# Visual Abstract 101

Kara Gavin, Media & Policy Public Relations Manager Emily Smith, Multimedia Designer



## After this session you will know...

- I. the term "visual abstract" (if you don't already)
- 2. the history behind them
- 3. how to create an effective message
- 4. how to create a visual abstract
- 5. where to find the resources you need for creating visual abstracts
- 6. how to disseminate your visual abstract

# What is a visual abstract?

# What is an wisual abstract?

#### Abstract

a summary of the contents of a book, article, or formal speech.

Source: dictionary.com

#### Abstract

a summary of the contents of a book, article, or formal speech.

Source: dictionary.com

#### JAMA | Original Investigation

#### Out-of-Network Bills for Privately Insured Patients Undergoing Elective Surgery With In-Network Primary Surgeons and Facilities

Karan R. Chhabra, MD, MSc; Kyle H. Sheetz, MD, MSc; Ushapoorna Nuliyalu, MPH; Mihir S. Dekhne, MS; Andrew M. Ryan, PhD; Justin B. Dimick, MD, MPH

**IMPORTANCE** Privately insured patients who receive care from in-network physicians may receive unexpected out-of-network bills ("surprise bills") from out-of-network clinicians they did not choose. In elective surgery, this can occur if patients choose in-network surgeons and hospitals but receive out-of-network bills from other involved clinicians.

**OBJECTIVE** To evaluate out-of-network billing across common elective operations performed with in-network primary surgeons and facilities.

DESIGN, SETTING, AND PARTICIPANTS Retrospective analysis of claims data from a large US commercial insurer, representing 347 356 patients who had undergone 1 of 7 common elective operations (arthroscopic meniscal repair [116 749]; laparoscopic cholecystectomy [82 372]; hysterectomy [67 452]; total knee replacement [42 313]; breast lumpectomy [18 018]; colectomy [14 074]; coronary artery bypass graft surgery [6378]) by an in-network primary surgeon at an in-network facility between January 1, 2012, and September 30, 2017. Follow-up ended November 8, 2017.

**EXPOSURE** Patient, clinician, and insurance factors potentially related to out-of-network bills.

**MAIN OUTCOMES AND MEASURES** The primary outcome was the proportion of episodes with out-of-network bills. The secondary outcome was the estimated potential balance bill associated with out-of-network bills from each surgical procedure, calculated as total out-of-network charges less the typical in-network price for the same service.

RESULTS Among 347 356 patients (mean age, 48 [SD, 11] years; 66% women) who underwent surgery with in-network primary surgeons and facilities, 20.5% of episodes (95% CI, 19.4%-21.7%) had an out-of-network bill. In these episodes, the mean potential balance bill per episode was \$2011 (95% CI, \$1866-\$2157) when present. Out-of-network bills were associated with surgical assistants in 37% of these episodes; when present, the mean potential balance bill was \$3633 (95% CI, \$3384, \$3883). Out of network bills were

#### Visual abstract

A visual summary of the information contained within an abstract.

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A visual summary of the information contained within an abstract.

#### Out-of-Network Bills for Insured Patients Undergoing Elective Surgery With In-Network Surgeons & Facilities



20%

of cases had out-of-network bills



\$2,011

average potential balance bill



Assistants & anesthesia

issue 37% of out-of-network bills

Chhabra KR et al, *JAMA* 2020;323(6):538-547 doi:10.1001/jama.2019.21463



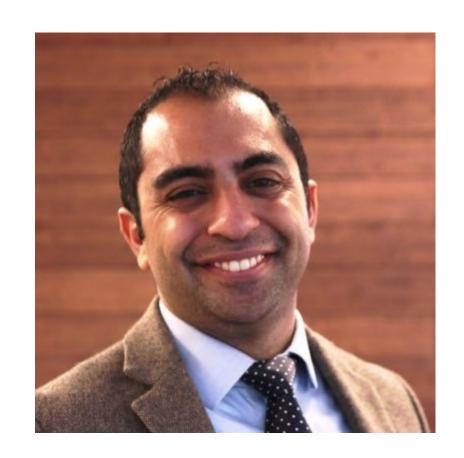
# Where did visual abstracts start?

### At Michigan!

Assistant Professor

Andrew Ibrahim, MD, MSc,
during his RWJF Clinical
Scholars time, in his role as
social media editor of the

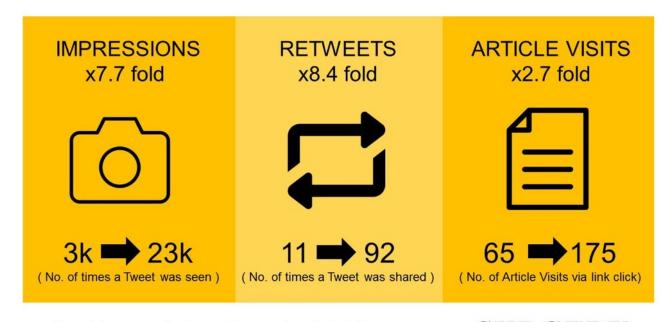
Annals of Surgery



#### A "movie trailer" for research

- Catch the eye
- Draw reader to the full paper
- Accompanied by link to paper
- Convey key messages and citation info

Visual Abstracts Increase Article Dissemination: a prospective, case-control crossover study

