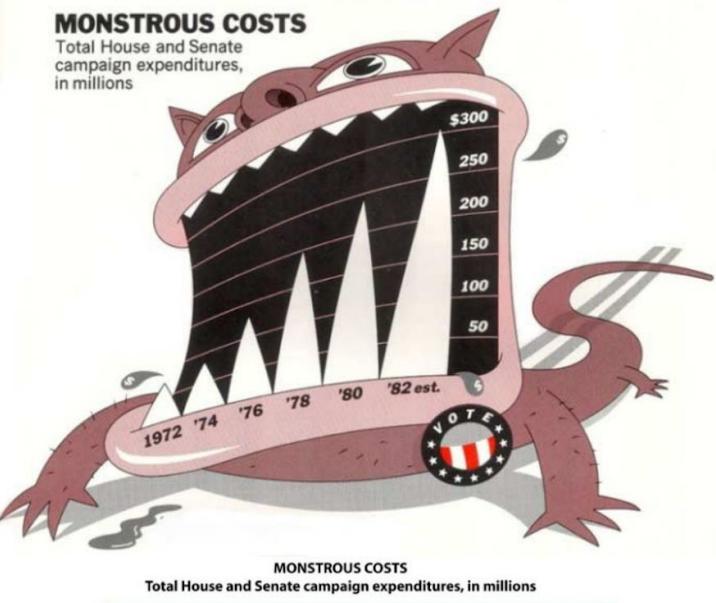


Figure 1. A chart by Holmes [7] (above), and a ‘plain’ version.

source

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.



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

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.

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?



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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 KRASTEV

