

Leveraging the Power of Social Media in Medicine

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December 12, 2019



Objectives

- Define Social Media Platforms
- Describe How Social Media is Used In Medicine
- Understand the Impact of Social Media as Implementation Science & the Impact on Bibliometrics

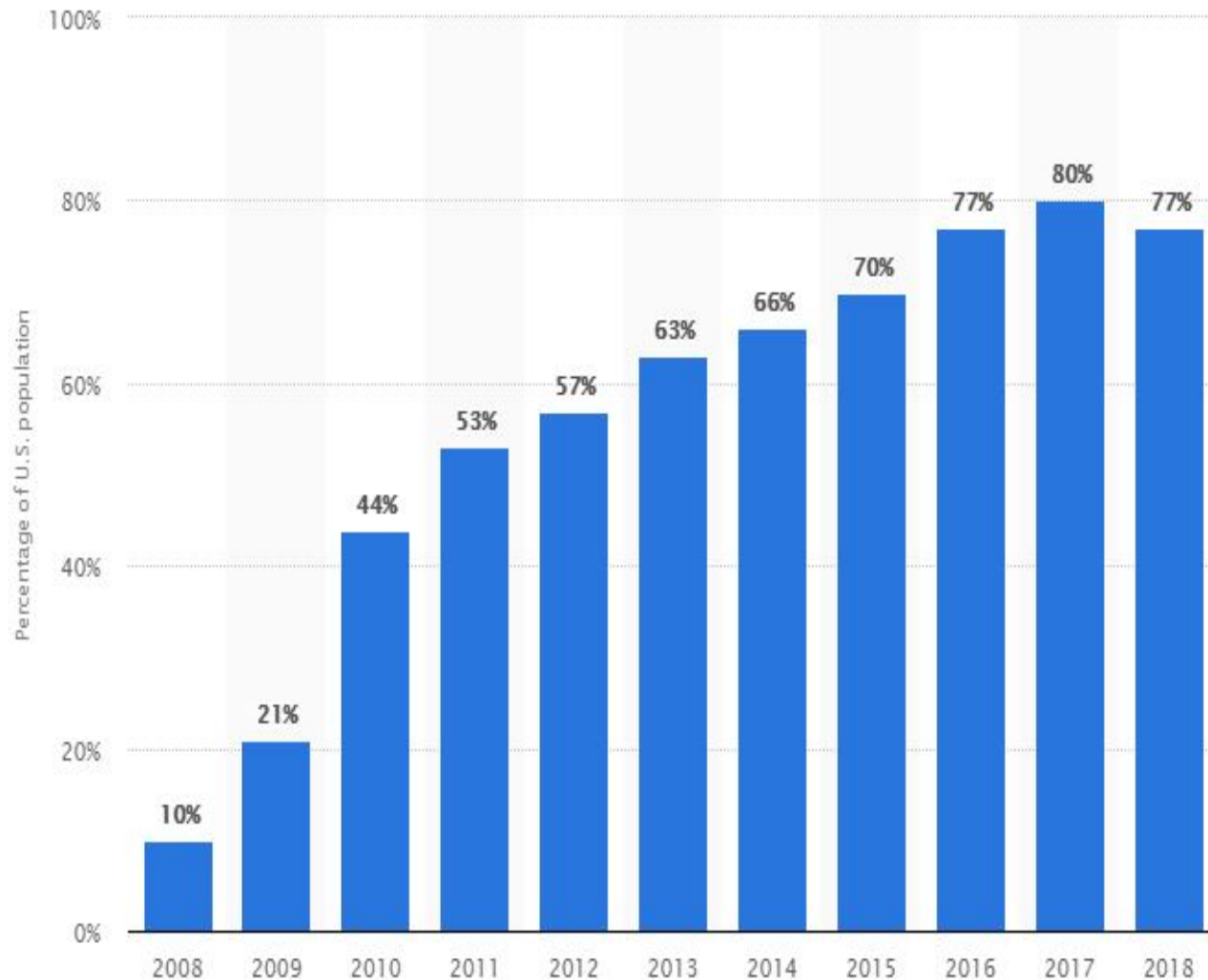




Raise Your Hands



Percentage of US Population with a Social Media Profile



<https://www.statista.com/statistics/273476/percentage-of-us-population-with-a-social-network-profile/>





Why is Social Media Important In
Academic Medicine?

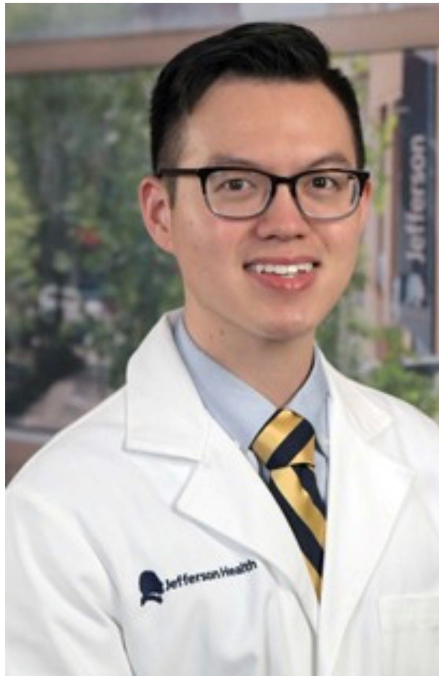


In almost every medical sphere, from vaccines and heart health to cancer drugs and diet, experts have reported a huge increase in misinformation online, which at best obfuscates the truth and at worst contradicts it entirely.



Jefferson Health Welcomes Austin Chiang, MD, MPH, as Chief Medical Social Media Officer