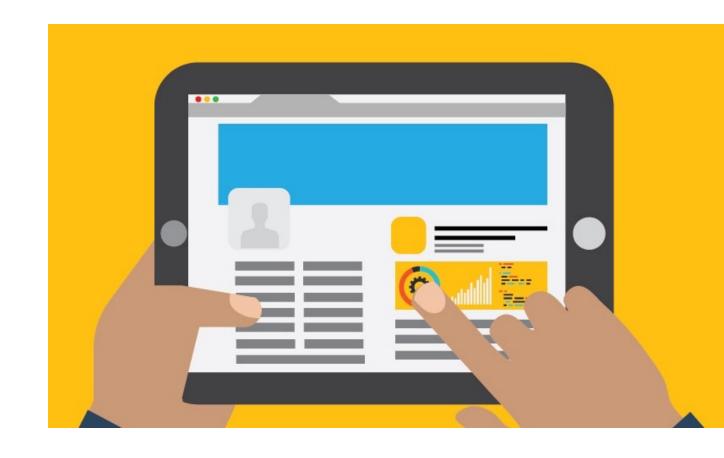


Ibrahim et al. *Ann Surg*. April 2017.



#### Adoption

- First ones: July 2016
- May 2017: 20 major journals
- Now, 95+ journals create
   or ask authors to create
   (including CDC, BMJ, JAMA, NEJM)
- Many others doing them
- #VisualAbstract on Twitter



# Making a Visual Abstract: Crystallizing your message









#### Finding the essential points





- Start with your abstract
- Try an 'elevator speech' out loud
- Keep boiling!
- Key components:
  - Title that grabs
  - Main findings in numeric/icon form
  - Population
  - Process/intervention
  - Data sources, caveats
  - Citation & logo(s)

### Level of language

- Who's your audience?
- Clear headline:
   Why should they stop to look?
- What jargon can you avoid or explain?
- Where can you substitute icons or numbers & arrows for words?



#### Choose your variety

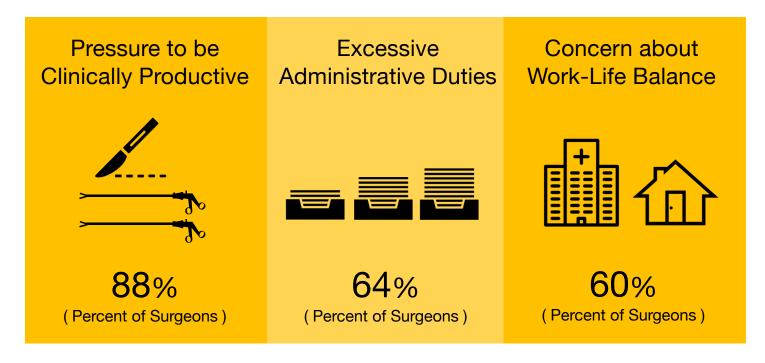
- Number of outcomes
  - Need to show randomization, process or intervention?
  - Can icons & a few numbers tell most of the story?
- Figure and quote
- Qualitative list





# What makes up a visual abstract?

Survey of 1,033 Surgeons: Barriers to Developing Surgical Scientists...

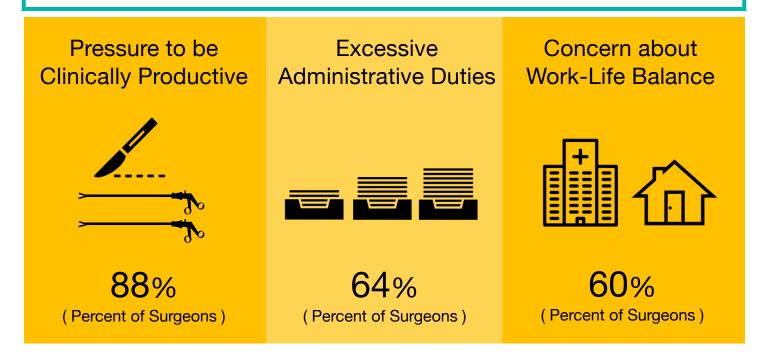


Keswani et al. Ann Surg. Sept 2016.



Summarize key question being addressed

Survey of 1,033 Surgeons: Barriers to Developing Surgical Scientists...



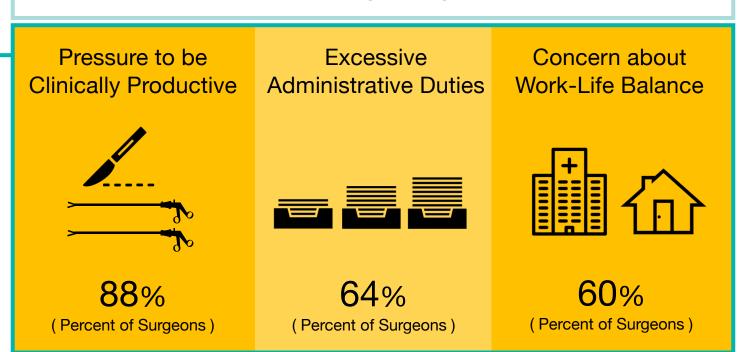
Keswani et al. Ann Surg. Sept 2016.