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

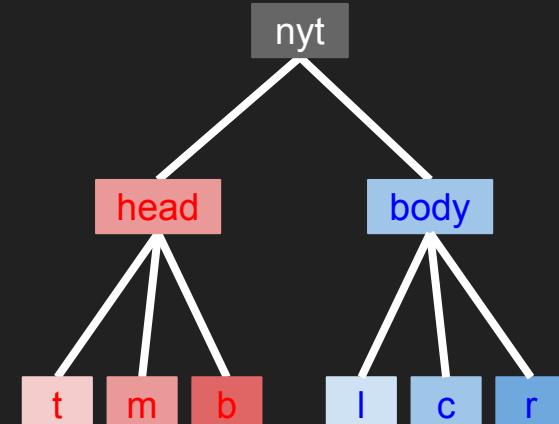
6h

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



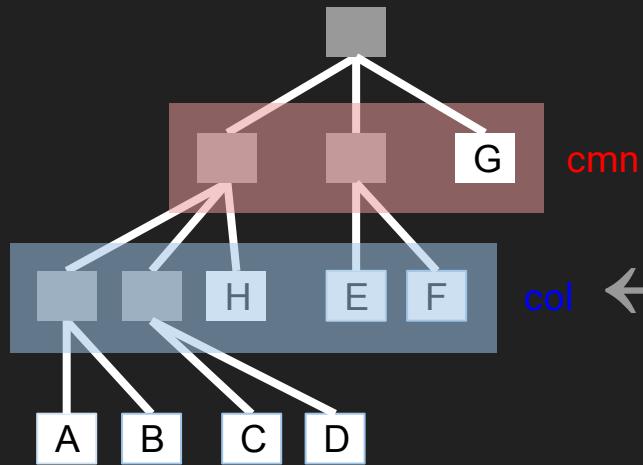
col



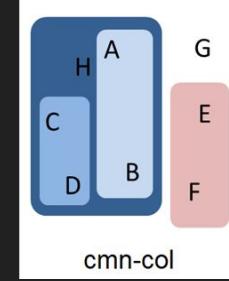
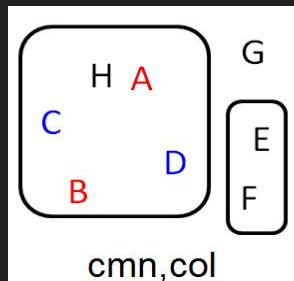
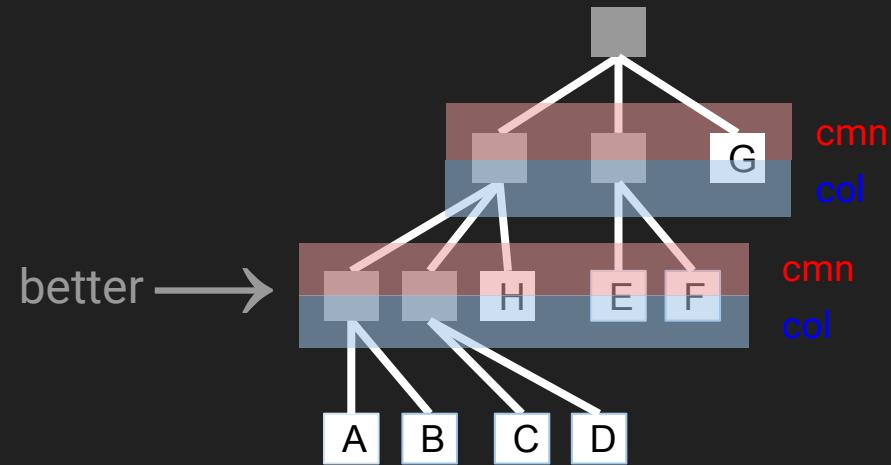
cnn