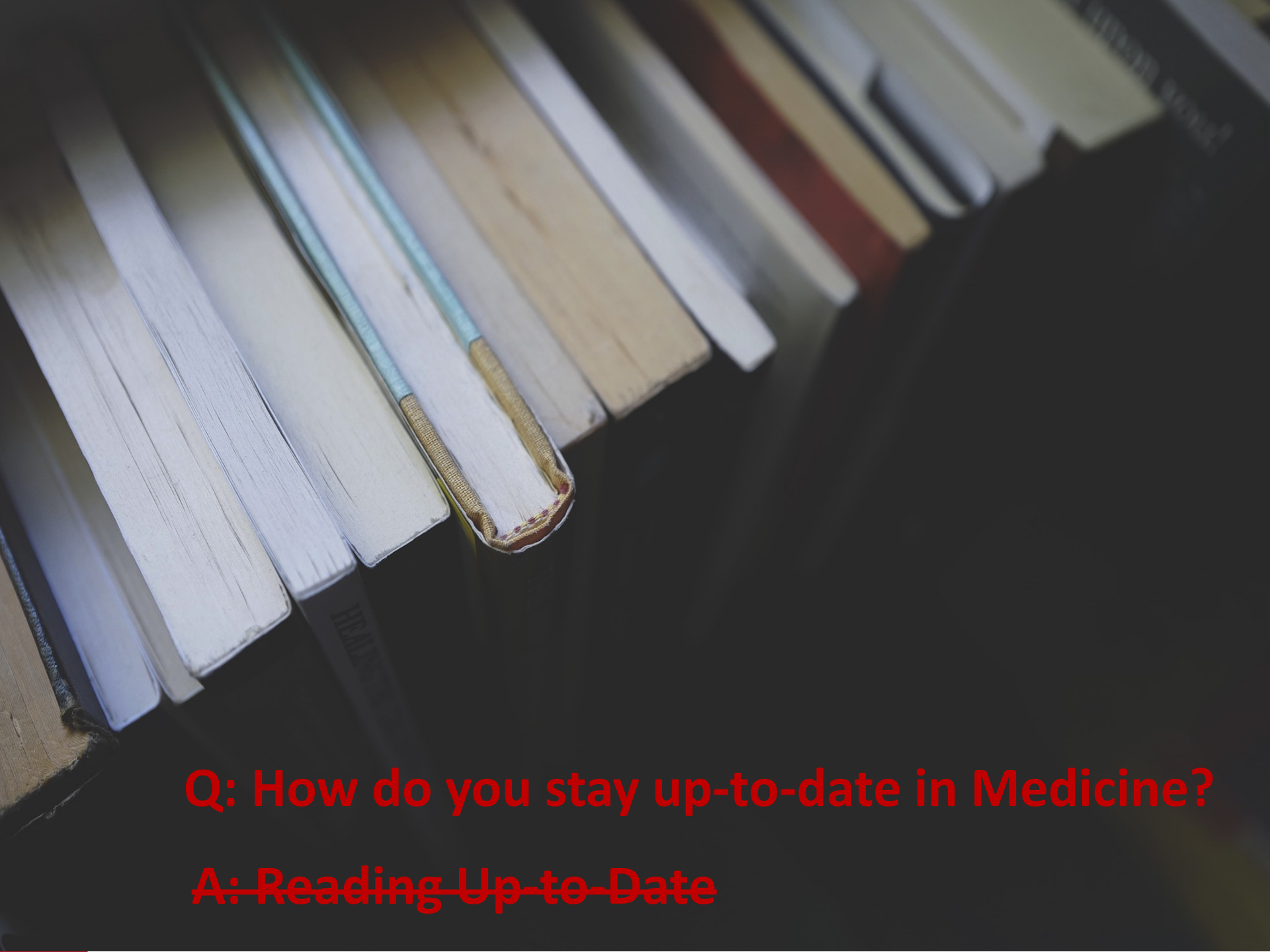
11/30/18



Dr. Chiang leverages his digital presence in new, innovative position

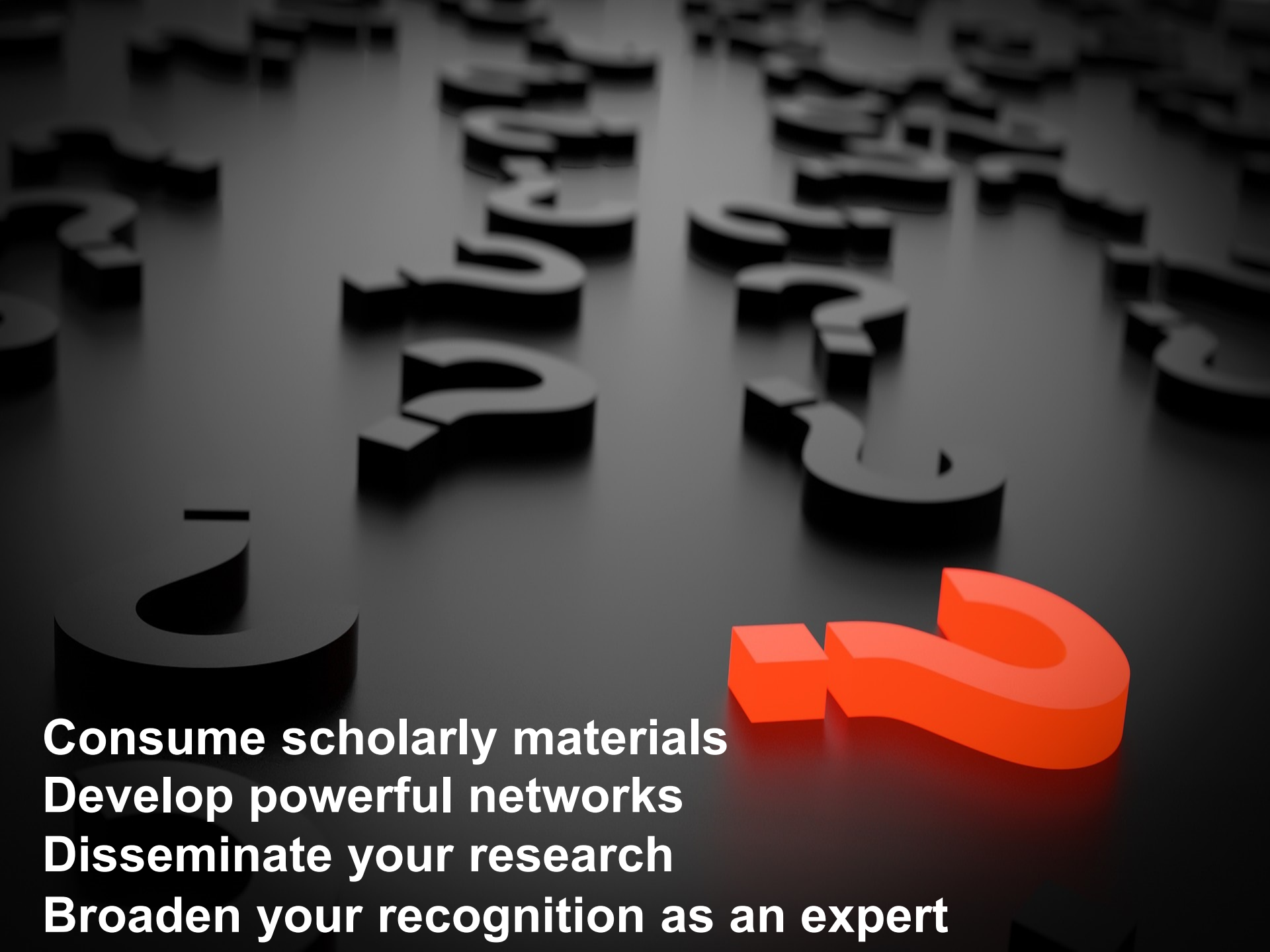
"Social media has established itself as important forum to discuss health and medicine, but it has also become an important tool to promote and influence public health," said Dr. Chiang. "My hope is to encourage and optimize health professional's social media engagement. Without the professional voice on social media, untrained individuals can disseminate inaccurate, and at times harmful, health information."





Q: How do you stay up-to-date in Medicine?

~~A: Reading Up-to-Date~~



Consume scholarly materials
Develop powerful networks
Disseminate your research
Broaden your recognition as an expert





American College of Physicians

Leading Internal Medicine, Improving Lives

Tweets 10.6K Following 2,499 Followers 26.6K Likes 659 Lists 1

Following

Tweets Tweets & replies Media

ACP @ACPinternists · Dec 5
Are you I.M. Proud, like Dr. Maryann Forciea? Go to bit.ly/IMProud and tell us why you're proud to be an internist -- you could win a free year of ACP membership! The deadline to enter our contest is January 31, 2019. #IMProud #internalmedicine

Who to follow · Refresh · View all

AAPF @aapf
Follow

AAIM @AAIMOnline
Follow

ACP @ACPinternists
Public Relations Dept. of the American College of Physicians (ACP), the largest medical specialty organization and second-largest physician group in the U.S.
Philadelphia



Tweets 29.4K Following 1,225 Followers 17.6K Likes 2,860 Lists 1

Tweets Tweets & replies Media

Am Soc Nephrology @ASNKidney · 8m
"Let's Talk About #Peritoneal #Dialysis" Post 4: Not Drain Pain...But Infusion Pain | @RenalFellowNtwk asn.kdny.info/N2QC30mTXzE

Am Soc Nephrology @ASNKidney
ASN: Leading the Fight Against Kidney Diseases. (Check out our other handles: @ASNadvocacy, @KidneyNews, @JASN_News, & @JASN). We are also on Instagram!