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Summarize outcomes



Keswani et al. *Ann Surg*. Sept 2016.



Summarize key question being addressed

Survey of 1,033 Surgeons: Barriers to Developing Surgical Scientists...

Summarize outcomes

Pressure to be Excessive
Clinically Productive Administrative Duties

Concern about Work-Life Balance

List outcome variables



88% (Percent of Surgeons)



64% (Percent of Surgeons)



60% (Percent of Surgeons)

Keswani et al. Ann Surg. Sept 2016.



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Summarize key question being addressed

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Pressure to be **Excessive** Clinically Productive Administrative Duties

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64% (Percent of Surgeons)

60% (Percent of Surgeons)

ANNALS OF

Keswani et al. *Ann Surg*. Sept 2016.

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List outcome variables

Visually display outcomes

Summarize key question being addressed

Survey of 1,033 Surgeons: Barriers to Developing Surgical Scientists...

Summarize outcomes

Pressure to be Excessive
Clinically Productive Administrative Duties

Concern about Work-Life Balance

variables



Visually display outcomes

List outcome

88% (Percent of Surgeons) 64% (Percent of Surgeons) 60% (Percent of Surgeons) Quantify outcomes with units

Keswani et al. *Ann Surg*. Sept 2016.

ANNALS OF SURGERY

A Monthly Review of Surgical Science Since 1885

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Summarize key question being addressed

Survey of 1,033 Surgeons: Barriers to Developing Surgical Scientists...

Summarize outcomes

Pressure to be Excessive
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List outcome variables

Visually display outcomes



60%

Quantify outcomes with units

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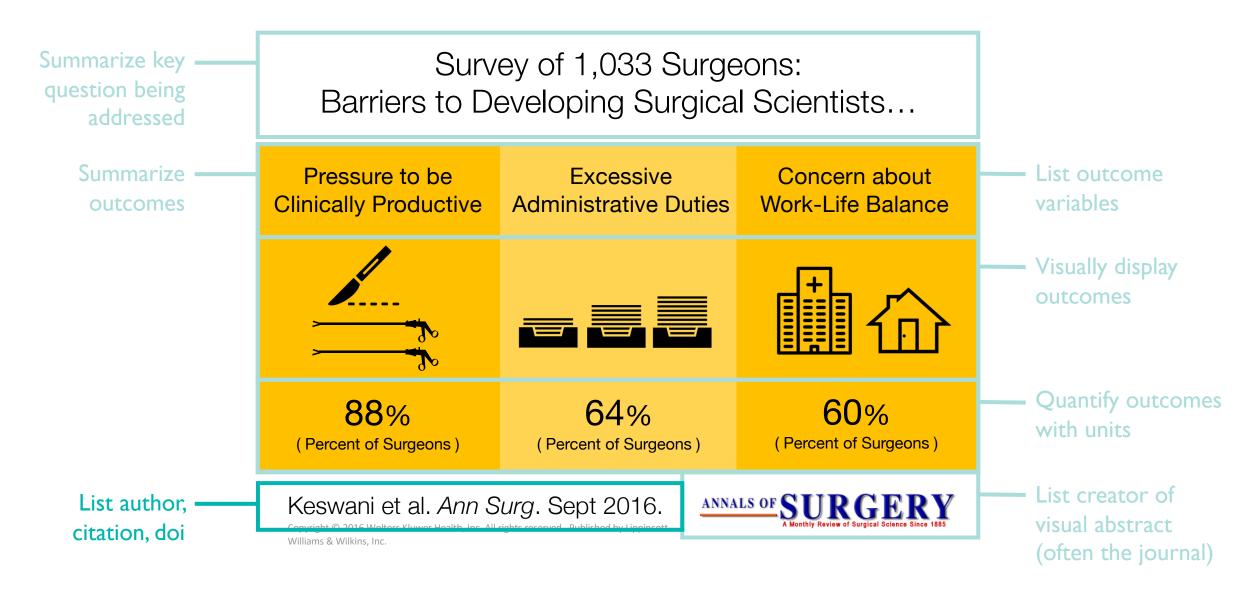
(Percent of Surgeons)

Keswani et al. Ann Surg. Sept 2016.

ANNALS OF SURGERY
A Monthly Review of Surgical Science Since 1885

List creator of visual abstract (often the journal)

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# Designing a visual abstract

# Design Principles

- Contrast
- 2 Repetition
- 3 Alignment
- 4 Proximity

# Design Principles

- Contrast
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## Show the differences.

CONTRAST contrast

Contrast

contrast

contrast

#### Opioid Prescribing Guidelines for Chronic Pain: Do They Improve Outcomes?

#### Guidelines aim to:



increase effectiveness of pain treatment



reduce risk to patients



improve communication between patients and providers Opioid prescribing is declining



Guidelines may change prescriber behavior, even without enforcement What are health systems using in place of opioid analgesics?



#### Based on presentation by:

Amy Bohnert, PhD, MHS
Associate Professor, Psychiatry, University of Michigan
Research Investigator, The Center for Clinical Management
Research, Department of Veterans Affairs

**Opioids: Policy to Practice** 







# Avoid underlining

If you want to call attention to words, find a way to emphasize it other than underlining it.

Hyperlinks are OK because there is a purpose and it is universally recognized.