disjoint grouping



reinforced grouping

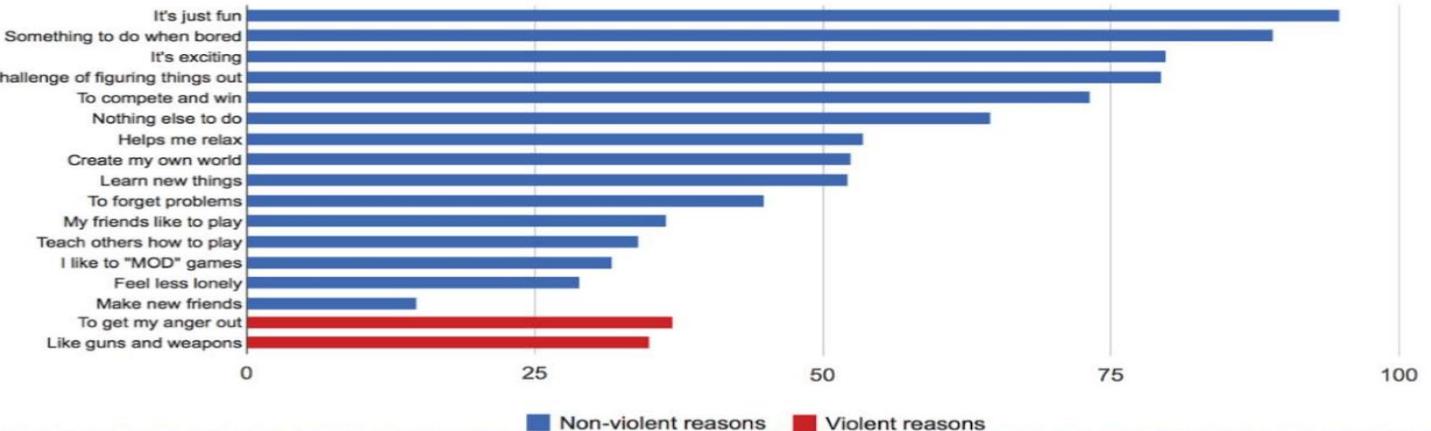


source

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

source

visualization for communicating health



engagement & persuasion

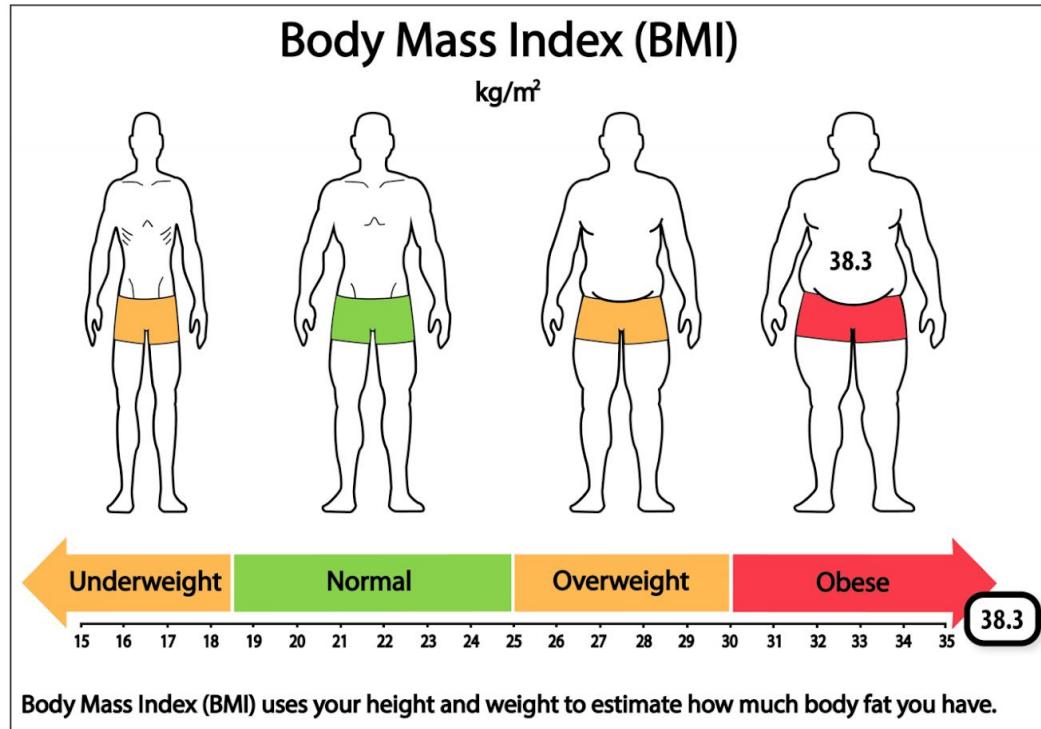


Figure 2: Body Mass Index (BMI) infographic from WICER showing an out-of-range value (38.3). Initially, we presented the body silhouettes (top portion) and the reference range number line (bottom portion) in participatory design sessions as separate graphical formats. We combined them into a single infographic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

understanding



(a)

Treated individuals



Nontreated individuals



(b)

Treated individuals



Nontreated individuals

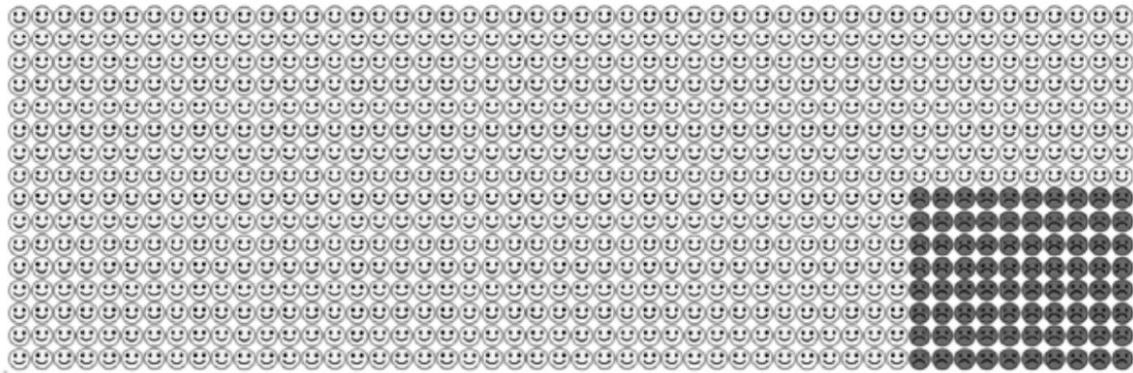


Figure 5. Icon arrays representing a treatment risk reduction of 50% with (a) equal and (b) different samples of treated and nontreated individuals. Affected individuals are represented in dark gray. Healthy individuals are represented in light gray.