Tweets 5,421 Following 287 Followers 16.9K Likes 359



Tweets 18K Following 4,702 Followers 21.9K Likes 7,969 Lists 5 Moments 4

Tweets Tweets & replies Media

CHEST @accpcchest
American College of Chest Physicians® (CHEST®). #journalCHEST, #CHESTFoundation. Global leader in clinical chest medicine. #pulmCC #sleepmed #CHEST2018
chestnet.org
Joined April 2009

CHEST @accpcchest · 3m
Biomarkers in pulmonary fibrosis. Are there any that can predict disease progression? #journalCHEST

Idiopathic Pulmonary Fibrosis
Idiopathic pulmonary fibrosis (IPF) is a fatal lung disease with 3 to 5 years' survival. Although FVC is used to assess disease progression and treatment response, i.e. journal.chestnet.org



Tweets 14.4K Following 2,739 Followers 20.6K Likes 2,358 Lists 14

Tweets Tweets & replies Media

AGA @AmerGastroAssn · 6m
A quick reminder to close out #CCAwarenessWeek: Register for the Crohn's & Colitis Congress by Wednesday to save. The #CCCongress brings together #IBD professionals across disciplines - GIs, surgeons, pediatricians, dietitians... More reasons to attend: ow.ly/MxUQ30mTjhv

AGA @AmerGastroAssn
The American Gastroenterological Association is dedicated to advancing the science and practice of gastroenterology. Follow @AGA_Gastro, @AGA_CGH, @AGA_CMGH



Tweets 12.6K Following 4,121 Followers 17.2K Likes 2,520 Lists 16

Tweets Tweets & replies Media

American College of Rheumatology @ACRrheum · 5h
Great meeting with @SecAzar yesterday.

Secretary Alex Azar @SecAzar
As we continue our efforts to reduce the high cost of prescription drugs, meetings with groups like @ArthritisFdn and @ACRrheum provide important insight into the needs of patients and physicians.

American College of Rheumatology @ACRrheum
Empowering rheumatology professionals to excel in their specialty. Learn about our 2019 educational activities! acr.tw/205NfWA
Atlanta, GA

	Time period			Relative risk for change between 1978–1985 and 1994–2001*
	1978–1985	1986–1993	1994–2001	
Article and page count				
Mean number of articles per year	272,344	344,303	398,778	1.46
Mean number of pages per year	1,884,905	2,344,862	2,790,399	1.48
Study characteristics				
Human subjects	62.6%	65.6%	68.8%	1.10
Randomized controlled trial	1.9%	3.1%	6.2%	3.3
Authorship (number of authors)				
1	26.4%	20.3%	15.6%	0.59
2–4	56.1%	53.3%	48.0%	0.86
5 or more	15.6%	25.1%	35.1%	2.25
Median	2	3	4	2.00
Funding source				
Public only	9.1%	6.9%	6.8%	0.75
Private	10.7%	19.5%	27.0%	2.5
Public and private	5.4%	8.1%	8.7%	1.6
None	74.7%	65.4%	57.7%	0.77

* All statistical comparisons across time periods highly statistically significant ($P < 0.001$) due to the extremely large sample size.

Based on data reported via Elsevier in
2015, this number of peer-reviewed articles
published annually now exceeds
2.5 million.





GILEAD

NEWS
Experts worry about
consequences of Trump's
HIV/AIDS council fringe.
PAGE 29

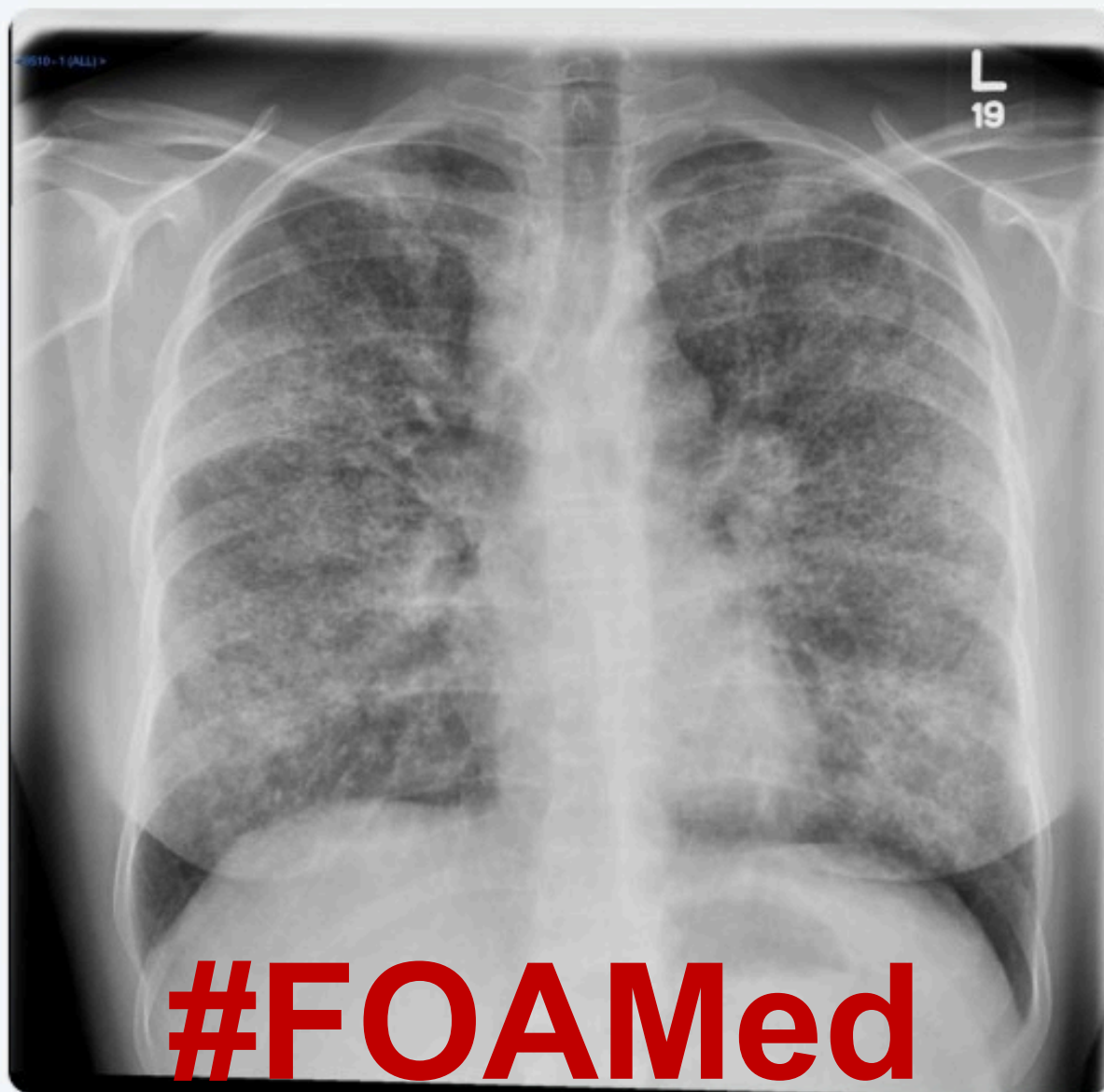
NOSOCOMIAL INFECTIONS
SHEA issues guidance on contact
precautions.
PAGE 42

INFLUENZA
Winter flu season in years grips
US.
PAGE 67



Radiopaedia.org @Radiopaedia · Jan 9

Q: 29 year old with 2 months of cough not responsive to antibiotics. Differential diagnosis? ANSWER: goo.gl/ihCoJt #FOAMrad #FOAMed



10



40



88





UNMC ID
@UNMC_ID



Unpacking the new IDSA Community-Acquired Pneumonia guidelines: a new blog post by senior fellow [@LRearigh](#). She made some handy flowcharts addressing treatment in various settings. Also, H/T to [@ASPphysician](#) at the end! bit.ly/2rzVpfF

Inpatient		Outpatient	
Severe Illness	Severe Illness	Inpatient w/o comorbidities	Outpatient w/comorbidities
Consider adding MRSA or pseudomonal coverage if with risk factors	Beta-lactam + Macrolide	Beta-lactam + Fluoroquinolone	Macrolides (only if pneumococcal resistance <25%)
			Amoxicillin/clavulanate or cephalosporin AND Macrolide
			Amoxicillin/clavulanate or cephalosporin AND Doxycycline





Major Article

Social media as a tool for antimicrobial stewardship



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Key Words:

Antimicrobial stewardship
social media
medical education

Background: To increase the reach of our antimicrobial stewardship program (ASP), social media platforms, Facebook and Twitter, were used to increase internal medicine residents' (IMRs') antibiotic (Abx) knowledge and awareness of ASP resources.