#### Hospitals with Higher 90-Day Bundle Payments for CABG Procedures...

#### High payment hospitals had ...

#### Post-acute Care

4x higher utilization of inpatient (vs. outpatient) rehabilitation



13% vs. 3% (percent of patient using inpatient rehabilitation)

#### Physician Payments

2x higher use of inpatient evaluation and management (E&M) services



1.5 vs. 0.7 (number of inpatient E&M claims per day)

#### Readmissions

2x higher rate of patients with multiple readmissions



7% VS. 4% (percent of patient with multiple readmissions)

Citation (include author, title, journal, date).



# Design Principles

- Contrast
- 2 Repetition
- 3 Alignment
- 4 Proximity

#### Hospitals with Higher 90-Day Bundle Payments for CABG Procedures...

#### INCREASED POST-ACUTE CARE



x4.4 (13% vs. 3%)

utilization of inpatient (vs. outpatient) rehabilitation

#### MORE PHYSICIAN PAYMENTS



x2.4 (1.5 vs. 0.7)

use of inpatient evaluation and management serivces claims per day

#### INCREASED MULTIPLE READMISSIONS



x1.8 (7% vs. 4%)

rate of patients with multiple readmissions

Guduguntla et al. JAMA Surg August, 2018.



# Design Principles

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# Design Principles

- Contrast
- 2 Repetition
- 3 Alignment
- 4 Proximity



**20,671** Individuals **59,450** Interviews



**1,451** unique disasters **60%** exposed



16% less likely to be physically active



21% more likely to gain weight

Sue Anne Bell (@sueannebell) et al. PreHospital and Disaster Medicine (In Press).