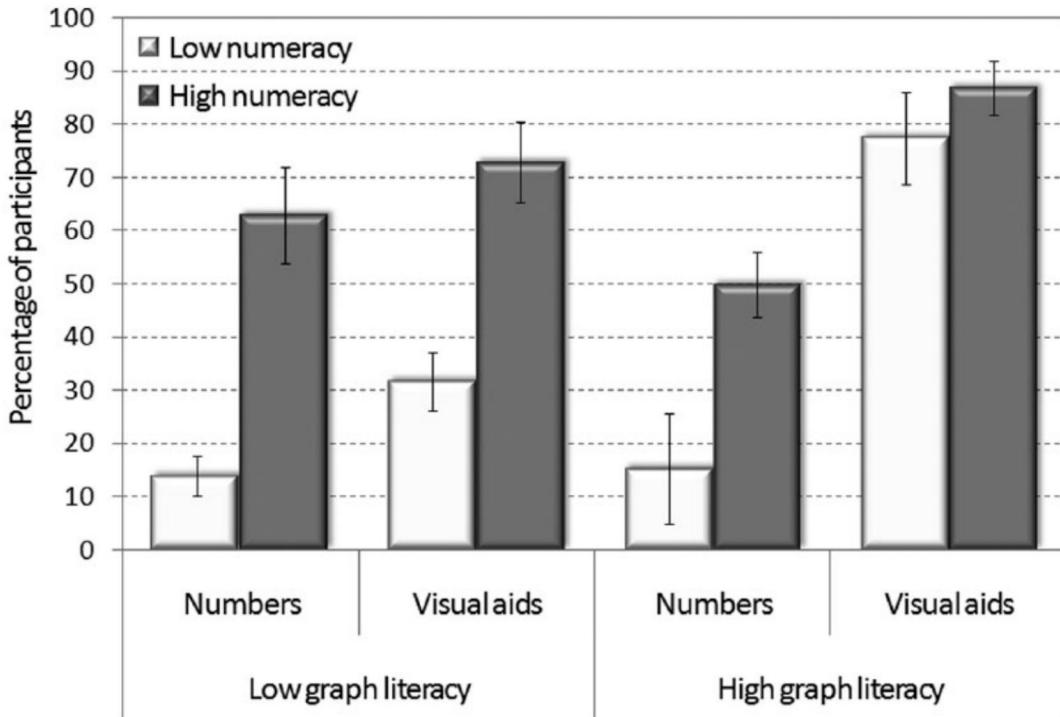


Figure 4. Percentage of participants with low and high numeracy and low and high graph literacy who correctly inferred treatment risk reduction, as a function of condition (numbers vs. visual aids). In the visual-aids condition, icon arrays and bars reported the entire population at risk. Error bars 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.