Methods: Fifty-five of 110 (50%) IMRs consented to participate; 39 (71%) completed both pre- and postintervention surveys and followed our ASP on social media. Along with 20 basic Abx and infectious diseases (IDs) questions, this survey assessed IMR awareness of ASP initiatives, social media usage, and attitudes and beliefs surrounding Abx resistance. Over 6 months, IMRs received posts and Tweets of basic Abx/IDs trivia while promoting use of educational tools and clinical pathways on our ASP Web site. To compare pre- and postsurvey responses, McNemar test or Stuart-Maxwell test was used for categorical variables, and paired *t* test or Wilcoxon signed-rank test was used for continuous variables, as appropriate.

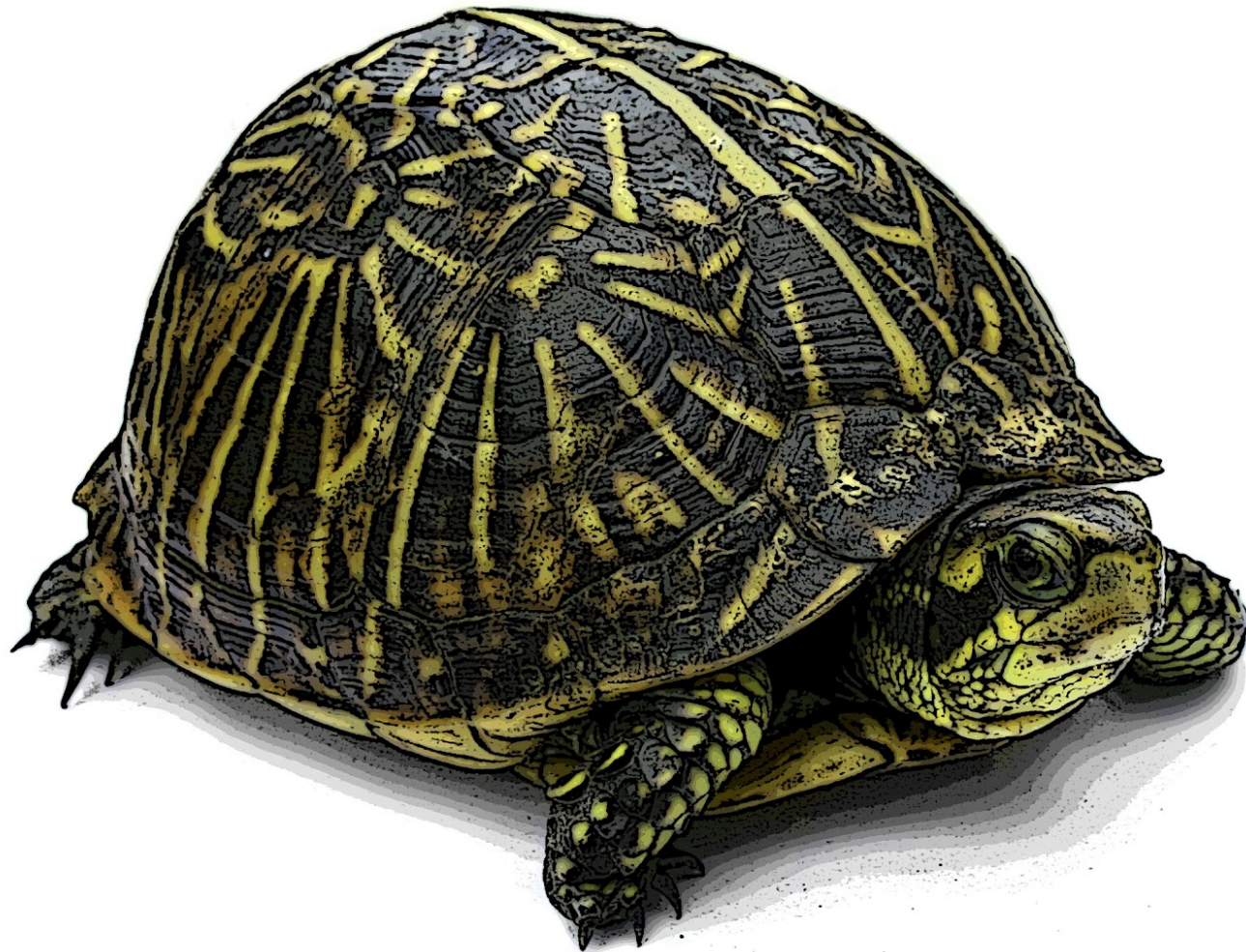
Results: Of the IMRs, 98% and 58% use Facebook and Twitter, respectively. To compare pre- and postintervention, median scores for Abx knowledge increased from 12 (interquartile range, 8-13) to 13 (interquartile range, 11-15; *P* = .048); IMRs knowing how to access the ASP Web site increased from 70% to 94%. More IMRs indicated that they used the clinical pathways "sometimes, frequently, or always" after the intervention (33% vs 61%, *P* = .004).

Conclusions: Social media is a valuable tool to reinforce ASP initiatives while encouraging the use of ASP resources to promote antimicrobial mindfulness.

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Morris, Zoë Slote, Steven Wooding, and Jonathan Grant. "The answer is 17 years, what is the question: understanding time lags in translational research." *Journal of the Royal Society of Medicine* 104.12 (2011): 510-520.

Implementation Science

“Implementation research is the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care. This relatively new field includes the study of influences on healthcare professional and organisational behaviour.”

Eccles, Martin P., and Brian S. Mittman. "Welcome to implementation science." (2006): 1.





**Step 1:
Disseminate
Research**

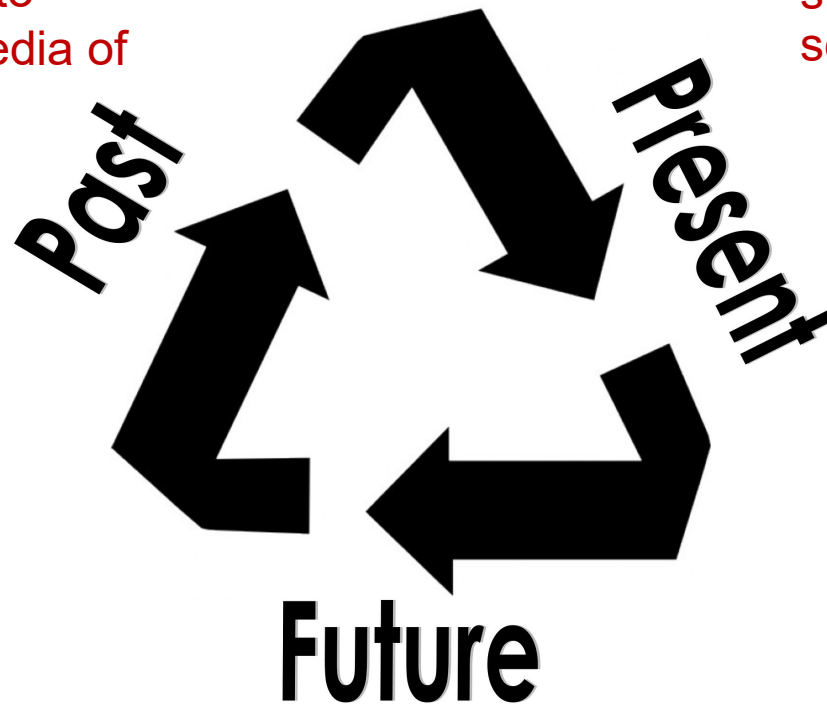


**Step 2:
Implement
Research**

Bibliometrics

“the application of mathematical and statistical methods to books and other media of communication.”

“the application of mathematical and statistical methods to scholarly publications.”