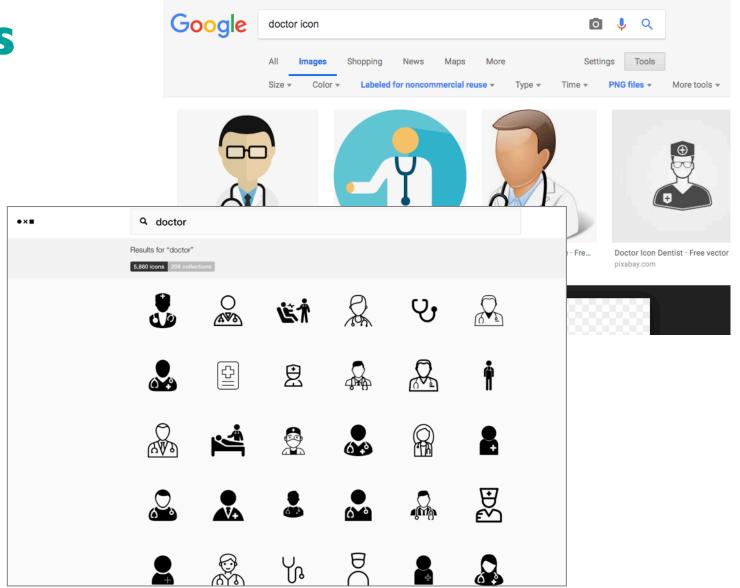


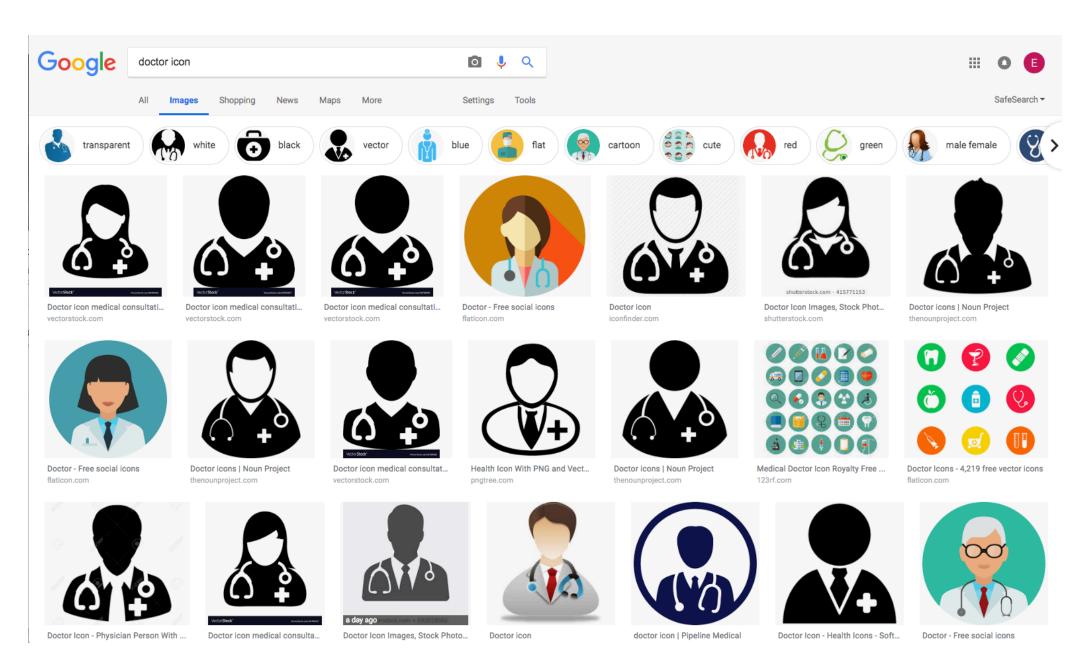


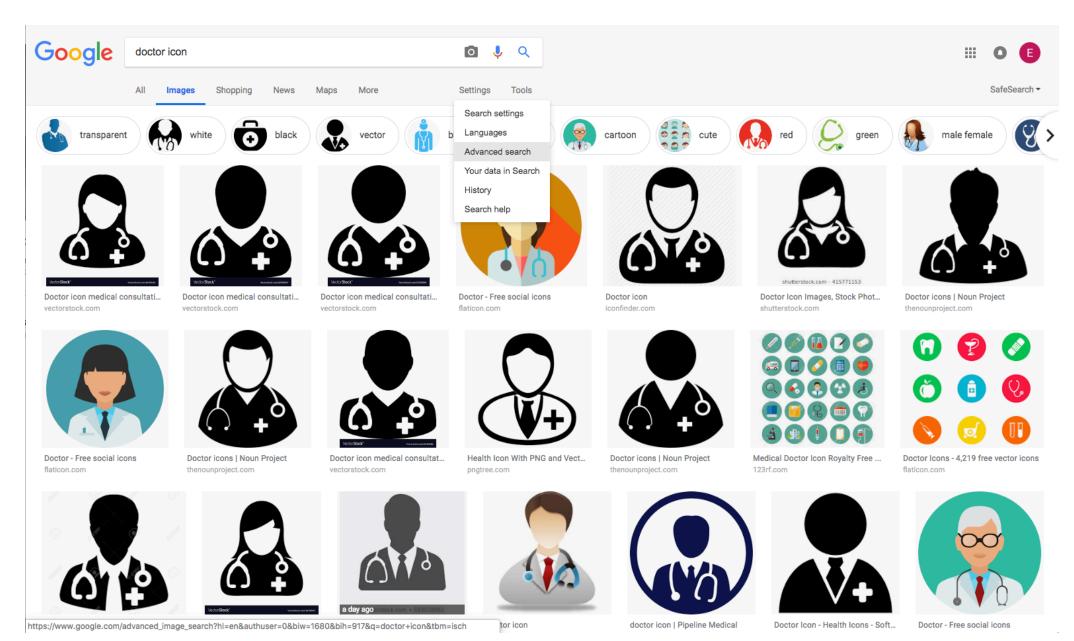
# Finding images

Google
Noun Project
Shutterstock
Getty Images

Do not use images if you do not have permissions or rights!







## File type: png (transparent background)

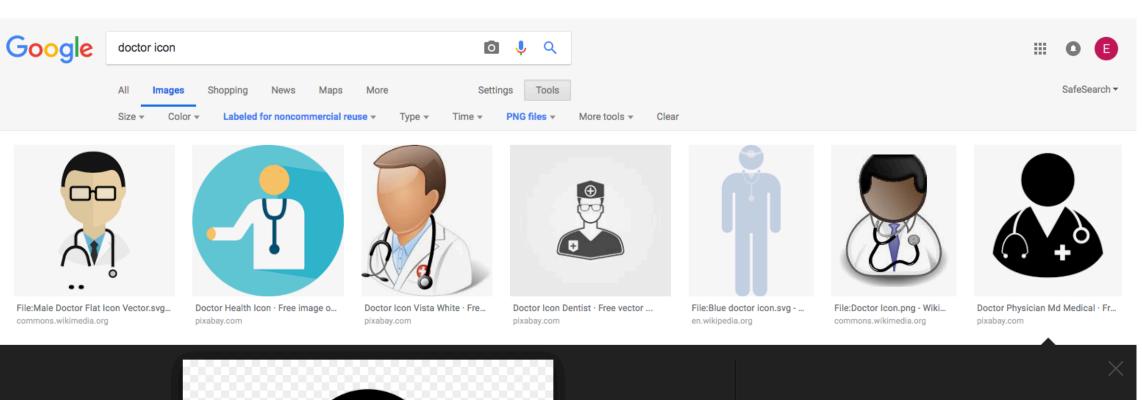
## Usage rights: free to use or share



### Advanced Image Search

Find images with		To do this in the search box
all these words:	doctor icon	Type the important words: winter hoarfrost
this exact word or phrase:		Put exact words in quotes: "frost flower"
any of these words:		Type OR between all the words you want: trees OR weeds OR grasses
none of these words:		Put a minus sign just before words you don't want: -windows
Then narrow your results by		
image size:	any size	Find images in any size you need.
aspect ratio:	any aspect ratio	Specify the shape of images.
colors in image:	any color	Find images in your preferred colors.
type of image:	any type	Limit the kind of images you find.
region:	any region *	Find images published in a particular region.
site or domain:		Search one site (like sfmoma.org) or limit your results to a domain like.edu,.org Or.gov
SafeSearch:	Show most relevant results	Tell SafeSearch whether to filter sexually explicit content.
file type:	PNG files	Find images in the format you prefer.
usage rights:	free to use or share	Find images you are free to use yourself.
		Google