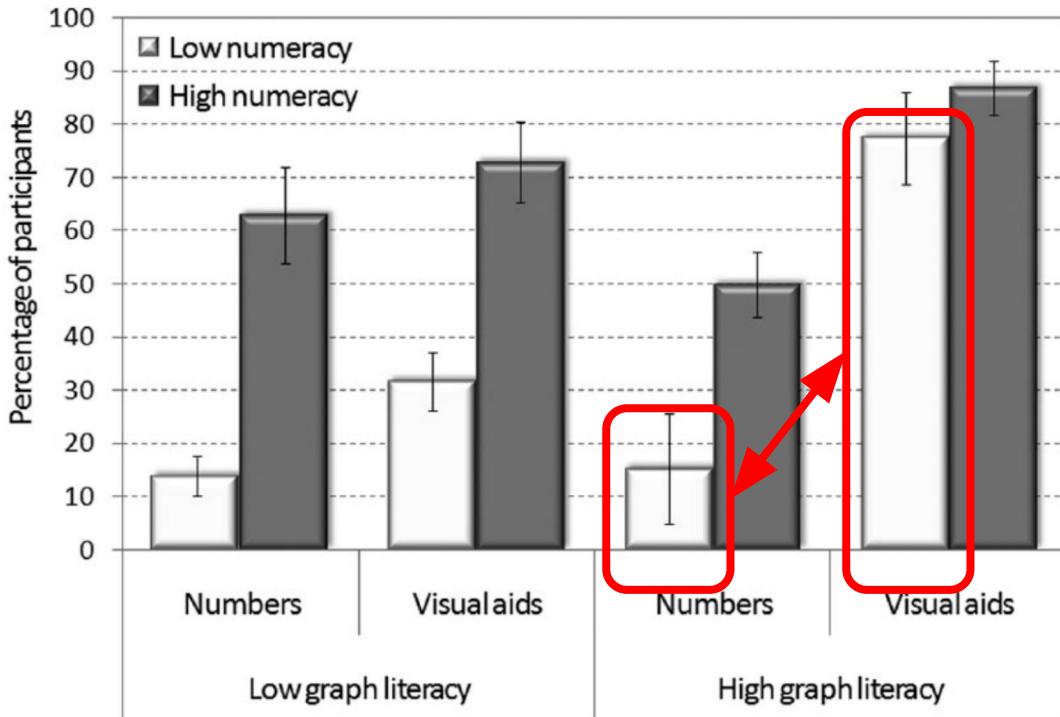


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open problems

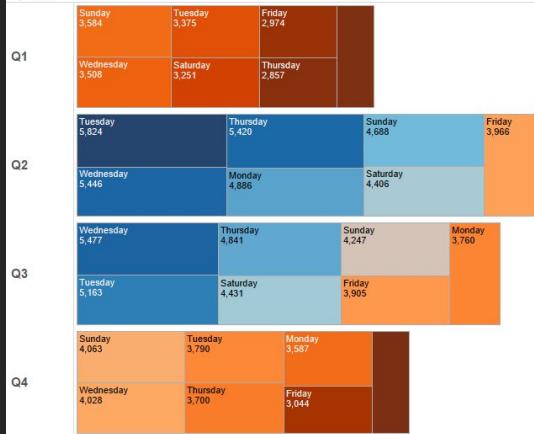
Strava: No. journeys by quarter (calendar year) - 2015

Data licensed from Strava (2016)

Journeys by days of the week:

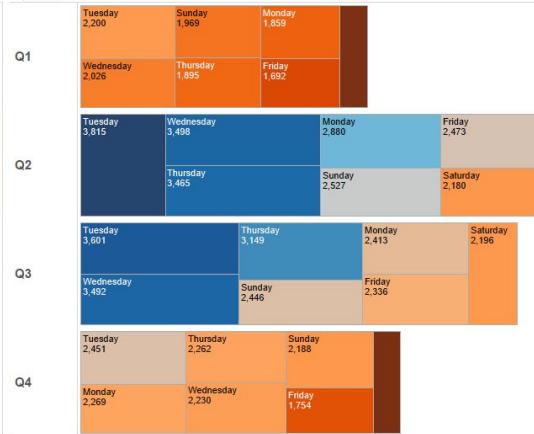
All Time

Quarter ..



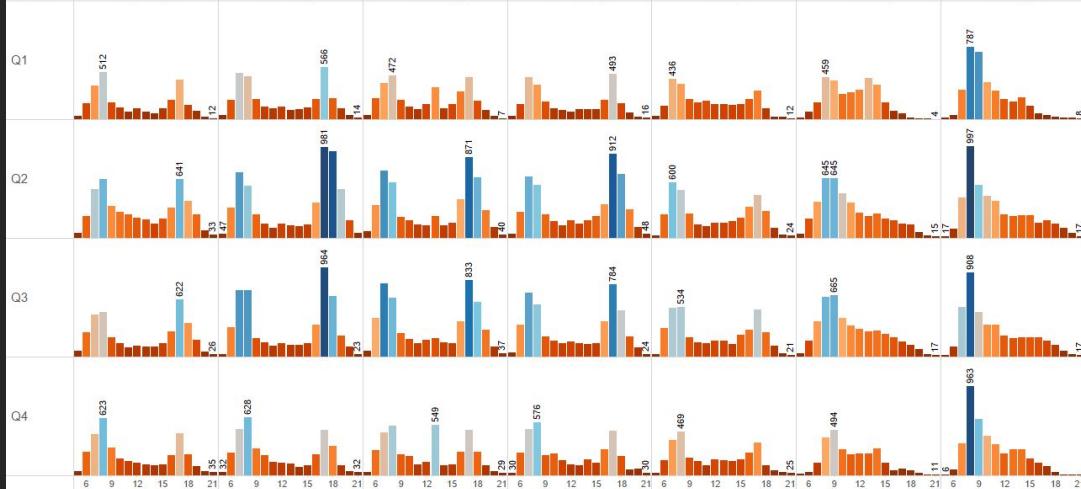
Commuting Time (07:00-09:00 & 14:00 - 18:00)

Quarter ..



By hour 5am - 9pm

Quarter ..





thanks.
questions?

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