Conventional versus Alternative Metrics



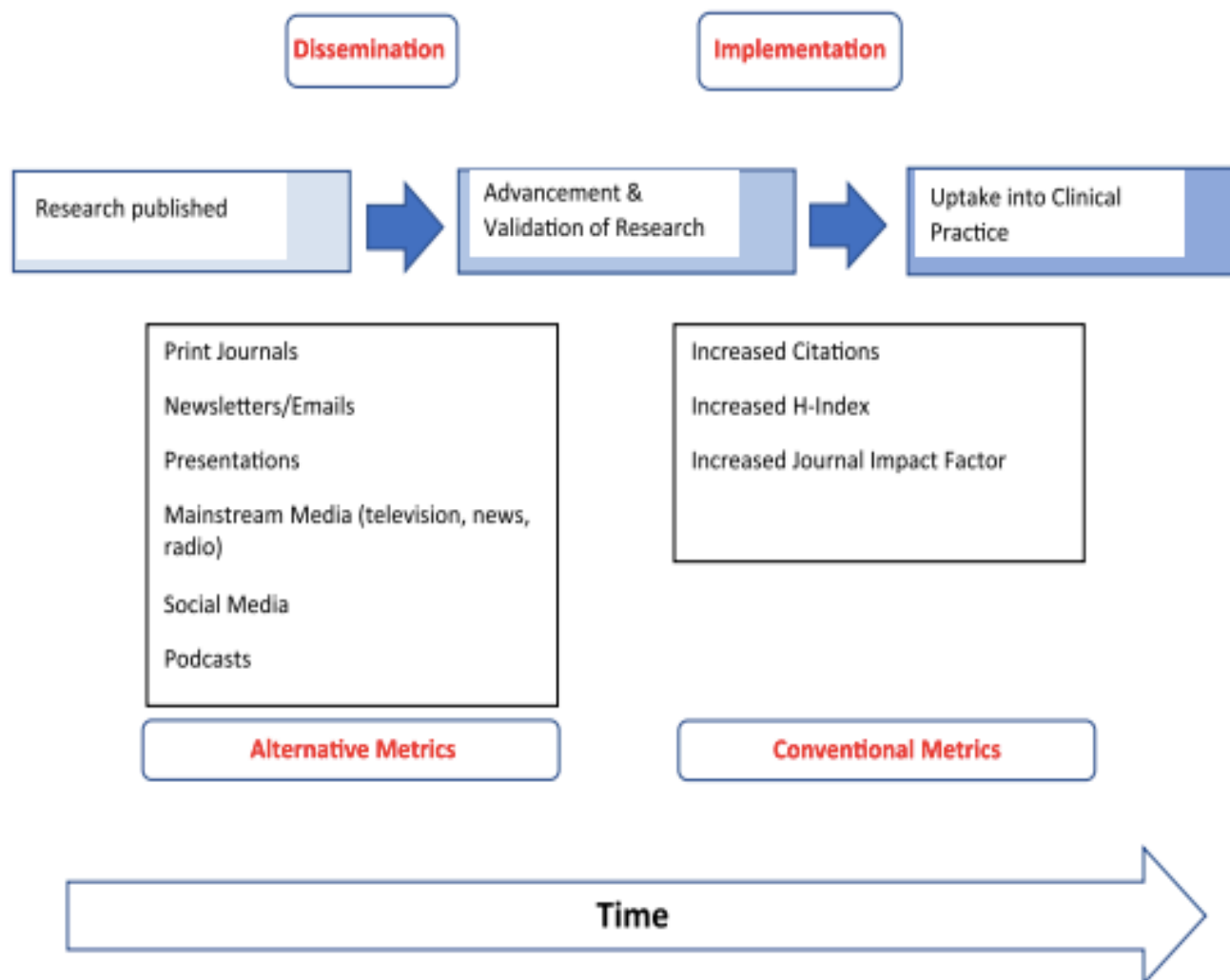
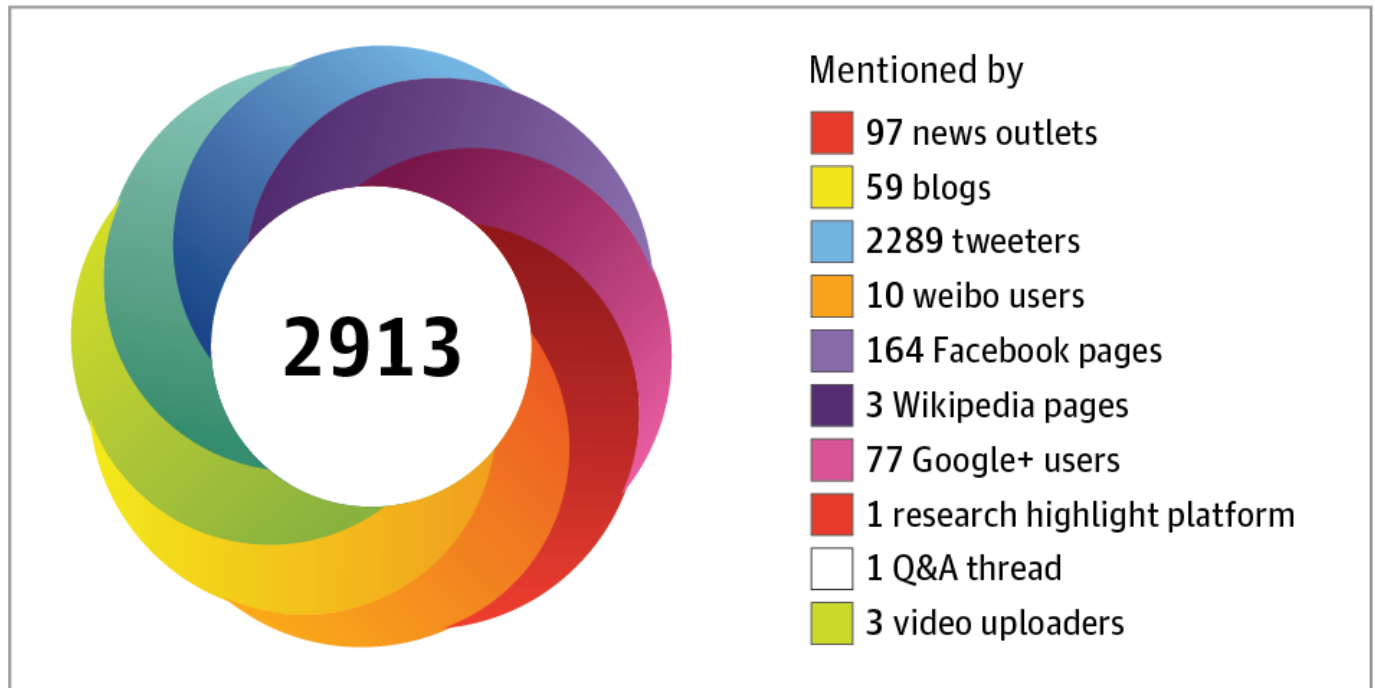


Fig. 1. Progression of research to clinical practice.