**Advanced Search** 

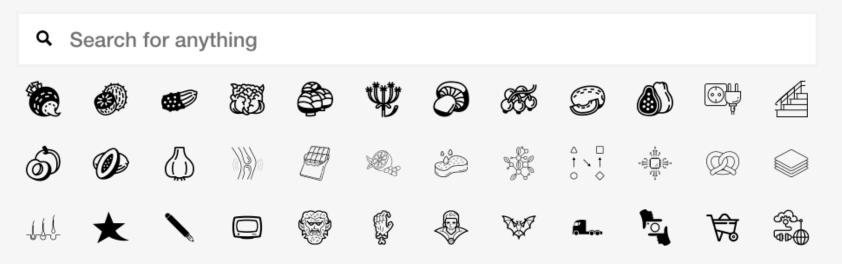






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### Q doctor





#### By Wilson Joseph

In the Doctor, Medical, Physician, Healthcare Vector Icons Collection

No need to attribute, you're NounPro

Download Icon





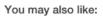
1200px x 1200px

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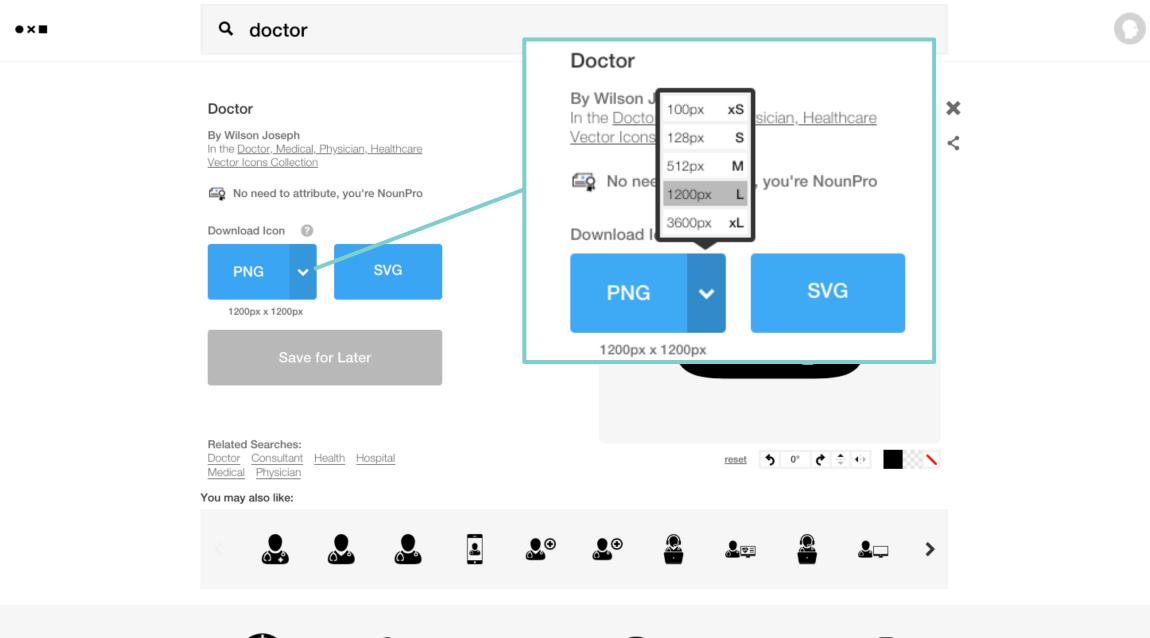
