Altmetric





SUMMARY

[News](#)[Blogs](#)[Twitter](#)[Facebook](#)[Wikipedia](#)[Reddit](#)[Research highlights](#)[More...](#)

Title Diagnosis and Treatment of Adults with Community-acquired Pneumonia. An Official Clinical Practice Guideline of the American Thoracic Society and Infectious Diseases Society of America

Published in American Journal of Respiratory & Critical Care Medicine, October 2019

DOI 10.1164/rccm.201908-1581st [↗](#)

Pubmed ID 31573350 [↗](#)

Authors Joshua P. Metlay, Grant W. Waterer, Ann C. Long, Antonio Anzueto, Jan Brozek, Kristina Crothers... [\[show\]](#)

[↗](#) View on publisher site

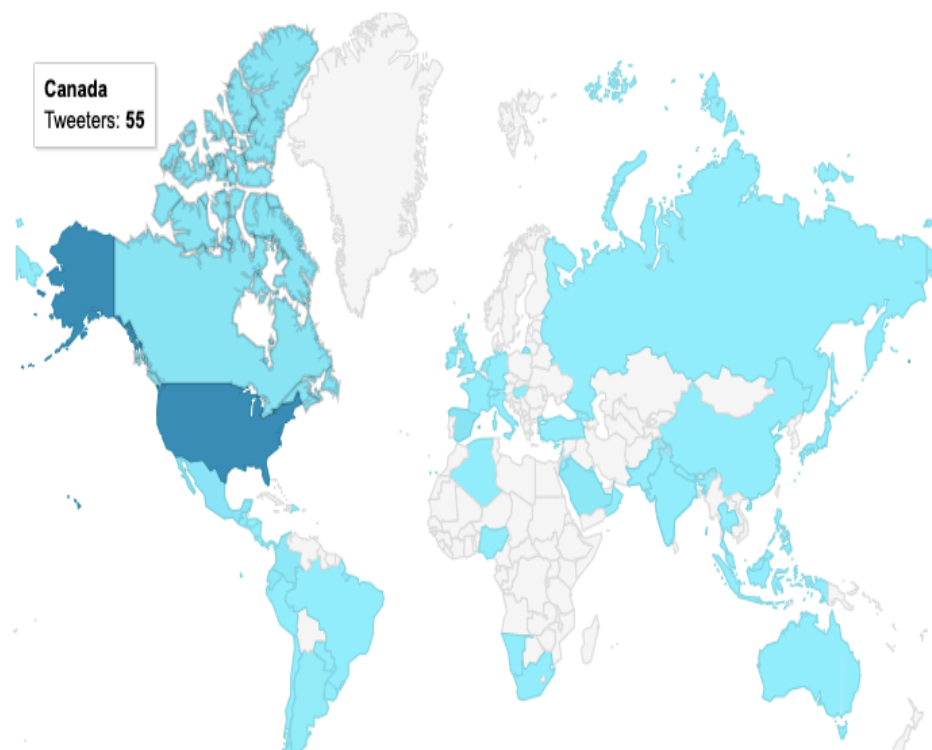
[✉](#) Alert me about new mentions

TWITTER DEMOGRAPHICS

MENDELEY READERS

ATTENTION SCORE IN CONTEXT

The data shown below were collected from the profiles of **1,574** tweeters who shared this research output. [Click here to find out more about how the information was compiled.](#)



? About this Attention Score

In the top 5% of all research outputs scored by Altmetric

[MORE...](#)

Mentioned by

13 news outlets

4 blogs

1574 tweeters

22 Facebook pages

2 Wikipedia pages

3 Redditors

1 research highlight platform

Citations

4 Dimensions

Readers on

65 Mendeley



PM R 10 (2018) 538-543

www.pmrjournal.org

Perspectives

The *PM&R* Journal Implements a Social Media Strategy to Disseminate Research and Track Alternative Metrics in Physical Medicine and Rehabilitation

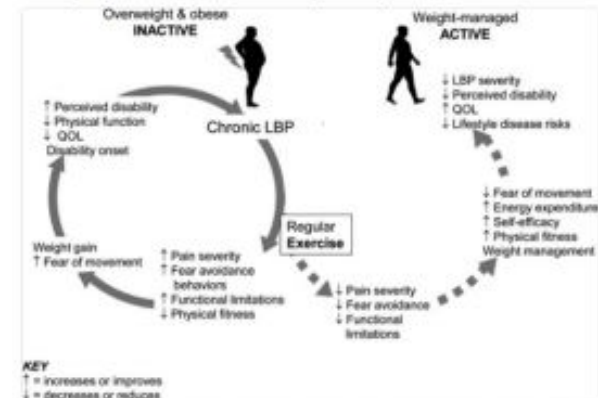
William N. Niehaus, MD, Julie K. Silver, MD, Matthew S. Katz, MD

What is #Physiatry?



2:05 PM - 11 Jul 2017

Exercise Benefits for Chronic #LowBackPain in Overweight & Obese Individuals
ow.ly/vjZi309nT7w #Physiatry



11:55 AM - 31 Mar 2017



Table 1

Change in metrics of Twitter account @PMRJournal activity and engagement, before and after planned account use

Metric	Jul 2016-Feb 2017	Mar 2017- Oct 2017	% Increase
Followers at end of time period	1106	1728	56.2%
Median @PMRJournal tweets/mo	14	36	157%
Retweets of @PMRJournal content	163	1179	623%
Mentions of @PMRJournal by others	25	204	716%
Profile visits to @PMRJournal	1946	6685	243%
Total engagements with @PMRJournal	1171	7787	565%

% Increase = (post – pre)/pre.

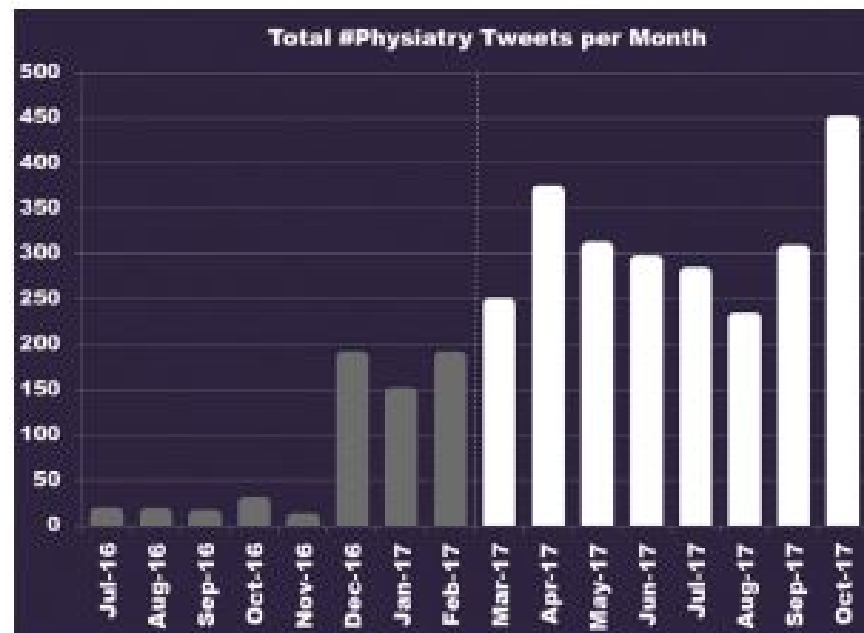
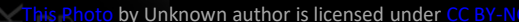


Figure 2. Total number of Tweets that included #Physiatry over the 8 months before and after the intervention of the social media plan. Data obtained from official Twitter search function.





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© Mary Ann Liebert, Inc.
DOI: 10.1089/jwh.2018.7515

Use of a Coordinated Social Media Strategy to Improve Dissemination of Research and Collect Solutions Related to Workforce Gender Equity

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Diane M. Radford, MD, FACS, FRCSEd,⁴⁻⁶ Amy S. Oxenterko, MD, FACP, FACG, AGAF,⁷ Linda Girgis, MD,
FAAFP,⁸ Lindsey L. Migliore, DO,⁹ Julie A. Poorman, PhD,^{10,11} and Julie K. Silver, MD¹⁰⁻¹³

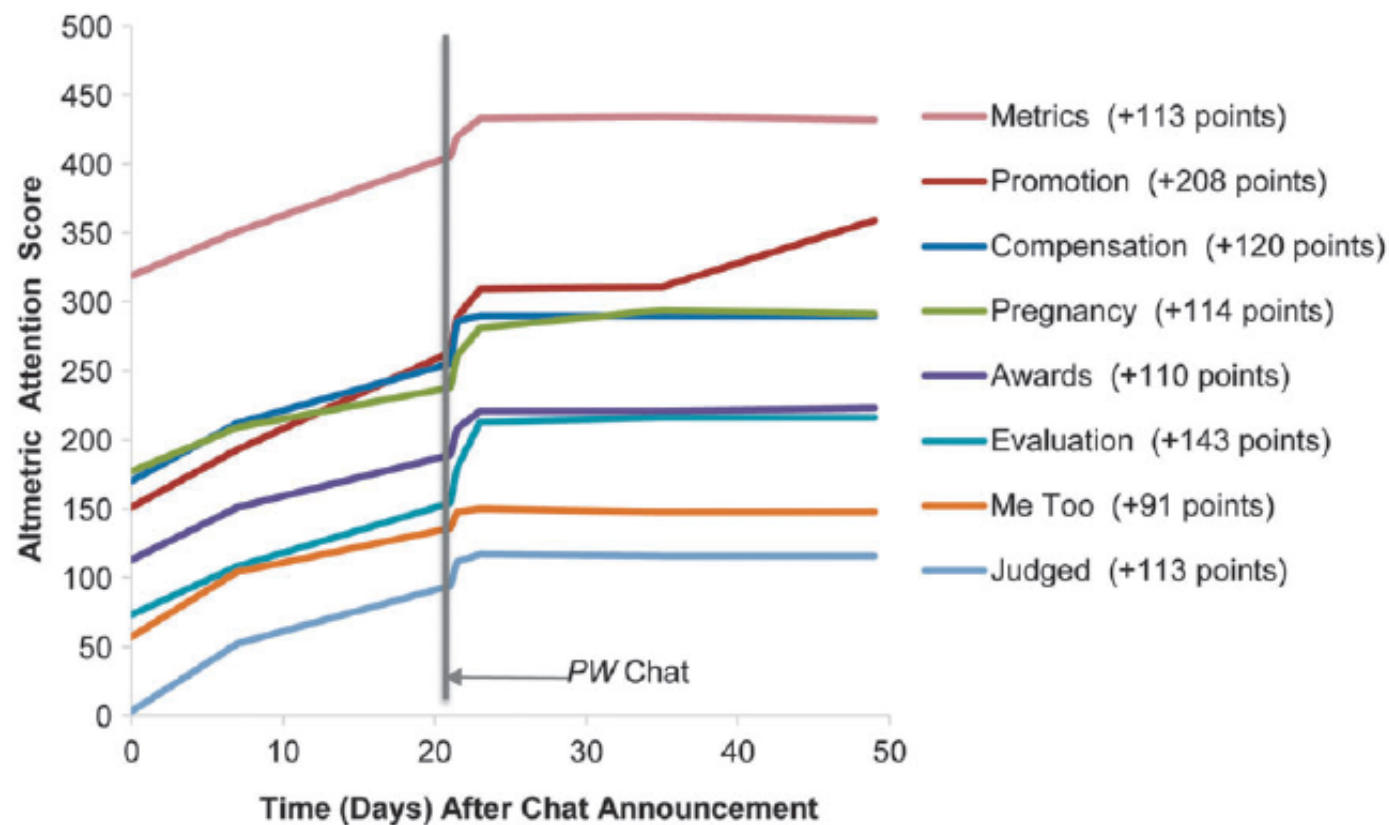


FIG. 2. Impact of a coordinated chat strategy on article Altmetric Attention Score. Altmetric Attention Scores are shown for the eight selected articles at the time of announcement of the upcoming chat (Day 0), before the chat (Days 1–20) and following the chat (Days 21–49). Improvement in Altmetric Attention Score between chat announcement (Day 0) and 1 month after the chat (Day 49) is shown in *parentheses* behind each article nickname.

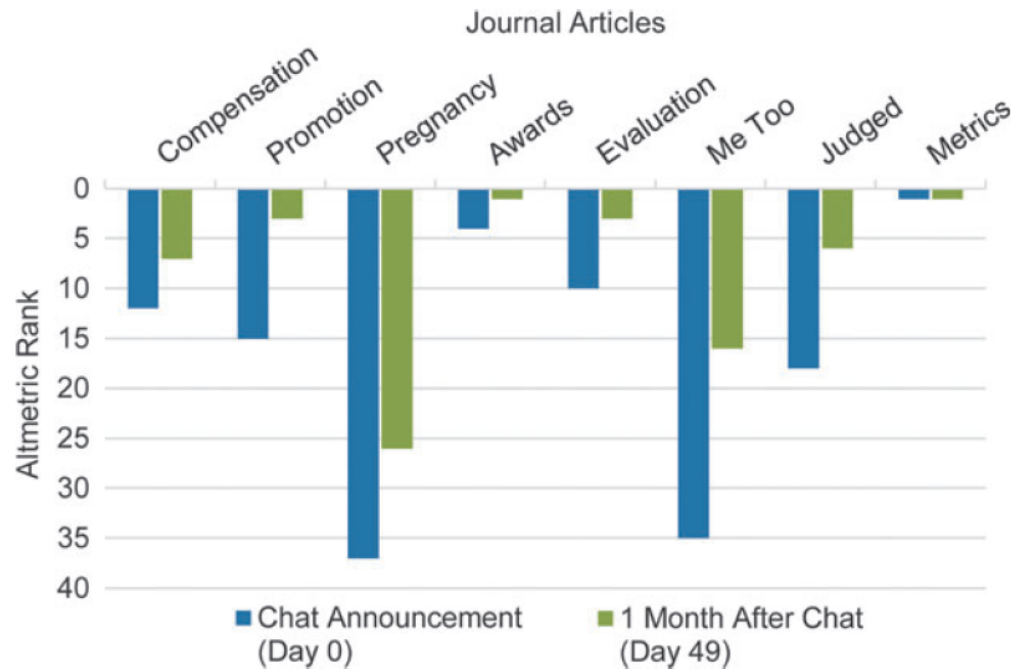


FIG. 3. Impact of a coordinated chat strategy on article Altmetric Rank. Because Altmetric Rank decreases as an article receives more attention (*e.g.*, moves from a #10 to a #1 rank) and to visually represent improvement in rank, the vertical axis in this chart was reversed. The Altmetric rank improved for seven of the eight articles between announcement of the chat (Day 0) and 1 month after the chat (Day 49). The improvement seen in the ranks of the MeToo and Judged articles is conservative as these articles were unranked on the day the chat was announced. For these articles, the Altmetric Ranks on Day 7 were substituted for the ranks on Day 0. Although the Metrics article showed the least improvement in rank during the study period, it could not have improved, holding and retaining the #1 rank from chat announcement through the end of the study period.

TABLE 3. IMPACT OF A COORDINATED CHAT STRATEGY ON ARTICLE M

	<i>Altmetric attention score</i>			<i>Altmetric rank in respective journal*</i>			<i>Art</i>	
	<i>Day 0</i>	<i>Day 49</i>	<i>Improvement</i>	<i>Day 0</i>	<i>Day 49</i>	<i>Improvement</i>	<i>Day 0</i>	<i>Day</i>
Compensation	170	290	120 (70.6%)	12	7	5 (41.7%)		
Promotion	151	359	208 (137.7%)	15	3	12 (80%)		
Pregnancy	177	291	114 (64.4%)	37	26	11 (29.7%)	373	795
Awards	113	223	110 (97.3%)	4	1	3 (75.0%)		
Evaluation	73	216	143 (195.9%)	10	3	7 (70.0%)		
Me Too	57	148	91 (159.6%)	35	16	≥19 (54.3%)		
Judged	3	116	113 (3766.7%)	18	6	≥12 (66.7%)		
Metrics	319	432	113 (35.4%)	1	1	0 (0%)		
Average improvement			126.5 (566.0%)			8.6 (52.2%)		
Sample standard deviation			35.9			6.1		
p-value			<0.0001			0.005		
95% CI for mean			50.5–196.5			5.3–13.7		

Statistically Significant Improvement

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

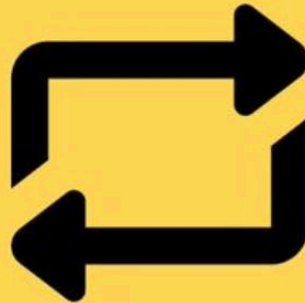
IMPRESSIONS
x7.7 fold



3k ➡ 23k

(No. of times a Tweet was seen)