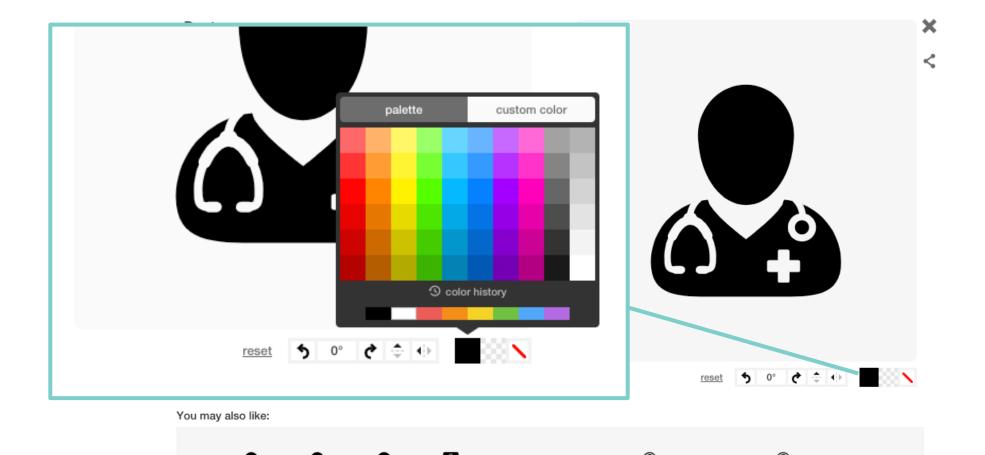














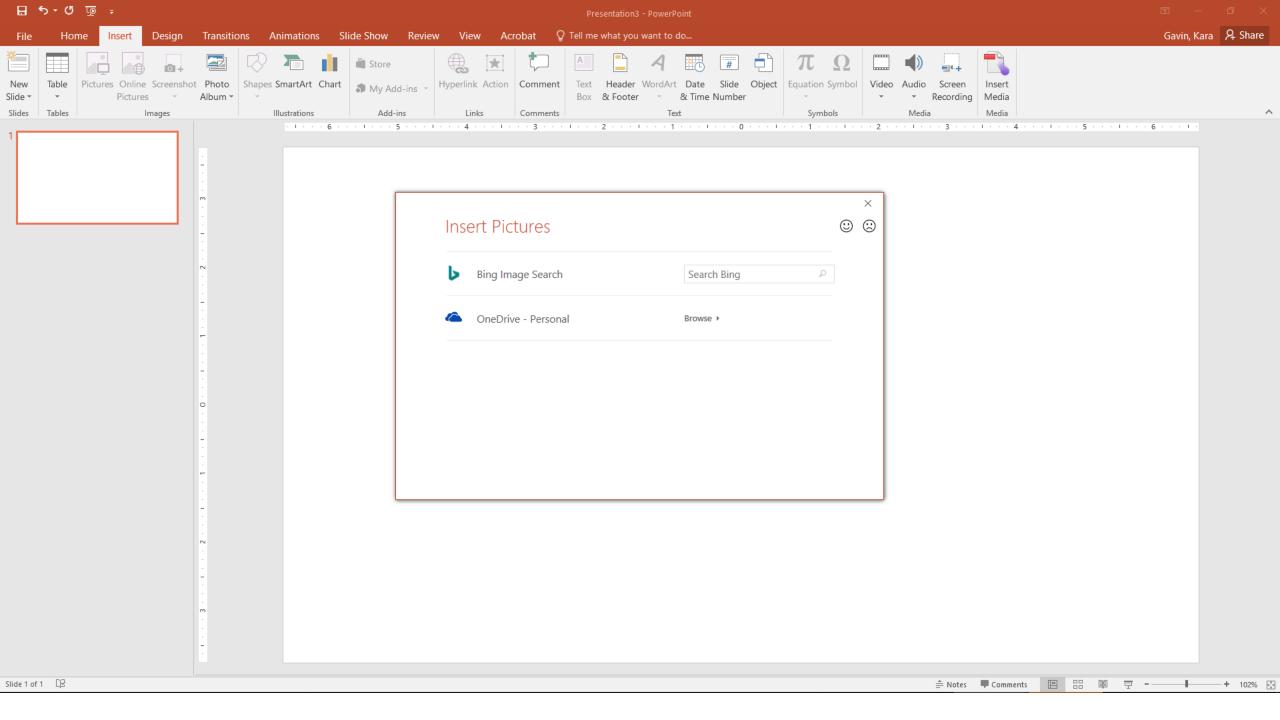


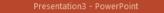


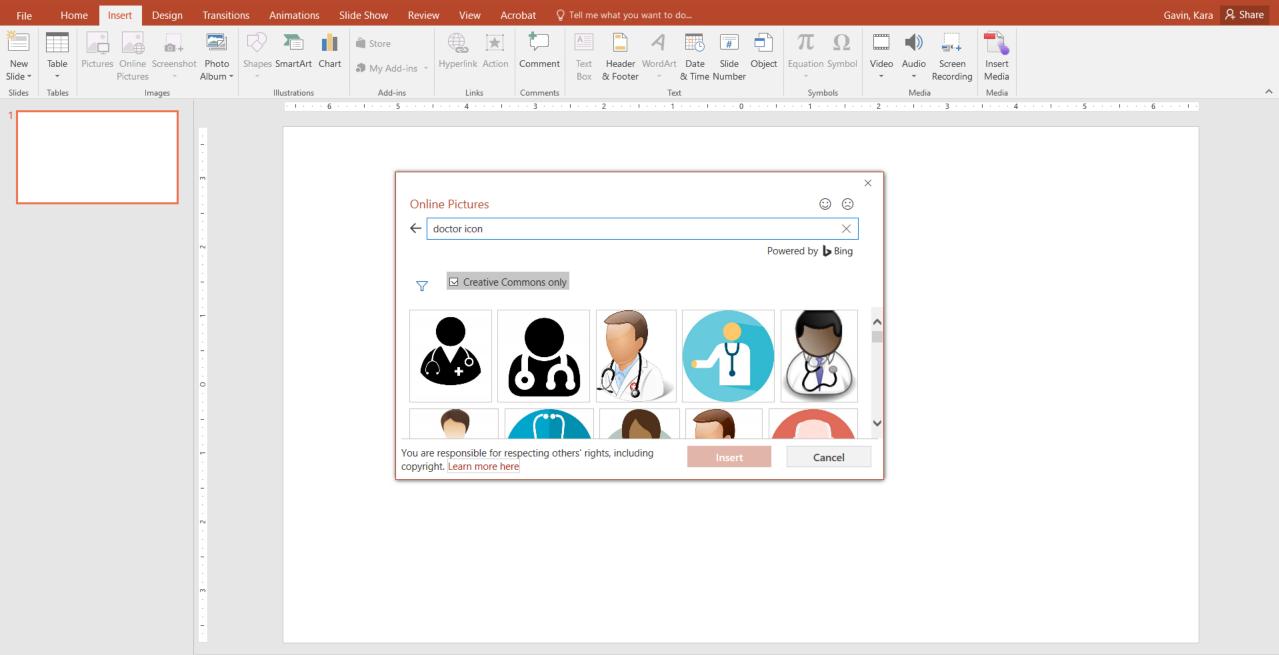




Check out the Noun Project add-in via PowerPoint!