RETWEETS
x8.4 fold



11 ➡ 92

(No. of times a Tweet was shared)

ARTICLE VISITS
x2.7 fold



65 ➡ 175

(No. of Article Visits via link click)

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

ANNALS OF SURGERY
A Monthly Review of Surgical Science Since 1885

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Can Tweets Predict Citations? Metrics of Social Impact Based on Twitter and Correlation with Traditional Metrics of Scientific Impact

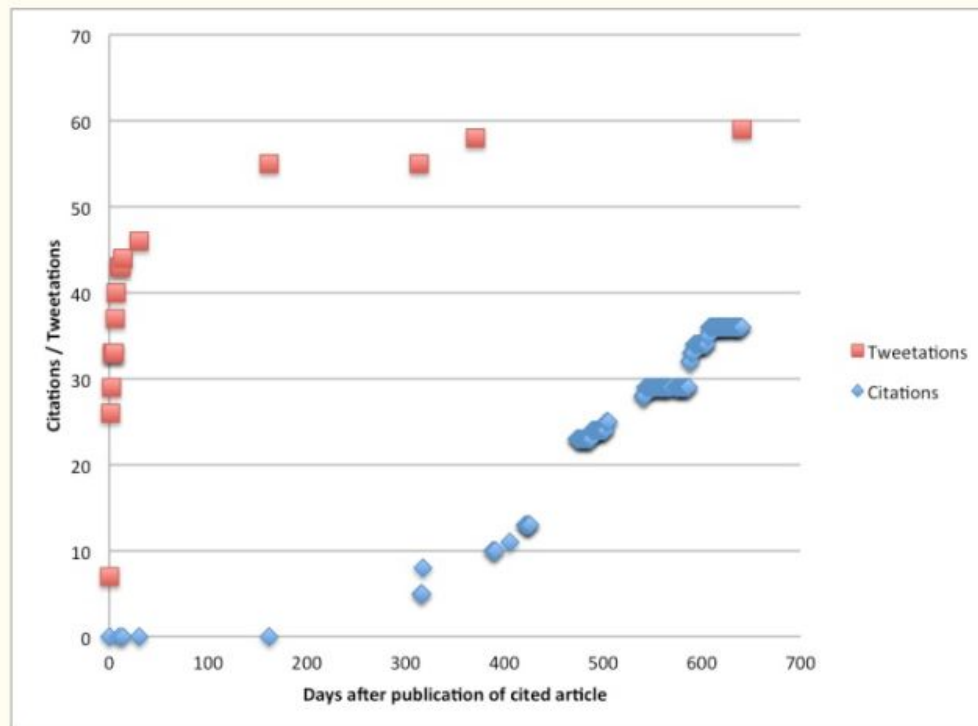


Figure 9

Citation and tweetation dynamics of a highly cited (and highly tweeted) article [article ID 1376]; citations according to Scopus.





H index

“The h-index, or Hirsch index, measures the impact of a particular scientist rather than a journal. ‘It is defined as the highest number of publications of a scientist that received h or more citations each while the other publications have not more than h citations each.’”

“For example, a scholar with an h-index of 5 had published 5 papers, each of which has been cited by others at least 5 times.”

Social Media and the 21st-Century Scholar: How You Can Harness Social Media to Amplify Your Career

*Teresa M. Chan, MD, MHPE^a, David Stukus, MD^b, Jimmie Leppink, PhD^c, Lina Duque, MBA^d,
Blair L. Bigham, ACPf, MSc, MD^a, Neil Mehta, MBBS, MS^e, Brent Thoma, MA, MD, MSc^f*

Abstract

To many physicians and professionals, social media seems to be a risky business. However, recent literature has shown that there is potential to enhance your scholarly brand by engaging your stakeholders online. In this article, we discuss the opportunities presented to modern scholars by social media. Using case studies, we highlight two success stories around how scientists and scholars might use social media to enhance their careers. We also outline five key steps you can follow to build and manage your scholarly presence online.

Key Words: Social media, branding, modern scholar, career enhancement

J Am Coll Radiol 2018;15:142-148. Copyright © 2017 American College of Radiology



Social Media Scholarship and Alternative Metrics for Academic Promotion and Tenure

Daniel Cabrera, MD^a, Durga Roy, MD^b, Margaret S. Chisolm, MD^b

Abstract

Traditionally, scholars focused their efforts in the domains of clinical care, research, and education; however, the last decade has witnessed the rise of novel areas of development such as innovation, quality improvement, informatics, and recently, digital scholarship. Academic institutions adapted and began considering these fields for academic promotion and tenure. Social media has become a critical space for the dissemination of knowledge and outreach to community and policy makers and also for the creation of communities of practice. This new realm brings multiple challenges, such as the appraisal of the quality and appropriateness of the content, the evaluation of impact on the academe and general populations, coupled to the creation of a system to reward scholars engaged in this novel endeavor. In this article, we describe the current state of academic promotion and the definition, nature, and merit of digital scholarship. We outline new strategies and tools for the assessment of dissemination and impact of these works, such as altmetrics, and finally, we reference innovative concepts on how to organize and use this digital academia on career promotion and tenure.

Key Words: Social media, tenure, promotion, academia, altmetrics

J Am Coll Radiol 2018;15:135-141. Copyright © 2017 American College of Radiology



Risks Vs Benefits



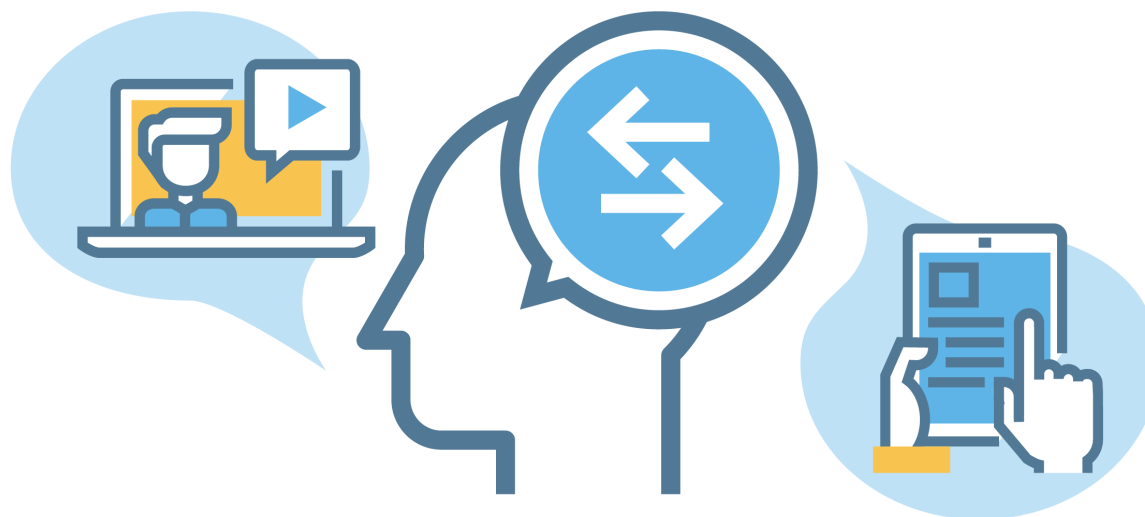


Table 2. Best Practices for Disseminating Research via Social Media

Define the goal to be accomplished through social media engagement.	Know social media guidelines for your organization.
Understand the different social media platforms & audiences.	Maintain professional behavior online, just as you would for in-person interactions.
Content is critical; provide high-yield points.	Do not share patient information (HIPPA still applies).
Add images or visual abstracts.	Do not share research or images that are embargoed or without author/speaker permission.
Include a link to referenced articles.	Create & share content that is meaningful to your target audience.
Use hashtags (#) to categorize content.	







- LEARN
- TEACH
- RESEARCH
- COLLABORATE
- PROMOTE

Questions?

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[@KellyCawcuttMD](#)





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