□ 5 - U □ =

# Finding the right images

- Identify the best visual to depict the information (the first choice is most likely not the final choice).
- Keep the audience in mind.
- Keep visual style in mind.
  - Departmental/unit brand colors
  - Solid colored icons vs cartoon-like images (ie. Clip Art)

#### THE BRAND, THE BRAND, THE BRAND,



## brand.umich.edu

The University of Michigan's brand identity is one of our most valuable assets. It is recognized worldwide and immediately connects us with the hearts and minds of our audiences.

We encourage you to use the useful tips, guidelines and resources on this site to keep our brand consistent and strong.









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# #FFCB05 #FFCB05 #O0274C Aa Maize (#FFCB05) Aa White (#FFFFFF)

WEB	WEB ACCESSIBLE COMBINATION
#9A3324	Aa White (#FFFFF)
#D86018	<b>Aa</b> Black (#000000)
#A5A508	Aa Black (#000000) Blue (#00274C)
#00B2A9	<b>Aa</b> Black (#000000) Blue (#00274C)
#2F65A7	Aa White (#FFFFF)

# Before & After

# Hospitals with Higher 90-Day Bundle Payments for CABG Procedures...

## High payment hospitals had ...

## Post-acute Care

4x higher utilization of inpatient (vs. outpatient) rehabilitation



13% vs. 3% (percent of patient using inpatient rehabilitation)

## Physician Payments

2x higher use of inpatient evaluation and management (E&M) services



1.5 vs. 0.7 (number of inpatient E&M claims per day)

## Readmissions

2x higher rate of patients with multiple readmissions

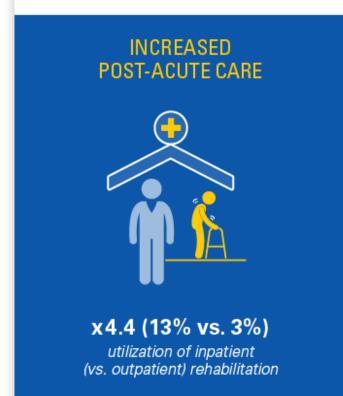


7% VS. 4% (percent of patient with multiple readmissions)

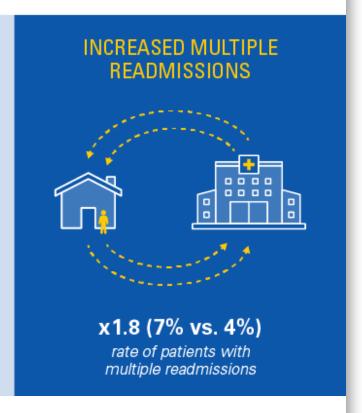
Citation (include author, title, journal, date).



# Hospitals with Higher 90-Day Bundle Payments for CABG Procedures...







Citation (include author, title, journal, date).



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x2.4 (1.5 vs. 0.7)
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# INCREASED MULTIPLE READMISSIONS



x1.8 (7% vs. 4%) rate of patients with multiple readmissions

Citation (include author, title, journal, date).



Sue Anne Bell (@sueannebell) et al. PreHospital and Disaster Medicine (In Press).

In a national longitudinal cohort



using Health and Retirement Study data (@HRSisr) combined with Federal Emergency Management Agency disaster declaration data Comparing those who experienced a disaster versus those who did not



1,451 unique disasters 60% exposed

16% <u>less</u> likely to be physically active

21% more likely to gain weight



adjusted odds ratio, change over time in health risk behaviors adjusting for many potential confounders







**20,671** Individuals **59,450** Interviews





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Living Through a Disaster Leads to Less Healthy Behaviors





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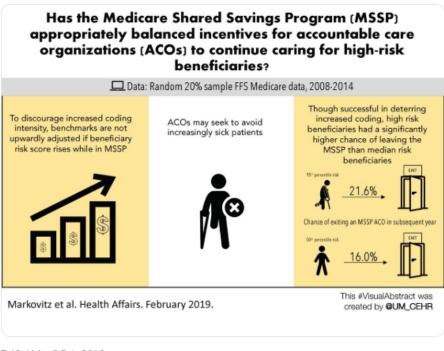


# Disseminating a visual abstract

# **Twitter**

- Tweet it as soon after paper/talk as you can!
- ALWAYS include a link to your paper
- Tag your co-authors, mentor, journal, funding agency, center/department/program
- Use common hashtags for the topic & #VisualAbstract
  - Visit www.symplur.com/healthcare-hashtags/
- Share several times over the next week
- Ask others to share
- Share again when the work is timely

Check out @AdamMarkovitz's article in this month's @Health\_Affairs: the MSSP has deterred ACOs from coding more intensely d/t not upwardly adjusting benchmarks; high risk beneficiaries still left the MSSP at a significantly higher rate than median risk bit.ly/2RHqLbl



7:48 AM - 6 Feb 2019

4 Retweets 7 Likes













# Other means

- Make a LinkedIn post and embed it
- Use it as a slide in talks
- Embed it on your professional profile
- Share by email
- Share with center/department/ institution communicator

